Wharton Computing Knowledge Base Backup 2/6/26

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Planning an Online Course

Last Modified on 05/28/2025 6:12 pm EDT

This document provides tips and techniques for planning and delivering an online course. The advice was collected from a large number of faculty and students who have experience with online courses. It will be updated as we get additional feedback and ideas.

Note: this document does not address hybrid classes, which mix in-person and remote participants.

Planning for an online course requires a bit of a redesign effort to account for some of the differences in the student experience and in delivery of technology compared to in-person courses. This document covers some of the major considerations for modifying your course, and it is divided into the following sections:

Student Experience

There are potential challenges that your students could face in the remote environment:

- **Location**. Some students may be located off-campus and face time zone differences that could reduce their ability to participate in synchronous video meetings or to take exams at set times.
- **Health.** Be mindful of student illnesses or family emergencies, as these are still more frequent than usual.
- **Focus**. Students working from home may face more distractions from family interactions or connectivity issues.
- **Access/Resources.** Students may lack the ability to print documents such as assignments and exams.
- **Logistics.** On-campus students may face timing issues in transitioning from in-person classes to online classes (and vice versa).

These changes to the student experience could affect your deliverables in the following ways:

- Exams will have to be online, un-proctored, and open book. They may need to be offered at multiple times due to time zone differences or make-up exam and other accommodation requests.
- Group work could be impacted by lack of student co-location, time zone differences, and illnesses. Group presentations may be more difficult to arrange due to these factors.
- Class participation during synchronous video conferences could be more difficult than usual. Some students will be unable to attend synchronous sessions. Students that do attend may have connectivity issues that limit their ability to be on camera.

Each instructor will likely have a different approach for dealing with these changes. As a result, students will face much more variety in course delivery than usual. Communication will be essential! Ensure that your grading policies and assignment expectations are clear in your syllabus. Also, be prepared to send frequent emails to students and/or announcements through Canvas (possibly before each class).

You should also be clear in your syllabus about policies for student absences. For attendance or homework, you may want to give every student one or two **free passes** to miss class without a grade penalty. For exams, you should make clear whether you will require the student to take a make-up exam on the official university make-up exam date (which is in the next semester). In any case, all students should report their illnesses or absences to the MBA and Undergrad program offices so they can be tracked in case there are any contact tracing issues. You should always require that the program office confirms the student's absence rather than just working from their emails.

Once you get your class list, we recommend polling your students to get a sense for their situations. You can easily create a poll using Canvas (typically ungraded survey) or your preferred survey tool (Qualtrics, etc.). Suggested questions include:

1. Will they be on campus?
2. If not on campus, what is their time zone difference?
3. Will they have access to a reliable high-speed internet connection?
4. Will they be limited in their ability to access various platforms that you might use (e.g., Canvas, Zoom, YouTube, Google apps, etc.)?
5. What are their major concerns about engaging with the course?

You should also consider soliciting feedback from students during the term. Some faculty may be inexperienced in online teaching (compared to in-person teaching), and mid-term feedback could provide useful guidance on course corrections. The MBA and Undergrad program offices have formal mid-term feedback forms. Alternatively, you could seek feedback through more informal surveys or discussions with small groups of students.

Delivery Format

Wharton faculty teach using a wide variety of methods. There is no one ideal way to teach our students in-person, and there is no one ideal way to teach online. Based on student and faculty feedback, there are two methods that work well—synchronous-only teaching and blended teaching—and one that generally does not—asynchronous teaching.

Note: Regardless of the delivery format, for online courses, **synchronous sessions should always be recorded and posted to Canvas.** This policy allows remote students who cannot attend the sessions to have access to the course material. You will be able to restrict the amount of time these videos are available on Canvas. Students will receive warnings about unauthorized use of the videos. Even so, a good guideline is to never say anything during a synchronous session that you wouldn't want to show up on YouTube!

Synchronous-Only Teaching

The synchronous-only option involves teaching all sections of your course via a video meeting during your regularly scheduled class times.

Advantages:	Disadvantages:
This method requires fewer changes to adopt your course material to online teaching and provides students a similar amount of in-class engagement time with you and other students as they would get during an in-person session.	Students have difficulty maintaining engagement for 80 minutes in a video meeting and may miss part of the material if they have temporary connectivity or work-from-home disruptions.

If you choose this method, you still may want to modify how much material you cover and how you engage with students. See the section **Class Management** below for details.

Blended Teaching

The blended option involves pre-recording 15-30 minutes of videos for students to watch prior to class followed by 50-60 minute synchronous sessions via a video meeting during your regularly scheduled class times. The pre-recorded videos cover basic material and the synchronous sessions involve more advanced material, discussions, or exercises. The synchronous session should be at least 50% of the normal session length to avoid student dissatisfaction about lack of faculty engagement.

Advantages:	Disadvantages:
• Students are able to engage more completely for the shorter synchronous session. • Students have a chance to digest pre-recorded material before live sessions. • Remote students feel less disadvantaged because part of the course is delivered the same way to all students.	• Requires more advance work by faculty to plan delivery of material (which may be difficult to split up logically) and to record videos. • There is less time for synchronous engagement. • Students may skip synchronous sessions if they feel pre-recorded material is sufficient.

Video Resources:

- For a video on tips for blending asynchronous and synchronous teaching, see this resource.
- If you want to record short videos, Panopto records videos in an easy-to-use, free format that directly uploads to Canvas. For tips on using Panopto, see this resource.
- If you want to record longer videos, Camtasia allows you to edit the video, splice together multiple clips, and layer on animations or other effects. You will have to buy this software. For tips on using Camtasia, see this resource.

Asynchronous Teaching

This option involves pre-recording all of your course material and hosting only virtual office hours, without a synchronous session. Alternatively, this option could involve delivering one synchronous session and requiring the other students to watch the recording of it.

We strongly advise against this approach for the entire course. Students are generally unhappy with this approach because of the lack of interaction and engagement; students have said they felt cheated that they were paying full tuition for **Coursera MOOC** classes. However, this approach could be used sparingly to replace certain class sessions, especially later in the semester when the students know you better. See the **Blended teaching** section above for tips on recording videos.

Class Management

Every facet of course delivery – pre-class prep requirements, in-class delivery, out-of-class interactions – must be reconsidered when moving to an online format.

For an overview video on switching to online teaching, see this resource.

For instructors teaching undergraduate students, the Wharton Dean's Undergraduate Advisory Board has produced a White Paper on best practices for online and blended learning: click here for an executive summary and here for the full White Paper.

Student Prep for Class

Students will face a large variety of platforms and interaction styles in their courses. Thus, you should communicate with students frequently about your expectations, including specifying the following:

- Required pre-class prep.
- Material to have handy during the synchronous session.
- Norms for interactions and questions during the video conferences.

Because case discussions can be more disjointed online, some faculty provide case-specific guides to highlight the aspects of the case on which the discussion will focus during the synchronous session.

Another method for guiding pre-class prep is to create pre-class quizzes on Canvas.

- These quizzes can have auto-graded multiple-choice questions, with multiple attempts, to check the students' knowledge of the basic facts covered in their pre-class material.
- They can also be used for students to provide short open-ended answers to key case questions or prompts from the pre-class reading.
- Some faculty use the responses from the quizzes to warm call students during the video conference.

Setting up your course requirements as Canvas modules can make it clearer to students how they should prepare for class. For a video on how to use Canvas modules, see this resource.

Student Participation During Video Meetings

It is difficult to cover the same amount of content virtually as in person. Student questions and answers all involve a bit of delay, whether spoken or on chat. Students have difficulty staying focused due to Zoom fatigue and distractions in their environments. Some students will need more transition time if they have in-person and virtual classes back-to-back. Thus, you should try to remove some material from the synchronous video meeting to better manage the time.

Student participation is the most difficult aspect of an online course. It may take some trial-and-error to find the right approach for your material and for your teaching style. Here are some considerations:

- Most students are reluctant to interrupt to ask questions orally. You need to establish norms for whether and how a student could do so.
- There are **raise hand** features in the video meeting platforms, but you will need to make sure you have the correct window displayed.
- Requiring students to be on camera at all times involves a trade-off. Having students visible provides a more interactive experience for everyone, and it is a good default norm for the class. However, some students may have bandwidth issues where they need to mute video to get a better connection.

Options for asking questions to the students in a case discussion:

- **Cold calling** is generally more effective than asking for volunteers because many students are reluctant to jump in to speak on the video meeting. Follow usual best practices on cold calling: establish the norm and stick to it, and consider allowing students to opt-out in advance if it is not a good day for them.
- **Warm calling** based on pre-class responses on quizzes or discussion boards allows some control over the variety of comments you elicit and ensures that you are calling on students that are prepared to participate. Some faculty have student teams sign up on a Google doc to volunteer in advance for leading parts of the discussion.
- **The chat feature** allows students to send short text answers through the video conference platform. You can

read aloud the answers that help move forward the discussion and call on certain students to elaborate their answers. You can also give participation credit for everyone that chats a response.
- **Breakout rooms** can be used during class time to have small group discussions. When the class reconvenes, the instructor calls on a group leader to report the discussion. Breakout rooms are discussed further below.

Options for when students want to ask you questions:

- Chat questions can be effective because they let you pre-screen the questions you answer. However, chat questions are often delayed due to typing time. You may want to pause at natural stopping points and address chat questions then (as opposed to trying to address them as you see them).
- Some students will want to direct-message chat questions to avoid asking them publicly. This is an effective way to get more sensitive questions or comments into the discussion. You will need to ensure that the chat is a DM first, and, as a rule of thumb, don't mention the student's name.
- One effective chat technique is having students send a single letter through chat (e.g., Q for question, C for clarifying comment) and calling on the student when you see the letter. That allows students to ask their question when you are still on the topic, but of course, you can't screen the questions.

Options for Polling

Polling through **PollEverywhere via the web** or the native polling function in the video meeting greatly increases student engagement. Presenting a Poll Everywhere activity on the web, using Present mode, is a good substitute for using the Poll Everywhere PowerPoint plugin when presenting in Wharton Classrooms, or other locations where the extension has not been installed. However, there are some best practices you should keep in mind **PollEverywhere via the Web Best Practices**.

All faculty can register for a Poll Everywhere account under the University's license; be sure to use the @upenn.edu form of your Penn email address when registering. If you create a group for your course within Poll Everywhere, and then have your students also register using @upenn.edu addresses, then you can track student participation in the polls.

Mixing up the pedagogy during the sessions is an effective way to increase student engagement (i.e., use a combination of polls, discussions, exercises, break-outs, and lecture). However, some faculty do caution against using the same formula for every class session, so the order and types of activities across sessions should be switched, as well.

Hosting a Video Meeting

Teaching with video requires a new set of skills in terms of managing what you display to your students and in transitioning between material. You should practice with a TA or colleague before your first class. You can record the practice session and watch it back to see what the student sees. It may take a few classes before you feel comfortable with the mechanics.

One helpful technique is to have a second computer or tablet set up near you. You are not able to see what the students see when you are sharing documents during the video meeting. Also, you may not be able to see chat if you are running a PowerPoint presentation. Thus, having an additional screen will allow you to see the student view of your presentation and features like chat or **raise hand**. If possible, you could have a TA or other member of the teaching team manage the chat during your class session, as well.

For a video on advice about lighting, positioning the camera, and improving the audio for your online delivery, see this resource.

Screen Sharing

The most important function in the video meeting is using Share Screen to display any documents on your computer to the students on the video meeting. There are two options:

- **Share your whole screen**: This option will display whatever is on your desktop. You can quickly move between documents and you can show two documents at the same time – e.g. have PowerPoint on one half of the screen and Excel on the other. Keep in mind that with this option, students can see any file on your desktop when all docs are minimized and could potentially see other distractions like email previews that pop up. You can always manage your device's notification settings to prevent this from occurring.
- **Share a specific program**: This option allows you to share only a specific program you select (e.g., PowerPoint, Excel). The students will only see that program, but it is a bit slower to move between docs. You also can only display one program at a time; and if you accidentally bring up another program that is not being shared, the students will see a grey screen.

Sharing video or audio played on your computer is also possible through screen sharing. When you play a video during a session, you must check the **share computer audio** button for the students to hear your computer audio. Even so, keep in mind that the video playback may be low quality for students with bandwidth issues. One alternative is, if the video is on YouTube, Canvas, or a separate resource, send a link through chat at the same time as you play it so students can stream it from their computer directly.

You may also want students, TA's, or guest speakers to share their screens at some point. You should make sure you identify the setting to do so in advance of the meeting (your meeting might be set up to disable others from screen sharing). You may also want to toggle the setting on and off to prevent unauthorized screen sharing. Finally, you should ask the participants to practice with others in advance so they are familiar with the interface.

Breakout Rooms

Breakout rooms work well for small group activities, discussions, and exercises. They can be set up in advance, set up manually while teaching, or created randomly while teaching. Based on experience, here are some suggestions for using breakout rooms in your class:

- **Limit groups to a few students**, especially if the group is not the students' usual learning team. Many faculty recommend limiting groups to three to four students.
- **Keep the sessions short** by using smaller exercises or prompts. The students will lose focus with long sessions, and long sessions will reduce your time to debrief.
- **Make instructions for breakout activities very clear**. Once the students leave the main room for the breakout rooms, they will no longer see the slides with instructions. It helps to put instructions in writing (as opposed to verbal instructions that they may forget) and make them available on Canvas.
- **Broadcast messages to breakout rooms** (e.g., to notify them on the time remaining for the breakout) and drop into the breakout sessions to check on the students.
- **Use pre-assigned breakout rooms only if you require students to attend their registered sections.**

For a video on how to use breakout rooms, see this resource.

Free-form Writing

There are native features in the video meetings that allow you to free-form annotate or write on the displayed material.

- The **Whiteboard** feature brings up a virtual whiteboard on which you can write student points or draw out an example similar to writing on a physical whiteboard. Be aware that writing is not easy to do if you have to use a mouse or trackpad; practice before class to make sure you are happy with the functionality. Also, another participant may be able to activate a whiteboard and erase what you are doing.

- The **Annotation** feature allows annotations on the screen; e.g., draw on your slides for emphasis. Again, the writing is not easy with a mouse or trackpad.

One limitation is that you cannot easily save the whiteboard or annotations for later; you would need to take a screen shot.

Some faculty use external apps like Notability or GoodNotes to annotate during sessions and to save the end product for students to download later. These apps work well with a tablet. For a video on using annotation apps on a tablet, see this resource.

TA Participation

Teaching during a video meeting requires a different set of skills for juggling inputs (e.g. slides, student questions, tech glitches) than in-person teaching. Many faculty find it helpful to have a TA on their video meetings. The TA can moderate chat and look for raised hands (either actual or virtual). They can also manage chat with students related to technical issues. Some instructors suggest having the TA run the PowerPoint slide show from their computer so the instructor can focus on other aspects of the video meeting (although, other instructors found this difficult to pull off smoothly). The TA can also step in and talk to students if you have connectivity issues and have to drop off for a couple of minutes.

Guest Speakers

Guest speakers may be easier to find for an online class given the lower cost of joining a video meeting. However, guest speakers may have their own connectivity issues that impact their talks.

- Have the speaker record part of their talk in advance, and then do live Q&A after you show the video.
- Interview the speaker on a recorded video meeting and play excerpts prior to live Q&A.

If you want to open your guest speaker session to a wider audience, please contact Wharton Computing. You may need to use a different version of the video conferencing software if the number of participants is large.

Even if a guest speaker cannot join live, some faculty find that the students appreciate pre-recorded videos of experts that the faculty played during the video meeting.

Office Hours and Out-of-class Interactions

All office hours should be available in a virtual setting. Student access to buildings may be limited to allow in-person office hours, and many students will be remote. You should decide whether to have a set time for virtual office hours or to schedule these by appointment (or both).

- **A set time for virtual office hours** allows many students to participate and to stay in the room to listen to other students' questions, providing some economies of scale in helping students. Alternatively, some faculty use the **waiting room** feature of Zoom to replicate the normal sequential office hours in a virtual format; clearly let students know if you adopt that approach.
- **Scheduled appointments** give students outside of our time zone better access to faculty members; these interactions are often their only synchronous interactions with faculty.

In a virtual class, students are missing out on informal interactions with you before and after class, as well as stop-and-chats when you see each other on campus. Students greatly appreciate it when faculty sign on to the video meeting early, or stay on after it is over, to have these types of informal discussions. You could also consider occasional **virtual lunches** to replace our student-faculty lunch program.

Make sure to answer student emails on a timely basis. To centralize Q&A and answer frequently-asked questions efficiently, some faculty use Canvas discussion boards, while others utilize the University's Ed Discussion tool (previously Piazza -- the University's relationship with Piazza ended on June 30, 2022, including all Canvas integrations). For a video on how to use discussion boards, see this resource.

Graded Assignments

Exams

Best practices for conducting exams for online course formats. You should plan on giving online open-book exams without proctoring. You should also reinforce the Honor Code in your syllabus and in your exam document and make the academic consequences of cheating clear in your syllabus.

In the online environment, many faculty have switched to automatically graded exams in Canvas (e.g., multiple choice, multiple answer, true-false). These exams can be implemented in the following ways to reduce the potential for cheating:

- Question/item banks allow you to write multiple versions of the same question with small differences, with each student's quiz getting a random draw from the bank.
- You can also randomize the order of the questions (New Quizzes only) and answers.
- You can specify an availability window during which all students have to take the exam; although, you may need to offer multiple windows for remote students in distant time zones or those who have requested accommodations.
- You can specify a time limit during which all students have a fixed-amount of time to finish the exam once they start it.

Canvas also supports short-answer or essay type questions that can be manually graded.

- Some professors use multiple exam slots to accommodate remote students and write slightly different exams for each slot.
- If you want students to handwrite their answers, you can have them use an app like CamScanner to create a pdf and upload into Canvas.
- Keep in mind that students may not have the ability to print exams at remote locations.

Setting up exams in an online format may take a significant amount of time when you first create these, especially if you use question banks. Start working on exams earlier than usual!

Student Disability Services will work behind the scenes with the Courseware team to change exam settings for students with extra-time accommodations.

- For a video with advice on online exams, see this resource.
- To learn more about implementing exams in Canvas, see this resource.

Short Quizzes

To focus student participation and to provide more opportunities to assess student performance, you can use short pre-class or post-class quizzes on Canvas.

- **Pre-class quizzes** allow the students to assess whether they have sufficiently grasped the material in the pre-class prep. Knowing they will be quizzed on the pre-class material provides a motivation to complete these. As the instructor, you can acquire feedback on what students did or did not understand prior to class.

- **Post-class quizzes** allow students to check their understanding of the course material right after class. They also provide students who are unable to attend video meetings with an opportunity to demonstrate that they watched the recordings of the sessions and can receive grading credit for this.

Class Participation

The important factors to consider when deciding how to grade class participation are:

1. Some students will have difficulty attending synchronous sessions due to time zone differences or due to illness.
2. Open class discussions are less fluid and take more time in an online format.

You can provide credit for asynchronous participation through Canvas discussion board postings, alternative app postings (e.g. Ed Discussion), or Canvas quizzes. Some faculty ask the students who could not attend the video meeting to watch the recording and send a list of comments or questions they have based on the discussion. Some instructors are concerned that asynchronous participation reduces attendance during synchronous sessions, and some students feel like discussion board postings are just **busy work**. The best approach is not always clear and must be tactfully set up with consideration of the trade-offs.

Student comments during class will be easier to grade because you (or a TA) can watch back the recording to give points for the comments. However, you will likely get fewer student comments in this format than in an in-person session. Strategies for managing student participation are in the Student participation during video meetings section above.

You can also give points for chat comments and questions. Make sure to download the chat transcripts from the video meeting (Zoom instructions) before logging off or you will lose them!

Through PollEverywhere, you can create a **group** for your students by uploading their emails from your class list. As long as they are signed in when they answer your poll questions, you can download a record of all of their poll participation. You can also easily give polling credit by using Canvas quizzes during class.

Group Projects

Group projects are still feasible in an online class but require some extra consideration. Students will likely not be able to meet in person but will certainly be comfortable with video meetings. You may want to have students form their own groups or to shuffle the groups to avoid time zone conflicts within the groups. You may need to provide students information on where their classmates are located to facilitate group formation. You also need to be mindful that student illnesses or family emergencies may have an impact on a group's ability to meet deadlines.

You can have students present their projects during video meetings by enabling the Share Screen function, but make sure you have accommodations for groups that cannot attend the synchronous session.

Some faculty ask students to record their presentations in advance to improve the quality and to monitor the length. You could play these recordings in class, followed by a live Q&A, or you could ask the students to watch in advance and come to class ready to ask questions and provide feedback.

Technology

There are a lot of options when it comes to the technology available for helping you teach online. Wharton

Computing has a section of their Knowledge Base devoted to learning and teaching remotely. This list of resources should help you figure out what will work for you. You can also reach out to your Wharton Computing team for help and guidance.

Wharton Computing created this chart showing ways you can think about transforming your in-person teaching plans to an online version.

Equipment and Teaching Setup

Whether you are teaching from home or from a classroom, you'll need to make sure well in advance that you have what you need.

- Remote Teaching Checklist

Video Conference Platform

Wharton Faculty have access to Zoom for hosting online classes and meetings. These meetings can be scheduled through Canvas, and the recordings of these meetings will automatically transfer to the Class Recordings tab of your Canvas course site.

These resources will help you pick which platform to use for specific teaching purposes. There is also information on key features of each platform:

- Video Conferences (Zoom)
- Video Conference Features
- Articles on Holding Virtual Events
- Inviting a Guest Speaker to a Video Conference

Working with Video Meetings

- Managing Online Presentations
- Managing Online Exams
- Canvas' New Quizzes
- Recording Online Meetings

Remote Instruction - Start Here

Last Modified on 10/18/2024 11:07 am EDT

This article was written in collaboration with the Teaching Excellence Committee. Thank you to: Jennifer Blouin (ACCT), Gérard Cachon (OIDD), Judd Kessler (BEPP), Vincent Glode (FNCE), Ingrid Nembhard (HCMG), Kevin Werbach (LGST), Drew Carton (MGTM), Raghu Iyengar (MKTG), Becky Schaumberg (OIDD), Ben Keys (REAL), Shane Jensen (STAT).

Wharton Faculty are all transitioning to remote instruction for the rest of the semester, including the final exam period. Instructors will have to deliver their course from a location off-campus (i.e., standing in an empty classroom, using classroom tech, is not an option).

This document has been prepared to be your starting place for planning this transition. It will be updated as we learn more.

The Bare Essentials

1. **Decide how you want to deliver your course online**. This document describes some options, and links to other resources. Don't try to do too much, especially at first. Think about what is most essential to you, from both a content and delivery standpoint.
2. **Communicate your plans to students as soon as possible**. Update your syllabus and send a Canvas announcement or email before your next class session.
3. **Install the BlueJeans video meeting app**. Make sure to test the app with a colleague or by following the instructions in the "Test Your Equipment" section of this article. Even if you choose not to do real-time (synchronous) teaching, you may wish to do virtual office hours or discussion sessions. Research on online teaching finds that seeing the professor's face makes a significant difference for student engagement.
4. **Come up with a detailed plan for your first class session.** Think about backup options if something goes wrong (especially if you choose synchronous delivery). Have a plan to evaluate and refine your approach after the initial experience. Ask students to be understanding, and be understanding of them as well.

How You Teach

Wharton faculty teach using a wide variety of methods. Our courses range very significantly in size, and are taught to multiple distinct student populations. There is no ideal way to teach our students in-person, and there is not an ideal way to teach online. Use your judgment as an educator to create the best possible experience for your students under these difficult conditions.

The first decision you'll have to make is if you want to hold your class online in real-time via a Virtual Meeting (synchronous), if you're going to do something like record a lecture and have students watch on their own time and then gather online to discuss (asynchronous), or a combination of both.

Synchronous Teaching

We believe the easiest route is to choose the synchronous/live option. This may seem counter-intuitive, but here are the supporting reasons:

- Teaching synchronously will likely result in the fewest changes for both yourself and your students. It uses many of the same skills you're honed as an in-person lecturer and given the speed at which you'll need to transition to remote instruction it seems unwise to give up the advantage those skills confer.

- Wharton Computing has implemented a video meeting tool, BlueJeans, which is integrated with Canvas. Sessions will be recorded for students who cannot attend live or who want to refer back to the session.
- Students already have the time in their schedule dedicated to your class session. Furthermore, a sense of routine is valuable.

Asynchronous Teaching

The remainder of this document focuses on *synchronous delivery*. (That said, we recognize that there are likely going to be unforeseen issues that could disrupt synchronous classes, such as technological compatibility issues, time delays, poor connections, and surprise interruptions at home), but if you're thinking of going with asynchronous teaching click "Read More" for some things to consider.

Connecting with Students - Updated Syllabus and More

Reach out to your students by email and/or Canvas announcements as soon as possible to explain your plans for the class. We strongly recommend that you communicate these changes using whatever means you currently use to communicate with your students. If you don't already use Announcements in Canvas, we encourage you to do so and also post an announcement, which will become a permanent part of your Canvas site that students will be able to easily locate.

Create and post an updated syllabus, with adjusted dates and policies. It would be helpful to have a section in the syllabus dedicated to the changes that are due to switching online. Be particularly specific about what changes and what remains the same regarding requirements (what is due, when it is due, how it will be submitted), classroom meeting times, and assessments.

It would be a good idea to ask students before the class what time zone they are in, and whether they have reliable internet access available. Some students may also have medical or family situations that prevent them from participating during the normal class period. This may influence your decision about synchronous vs. asynchronous teaching, although keep in mind that recordings will be available. One option is to create a shared document (e.g. Google spreadsheet) for students to fill out prior to the class or use a Canvas quiz/survey.

Install the BlueJeans app

Wharton's Virtual Meeting service is powered by BlueJeans. **We recommend that you download the native application for the device that you plan to use for teaching** as the mobile and browser apps lack key functionality (this table details what is available in each app).

Before your class starts you should also install the app on a mobile device, just in case your computer isn't working as expected. The app is available for both iOS and Android devices.

Test your Equipment

Test all of your equipment well before your class starts. Things you should have charged/plugged into your computer include:

- Your laptop (if you're using one).

- A Webcam.
- A Microphone and headphones or a headset (USB or Bluetooth both work, though a wired connection will be less fiddly).

Once you've confirmed that all of your equipment is charged and properly connected it is time to make a test call. Clicking on bluejeans.com/111 will connect you to a Virtual meeting where you can "talk to the parrot," which is BlueJean's test call. You'll be connected to a video call with a parrot. Say something into your microphone and the beret wearing parrot will repeat it back to you. If you don't hear anything, or don't see your video, try these troubleshooting steps.

The BlueJeans app is resource intensive. Be sure to plug in your laptop (if you're using one) and quit any programs you won't be using to teach.

Set Up a BlueJeans session via Canvas

Wharton supports using a combination of Virtual Meetings and Canvas for Remote Instruction. When combined these tools allow you to:

- Notify students of classes using a tool they are familiar with.
- Automatically record and post videos to your Canvas room.
- Automatically restrict access to the class video to enrolled students.
- Leverage existing on staff expertise for support of both tools.

Please refer to "Virtual Meetings for Instruction" for details on how to set this up for your courses.

All courses now have Canvas sites set up for them.

Practice your first Virtual Meeting in Advance

From your Canvas course you can create a “practice” virtual meeting with only yourself invited (following these instructions). You can record a portion of your session to familiarize yourself with the controls. You can later view the video from the practice session to see what you produced and make any adjustments to your physical space needed.

For an even better practice, include one or more of your TAs in the session. They can provide feedback from the student perspective.

Delivering a Class Session

To conduct your class you will create a virtual meeting in BlueJeans via Canvas following these instructions.

Students will be able to see you via your device’s camera. Be aware of your physical space – be sure that you are OK with everything students see behind you and minimize distractions around you (e.g., noises, talking, people moving about). Click "Read more" for some best practices to ensure your session goes smoothly .

Be Present for Students

Throughout the course, it is critical for students to feel that you are present and engaged with the course delivery. Some ways to do this:

- Post Canvas announcements frequently about what is happening and what will happen in the course.
- Respond to the class discussion boards.
- Respond in a timely manner to emails.
- Hold office hour sessions. You will set these up like a class session, using Virtual Meetings. These meetings do not need to be recorded, and signups can be handled via the Appointment Groups feature of Canvas.

Student Engagement

Engagement can be challenging in an online teaching environment. Think about ways to break up your lectures frequently, even if just to solicit questions on the chat.

Use polls to increase engagement

A simple way to increase engagement is to interrupt a lecture with a request for students to provide their own opinion or information. It is easy to quickly collect this information using PollEverywhere. For example, consider giving students some time to work through an example and to report their responses. This allows you to explain the correct method and to clarify incorrect methods.

Create the polls ahead of time and either add them to your slides, as you normally would, or share the link via chat with your students when appropriate.

Use breakout rooms to increase engagement

Many classes have students break up into small groups to do work and then report back to the larger class. You can absolutely do this during the Remote Instruction period using Virtual Meetings, though our recommendation for how you accomplish this varies depending on how the groups are formed:

- Randomly assigned groups: Using the Virtual Meetings breakout room functionality works for this scenario, though we have found the feature to be less than stable in practice. More details about that can be found here.
- Pre-existing/assigned groups: For 2 person groups we suggest the students decide how they would like to connect on their own. For larger groups each group can designate a meeting organizer and have them invite only their group members to a separate Virtual Meeting.

For the reasoning behind this recommendation check out Breakout Room section of the Virtual Meetings for Instruction article.

Attendance/Participation

Given the circumstances, if you grade attendance or participation we encourage you to reconsider how these are graded or even whether they are graded.

Virtual Meetings doesn't have a built-in attendance feature. If you want to keep track of who attended a session, you could ask students to type something into a chat or use PollEverywhere. Keep in mind that some students may be unable to participate live due to time zone differences, internet connection limitations, coronavirus-related restrictions, and family or personal medical emergencies.

Rather than tracking participation via comments or questions during a session, consider asking students to participate in a discussion board. A widespread participation requirement for online courses is to ask each student to submit a discussion board post and comment on two other students' posts.

Grades

Students will be naturally anxious about how they will be graded, especially undergraduates. As already mentioned, you should be as clear as possible in your syllabus with respect to how grading will change and how it remains the same. Reiterate those policies in subsequent announcements and assessments.

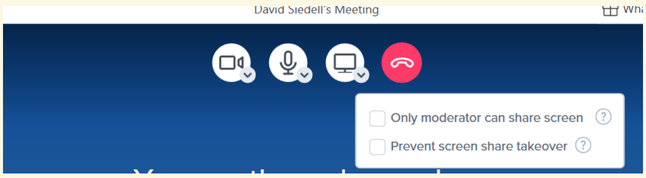
Screensharing

A key component of any Virtual Meeting is screensharing. You can share a PowerPoint presentation, a website, a document, or another other application with your students using Screensharing.

This article covers the ins and out of the feature but a few things to be aware of:

- If you share your Desktop all participants will see whatever applications and documents you have open. Before class make sure to clear your desktop of anything you don't want people to see.
- If you plan on playing a video for class use the Upload & Share Video feature of the BlueJeans desktop app. If you simply play a video via screensharing it will be choppy and nearly unwatchable. Sharing YouTube links also works.
- Disable incoming email/text and other app notifications if you're sharing your entire screen.

Click dropdown arrow on the screenshare icon for more controls → only allow moderators to share screen and/or prevent screenshare takeover



When you're sharing your screen during a Virtual Meeting you'll no longer be able to see the chat window. We recommend joining the Virtual Meeting with a secondary device (a smartphone or tablet) and monitor the chat from that device. Be sure to mute the audio/video on the secondary device!

For the best experience on a tablet or smartphone download the BlueJeans app.

Annotation

If you annotate your PowerPoint during class this can be replicated in Virtual Meetings:

- If you're already screensharing in a Virtual Meeting click the blue "Annotate" button at the top of the shared screen.
- If you aren't screensharing click the "Apps" in the BlueJeans app and then click "Start" on Annotate. You'll

then select what screen you'd like to share (annotating only works if you're sharing a screen) and then starts the annotation tool.

You can draw and drop text on the screen with this feature.

> Annotations disappear when you select "Stop Annotation."

Whiteboard

Virtual Meetings does include a Whiteboard app that you can use to draw formulas and other figures, though it does have some limitations:

- Only a single whiteboard, controlled by one person, can be shown at a time. If someone else launches a whiteboard it replaces the current whiteboard along with its contents. A warning does appear before this happens, but there is no way to disable someone from doing this.
- Drawing on a whiteboard with a mouse or trackpad isn't a great experience. If you plan to use the Virtual Meeting whiteboard heavily consider joining the Virtual Meeting on tablet using the BlueJeans app. You can then share your tablet's screen (iOS instructions | Android instructions) as launch a drawing app on the tablet which will be shared to the meeting.

The only way to save the contents of a BlueJeans whiteboard (perhaps to share it with students) is to take a screenshot (OS X instructions | Windows 10 instructions). If you plan to share whiteboard contents with your students on a regular basis we recommend using a dedicated application like Word or Google Docs and sharing those files with your students.

For fans of low tech solutions you can also purchase a small white board and display it somewhere within your webcam's field of vision. HD webcams offer up high enough resolution that your students should have little problem seeing what you're writing as long as you write with large letters and use a contrasting color of dry erase pen.

> If you opt for the physical whiteboard be sure to run a test first to make sure there's not any kind of glare which could make it difficult to see.

Student Presentations

For more information about the options for online presentations, visit this article.

Teaching Assistants

Your TAs can continue to hold office hours via Virtual Meetings and they will continue to be paid for their time.

Office Hours

It is highly recommended that you hold office hours via Virtual Meetings. We recommend you set these up as one on one Virtual Meetings scheduled outside of Canvas. These meetings do not need to be recorded, and signups can be handled via the Appointment Groups feature of Canvas.

Guest speakers

It is still possible to have guest speakers. They will join a Virtual Meetings session and students can interact with the speaker via the chat (and possibly with a moderator, who can be the professor). Virtual Meetings is limited to 200 persons.

Final exam

The final exam period schedule is unchanged. If you were planning to hold a final exam, you can/should continue to do so. Final exams can be administered via Canvas. Additional information regarding final exam procedures will be posted soon.

- See this article for information on managing remote exams.

FAQ

More answers can be found in the Virtual Meetings FAQ article.

Will I be able to get instructional support during my class session?

Yes! We are still working out the details, but Wharton Computing will be available to support your use of Virtual Meetings and Canvas.

What happens if during my session BlueJeans “hangs” or “locks up”?

You can always reconnect to a meeting via the same device or another device.

It seems that a student’s mic is live and we are hearing distracting sounds. What should I do?

Having to set your meeting to "Mute Participants on Entry" will cut down on this. You can ask people to mute themselves by pressing the "M" key and moderators can mute participants during a meeting.

Questions?

For additional help and support:

- See our Virtual Meetings FAQ
- Contact your academic support representative
- Check out the BlueJeans Knowledge Base

Video Conferences for Instruction

Last Modified on 01/12/2023 8:20 pm EST

Penn offers Zoom as a video conferencing tool for instruction. All Wharton students, faculty, and staff have access to the service.

If you are a student looking for information regarding video conferences, please take a look at the Video Conferences article.

Before You Start
You will need the following before you can complete this task:

- An active PennKey account
- **IMPORTANT:** A prior successful log in with your PennKey at upenn.zoom.us to establish your PennZoom account
- Faculty and Staff: If you do not have Zoom on your computer, please contact your IT Support Team to have Zoom installed on your computer.
- A wired/Ethernet connection, if possible (recommended for the instructor)
- Robust internet speed: if you are connecting from off campus, go to speedtest.net and look at internet speed. If it doesn't meet the minimums required by Zoom, consider upgrading your Internet speed or contact your IT Support Team.

The recommended way to schedule a meeting depends on whether you are creating a meeting with a few individuals outside of a Canvas classroom or for your class using Canvas.

Scheduling a Meeting Through Canvas (Recommended for Instruction and Classes)

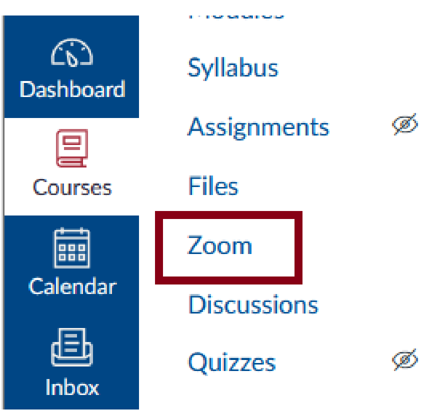
Creating your meetings through Canvas will take care of scheduling for the class, provide the link to all class participants, and preserve the privacy of your personal meeting account.

Note: We recommend that instructors – not TAs – create each class meeting (or sequence of recurring meetings) within Canvas. If changes or cancellations must be made after creating a meeting intended for all enrolled students to join for a class meeting, **please change or cancel within your Canvas course**, not through your video conferencing app or account.

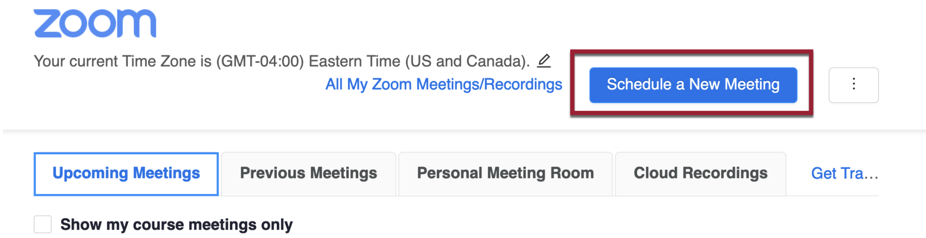
Zoom

For step-by-step instructions on how to schedule a Zoom meeting through Canvas:

1. Launch your classroom in Canvas (go to **canvas.upenn.edu**).
2. Select **Zoom** in the left sidebar.

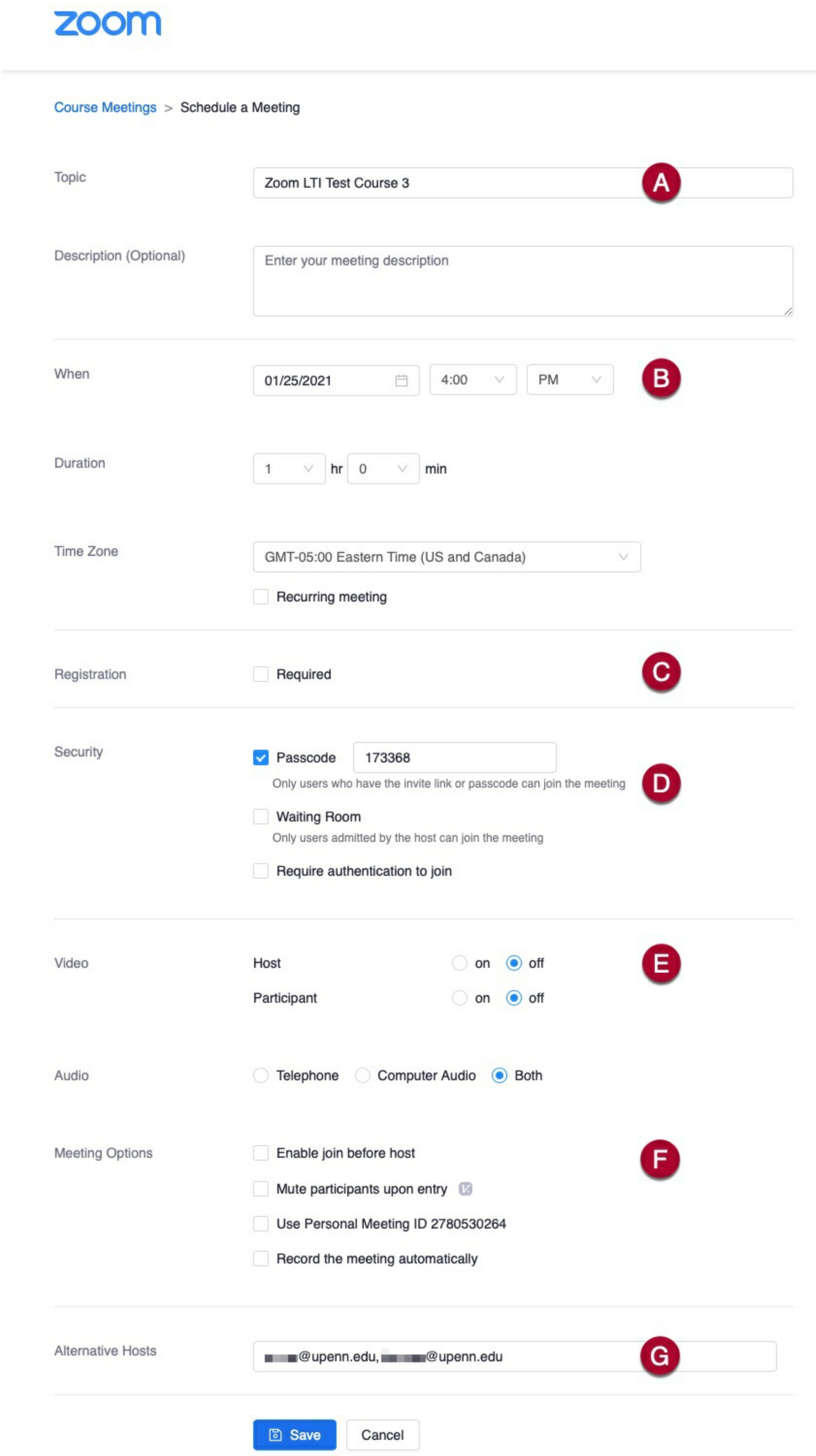


3. Click the **Schedule a New Meeting** button on the upper right side of the screen.



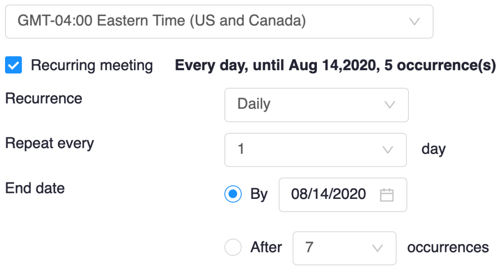
Note: The first time you access Zoom through Canvas it will request access to your account. Click **Authorize**. You may need to log in, with your PennKey, to authorize Zoom.

4. Fill in the details of the class. **Include all the details about your class in the Meeting title** – if your class has multiple sections in the same Canvas room, all students will be able to access all sessions, so students should be told to join only the section for which they are registered.

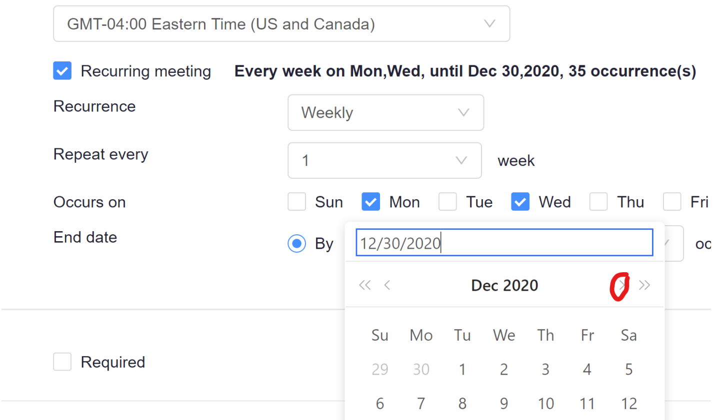


a. **Topic**: Enter the **class**, **section number**, **time**, and **meaningful title** (e.g. **MKTG XXX Section 001 - 10:30 am - Online Class Meeting**). Identify your meeting clearly so students can easily pick it out from their other meetings (e.g., **Lecture** won't identify it as their Marketing Class). You can also enter a **Description** if you like, but this is optional.
b. **When**: Set the start time, duration, and Time Zone.

Recurring meetings can be checked or unchecked. Be sure to fill in the proper class start and end dates:



Use the **single arrow** to page through the **months** and the double arrow to page through the years.



c. **Registration**: Since all of your students will have Penn Zoom accounts, we recommend you leave Registration unchecked. If you check it, your Zoom meeting will require people to register ahead of time. More details about this can be found here.

d. **Security**:
   - **Passcode** - We recommend that you require a Passcode for your meetings. Most attendees won't need to manually enter the code as it will be part of the URL included in the meeting invite.
   - **Waiting Room** - The Zoom Waiting Room gives you the ability to preview the attendees before they enter the meeting. This will make your meeting more secure, but it does require someone to admit each student (either one by one or in bulk).
   - **Require authentication to join** - *[**Note:** as of 9/22/21, Zoom has confirmed this feature is temporarily unavailable in their LTI Pro integration; they are working on restoring it.]* You can limit participants to your meeting to either Penn Zoom users or Zoom users in general. Selecting either option will require participants to log in using the proper Zoom credentials.

e. **Video**: This setting determines if the Host's and participants' cameras are on or off when they enter the meeting. **Off** is the default.

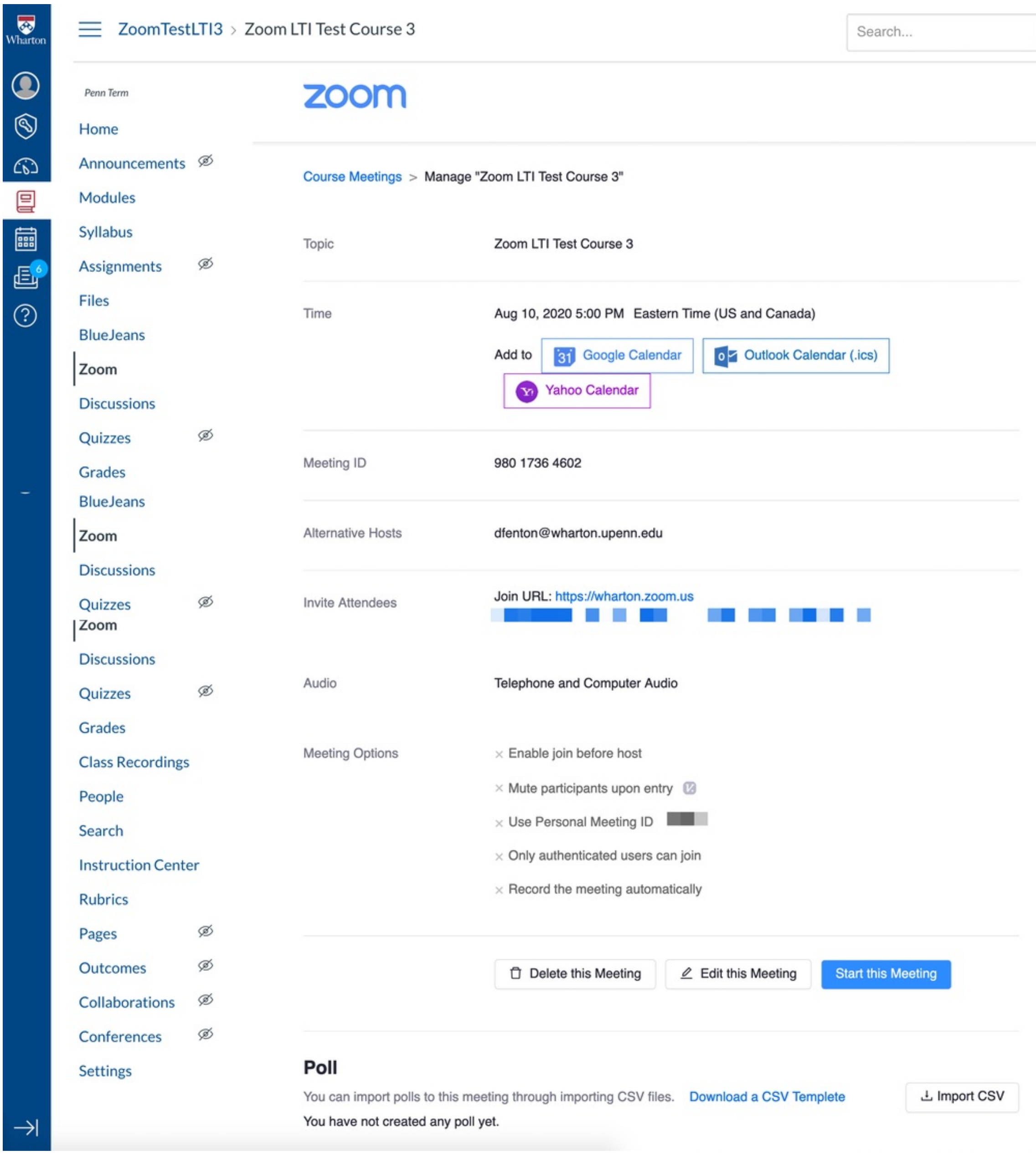
f. **Meeting Options**: You have a few options that you can set up for your meeting. Here's what each does and our recommendations around them:
   - **Enable join before host** - Consider whether you want to have this option available.
     - **Unchecked:** Many people join meetings ahead of time to test settings, and leaving this unchecked ensures the meeting won't start until you want it to.
     - **Checked:** Your Zoom meeting (and the recording, if the meeting is set to auto-record) will start the moment anyone joins the meeting. This can be useful if you may be running late or if you would like the flexibility of asking someone to start the class.
   - **Mute participants upon entry**: When checked, the video and audio of participants will be muted automatically when they enter. We recommend you leave this unchecked, though if you prefer to have more control over the initial moments of your class, you should check it.
   - **Use Personal Meeting ID**: This option **SHOULD NOT** be checked. If it is checked, Canvas will

associate all the meetings you have with your Personal ID with this Canvas site. You don't want that.

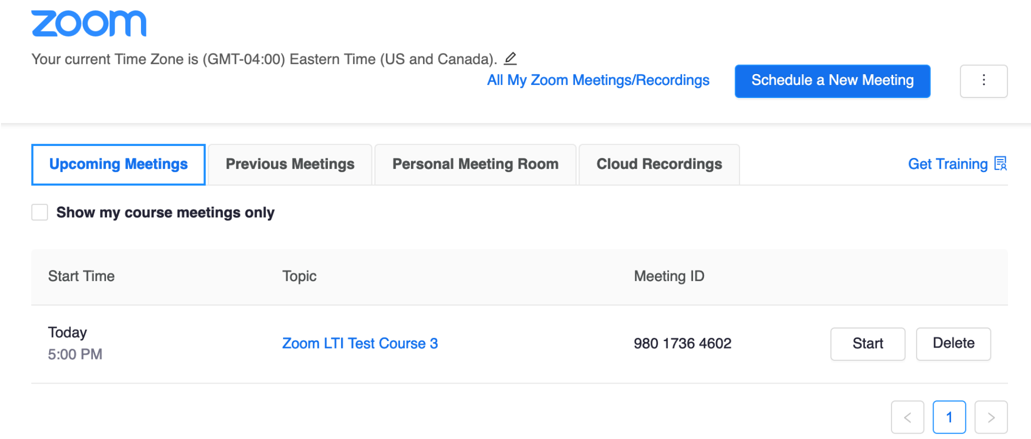
- **Record the meeting automatically**: Check this box to ensure your Zoom session is recorded. The Zoom meeting record will start the moment one person joins the meeting; each participant is notified that the meeting is being recorded upon entry. **In the cloud** is the default destination for your recording, and we recommend you keep this set as is.
- **Confirm Closed Captioning is Enabled**: Enabling closed captioning allows you, as host, or your attendees, to turn on automatic closed captioning options. You, as host, must enable this option in the meeting itself before it can be available to your attendees.

g. **Alternative Hosts**: You can manually add additional alternative hosts here. Note that alternate hosts need to be added in the format: *pennkey*@upenn.edu (**NOT *pennkey@school*.**upenn.edu).

5. Click **Save,** and your Zoom meeting is scheduled. The details are displayed for you:



The scheduled Zoom meetings will be listed on the Zoom tab for you and your students:

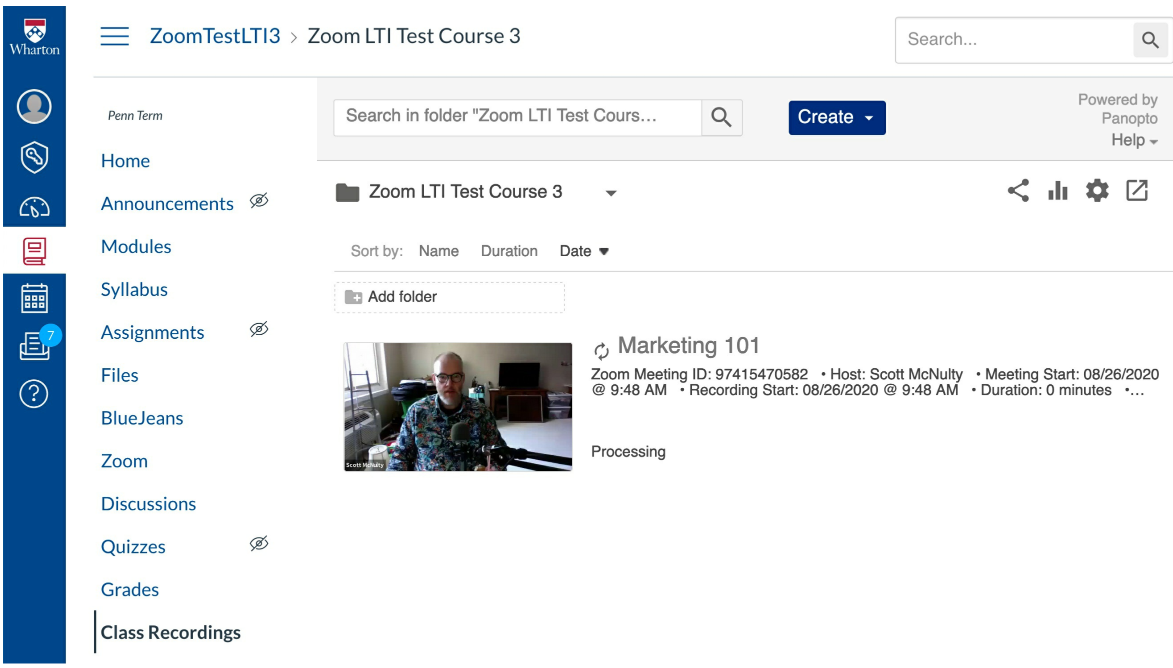


Note: Now that your meeting is scheduled, you may want to **add pre-assigned breakout room assignments** to your meetings. See our article Video Conference Breakout Rooms to learn more about pre-assigning breakout rooms.

Recordings

Any Zoom meetings scheduled through Canvas (see the above instructions) and set to record will have their recording automatically posted to **Class Recordings** in the Canvas section shortly after the meeting ends. Depending on how long the recording is, there may be a delay as the video recording is processed.

Recurring meetings will all have the same title but are differentiated by the dates included in the recording description.



Scheduling a Meeting with a Guest Speaker

For bringing a guest speaker into your classroom using Zoom, there are a few considerations:

We recommend choosing one of the following two options to schedule your Zoom call for a guest speaker appearance:

1. Scheduling guest speaker meetings via the Zoom tab in Canvas when students have the option to attend virtually rather than in person.
2. Scheduling guest speaker meetings via https://upenn.zoom.us when the intention is for students to attend only physically in class. Once scheduled, a private meeting invitation can be shared with each guest speaker.

(The best practice is **not** to use Personal Meeting Room for either option (1) or (2) noted above.)

- If students are expected to be in the physical classroom, consider whether you want the guest speaker meeting to be listed in Canvas for students to join:
  - *Unlisted for students*: please use the general Zoom instructions for setting up a meeting without using Canvas.
  - *Listed on Canvas and OK for students to join the Zoom meeting directly*: instructions on this page will work.
- If you are not comfortable getting your Zoom meeting to appear via the projector, be sure to contact CTS Classroom Support 3 or more business days in advance to arrange for in-classroom assistance.

Reminder: If you plan to have a guest speaker join your meeting, be sure to confirm the comfort level of your speaker being recorded, as some guests have requested not to be recorded as a condition of their appearance. To arrange for classroom recordings showing a projected guest speaker not to be recorded, please contact CTS Classroom Support 3 or more business days in advance.

Questions?

For additional help and support:

- See our Zoom FAQ
- Contact your academic support representative
- Check out the Knowledge Bases for Zoom

Best Practices for Switching to Online Learning

Last Modified on 07/31/2020 2:50 pm EDT

These best practices were authored by Prof. Ethan Mollick and Lilach Mollick based on practice, theory, and research done for Wharton Interactive. This article focuses on helping faculty move to online learning, which is more involved than remote instruction.

Students will adapt to an online environment quickly, as long as they have clear guidelines.

Set expectations. Once an announcement of a shutdown is made, send students an email that details how you will run your class during a shut down. *You should prepare this email ahead of time so that it's ready to go.* Students will want to hear from you right away and you can squash uncertainty quickly.

- Explain to students that they will still have class but that classes will be held in BlueJeans and/or via discussion boards. Ahead of any BlueJeans classes, send students the meeting information and reminders about class times and expectations. You can send BlueJeans invitations directly through Canvas.
- Post a weekly Canvas announcement ahead of any classes to give students an overview of the coming class – this serves as a reminder to students that they still have class and assignments due, despite the shut down.
- Consider sending an introductory video to make a connection to students.

Provide structure. Decide whether you would like your classes to be **synchronous** (everyone meets on BlueJeans at scheduled class time), **asynchronous**, or a blend of **both**.

- **In a synchronous class**, the class meets at a specified time (your usual class schedule). Modes of synchronous classes are discussed later in this document.
- **In an asynchronous class**, you can post video lectures and/or readings and a discussion question in Canvas with specific instructions about how students should respond to the question. Remember to include the assessment/grading rubric for any assignment. Typically, students are asked to answer a question and comment on two peer responses in the discussion board.
- **Establish class norms**. Just as you would in a physical classroom, establish norms of behavior. Norms that you have already established in your class will likely carry over, but if not, remind students of your expectations.
- **Hold online office hours**. Send out a schedule for office hours and have students sign up for a BlueJeans meeting with you.
- **Clear up any timing/assignment misconceptions right away**. You can either email students instead of responding to individual students or post a video on Canvas if there are misconceptions or any questions about a particular assignment.

Asynchronous or Blended Teaching

Using a discussion board (whether Canvas or another solution) provides a place for classes to interact and is generally highly recommended – it is where students will have questions answered and where much of your interaction will take place. It's important that you maintain a presence on the discussion board, particularly if your classes are asynchronous. Students will be looking for contact with you; they are used to seeing you in class. To run a successful discussion board, consider the following:

- **Set discussion norms**. Tell students how you will run discussions. Additionally, it's a good idea to have students mute themselves when it's not their turn to speak, particularly with a large class.

- **Use punchy questions**. Students will pay attention when the question itself is engaging. Prepare your questions in advance. Good question types encourage discussion, so provocative or polarizing questions can be helpful. You can also ask students to role-play as a part of an asynchronous case discussion.
- **Monitor community health.** If students are not as engaged as you would like with questions, you can intervene, sending another message redirecting responses.
- **Reward students publicly**. Students look for public rewards; if a particular discussion board is very active, send students a message letting them know how well they are doing, noting any particularly useful individual contributions
- **Encourage collaboration**. When student responses are connected, point that out. Responses that make similar arguments, particularly ones that help clarify a key point, can be called out. Likewise, responses that build on one another should be recognized, encouraging students to actively interact with one another's ideas.
- **Be aware of response visibility on Canvas**. When you post questions on Canvas, *consider whether or not you want students seeing peer responses prior to posting*. In almost all cases, students should not view peer responses before they have responded, ensuring that they do their own thinking, and are not influenced by the substance and tone of peer responses.

Synchronous Teaching

It may be necessary to change your approach to teaching to take advantage of the online environment. Here are some approaches to consider:

- **Lecture-Based Teaching.** It can be hard to get a sense of how a lecture is going online, and whether students are engaged, so you can use Poll Everywhere and other audience response tools to keep students attention (and also grade on participation). The discussion and chat functions of BlueJeans can also be used to collect questions and encourage interactions during your talk. You may also want to assign groups of students to present during part of the synchronous class, splitting it between a mix of lecture and presentation. If you have low-levels of interactions in your lectures, you may want to use pre-recorded short lectures, and use your synchronous time to react to discussion board questions or comments.
- **Flipped Classrooms**. For classes based around project work or problem sets, you can record lectures and have students view them asynchronously. BlueJeans has a record video feature. Make sure the video is no more than 15 minutes long. Use your in-class time to have students present using screen sharing. They can show the latest aspects of their projects that align with the lecture topic, or show the answers to a problem set. You can then offer direct guidance after each presentation, or feedback after each problem set.
- **Active Learning**. You can also assign group work during the synchronous parts of the class, posing a question based on the reading or asking teams to solve a problem. You can also hold break out sessions in BlueJeans in which teams work in separate BlueJeans online rooms and then reconvene to report out. You can then ask teams to present this work via BlueJeans. You can assign multiple opportunities for active learning over the course of a single class.
- **Case-Based Teaching**. Case based teaching can work online, but requires extra preparation. Cold calls will need to be worked out in advance, and you may need to require a pre-class reaction paper to ensure everyone is up-to-date on the facts of the case. You may also want to use live polls to ask people about the choices they would make, which will allow you to more precisely identify who to call on. You will also need to figure out how much you will want to use a live board (screensharing from a tablet can work on BlueJeans), and how much to do with pre-prepared slides. The HBS document, "Teaching with Cases Online" can be helpful in preparation.

General tips

- If you aren't sure about your online class plans, run them by a colleague and see if your class/plan makes sense to them.
- Try something new. If you don't generally use discussion boards, try a new exercise e.g. have students create memes of a concept learned in class, or have students draw a concept map and post that picture – both exercises can prompt a rich discussion during your online class.
- If you have guest lecturers scheduled, send that lecturer a BlueJeans link; they can join the class remotely. If this isn't possible, interview the lecturer and record the interview and show it in class.
- When you share a screen in BlueJeans so you can show your presentation or prepared debrief, use lots of visuals.

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In-Person to Remote Instruction

Last Modified on 12/15/2025 5:26 pm EST

We are aware that Zoom is rolling out changes to its interface that may affect some of our directions. We are working on updating these pages, but in the meantime you can visit Zoom's Release Announcement. Please reach out to Wharton Computing if you have any questions.

Moving from in-person teaching to remote instruction is challenging – the vast array of digital tools may seem overwhelming! Advance preparation for teaching online is key – as is setting reasonable expectations for yourself and students.

For a more in-depth look please visit Remote Instruction - Start Here.

This grid outlines ways you can transform some of the things you do in the classroom to remote instruction. These are guidelines and starting points. If you have any questions please reach out to courseware@wharton.upenn.edu

In-Person Instruction Activity	Remote Instruction Counterpart
Classroom Experience	Synchronous classes should use a combination of video conferences and Canvas to replicate the classroom. Follow these instructions to set up your video conferences.

Discussion	There are a couple of options for recreating the spirited discussions you have in class:
	• The **Chat feature in your video conference** can be used by students to ask questions or make comments during class. When using chat, we recommend that:
	  ◦ A TA or student monitors chat and reports questions/issues for faculty.
	  ◦ Faculty log into the meeting with another device so they can manage chat along with the TA or student monitor.
	  ◦ Outline your expectations for how you want chat to be used by your students.
	• **Discussions in Canvas** are discussion boards accessible by everyone in your class, or restricted to specific sections or groups...

<table>
<tr>
<td>Attendance + Participation</td>
<td>
To track attendance or determine participation consider using:

Chat in your video conference - Have your students say something in the chat, and your TA (if you have one) take a tally.
Chat in Canvas can also be used.
Survey or Quiz in Canvas - Create a graded survey or quiz for attendance for students to complete. Consider using an access code to prevent students not attending the class from completing the assessment.

We're no longer recommending that faculty switch to Poll Everywhere for this purpose; if you teach using Poll Everywhere, be aware of these considerations.

Discussion Boards in Canvas - Create a specific board for attendance and have students post to it as they watch the video/join the video conference.

Keep in mind that some students may be unable to participate live due to time zone differences, internet connection limitations, Coronavirus-related restrictions, and family or personal medical emergencies.
</td>
</tr>
<tr>
<td>Seeing Students</td>
<td>
Within a video conference, there are several view options:

People view: Active speaker is seen on top, with the most recent participants displaying at the bottom. This is the default layout.
Speaker view: Current speaker takes up the entire screen
Gallery view: Participants are shown at the same time in a "Brady Bunch" format. The number of participants available in Gallery view varies according to the software being used.

Here are some common scenarios and the view we recommend for each:
<table>
<tr><th>Class Activity</th><th>Video Conference View</th></tr>
<tr><td>Lecturing</td><td>Speaker View</td></tr>
<tr><td>Whole Class Discussion</td><td>Gallery View</td></tr>
<tr><td>Screen Sharing</td><td>Speaker or People View</td></tr>
</table>
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Polls	Zoom offers Polling for Meetings which can be used in class, but **must be created before the Zoom meeting starts**. Harmonize, a Canvas add-on tool, allows multiple-choice polls to be embedded in Canvas content, with optional grading for responding to the poll question.
One-on-One/Small Groups	Breakout Sessions in Zoom can be used by organizer to create rooms and assign students to them for randomized group discussion. For one-on-one meetings or specific small groups, curated video conferences should be scheduled.
Screensharing	Screensharing can be used to share an entire computer screen, or individual applications, including: • PowerPoint • Websites • Office Documents If you choose to share your entire desktop, be aware that your whole desktop is being displayed, and make sure to minimize or close personal documents and disable personal notifications.
Whiteboard	• Zoom - To learn more about the Whiteboard, see sharing instructions here. For more suggestions for whiteboard solutions please visit Student Engagement.
Annotation	Use the annotation feature to mark up a slide or document during your presentation.
Teaching Assistants	TAs can continue to hold office hours via video conferences.
Office Hours	We recommend using a recurring Zoom meeting scheduled through Canvas to host virtual office hours. For one-on-one meetings with specific students, we recommend setting these up as one-on-one video conferences. These meetings do not need to be recorded, and signups can be handled via the Appointment Groups feature of Canvas.

Guest Speakers	Guest speakers can join a video conference session and students can interact with the speaker via the chat.
Final Exams	Midterm and final exams can be delivered through Canvas, either remotely or in-person. Please allow two weeks' advance notice to the Courseware Team if planning a Canvas-based remote exam.

For more information, please:

- See our Zoom FAQ
- Contact your Academic Support Representative
- Check out the Zoom Help Center

Remote Teaching Checklist

Last Modified on 07/15/2025 3:53 pm EDT

Use this checklist to prepare for teaching class online.

Wharton Computing recommends **Zoom** for teaching in all cases.

For more in-depth information on related topics see:

- Preparing to Work Remotely - Checklist
- Planning an Online Course

If you have urgent questions during your class, contact 215-573-0402.

Advance Preparation

- Review our recommendations on the prepare to work remotely article, and check out Zoom best practices.
- Schedule a synchronous meeting in your Canvas course.
- Contact any speakers in advance to confirm the tech they are using. If feasible, schedule a meeting to test their tech well in advance.
- Assign a chat moderator (TA or student) to track class discussion and repeat questions for the recording.
- If you haven't taught a class using video conferencing before, consider doing a dry run with colleagues or others to get comfortable with the technology.

Best Practices

- **Mute on Joining**: When you join the meeting, we recommend you mute your audio except when you are speaking. The noise made by typing, eating, or coughing can come through the audio very loudly.
- **Set Expectations**: If you are running the meeting, let people know what you expect. How do you want students to indicate that they have a question or comment? How will you measure their participation in this new, online format? How do you expect them to use the chat feature? All of these topics, and any others you feel are important, should be addressed during your first online session or before.
- **Recording**: Let people know you are recording.

Just Before Class

Prep 15 minutes before class start.

- Log in to your Canvas site and access Zoom from the course screen; choose the correct class session.
- Take note of meeting ID#, moderator code, and contact info for getting help.
  - best to do this on another device or on paper in case of computer issues.
- Test--check your connection, audio, and video by joining a test meeting: (For Zoom the test meeting wizard will provide prompts):
  1. Microphone
  2. Video
  3. Screen Sharing (Zoom help here)
  4. External Equipment/Presentation Materials
- If there is a guest speaker, invite them to the meeting and then test their technology (even if you have already

tested in a previous meeting).
- **CONFIRM RECORDING HAS STARTED.**

During Class

- Hold your synchronous class meeting.
- Monitor chat regularly for questions and comments.
    - If you are teaching alone, stop screensharing for a minute or two to check chat periodically OR use another device joined to the meeting to monitor chat.
    - If you are team teaching, ask the non-presenting faculty to monitor chat.
    - Appoint a TA/student as chat monitor.
- **End the recording** (the recording will continue recording until EVERYONE has left the call):
  1. Click the **hangup icon** at the top of the meeting.
  2. Check the **Drop Everyone** box on the pop-up window.
  3. Click **Leave.**

After Class

- After 36 hours, **confirm recording has uploaded** to Canvas. (If it has not, use these directions to manually upload.)

Troubleshooting

For troubleshooting steps, start with our Zoom FAQ.

Questions?

More information about teaching online is available in our Working & Teaching Remotely section. For non-urgent questions that aren't answered there, contact your Wharton Computing Representative.

Inviting a Guest Speaker to a Video Conference

Last Modified on 12/15/2025 5:06 pm EST

We are aware that Zoom is rolling out changes to its interface that may affect some of our directions. We are working on updating these pages, but in the meantime you can visit Zoom's Release Announcement. Please reach out to Wharton Computing if you have any questions.

These directions are for faculty. They work whether you're creating a new video conference in Canvas or editing a pre-existing meeting on the video conference tab of a Canvas Site.

Before You Start

Guest Speakers from Outside Penn: If a guest speaker from outside Penn needs to join a Zoom created through Canvas, they must be added as an "Authentication Exception." See Guests from Outside Penn below for more details.

Inviting a Guest to a Video Conference Scheduled within Canvas

It is easy to share your video conference information with a guest speaker right from Canvas. This article assumes you are using Zoom for your video conference.

Keep in mind that only the meeting owner can edit a meeting.

If you've scheduled your Zoom meeting within Canvas it is very easy to get an invitation link to share with a guest:

Inviting a Guest Outside of Canvas

You can gather the information needed to invite your guest speaker to your video conference scheduled via upenn.zoom.us:

Zoom meetings you scheduled via Canvas will also show up listed in upenn.zoom.us.

Guests from Outside Penn

If a guest speaker from outside Penn needs to join a Zoom created through Canvas, they must be added as an "Authentication Exception," since they will not have a Pennkey to log into Zoom.

Don't use your Personal Meeting ID for these meetings. You will not be able to add authentication exceptions to meetings that use your personal meeting ID.

Best Practices

Following these best practices will help ensure a trouble-free guest experience.

Questions

For more information, contact your Wharton Computing representative.

Online Presentations - Faculty

Last Modified on 10/31/2023 2:36 pm EDT

Information for faculty on online presentation and sharing options for students.

Presentation Options

There are several ways to manage student presentations via Zoom. First you'll need to decide whether:

- Presentations should be delivered live (during the class' synchronous sessions) OR
- Presentations should be recorded outside of the class (asynchronous session) and submitted only to you or made available to the entire class for discussion.

Feel free to share these student focused instructions for giving an online presentation with your students.

Material-Sharing Options

You should also decide how you want students to **post** their presentation recordings or slide decks (**either feature can be used for grading and/or peer review**):

- **Assignment:** Create an Assignment (individual or group assignment) if it should be accessible only to the teaching team AND/OR
- **Discussion:** Create a Discussion if the materials should be accessible to all students.

Synchronous (live) Presentations Sharing

- To share presentations during a live class over Zoom, individuals or groups should share their screens.
- You may need to set host mode or change the meeting settings. This will mean that your screen is no longer being shared.
- Make sure to keep recording the session for post-class review of presentations.
- Students should also post their slide decks on the appropriate Assignments/Discussions page.

Asynchronous Presentations Sharing

- Students should use Zoom to create a personal or group meeting and record their presentation. Then they should download the recording and upload to Canvas, as one of the following options:
    - An **assignment**, where only the teaching team may retrieve it.
        - Ideally, students should submit a link to the recording.
        - Students may also submit a link to the video shared in Penn+Box--the link should lead directly to the video and not to a folder.
        - Please remind students to adjust the recording's settings so that you may view it.
        - Students may also record the video inside the assignment, or they may upload a video.
        - We strongly recommend recording and then uploading, as it is more reliable.
    - A **discussion**, which the entire class may view.
        - Students may submit a link to the recording.
        - Students may also submit a link to the video shared in Penn+Box--the link should lead directly to the video and not to a folder.

- Please remind students to adjust the recording's settings so that you may view it.
- Students may also record the video inside the discussion, or they may upload a video.

Group Presentations

To ensure online student collaboration runs smoothly, we recommend:

- Setting up student groups in advance.
- Making sure assignment for grading is configured as a group assignment.
- Setting up a Discussions page for groups to share presentation materials with other students.
- Reminding students of Canvas tools available e.g. **group collaboration spaces**, personalized video conferences, etc.

Questions?

For more assistance, please contact courseware@wharton.upenn.edu for support.

Exams for Remote Instruction - Faculty

Last Modified on 12/11/2025 1:20 pm EST

This is a guide for faculty who plan to administer online exams remotely/outside of class.**See Delivering online exams (in-person) for advice on delivering online exams in-class.**

Overview

As you plan to administer exams remotely, consider if an exam is necessary, or if alternatives would better allow you to evaluate what your students have learned. For example, is a project-based assessment or a series of lower-stakes assessments appropriate?

For most courses, the best option for delivering an exam is via a Canvas quiz, which supports both quantitative and qualitative exam formats. You can specify the amount of time a student has to take an exam and mix-and-match questions from among the following types:

- **Automatically graded questions:** Numeric, multiple choice, multiple answers, true/false, dropdown, matching, categorization, fill-in-the-blank, hot spot
- **Manually graded questions:** Short answer/essay, file upload

Since there is currently no option for remote proctoring, develop exams with the assumption that they are open note. Allowing students to use course materials during an exam eliminates unenforceable restrictive policies.

> Respondus LockDown Browser **CANNOT** be used for at-home exams. It is designed for use only during in-class proctored settings. We do not currently support Respondus Monitor or the use of video conferencing tools (e.g. Zoom) for remote proctoring.

Best Practices

- **Reinforce academic integrity** by beginning with a 0-point question asking students to abide by the University's **honor code**.
- **Consider what course content is available to students** given their location. Don't assume all students have access to the same materials unless they are available online.
- **Consider what, if any, content should be visible after students complete an exam.** Make sure to restrict the student result view of exam questions, responses, feedback, and correct/incorrect answers until after all students have completed the exam.
- **Set extended time** for students needing accommodations.

Maximizing Exam Security

The strongest approach to exam integrity is to design an exam experience that delivers variations of the exam to each student. You can:

- **Shuffle question order** so that students see the exam questions in a different order.
- **Shuffle answer option order** so that answers and distractors appear in a different order, and optionally lock **all of the above**-type options.
- **Create a larger pool of exam questions** and draw from an **item bank**; questions drawn from an item bank will

be presented in random order.
- **Create multiple versions of questions** placed in an **item bank.**

Other approaches to enhance exam security include:

- **Time limits,** which minimize the amount of time students have to look up answers or consult with their peers.
- **Multiple versions of an exam,** when questions are linked or depend on each other and cannot be drawn from an item bank.
- **Open-ended, complex questions,** which require manual grading.
- **Requiring that students show written work,** by taking photos of their work, creating work digitally in Excel or a document, then uploading the files to Canvas.
- **Show one question at a time** and, optionally, lock questions after answering to prevent students from returning to earlier questions.

Exam Timing

Although reducing the amount of time that students have to take an exam increases exam security, it also increases the chances that students will encounter technical difficulties that hinder their ability to complete the exam. Multiple factors should be weighed when considering time constraints on your exam:

- **If you have an uncomplicated, easy-to-complete exam,** you can simply estimate how long a prepared student would take to complete the exam and give your class that amount of time to complete it.

- **If you have students in multiple time zones**, we suggest giving a wide window of time in which students can complete the exam to accommodate everyone. Based on your level of comfort, that window can be anywhere from 8-24 hours. Note that this window can still be used in conjunction with a timed exam so that students can take the exam anytime within the window of availability, but still only receive a finite number of minutes to complete it.

- **If you have a very complex exam** that involves students using multiple technology platforms, uploading files, or answering different types of questions, we recommend granting up to 50% more time than you would in an in-person setting. This provides time for students to resolve technical issues before their time runs out, without requiring support from others.

- **If you'd like students to upload an image** that shows their work, consider having students submit this to a separate assignment that accepts file uploads, instead of to the quiz. This avoids problems encountered when attempting to upload work during the timed exam.

Regardless of what type of exam you're administering, always remember to set a final due date so that the exam appears on students' Canvas calendars, To-Do Lists, and other prominent places in Canvas.

Introducing New Quizzes

Beginning Spring 2020, the Courseware team recommends that most courses use Canvas's **New Quizzes** (rather than the legacy Classic Quizzes). New Quizzes has been in use in select courses at Wharton since Spring 2019, and it will eventually be the only quiz option available in Canvas. New Quizzes offers many benefits for remote exams, including an easy-to-use quiz building environment.

- **New Quizzes** offers:
  - A more intuitive question-writing environment for you and TAs, as well as a friendlier test-taking experience for your students

    - Simpler procedures for extra-time accommodations
    - Onscreen calculator options (basic or scientific) which you can make available selectively
    - Regrading of most automatically graded question types, including numeric questions
    - Specialized question types including categorization, ordering, and image "hot spots"
    - Association of adjacent questions with a "stimulus" (a problem description, optionally with figures or graphs)
    - Configurable essay questions, including spell check, rich text formatting, word count/limit, and notes for graders
    - Selective shuffling of answer options per question, as well as flexible random question selection from item banks
- **Classic Quizzes** currently provides options that are not yet available in New Quizzes, but is more limited in terms of regrading. This quiz engine is appropriate if you:
    - Rely on a downloadable Excel file of student responses
    - Prefer to bulk-download all student submissions to file-upload questions
    - Need to allow students to record audio or video in their responses
    - Link to files as part of the instructions
    - Want to revise quizzes in multiple Canvas sites controlled by a Blueprint Courses template

Questions?

If you need more assistance, please contact courseware@wharton.upenn.edu for support.

Hybrid Instruction in Wharton Classrooms

Last Modified on 05/15/2024 6:09 pm EDT

This article is meant to help with recommendations, best practices, and guidance for hybrid instruction in Wharton classrooms. All classrooms at Wharton are outfitted with enhancements to improve the hybrid teaching experience for both the instructor and the audience, whether in-person or remote.

For more in-depth information about the technology in the classrooms, please see this article: Using Technology in the Classrooms.

First Time Teaching Hybrid? If this is your first hybrid teaching experience please reach out to Classroom Technology or your Wharton Computing representative to set up a training session.

Hybrid Instruction

In this article, hybrid instruction refers to teaching from a Wharton classroom to both an in-person audience as well as a remote audience, synchronously.

Classrooms have been equipped with specific tools and technology to specifically help with hybrid instruction.

- All tiered classrooms have a mobile cart which includes technology to enhance hybrid instruction:
    - a confidence monitor - use this to confirm the experience that remote attendees are having, or display additional content to the instructor
- Zoom is installed on all classroom computers for quick access from classroom technology.
- Classrooms have enhanced audio equipment which will help remote students hear (in a natural way) the conversations between the in-person audience and in-person professor as they happen in the classroom.

Classroom Setup for Hybrid Instruction

To help ensure the best experience for both remote and in-person participants, there are a few steps that the instructor can take when beginning class:

- **Log in to the classroom computer first.** Log in to the classroom computer (even if you plan to use your own laptop or tablet) so the technology will know who you are and engage the full scope of resources available for your instruction.
- **If using Zoom, log in to the Zoom client on the classroom computer and start your session there.** This makes the host of the Zoom session the classroom computer and allows you to take full advantage of the classroom equipment specifically for Zoom.

After you log in to Zoom you need to configure some Zoom settings to make sure you can use the additional display options in the room:

1. **Join any meeting**, and go to **General > Settings**
2. Check the box for **dual monitors**, to activate the dual monitors

3. Set Noise Suppression to **Low**
4. Under Advanced Audio Setting, set Echo Cancellation to **Auto**

- **Remember to share your content with both remote and local students by sharing your screen.** This needs to happen in the room by displaying your presentation on the projector screens in the classroom, as well as within the web conferencing application via screen sharing.

- **Use a lapel microphone to make sure all of your speech is captured by both the classroom and the remote participants.** Classrooms are equipped with enhanced audio via ceiling mics and a powerful lectern mic, but the lapel mic will capture everything even if you walk away from the lectern. The lapel mic will also help prevent your speech from sounding muffled if you are wearing a mask.

Best Practices and Recommendations

There are a number of suggestions that will help provide you the best experience with hybrid teaching:

Troubleshooting

Having trouble? Try these quick tips, or contact Classroom Technology using the information below.

Questions?

Call Classroom Support: (215) 573-0402

Email: class-tech@wharton.upenn.edu

Scheduling or room reservations: scheduling@wharton.upenn.edu

Web Conferencing Equipment - Buyers Guide

Last Modified on 12/15/2025 5:06 pm EST

Teaching and learning remotely can present many challenges. One of the challenges you may face is choosing the right web conferencing equipment. We're here to help.

Before you begin, you will need:

- A computer (laptop or desktop)
- An internet connection

This article isn't going to get into the nitty-gritty of what type *of computer* to buy. Your IT reps are a great resource when it comes to selecting, ordering, and configuring computers, so here, we're going to concentrate on the audio and camera devices you will need.

For each device, the lowest priced model will be fine for most people. If you want more bells and whistles, you can step up to a more expensive model that has more features. Prices vary among retailers, so prices you find here are approximate.

Note: Web conferencing equipment, and cameras in particular, have become quite a hot commodity lately, with so many people working from home. Many of the most common models are back-ordered or overpriced. If you happen to find one of these models in stock from a reputable retailer, for a reasonable price and shipping time, order it. Faculty and staff can also reach out to your business administrator for assistance; he or she may be able to help.

Cameras

In most modern laptops, a camera is already built in, but there are situations in which you might not want to use it. Maybe the camera is aging a little and the picture isn't great. Or, the height of your laptop at your desk makes the angle not very good. If so, a USB camera will help.

Microphones

Most folks assume the best piece of equipment you can buy to improve your video conferences is the camera, but it's really the microphone.

Headphones

The need for headphones is dependent on your environment. If you attend class in a quiet office, your computer's speakers might be fine. If you work from the dining room table and your family is nearby, it may be helpful to use some headphones to block out outside noises. In addition, using headphones will produce cleaner audio to everyone on the call because the web conferencing software doesn't have to digitally remove the sound coming from your computer's speakers and getting into your microphone.

Presentation Remotes

Presentation remotes, also know as wireless mice or clickers, aren't usually needed when sitting in front of your own laptop, but if you are more comfortable holding one in your hand while you present, we've got you covered.

Lighting

Key Light Air

The Key Light Air is an app-controlled, LED panel that is edge lit which provides flexible illumination, that can be changed to fit unique lighting conditions. The app controls the brightness and warm or cool tones of the light configuration. **Price: $129.99**

Questions?

For more information or help on selecting and ordering, contact:

- Wharton Computing IT Representative
- Your Department's BA
- Student Support

Hybrid Classes Taught Remotely

Last Modified on 10/13/2022 11:54 am EDT

Hybrid classes where the instructor is teaching remotely pose a unique technological challenge. How can you provide everyone in the class with the same experience, both the remote students and the students in the classroom, if the instructor is *not* in the classroom? Wharton Computing has tested several different scenarios, and we have the simplest solution: Everyone calls into the meeting from their own device, both at home and in the classroom.

Before you begin, you will need:

- A laptop, or other portable device with web conferencing software installed.
- Headphones (required for in classroom students, recommended for remote students)

For the Instructor

You will teach class as you would normally in a remote setting. Log into your Canvas page, start up your web conference the way you normally would, and teach the way you always do. We ask that you start up the room and be available to test with the students in the classroom 30 minutes prior to the start of class, which will give time to work out any issues before class actually begins. We also recommend reminding students of some classroom etiquette that will be especially important when people are in the room together.

Reminders for Students

- Turn on cameras.
- Classroom attendees **must** use headphones.
- Mute your microphone unless you are speaking.
- Use the Raise Hand feature to ask a question

For the Students

If you are **not** in the classroom, nothing will be different for you. Simply connect to your class like you normally would.

Students Attending from the Classroom

If you *are* in the classroom, you will need to have a couple of things with you: Your device for web conferencing (a laptop, phone, or tablet), and a pair of headphones.

You *must* have headphones. The only way to insure that you will be able to speak to the instructor is for everyone in the classroom to have headphones. They do not have to be expensive, and they do not have to have a microphone (although it's fine if they do), but you must have a set. None will be provided in the classroom, you must bring your own.

Etiquette Reminders

- Turn on your camera.
- Mute your microphone unless you are speaking.
- Use the Raise Hand feature to ask a question.

Questions?

Students, contact the Student Tech Center.

Instructors, email class-tech@wharton.upenn.edu prior to the class.

For emergency assistance, call 215-573-0402.

All about New Quizzes

Last Modified on 06/23/2021 2:10 pm EDT

As of August 30, 2024, the place for entering due and availability dates while editing assignments or quizzes has returned to its original location in Canvas.

It's also possible to set due or availability dates*without* editing the quiz. Use the **Assign To** button which currently appears to the left of the **Edit** button on any assignment or quiz page:

A similar **Assign To** choice appears in the options (three dots) drop-down menu for each quiz listed on the Quizzes tab.

Canvas's New Quizzes offers benefits, such as printing and one-time accommodation entry per course, which improve upon the original feature set for Classic Quizzes.

Before You Start

You will need a Canvas site.

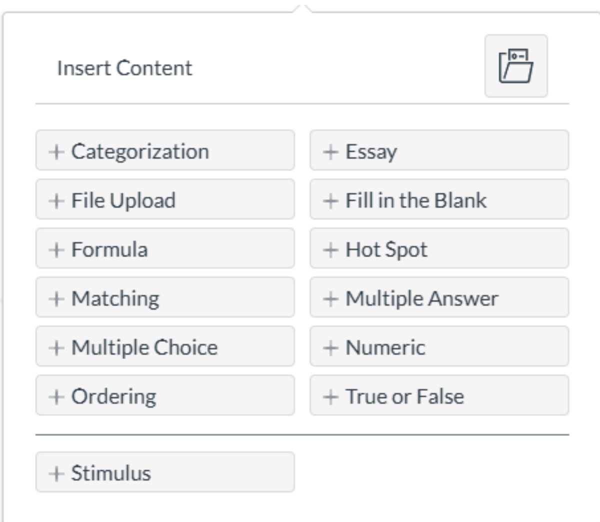
Do NOT use New Quizzes if you:

- Rely on a downloadable Excel file of student responses
- Prefer to bulk-download all student submissions to file-upload questions

Please use the legacy Classic Quizzes tool instead if you need either of these features.

Creating a Quiz

To create a new quiz...



Question Types

Your quiz can include a mix of automatically and manually graded questions.

Item Banks

Use Item Banks to pull all questions or a specific number of questions randomly from a pool. This is a good way to add variety to the exam and/or keep similar questions together.

Exams with File Downloads

Use Classic Quizzes if you need to share a link to an exam file that students can access only during the exam. If you need to use New Quizzes instead, you can create a link to the exam file by using the following instructions.

Publish the Quiz

Before you publish the quiz, be sure to:

- **Add availability dates** so students cannot access the quiz until the start time.
- **Review the quiz settings** to ensure that **Restrict Student Result View** is enabled and that other exam settings are correct.
- **Preview the quiz** to view it as students will.
- **Permit additional time** by choosing **Moderate** to the right of the student's name. Under **Time adjustments,** select **Give additional time,** enter the extended time, and close the tab.

Viewing and Grading Online Quizzes

- Use **Moderate** to view student submissions, add more time or attempts for individual students, and to reopen a completed quiz.
- Add a score for any manually graded questions in **SpeedGrader**. (Final quiz scores cannot be directly edited in the Gradebook.)

Regrading Questions

You can regrade any automatically graded question, but this should be done only *after* all students have finished taking the quiz. When you regrade a question for one student, **the change will be applied to all** students who received that question.

Releasing Scores

When you are ready for students to see their submissions and the correct answers, you should:

Enabling Additional Attempts for Students

Occasionally you may want to give a student another attempt at a quiz. Here's how:

Questions?

Email: courseware@wharton.upenn.edu

Exam Accommodations

Last Modified on 07/25/2023 12:31 pm EDT

This article describes how to use Canvas to grant students additional time and extended availability windows for exams, which, in Canvas, are called *quizzes*.

If a student in your course has an approved accommodation from Student Disabilities Services (SDS) or must take a quiz at a different time than the rest of the class (because of time zone or another reason), you should ensure that reasonable accommodations are made. You are responsible for setting up these accommodations in Canvas, or for asking the Courseware team to do so.

Please contact Courseware with accommodation requests at least 1 business day before the quiz is administered.

Availability Windows vs. Time Limits

The *availability window* is the total time period the quiz is open to students; e.g., from April 28 at 12pm to April 29 at 1pm.

The *time limit* is a specified amount of time given to students to complete the quiz (e.g., 60 minutes).

> If your quiz uses both availability dates and a time limit, be sure to update both when making accommodations.

Student-specific Availability Windows

You can set different availability windows for students within the same quiz or assignment.

1. Open the quiz (in New Quizzes or Classic Quizzes) and scroll down to the **Assign to** field.
2. After setting the Due Date and Available from/Until dates, click the **+Add** button to create a second **Assign to** field.
3. Start typing the first few letters of the student's name and select their name from the student list that appears. You can assign a different availability window to multiple students or to different sections of students.
4. Enter the new due date and Available from/Until dates for these students.
5. Repeat steps 2-4 as needed, and click **Save** when you are finished.

> Notes: Individual students can only be assigned one (1) Availability Window. Students will see *only* the due date and available from/Until dates assigned to them.

Extending the Time Limit

You can extend the time limit of a quiz for individual students without adjusting the time limit for the rest of the class. This is possible in both New Quizzes and Classic Quizzes, but should be done before students start taking the quiz.

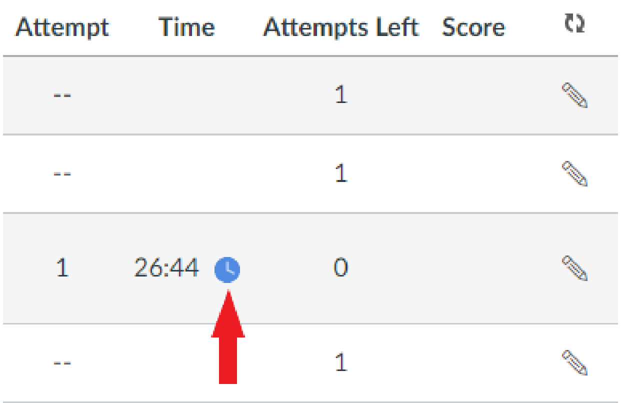
In New Quizzes

Allowing Extra Time for In-Progress Quizzes

Note: It is not possible to give a student additional time while they are taking a New Quiz. You can allow them another attempt, but not additional time.

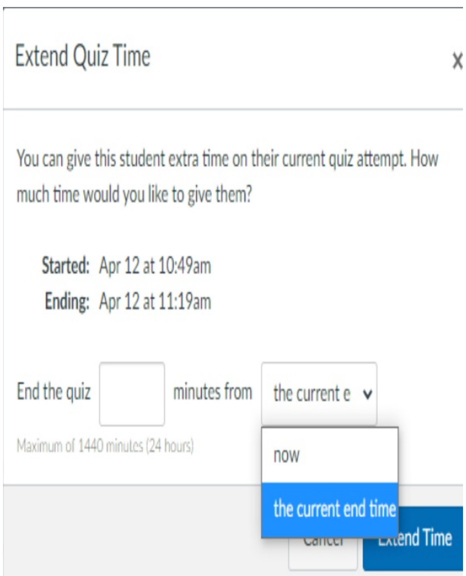
In Classic Quizzes

1. If a student has an emergency or technical issue while they are taking a quiz using Classic Quizzes, you can open **Moderate This Quiz**, then click the clock icon next to the student's remaining time.



Attempt	Time	Attempts Left	Score
--		1	
--		1	
1	26:44	0	
--		1	

2. Enter the amount of extra time to give the student and select to apply the extra minutes to the current end time of the quiz. Then click **Extend Time**. The extra time will be applied to the student's in-progress attempt and their countdown clock will be updated.



Questions?

Email: courseware@wharton.upenn.edu

Remote Teaching

Last Modified on 12/15/2025 5:03 pm EST

We are aware that Zoom is rolling out changes to its interface that may affect some of our directions. We are working on updating these pages, but in the meantime you can visit Zoom's Release Announcement. Please reach out to Wharton Computing if you have any questions.

This guide walks you through the tactics you'll need to teach a class fully remote. This guide concentrates on the tactical efforts to make your class successful without rethinking the entire thing. For a much more in-depth look at teaching an online course, please read the Planning an Online Course article which covers the pros and cons of the different kinds of remote classes, managing the class, and more.

Be sure to read the Remote Teaching Checklist for additional tips.

This guide concentrates on four key areas:

1. Setting up your Teaching Space
2. Using Zoom
3. Informing Students
4. Preparing classroom tools

Setting up your Teaching Space

Given you'll be teaching remotely by definition you won't have access to any on-campus spaces. Give some thought to what you'll need ahead of time:

- Which space will you use to conduct your remote class?
- Do you have the proper equipment?
- Do you have a reliable internet connection?

You can find a list of recommended equipment here. Some basic technology recommendations (like using a wired connection to the internet vs. wifi) are available to help you set up your space.

Also give some thought to how you'll appear on camera. This article has some tips about the optimal settings in which to record.

Using Zoom

The foundation of any remote class at Wharton is Zoom. You'll need to create a Zoom meeting for your class and share the meeting information with your class (and TAs). There are two recommended ways to set up your Zoom session:

- Set up your Zoom session though Canvas (Strongly Recommend). If you have Zoom enabled in your Canvas site already, follow these directions. If you don't, reach out to your Wharton Computing representative and they can help enable it.
- To set up a Zoom session outside of Canvas, follow these directions. Please be aware that you will have to ensure that the Zoom session is recorded and manually upload that recording to Canvas.

If you have TAs be sure to make them alternative hosts of the meeting; if you're having your TAs set up the Zoom sessions, they should make you an alternative host. This way, you'll all have the ability to modify/start the meeting.

Recording

Check **Record the meeting automatically,** regardless of which method of Zoom scheduling you use:

- Using Canvas: The checkbox is located in the **Meeting Options** section.
- Using Zoom: Click on **Advanced Options** and you'll see the **Automatically record meeting** option. Check it.

Once the recording is in Canvas (which happens automatically for Zoom sessions scheduled with Canvas, and requires manual uploading for anything scheduled outside of Canvas) Wharton Computing will handle the student availability of the recording based on your submitted preferences.

Informing Students

With your Zoom meeting setup, you'll have the meeting information to distribute. If you've scheduled the meeting in Canvas, students will access it via your course site, but we recommend posting an announcement letting the students know.

If you've created a Zoom meeting outside of Canvas, be sure to share the meeting login information via whatever method you usually use to communicate with your class - email or Canvas.

Preparing Classroom Tools

Depending on your plan for the class session, a varying degree of additional preparation may be required.

The In-Person to Remote Instruction grid maps typical in-person classroom activities to remote equivalents. We recommend you consult this grid ahead of time as many of the remote counterparts require advanced setup.

Some of the more common activities have articles with detailed instructions:

- Inviting a Guest Speaker to a Video Conference
- Polling using Poll Everywhere
- Exams for Remote Instruction

Working and Learning Remotely - Students

Last Modified on 04/16/2025 11:21 am EDT

This article provides overview information for attending classes and doing class work remotely.

Before You Start

You must activate your account first before you can use Penn Zoom. You'll need the following:

- Access to the internet
- Computer, tablet, or smartphone
- PennKey account and password

Attending Class Remotely Using Video Conferencing

Some Wharton classes have an online component. Use these directions to get yourself set up and oriented. See the Related Articles below for more in-depth information on these and other resources.

Set Up and Authorization

You'll need Zoom activated (and preferably installed on your computer or mobile device) to participate in class. Before using Zoom for the first time, y**ou must activate and authorize your Penn Zoom account**:

Zoom Activation and Authorization

This one-time set of steps should result in seeing a list of upcoming, in-progress, and recorded Zoom Meetings for your course; you'll be able to play any of the recorded meetings using the **Play** button.

Getting Started

To attend class remotely and have the best experience, you must install the Zoom client before your scheduled class. Be sure to have the most up-to-date version of the app installed so you can access all the features.

- **Zoom App**: To attend class using the Zoom application, you will need to install Zoom on a laptop or desktop computer: https://zoom.us/download
- **Web Browser**: To attend class using your web browser, paste the URL for your class provided by your professor or TA into a web browser, and when prompted, select **Join with Browser**.

  Some Zoom meetings require joining via the Zoom app. We recommend using the app whenever possible.

- **Tablets**: To attend class using your Tablet, you will need to install the Zoom app: https://zoom.us/download

For more information about using Zoom: https://support.zoom.us/hc/en-us/articles/206618765-Zoom-video-tutorials

Note: If you cannot attend your class through Zoom or in person, check to see if the recording is on Canvas or submit a request if your course is using the Attendance & Video Request app.

Testing Your Connection

We recommend you test your connections before your class starts.

1. Go to zoom.us/test.
2. Click the blue **Join** button to launch Zoom and join the test meeting.
3. The meeting will run you through a series of tests to ensure your speakers, microphone, and camera are working.

Best Practices for attending classes remotely

- Most remote classes will be scheduled through Canvas. Please log into Canvas, open your class, and join the meeting from the Zoom tab on the left navigation pane.
- When you enter your class through Zoom, your microphone will automatically be muted. Please do not unmute your microphone to limit the noise in the class.
- All comments and questions should be posted in the Chat window.
- Make sure you are in a quiet area.
- Please make sure all chats are class-related.

Communicating

- Video Conferencing for classes - Use Zoom to meet virtually with classmates and study groups.
- Email - Access your email by going to gmail.com
- Virtual Lab - access software needed for course assignments

Productivity Software

- G Suite - Docs, Sheets, and Slides
- Penn M365 - Access to Word, Excel, and PowerPoint Online and Office software can be downloaded to personal devices

File Shares

As a student, you have a variety of document-sharing options.

- Google Drive
- Penn M365 - One Drive

- Penn Box
- Wharton Dropbox for Business

Two-Step Verification

Make sure you have the device (smartphone, key fob, or something else) that you use to authenticate for Two-Step Verification. You might also want to print out some backup authentication codes by following these instructions (the "Generate and print backup codes" section specifically).

Other Tools

Here is a partial list of University-provided software you can install/access on your personal computer for the purposes of remote work.

- Secure Share - Securely share files with fellow students
- Student Remote IT Support - Additional contacts for student IT support at the University
- Wharton Student Computing Resources - All resources available to Wharton Students
- Equipment Buyer's Guide - Recommendations for useful technology purchases

Questions?

Contact: Wharton Student Computing

Virtual Lab (for Laptops)

Last Modified on 04/16/2025 12:18 pm EDT

Wharton provides remote access to virtual computers that are equipped with the same software as Wharton's public computers. This service is designed to provide an alternative for students who otherwise aren't able to get to campus to log into the public labs.

The Virtual Lab is available 24/7 for student use and may be accessed from any computer running Mac OS, Windows, and Ubuntu, and many mobile devices. Use this service to:

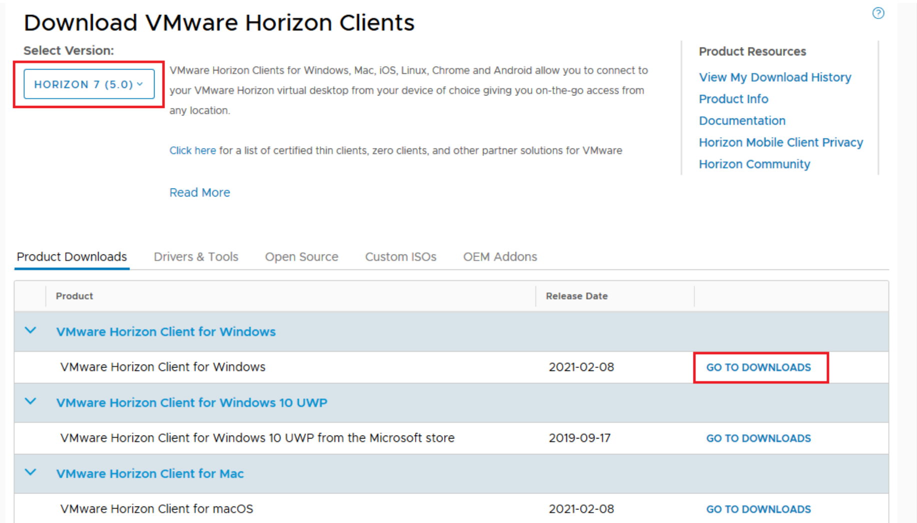
- Access specific departmental applications such as JMP and Matlab.
- Use Windows software from a Macintosh.
- Print (for users who are not able to print from their laptop or mobile device).

To use the virtual lab, you will need to install the appropriate client software on your laptop or desktop computer using the steps in this article. Using a different device?

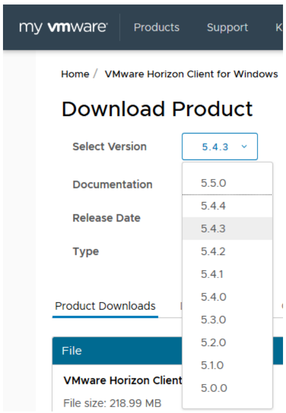
- For a phone or tablet, see Virtual Lab on Mobile Devices.
- Having trouble with the Virtual Lab? See Troubleshooting the Virtual Lab

Installing the Virtual Lab Software

1. Download and run the VMWare Horizon Client installer for your computer. Use **Version 5.4.3**, the preferred, supported version:
    - **Windows and Mac (Windows 10** users may also install the VMWare Horizon Client from the Microsoft Store.)
        - Go to the VMWare Horizon Client Downloads page:
          **** Start from the Version 7 (5.0) page to access the version 5.x installers; VMWare's version numbering has changed.***



        - Select the **Go To Downloads** link for your OS (e.g.: Windows, Mac, Linux, iOS, etc.).
        - Select **Version 5.4.3** from the "Select Version" dropdown in the upper left corner:

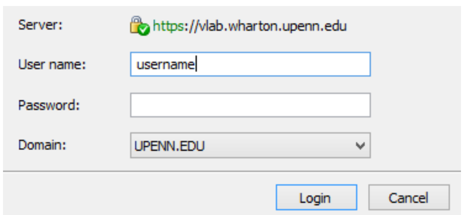


2. Accept the default settings until you reach **Default View Connect Server.** (If asked to choose Network Protocol, select **IPv4.**)
3. In the **Default View Connect Server** box, type **https://vlab.wharton.upenn.edu**.
4. Click **Finish.**

Note to Mac users: Install **Version 5.3**. Please do not install the latest version (5.4) because of known issues.

Running the Virtual Lab Software

1. Launch the **VMware View** software.
2. Double-click the **Virtual Lab option** (https://vlab.wharton.upenn.edu).
3. Log in with your PennKey username and password.



4. Double-click the **Virtual Lab option** (https://vlab.wharton.upenn.edu) again.

The VMWare View Client connects you to a virtual desktop and gives you a few menu options, including full screen or windowed mode.

Display Note

VMware only supports screen resolutions up to 2560 X 1440. Mac users will not have to change their screen resolution, but some PC users may need to do so. See directions for how to change your VM screen resolution.

Mobile Notes

Using a mobile device instead? See our directions for mobile devices.

- **USB**: Some platforms may allow you to redirect USB ports on your device to the virtual machine, if that option is available it will be in the menus here.
- **CTRL+Alt+Del:** If you need to send a CTRL+ALT+DEL to the virtual computer, it can also be done from this menu. This option should not generally be needed.

- **Logging Off:** The VMWare View Client will present you with options to disconnect or log off. If you disconnect, you can pick up your session where you left off if you reconnect within 30 minutes. If you log off you will free up your virtual desktop for other users immediately.

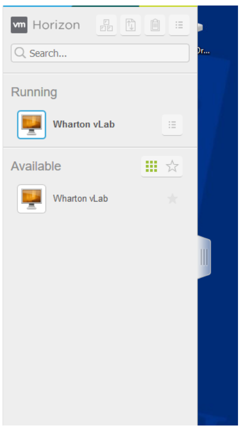
Accessing the Virtual Lab via Web Browser

The Virtual Lab may also be accessed via web browser, without the VMWare client.

1. Open a web browser session and navigate to https://vlab.wharton.upenn.edu
2. Select the **VMWare Horizon HTML Access** link on the bottom right of the form:

3. Log in with your PennKey username and password as you would in the VMware client and click the**Login** button.
4. Click the **Wharton Lab** option.

You will be connected to a virtual desktop scaled to your browser window; there will be a tab on the left of the window that will provide you with some additional functions/options.



Tip: Using the web browser can be an option when you do not have access to the VMWare Horizon client application, or if you're having problems connecting from the client application.

How does the Virtual Lab differ from a physical lab?

Since you're connecting remotely to access these computers, your network speed plays a large role in your experience. You will get the best results on a fast connection.

Display Note

VMware only supports screen resolutions up to 2560 X 1440. Mac users will not have to change their screen resolution, but some PC users may need to do so. See directions for how to change your VM screen resolution.

Troubleshooting the Lab

If you are having trouble using the Virtual Lab, see our troubleshooting article.

Provide Feedback

Your feedback will help us make the service better! Provide your feedback here.

Online Presentations - Students

Last Modified on 04/17/2023 1:26 pm EDT

Sharing a presentation while attending class remotely has several steps you'll need to consider. Your professor will decide whether the presentation should be presented during a live class session (synchronous) or pre-recorded (asynchronous). Either option can be accomplished using a video conference.

Synchronous (live) Presentations

To share presentations during a live class over Zoom, individuals or groups should share one person's screen, and should unmute audio and video. You should also post your slide decks **either in the Assignments or the Discussions sections** in Canvas, depending on what your professor tells you to do.

Tips:

- Practice your presentation in Zoom before delivering your presentation in class.
- For group presentations, one group member should share their screen during the presentation. Other group members should give verbal cues to advance the slide.

Asynchronous Presentations

You will use Zoom to create a video conference with your group and record the presentation. Make sure to **PRACTICE** in Zoom before recording the session for submission.

Once the recording is complete, it will be accessible for the meeting organizer to either download or retrieve the link to upload to Canvas. There are two ways to do this:

- Submit as an **Assignment**
- Submit in **Discussions**

The Assignment/Discussion distinction is based on faculty preference. Please clarify with your professor where you should upload your presentation.

Submit as an Assignment

There are four ways to submit your recording to the Assignments section of Canvas.

1. **(Recommended Method)** Submit the link to the recording following the instructions below.

2. Submit a link to the video shared in Penn+Box (the video, not the folder) by following the directions below.

3. Record/upload media (Online submission > Media Recording).

4. Upload a video as a file .

Submit in Discussions

There are three ways to upload your recording to the Discussions section of Canvas:

1. **(Recommended Method)** Record/upload media (paste link via Media Recording tool).

2. **Submit the link** to the recording following the instructions below.

3. Submit a link to the video shared in Penn+Box (the video, not the folder) by following the directions below.

Group Projects

Your group should review Canvas tools such as a **group collaboration space** to work and share files. You should also consider personalized video conferences at https://upenn.zoom.us to optimize remote collaboration.

Questions?

For more assistance, please contact Wharton Computing Student Support for support.

Exams for Remote Instruction - Students

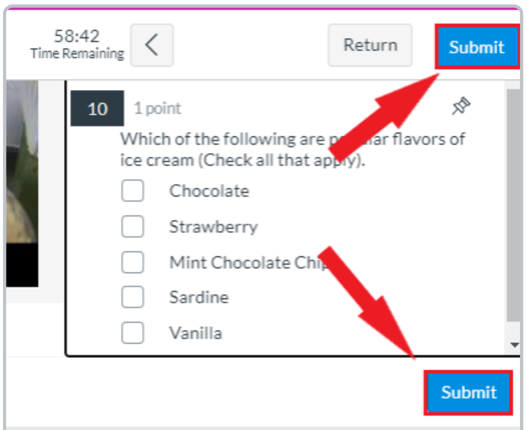
Last Modified on 04/28/2023 3:59 pm EDT

Preparing to Take an Exam on Canvas

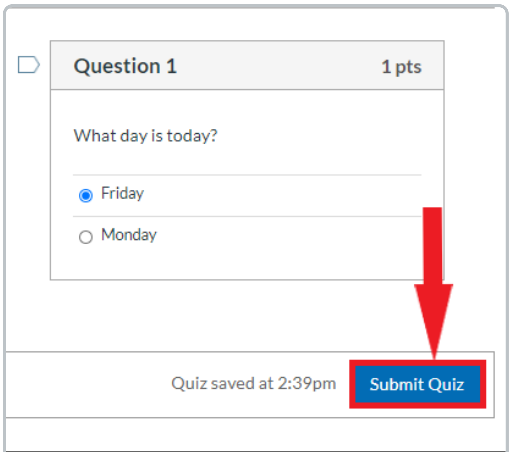
- **Computer/Device.** Use a device that meets Canvas's basic computer specifications. Always make sure to use the most up-to-date versions of your operating system.
- **Browser.** Use one of Canvas's supported web browsers. For best performance, we recommend the most up-to-date versions of Chrome or Firefox.
- **Internet.** Use a hard-wired ethernet connection or a WiFi network with a very strong signal. If you're taking a timed Canvas exam and lose your connection, the timer will continue to run.
- **Laptop vs. Mobile.** Use a laptop or desktop computer. Taking exams on small tablets or phones can only provide a limited experience.
- **Notifications (and other Distractions).** Close or disable notifications, pop-up blockers, and other applications. These may be a source of distraction and can interfere with the exam.

Taking an Exam on Canvas

- **Gather Materials.** Make sure you have all the materials your professor has specified before starting the exam.
- **Timed Exams:**
  - **Only begin a timed exam when you're ready to complete the exam.** The timer continues to count down regardless of whether you are actively taking the exam or not.
  - Remember to click **Submit** before the time expires.
- **Untimed Exams:**
  - For exams without a time limit, **close the browser window when you aren't working on it.** This will prevent you from losing any responses if Canvas automatically logs you out after a period of inactivity. You can always re-open the exam and pick up where you left off.
  - **Submit your exam before the due date.** If you don't, you could get locked out of the exam and need to contact your professor for help.
- **Browser Windows.** Open the exam in only one browser window. Using multiple windows might overwrite your answers.
- **Check before Submitting.** Only click Submit when you have finished the exam. **You cannot reopen submitted exams.**



Your exam will most likely display a "Submit" button at the top and bottom right of the screen. Click either one to submit your exam.



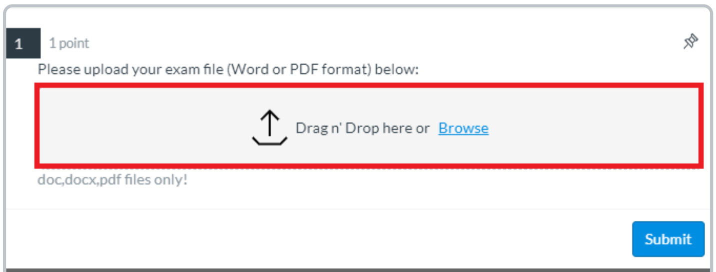
Alternatively, your exam may display a single "Submit Quiz" button at the bottom right of the screen.

Taking an Exam that Requires a Scanned PDF

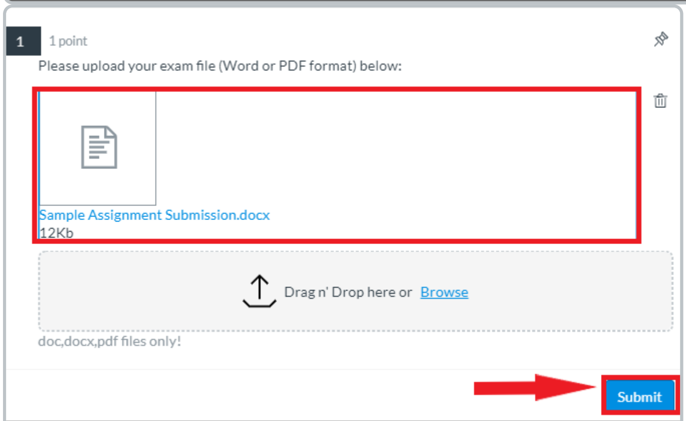
If your exam requires you to scan handwritten responses, you can use your phone or tablet to create a PDF if you don't have a scanner. You can use an app like Genius Scan, the native Notes app for iOS, or another app of your choosing. Once you have your app, follow this general process:

1. **Write your exam answers clearly** using dark lettering. If you are using a blank piece of paper to write responses, clearly label your answers with the question numbers.
2. Be sure that you have the app set to **scan multiple pages** and to output to a **PDF**.
3. Scan your pages on a **flat, well-lit surface**. Steady your hands as much as possible to avoid blurred scans.
4. **Review your scans** to make sure that they're clear, all in one document, and in the order you intended. If not, re-scan them.
5. **Email the PDF to yourself**, download the file on your computer, and **upload it to the Canvas exam**.

In newer versions of Canvas exams, the file upload question will appear as follows:

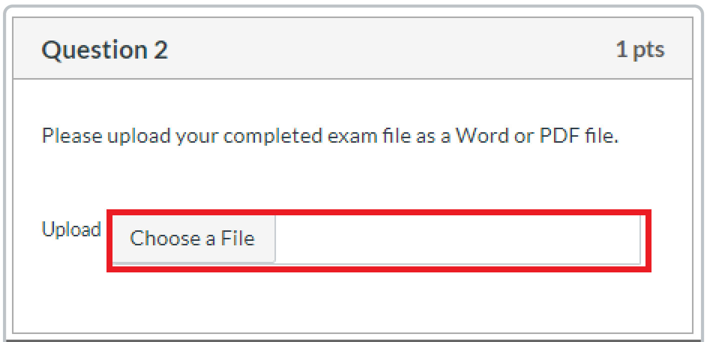


To upload your exam file, drag and drop the file from your desktop into the box or click the Browse link to select a file saved to your computer.

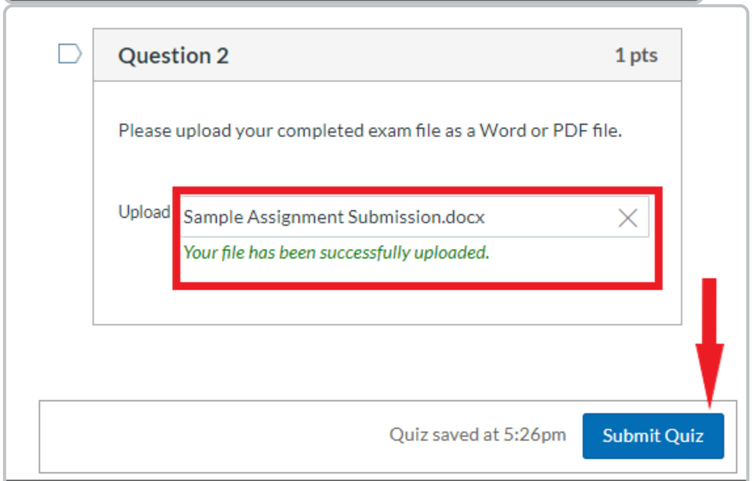


A successfully uploaded file will display a file icon and the name/size of the file beneath it. Be sure to click "Submit" when you are finished uploading your work and finished taking the exam.

In older versions of Canvas exams, the file upload question will look slightly different:



In older versions of exams, click "Choose a File," then select the file from your computer.



After uploading your file, you will see the name of the file and a message that says "*Your file has been successfully uploaded*." Be sure to click "Submit Quiz" when you are finished uploading your file and taking the exam.

Leave Extra Time. We suggest that you give yourself **15 minutes** to complete this process.

Losing Connection during an Exam

If your computer loses its connection to the Canvas server during the exam or if your browser remains on a loading screen with seemingly no progress, please remain in the browser window/tab until the server reconnects. In an attempt to reconnect manually, also try toggling your WiFi on and off or even rebooting the router.

If you are able to reestablish connection, you can try refreshing the browser again to ensure the exam updates are being logged. If you do not maintain a stable connection in a timely manner, prior to contacting support@wharton.upenn.edu as mentioned in the **Getting Help** section below, we strongly advise taking screenshots of your work and/or jotting your answers down on pencil and paper. If any error messages appear within the Canvas quiz screen, we advise taking screenshots of these, as well, to share with your instructor and Wharton Computing support teams.

Getting Help

If you encounter any technical issues while taking an exam, contact Wharton Computing Student Support.

- Phone: (215) 898-8600
- Email: support@wharton.upenn.edu

Virtual Lab

Last Modified on 12/23/2025 4:44 pm EST

Wharton provides remote access to virtual computers equipped with the same software as Wharton's public computers. This service is designed to provide an alternative for students who otherwise aren't able to get to campus.

Already set up? Launch Virtual Lab from your computer, or launch online.

The Virtual Lab is available to students 24/7 and may be accessed from any computer running Mac OS, Windows, or Ubuntu, as well as from many mobile devices.

Use this service to:

- Access specific departmental applications such as JMP Pro, MATLAB, and other applications.
- Use Windows software from a Mac or Linux device.
- Print to on-campus printers if you aren't able to print from a laptop or mobile device.

Before you start...

To use the virtual lab you will need:

- **An active Wharton account (required).**
- **Enrollment in Penn Two-Step Verification (required).**
- **Admin access to your device** in order to install the appropriate client software on your computer or app on your mobile device. Installing the software is optional, but can make it easier to use the virtual lab.

Additional notes:

- Most of the software listed in the Wharton Public Computers article is also available in the Virtual Lab; exceptions are noted in the article's chart.
- Having trouble with the Virtual Lab? See Troubleshooting the Virtual Lab

Access via Web Browser

The easiest method of access to the Wharton virtual lab is simply to use a web browser. To access the Virtual Lab in this manner follow the instructions below.

Tip: Using the web browser can be an option when you do not have access to the Windows App, or if you're having problems connecting from the client application.

Installing the Client

The latest iteration of Wharton's virtual lab is now based on Azure Virtual Desktop (AVD) rather than VMware. As a result, the client to be used is now Microsoft's Windows App.

Microsoft provides information on how to obtain and install the Windows App:

Windows

Mac

Additional note:

Once connected to the Virtual Lab you'll notice a menu at the top right of the session window:

These icons represent, from left to right:

- **Connection information**: Information on connection quality.
- **Full Screen**: Shift between full screen and modal window sizing.
- **In-Session Settings**: Activate/Deactivate settings for printer connection, file transfer, microphone, clipboard, etc.
- **Information:** Shortcuts, support, "about" information, etc.
- **Account profile:** View account information and sign out.

iOS and Android

Virtual Lab vs. Physical Lab

Since you're connecting remotely to access these computers, your network speed plays a large role in your experience. You will get the best results on a fast connection.

Note: Adobe Creative Cloud is **not** provided in the majority of our virtual environment due to Adobe's licensing restrictions, but can be accessed via the Penn Libraries Remote Desktop Lab.

If you already have your own Adobe CC subscription, you should be able to sign in and use Adobe products. Adobe CC student licenses can be purchased through Adobe at https://www.adobe.com/creativecloud/buy/students.html.

Other Penn vLabs

Looking for specialized software? Need software for a course? Some Penn schools host their own virtual computer labs for their faculty, staff, and students. Access requirements vary.

Troubleshooting the Lab

If you are having trouble using the Virtual Lab, see our troubleshooting article.

Questions?

- Contact: Wharton Computing Student Support
- Email: support@wharton.upenn.edu

Provide Feedback

Your feedback will help us make the service better! Provide your feedback on the Wharton Student Computing website.

Preparing to Take an Online Exam

Last Modified on 03/19/2025 4:58 pm EDT

Taking an online exam can be convenient and can make answering certain types of questions easier, but it adds some preparation work. We've compiled some recommendations for you to make sure technology doesn't get in the way!

It may feel overwhelming, but we are here to help, so if any of these steps are unclear, please contact Wharton Computing Client Support Services.

We suggest you save a copy of this article to your computer or print one out to have on hand during an exam. Click here to save an offline copy.

Preparation Steps

- **Computer/Device:**
  - Use a device that meets Canvas's basic computer specifications. Always make sure to use the most up-to-date versions of your operating system.
  - Approximately 24 hours before your exam, check your computer for any critical updates. Install any that are necessary and restart—you don't want to get prompted to install them during your exam!
  - If you are taking an in-class exam on your own computer, ensure it is fully charged on the day of the exam, as limited power outlets may be available in the classroom.
- **Browser:**
  - Use one of Canvas's supported web browsers. We recommend the most up-to-date versions of Chrome or Firefox for the best performance.
  - Some browser extensions and security settings may interfere with taking an online exam. If possible, temporarily disable browser extensions and allow 3rd-party tools before starting your exam.
  - Clear your browser history/cache and cookies, then restart your computer the day of or the day before your exam.
    - Click the link for your particular web browser for instructions on clearing your cache (it will open in a new tab)
      - Chrome / Firefox / Safari / Edge
  - ***Open the exam in only one browser window***. Using multiple windows might make you overwrite your answers.
- **Internet:** Be sure your computer is connected to AirPennNet (not the guest network). If you're taking a timed Canvas exam and lose your connection, the timer will continue to run.
- **PennKey**: Some exams and computer labs may require you to sign in with your PennKey and password. Make sure you know your PennKey password and have your phone with you for two-factor authentication. Use the Test My PennKey app if you want to confirm your password.
- **Laptop v. Mobile:** Use a laptop or desktop computer. Taking exams on small tablets or phones provides a limited experience. While you can submit many assignments and quizzes on the Canvas Student mobile app, not all quick features are supported.
- **Notifications (and other Distractions):** Close or disable notifications, pop-up blockers, and other applications. Certain exam tools, such as Respondus LockDown Browser, will require you to close all messaging and screen recording apps before you can start taking the exam.

- **Respondus LockDown Browser:** Your professor will let you know if Respondus LockDown Browser is required for an exam. Please contact Client Support Services if you have trouble downloading it and provide the name of the course that is using LockDown Browser for exams.

- **Timed Exams:**
  - **Only begin a timed exam when you're ready to complete the exam**. The timer continues to count down regardless of whether you are actively taking the exam or not.
  - Remember to click **Submit** before the time expires.
  - **If you have an accommodation for exams, confirm that your time limit and exam availability window are correct before starting.**
    - Contact your professor immediately if you notice a problem with the exam timing, and do not start the exam until it is fixed.

- **Untimed Exams:**
  - For exams without a time limit, **close the browser window when you aren't actively working on it.** This will prevent you from losing any responses if Canvas automatically logs you out after a period of inactivity. You can always reopen the exam and resume where you left off.
  - **Submit your exam before the due date.** If you don't, you could get locked out of the exam and need to contact your professor for help.

- **File Uploads:** If your exam requires you to upload a document (e.g., Word or PDF file), save your work frequently and save the final version to your computer. Remember where you saved the file, so it is easy to find and upload to Canvas. Give yourself at least 5 minutes to select and upload your file in Canvas, as uploads can sometimes take a few minutes.

- **Check before Submitting:** Only click Submit when you have finished the exam. **You cannot reopen submitted exams.**

Dealing with Internet Connection Issues

If your internet disconnects while taking an exam, here are some steps that should help.

1. **Take a deep breath** - things will be ok!
2. **Take a screenshot** or other copy of your work for reference. If your exam uses Respondus LockDown Browser, let your proctor know you are having trouble and ask if you can use your phone to capture screenshots.
3. **Take note of any error messages.** Share these with your Professor and Client Support Services.
4. **Toggle wifi off/on** and try to connect to AirPennNet (or your home network).
5. **Try switching internet browsers.**
6. **Restart your computer.**
7. If you still have trouble connecting, contact student support by phone at (215) 898-8600.

If you encounter any technical issues while taking an exam, contact Client Support Services.

- Phone: (215) 898-8600
- Email: support@wharton.upenn.edu

Remote Working Checklist

Last Modified on 06/08/2023 3:38 pm EDT

This checklist helps you prepare for learning and working remotely.

For more in-depth information see:

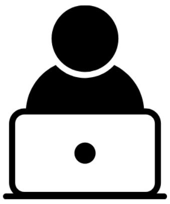
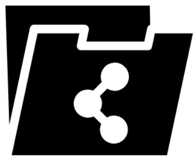
- Faculty: Best Practices for Switching to Online Learning
- Staff: A Guide to Remote Working-Staff
- Students: Working and Learning Remotely - Students

If you have additional questions, contact your IT representative.

Preparing your Space

The first thing to do when preparing to Work Remotely is find a place from which to work. Ideally, this will be a dedicated workspace that you can use whenever you're in class or working on something. This will allow you to maintain some separation of work and your personal life. Not everyone is able to have a dedicated space, however, so be sure to pick a space that you can use regularly.

No matter where you're working the following tips apply:

 **Connectivity**	 **Environs**	 **Etiquette**
• **Internet Connection**: Confirm your internet connection is strong (e.g. WiFi in coffee shops can be intermittent). • **Updated Browser and OS**: Make sure your computer's OS is up to date and you're using a modern, up to date browser. • **Security Check**: An antivirus program should be installed and running on your computer. Symantec is free for Penn staff, faculty, and students.	• **Work Space**: Choose a location to work that is quiet, but will allow you to talk. • **Check your surroundings**: Be aware of what is behind you when you are on camera – windows or back-lighting can make it hard to see you and whatever your camera can see will be visible to people in your Virtual Meeting. • **Locate a power outlet**: Video conferencing drains batteries very quickly; for any extended use make sure you have access to power and have your charger handy.	• **Don't over share**: Close any personal apps and websites and disable notifications, particularly if you are planning to share your screen. • **Mute on Joining**: When you join a meeting, we recommend you mute your audio except when you are speaking. • **Camera and Audio**: Make sure your webcam works and you know how to mute it. We recommend using a headset, or earbuds, for best audio experience.

If something seems wrong with a Wharton online service, check the Wharton Computing Status Page for possible outages or updates. You can even subscribe to alerts and get them delivered to your email or phone.

Useful Applications

There are a host of applications that can help you work remotely, but the four listed below are essential for staff, faculty, and students:

Virtual Meetings

Microsoft Office

All Faculty, Staff, and Students can install the full Office suite on their computers. Follow the directions below for your platform of choice.

MacOS

Windows

iOS

Android & Chromebook

Zoom

To gain access to all Zoom has to offer be sure to install the native Zoom app for your platform of choice.

Questions?

See a list of Zoom features, and Virtual Meetings FAQ.

Canvas Student

Most classes will be leveraging Canvas more than ever before. Make sure you can log into Canvas and find your courses. Consider whether you want to sync your Canvas Calendar and download and install the Canvas app for your mobile device.

iOS

Android & Chromebook

Wharton VPN

Staff and Faculty should be sure to install the Wharton VPN client on their computers to access on campus resources.

Students can use the Wharton Virtual Lab as their VPN.

Questions?

More information is available in our Working & Teaching Remotely section. For questions that aren't answered there, contact your Wharton Computing Representative.

Preparing to Work Remotely - Checklist

Last Modified on 05/17/2023 4:12 pm EDT

This checklist helps you prepare for learning and working remotely.

For more in-depth information see:

- Faculty: Best Practices for Switching to Online Learning
- Staff: A Guide to Remote Working-Staff
- Students: Working and Learning Remotely - Students

If you have additional questions, contact your IT representative.

Preparing your Space

The first thing to do when preparing to Work Remotely is find a place from which to work. Ideally, this will be a dedicated workspace that you can use whenever you're in class or working on something. This will allow you to maintain some separation of work and your personal life. Not everyone is able to have a dedicated space, however, so be sure to pick a space that you can use regularly.

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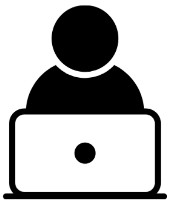
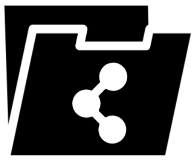
 **Connectivity**	 **Environs**	 **Etiquette**
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Useful Applications

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Virtual Meetings

Microsoft Office	Zoom
All Faculty, Staff, and Students can install the full Office suite on their computers. Follow the directions below for your platform of choice. MacOS Windows iOS Android & Chromebook	To gain access to all Zoom has to offer be sure to install the native Zoom app for your platform of choice. Questions? See a list of Zoom features, and Virtual Meetings FAQ.

Canvas Student

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Android & Chromebook

Wharton VPN

Staff and Faculty should be sure to install the Wharton VPN client on their computers to access on campus resources.

Students can use the Wharton Virtual Lab as their VPN.

Questions?

More information is available in our Working & Teaching Remotely section. For questions that aren't answered there, contact your Wharton Computing Representative.

Remote Work Considerations - Topic Article

Last Modified on 04/25/2024 2:07 pm EDT

If you are working from home you might want to consider the following:

1. **Internet Service Provider**: If you are living off campus, speak to your internet service provider about setup and installation before moving into your new residence. On the day of service installation, give yourself plenty of time for equipment installation, configuring settings, and testing your wireless speeds and stability. On-campus students will connect to AirPennNet.
2. **Additional Equipment**: If you plan to use video conferencing services (e.g. Zoom) for classes, you might want to consider noise-canceling headphones. We recommend wired headphones to reduce the chance of losing connection during class, and you should also confirm if your laptop has a built-in microphone. Online courses are set up so that you don't need a printer, so it is a personal preference whether or not you'd like the ability to print course materials at home.
3. **Ergonomic Considerations**: If you are spending a lot of time at home, you may want to invest in a quality chair, desk, laptop stand, etc. to maximize comfort and support your body's needs (e.g., back and neck support).
4. **Designated Workspace**: If you have the available space, you can designate a specific workspace that is separate from the rest of your home.
5. **Consider Best Practices for Video Conferencing**:
    - Find a quiet area.
    - Mute your microphone at the start of a meeting.
    - Pay attention to your background and lighting.
    - Speak loud enough for your laptop mic or external mic to pick up sound.
    - If you are using a mobile device instead of a laptop, mount it on something to keep the video steady.

Note: All students with concerns about affording technology for remote learning can approach the Emergency and Opportunity Fund or Penn First Plus.

For more information, check out Working and Learning Remotely - Students, and Remote Working Checklist

Wharton VPN

Last Modified on 01/19/2023 3:40 pm EST

The Wharton VPN gives faculty and staff access to secured Wharton resources from off campus; the Wharton Virtual Lab client allows students to use the public computers from off campus.

Before You Start

You will need:

- To be either a Faculty, Staff or PhD student at Wharton
    - MBA and Undergraduate students should use the Virtual Lab client unless otherwise instructed
- An active Wharton account
- Access to the Internet
- Administrative access to your devices

If you are looking for instructions to upgrade from a currently-installed version of FortiClient on a Wharton-managed computer, please see our Updating your Wharton VPN article.

There are two ways to install the VPN:

- Using BigFix Self-Service (Windows) or JAMF Self-Service (Mac) on a Wharton-managed computer.
- Downloading the client and installing it manually following the directions below.

Installations via the two Self-Service options will not prompt you for your administrative password. If you follow the manual download and install instructions, you'll need to have an administrative password to complete the installation.

If BigFix or JAMF is installed on your computer, it is a Wharton-managed machine.

Wharton Managed Computers: Self-Service

You can install the latest version of the VPN on Wharton Managed computers using either BigFix or JAMF self-service. This will install the VPN on your computer without the need for an administrator password.

Windows Instructions

Windows users must restart their computer after the installation is complete. Please **save and close all open work/apps** before completing the installation.

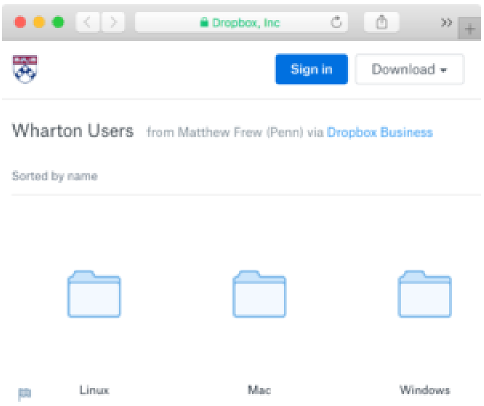
Mac Instructions

Manual Download and Install

Download the VPN client (FortiClient)

Installers for a variety of operating systems are available so that you can manually install the FortiClient:

1. Go to **https://vpnclient.wharton.upenn.edu**
2. Click on the folder of your computer's operating system to download the appropriate client.



3. Click the installer located in the Operating System folder you picked to download the installer.

Windows Users: Most people using Windows should install the x64 version.

Install and Configure FortiClient

After you have successfully downloaded FortiClient, follow the instructions for your Operating System to install it.

In order to manually install the FortiClient VPN client using the steps below, you will need to have administrator privileges for your computer. If you need help with this, contact your Wharton Computing Support Team.

Windows Instructions

Mac Instructions

Linux Instructions

Connecting to the VPN

Windows

There are two ways to connect to the Wharton VPN using Windows: launching it from the System Tray or by using the FortiClient console.

Mac

To launch the VPN on a Mac:

Questions?

Contact your Wharton Computing representative.

A Guide to Remote Working - Staff

Last Modified on 01/28/2026 11:51 am EST

Working from home has a few requirements that differ from working in the office. This article covers some of the basic things you should have in place before you consider working from home.

Have computer you can use for remote work

This can be a University-provided laptop, or a personal computer at home.

If you're using a personal computer there are a couple of things to check before logging into University resources:

- Ensure that it is running the most recent operating system available (Windows 10 or OS X Mojave or newer) and has the most recent updates applied.
- An antivirus program should be installed and running. If you don't have one installed you can download Sophos Home for free as a staff member: https://www.isc.upenn.edu/how-to/antivirus-desktops-and-laptops

A stable internet connection is key

By definition, you'll need an internet connection to work remotely and to access most of the resources listed later in this document.

Some things to keep in mind:

- Don't connect to open WiFi networks when working with University Resources. They are insecure.
- Always connect to the Wharton VPN. Make sure to install the VPN, or know how to connect using the VPN, before you attempt to work remotely.
- If something seems wrong with your internet service, check your providers' status page and the Wharton Computing Status Page for any outages or updates. You can subscribe to the Wharton Computing Status alerts if you want them delivered to your email or phone.

Getting Work Done Remotely

Now that you have an updated computer with the VPN installed and configured, you're going to want to actually get some work done. Below is a list of Wharton provided tools that you may already be familiar with. Keep in mind that this list isn't comprehensive; your department may use a tool not listed here. If you have any questions reach out to your Wharton Computing Representative.

Two-Step Verification

Make sure you have the device (smartphone, key fob, or something else) that you use to authenticate for Two-Step Verification. You might also want to print out some backup authentication codes by following these instructions (the **Generate and print backup codes** section specifically).

Communicating

- Meeting Remotely - There are a wealth of tools out there to enable remote meetings; Penn supports Zoom and Microsoft Teams, which is part of the PennO365 platform (available to faculty and staff at Wharton).

- Email - Webmail (https://outlook.com/upenn.edu) is very handy if you find yourself using a computer that doesn't have Outlook setup. If you'd like to install Outlook follow these instructions and configure it as detailed here.
- Forwarding your office phone - If you have a PennFlex office phone you can forward your phone to another number (your cellphone, perhaps) and check your voicemail.

File Shares

You may access a number of files via a network share mapped to a drive on your work computer (i.e.**That presentation is on the Y drive**.). You can connect to those shares remotely, though keep in mind the Wharton VPN is required.

If you use a cloud file sharing service (Box, Dropbox) you should be able to connect as you normally do; no VPN required.

Other Tools

Here is a partial list of University-provided software you can install on your personal computer for the purposes of remote work:

- Office 365 - The full Microsoft Office suite.
- Wharton VPN - This allows you to access certain resources on campus.

Getting Help

Reach out to your Wharton Computing Representative if you need help, or have any questions.

Configuring the Wharton VPN

Last Modified on 05/19/2021 4:48 pm EDT

Wharton's virtual computing offerings differ depending on whether you are a student, or faculty and staff. The Wharton VPN is for faculty and staff; the Wharton Virtual Lab allows students to use the public computers from off campus.

Students

Students should use the Virtual Lab client to access the Wharton public computers.

Faculty and Staff

The Forticlient gives you access to secured Wharton resources from off campus. Use the link below to download the client for your operating system of choice (Linux, Mac, or Windows) and then follow the instructions on the tabs to install. For directions on using the VPN, see the article Using the Wharton VPN.

Before You Start

You will need the following before you can complete this task:

- an active Wharton account
- admin access to your devices
- access to the Internet

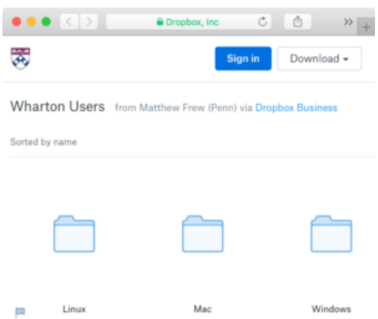
Download Forticlient

Downloading the Forticlient by going to:

https://vpnclient.wharton.upenn.edu

Click on the folder of your computer's operating system to download the appropriate client.

- Most people should install the x86 version.
- Do not choose the UWP version.



Install and Configure the VPN

After you have successfully downloaded Forticlient, follow the instructions for your Operating System to install and configure the VPN.

Windows Instructions

Mac Instructions

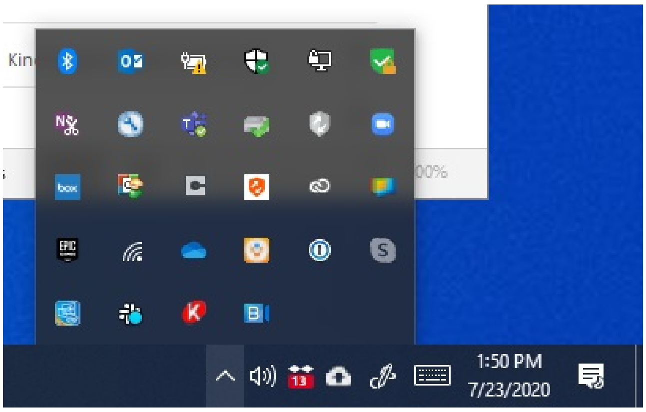
Linux Instructions

Zoom Outlook Connector (Staff)

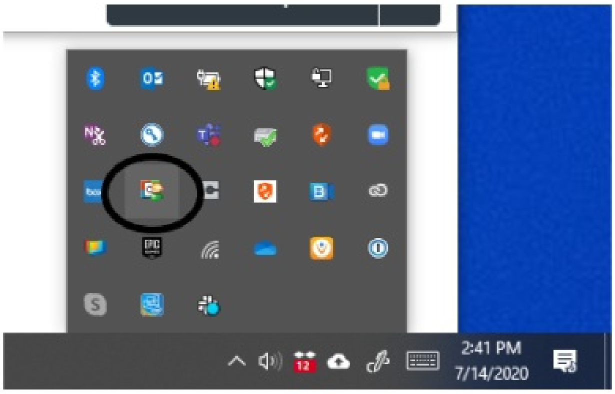
Last Modified on 05/03/2021 2:52 pm EDT

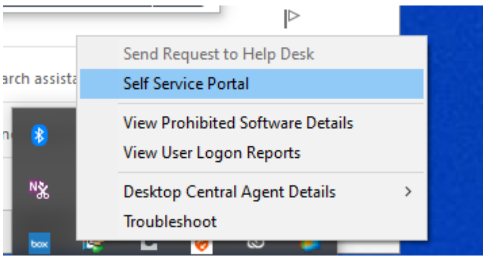
For Wharton Staff whose Windows computers are managed by Admin Support (admin-support@wharton.upenn.edu), you can install the Zoom Outlook Connector using the self-service portal.

1. Click on the **up arrow** in the task bar

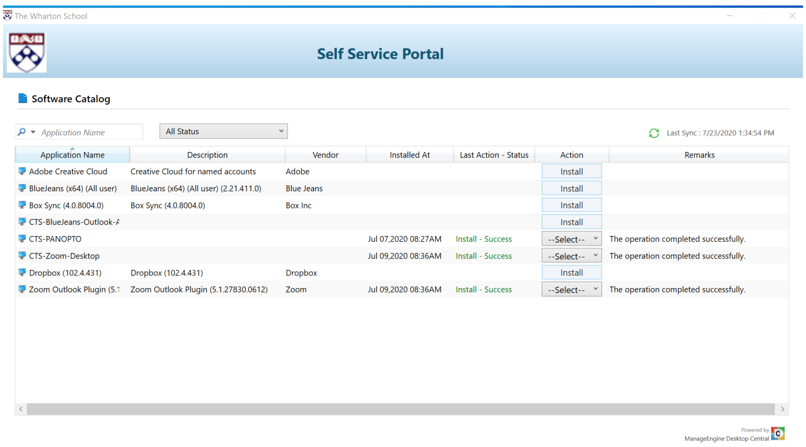


2. Right-click on the Wharton School agent icon in the tray> choose **Self Service Portal**





3. Find the Zoom Outlook Plugin (CTS-Zoom-Desktop) in the portal,and click **Install** in the Action Column



Generative AI -- Best Practices and Resources

Last Modified on 12/15/2023 2:52 pm EST

This article shares what Wharton Computing has learned about key concepts and emerging best practices in the rapidly evolving field of AI. It provides resources and suggests some useful paradigms that may help you think about the use of AI in our academic setting.

Faculty
Please see AI Best Practices -- Teaching and Research (for faculty and staff -- login required) to explore additional resources that support teaching and research activities.

Not sure how to log in? See Logging into the Wharton Computing Knowledge Base.

Check Back Regularly for Updates
This article will be regularly updated because the knowledge about generative AI is quickly evolving.

Key Concepts Everyone Should Know

Protect Information (yours and others')

- Be cautious of sharing confidential information with publicly available models, such as ChatGPT, Bard, Midjourney, and others.
- When in doubt, please collaborate with Wharton Computing and the Wharton Information Security Office.

Submission of University Confidential Data requires use of a Penn/Wharton-approved enterprise generative AI tool. Use of University Confidential Data in any other generative AI tool, whether a free or for-fee service, is prohibited.

See the Security and Privacy Requirements section below for examples of confidential data.

If you are **considering any generative AI services** in your research for official use within Wharton (e.g. interconnections between Wharton Systems or Applications, or use of University Confidential Information), **please collaborate with Wharton Computing, the Research and Analytics team, and the Wharton Information Security Office**. These groups will partner with you to evaluate your project, provide the appropriate security risk evaluations, and help answer many of the IT support questions you may have.

General Information

These general guidelines apply to everyone who uses AI in a Higher Education setting:

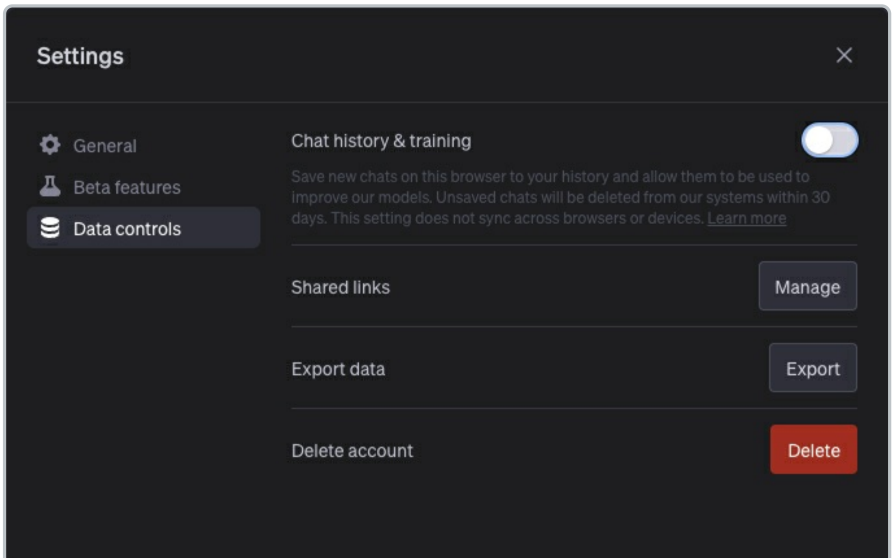
- **Stay Up to Date:** Continue to check news and recent legal opinions, especially regarding copyright enforcement and the security of individual products, and be prepared to adjust accordingly. For suggestions on staying up to date, see Additional Resources below.

- **Confirm Image Sources**: If you're using an image generator, research the dataset that the model was trained on. If there is information available from the company about their use of images, check whether they used open-source content. There may be a risk of copyright infringement if non-open-source content is used. If you do decide to use content generated by one of these tools, include a credit to the source (e.g. *Image generated by <insert tool name here>*).

- **Consider Authorship**: Since legislation trails technology, be aware that any content created by AI tools may not be legally protected or your work may be called into question. Authors who use AI tools are expected to disclose usage, preferably by identifying the one that was used. For example, "Foreground model created by Midjourney and sketched by the author."

  If seeking to copyright, remember the goal is to show how the tool was used to support the author's traditional tasks of authorship. For more information on copyright issues, see the US Copyright Office's guidance.

- **Know what the AI is doing with your data:** Be sure to understand what the AI tool is doing with any data you provide while using it. Many tools offer a selection of Service Level Agreements (SLAs) and Data Use Agreements (DUA). We recommend, when possible, opting out of tracking history and training usage.



Chat GPT's Opt Out option -- deselect "Chat history & training"

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Please contact the Wharton Information Security Office and Wharton Computing for questions or support

Please read this section carefully.

- **Examples of University Confidential Data Include (but are not limited to):**

Private Personal Information	Financial / University Policy Information	IP /Authorship/Research
◦ Personal Identifiable Information (PII)	◦ Payment Card Industry (PCI)	◦ Unpublished research data (at data owner's discretion), subject to any IRB restrictions
◦ Personal Health Information (e/PHI)	◦ Financial Information	◦ PENN-owned Intellectual Property (including code)
◦ Biometric Data	◦ Non-public Penn policies and documentation (e.g. system designs, budgets, plans, etc.)	◦ Federal government research
◦ Student, Faculty, and Staff Information or Records, including directory information.	◦ System Credentials	
◦ Any data covered by the University's FERPA policy	◦ Data prohibited from sharing under terms of University-signed contract.	

(For a complete description of how the University treats confidential data, see University Data Classification.)

- **Using a Generative AI to interconnect to any University-managed system or applications—including the use of an API— requires the use of approved Penn/Wharton enterprise generative AI tools; it also requires review by the Wharton Information Security Office and Wharton Computing**. *Interconnection is the direct integration or connection between the AI tool and a system managed by the University.*

  Managed system examples include (but are not limited to):

  - Endpoints (Wharton Computing-managed computers, printers and other devices).
  - Servers
  - Applications (on-premise and cloud-based)
  - Data Sources
  - IoT Devices

Remember: Any information uploaded by faculty or staff may be both unrestricted and available to the AI tool (such as ChatGPT) and the AI tool's end users.

- **Terms of Use.** Review the Terms of Use and Privacy Policy of the application or service periodically. These documents may change frequently, as the technology, services, and other elements of AI evolve.
- **Penn Email Considerations.** A Penn/Wharton e-mail address for registration and use of AI tools is not prohibited. However, if a Penn/Wharton e-mail is selected, please ensure that the password is unique and different from any other Penn/Wharton applications, solutions or systems currently used. Additionally, e-mail may often be used to identify an individual, the type of information submitted, and other possibly private information.

  If you are using a Penn/Wharton email to register an AI account, we recommend using a team account rather than a personal account. This will preserve business continuity while accommodating situations such as vacations or departures from the University.

For detailed information on the University's definitions of data sensitivity, see University of Pennsylvania Data Classification Standard

We encourage you to collaborate with Wharton Computing and the Wharton Information Security Office if you are considering any generative AI services for official use within Wharton (e.g. interconnections with Wharton Systems, Applications, or use of University Confidential Information). These groups will partner with you to provide the appropriate security risk evaluations, and help answer many of the IT support questions you may have.

Authorship

There is an ongoing debate regarding authorship and the differences between original work and machine-generated work. In addition, there are questions being raised about how machine-generated work should be used. The US Copyright Office provides helpful guidance regarding the distinction of authorship and ability to copyright works when generative AI tools are used. A few key points include:

- Machines cannot be authors
- All works developed by generative AI tools are not copyrightable.
- Authors may use generative AI tools to create original works, but certain conditions must be met:
  - generally, humans have to employ the “traditional methods of authorship” during creation of a work, which means making choices that are dependent upon the medium.
  - “How” the work is created is more important in determining originality than determining “what” created the work. This distinction can be difficult and we encourage you to seek consultation on this issue.
- Authors who use AI tools are expected to disclose that they have used an AI tool, preferably including which tool was used.

Faculty

While the information on this page is valuable for everyone, faculty may also want to review topics specific to teaching and research. We explore these in our faculty-focused article, AI Best Practices -- Teaching and Research (for Faculty). Please be sure you have logged in above (top right of screen) before launching this webpage. If you are not sure how to log in, see Logging into the Wharton Computing Knowledge Base.)

Staff

Depending on your role at the University, Wharton staff are likely to have widely varying needs for engaging with AI. To protect the University, staff should contact Wharton Computing and the Wharton Information Security Office prior to using any AI tool. Reasons for this level of concern include:

Students

The General Information section above provides guidance around many questions regarding the use of AI in the course of your Wharton experience. Additional points to keep in mind include:

Additional Resources

- Penn ISC's AI Guidance
- Penn's Almanac: Guidance on Using Generative AI
- University's Policy on the Confidentiality of Student Records.
- Sources for Up-to-date information on generative AI in Education:
  - **Copyright topics**: the nonprofit Copyright Clearance Center's Velocity of Content is well-recognized (and not dominated by any one publisher or rightsholder.)
- University of Pennsylvania Data Classification Standard
- Chicago Manual of Style Online recommends various formal and informal approaches for citing AI contributions.

Questions?

Please contact your Wharton Computing representative with any questions regarding technology and the use of AI. For best results, please include answers to as many of these questions as possible when requesting help or guidance around AI:

- Do you need help with a new or existing project?
- Which generative AI tool(s) are you using?
- Who will be using the tool?
- What type(s) of data will be submitted and used?
- Who will be consuming the output?
- Will you need services such as prompt engineering, fine tuning, etc.?

W: Drive Folder Name Changes

Last Modified on 10/14/2025 3:37 pm EDT

On Wednesday, May 14, 2025, the top-level folder names within the W: drive are changing.

If you use the W: drive, no action is required on your part, but please note that for each folder:

- Folder contents will remain unchanged.
- Folder access will remain unchanged.
- **Existing shortcuts or references to your "most recent documents" may no longer work due to the folder name changes.**

The following table lists the current names of the W: Drive top-level folders and what they will be renamed to:

Current Name	New Name
Communications	comm_dept
Dean's Office	dean_dept
Deputy Dean	deputydean_dept
External Affairs	whea_dept
Finance & Administration	finadmin_dept
Global Consulting Practicum	gcp_dept
Global Initiatives	global_dept
Graduate Division	grad_dept
Human Resources	hr_dept
Huntsman Program	hunts_dept
Jerome Fisher M&T	jerome_dept
Knowledge@Wharton	knowledge_dept
Leadership	leadership_dept
Life Sciences & Management	lsm_dept
Operations	ops_dept
Printing	printing_dept
Social Impact	social_dept
Undergraduate Division	ugrad_dept
WCIT	wcit_dept
WRDS	wrds_dept
WSP	wsp_dept

Questions?

Email support@wharton.upenn.edu if you have any questions about this change.

Migrating your computer to PennKey

Last Modified on 11/18/2025 9:20 am EST

If you're reading this your Wharton Windows computer is scheduled to be migrated to using PennKey for login.

Most of the migration happens automatically, but there are a few key things you'll need to do to make your migration successful. This article lays out what you need to do based on your computer's migration type:

- **On Campus and Wired** - Your computer will be migrated while on campus and plugged into a wired network connection. ★ *Highly Recommended - This is the ideal migration scenario.*
- **On Campus and Wireless** - Your computer will be migrated while on campus and connected to AirPennNet.
- **Remote** - Your computer will be migrated off campus.

Migration Process Overview

The details of the migration differ slightly if your computer is on campus vs. remote (see below), but the migration process is similar no matter how your computer is connected:

	? **On Campus - Wired**	? **On Campus - AirPennNet**	? **Remote**
? Pre-Migration	• Two migration apps are remotely installed. • Connect your computer to power and the network the day before migration. • Log out of the computer, but keep it powered on.	• Two migration apps are remotely installed. • Connect your computer to power and the network the day before migration. • Lock the screen (Windows + L); remain logged in.	• Two migration apps are remotely installed. • Connect your computer to power and the network the day before migration. • Log into the Global Connect VPN. • Lock the screen (Windows + L); remain logged in.
? Migration	• Keep the computer plugged in and connected to the network. • The migration happens overnight, automatically.		

	? On Campus - Wired	? On Campus - AirPennNet	? Remote
? Post Migration	• After migration, the login screen will say "Sign in to: kite.upenn.edu" • Log into your computer using your PennKey credentials; your first login may take some extra time. • Once logged in, sign into other applications as needed.	• After a successful migration the login screen will say "Sign in to: kite.upenn.edu" • Plug your computer into a physical network connection, if possible. • Log into your computer using your PennKey credentials; your first login may take some extra time. • Once logged in, sign into other applications as needed.	• After a successful migration the login screen will say "Sign in to: kite.upenn.edu" • Connect to the Global Protect VPN client before logging into Windows. • Once the VPN is connected, log into your computer using your PennKey credentials; your first login may take some extra time. • Once logged, in sign into other applications as needed.

On-Campus Migrations

On-campus migrations come in two flavors:

- Wired - Follow the Wired Connections instructions if your computer is physically connected to the network using a cable.
- AirPennNet - Follow the AirPennNet Connections instructions if you're connecting using Penn's wireless network.

Be sure to verify your PennKey password before migration by using the PennKey Password Test.

Wired Connections

If your computer is on campus and physically connected to the network via an Ethernet cable or Dock, follow these migration instructions.

The Day Before Migration

Your computer needs to be connected to power and the network for the migration to take place.

When you're finished work at the end of the day of your migration:

1. Plug your computer into power. You can plug into a hub-monitor or dock, but make sure your battery

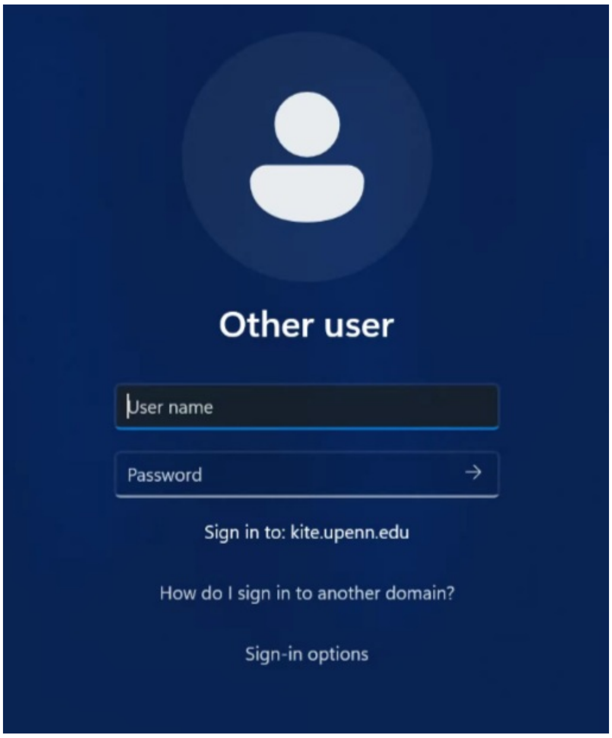
indicator shows that it is charging.
2. Double-check that your computer has a physical connection to the network and is not connected wirelessly (see the "AirPennNet Connection" section if your computer is connected wirelessly on campus).
3. Sign out of Windows, but leave the computer powered on.
4. That's it! The migration will take place automatically overnight.

The migration process will reboot your computer, so don't be alarmed if you notice the computer rebooting at some point overnight.

The Day After Migration

The next morning the migration is complete. Log into your computer to verify the migration has successfully happened and log into any applications you may need:

1. Log into Windows using your PennKey credentials. Notice the login box should say "Sign into: kite.upenn.edu.'



   - This may take some extra time as the computer connects to KITE for the first time.
2. Verify that your profile looks the same by checking your Desktop and documents.
   - If anything doesn't look right please reach out to your Wharton Computing representative.
3. You may need to sign back into the following applications, as appropriate:
   - M365/OneDrive/Outlook/Word/etc.
     - You may see a pair of errors on first launch saying “Something has gone wrong”; simply hit the **Continue** or **Close** button and you should be able to log in as normal.
   - Adobe
   - Chrome
   - Dropbox
   - Grammarly
   - Zoom

The Migration process triggers a restart, and that restart may trigger additional OS and/or Application updates. You may need to restart again.

Report any errors to your Wharton Computing Representative.

AirPennNet Connection

If your computer is on campus and connected to AirPennNet, follow these migration instructions.

The Day Before Migration

Your computer needs to be connected to power and the network to ensure the migration will take place. At the end of the day when your migration is scheduled:

1. Plug your computer into power. You can plug into a hub-monitor or dock, but make sure that your battery indicator shows that it is charging.
2. Verify that your computer is connected to AirPennNet.
3. Lock the computer by pressing **Windows+L**, or **Ctrl+Alt+Del**, and then selecting **Lock**. This will ensure the computer doesn't go to sleep. **Do not log out!**
4. That's it. The migration will take place automatically overnight.

The migration process will reboot your computer, so don't be alarmed if you notice the computer rebooting at some point overnight.

The Day After Migration

The migration completed overnight, and as part of the migration your computer was restarted.

First, you'll need to reconnect to the network to log in. You can do that in two ways:

1) Physically connect to the network via an ethernet patch cable or a hub monitor (recommended)

1. Plug your computer into the network using a cable.
2. Wait for the network icon to show an active connection.
3. Follow the directions below to continue logging in.

2) Connect to AirPennNet

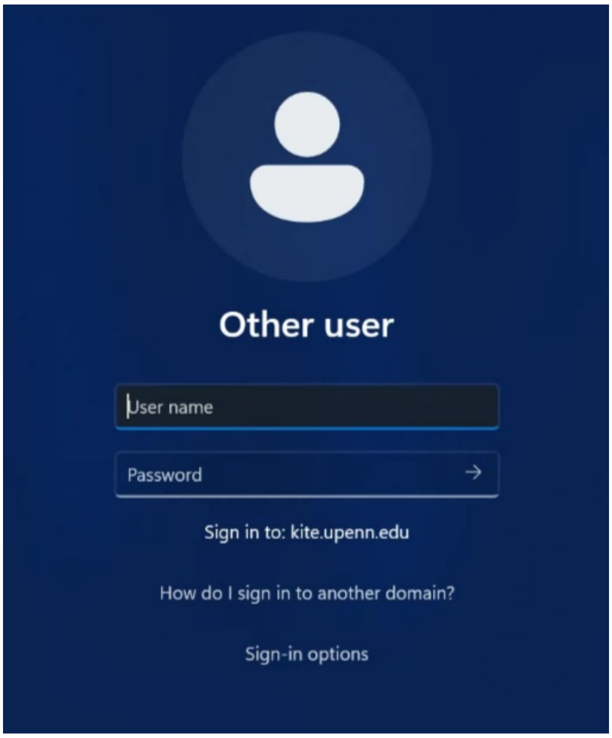
1. Hit **Ctrl+Alt+Del** to proceed to the Windows login screen
2. Click on the network icon at the bottom right of the screen right and select **AirPennNet**.
3. Enter your **PennKey credentials**.
4. Wait for the network to connect.
5. Proceed with the login section below.

> If you choose the second option, Connect to AirPennNet, you'll need to work with your Wharton Computer representative to “Forget” the AirPennNet connection we just created and re-connect to APN via SecureW2.

Log into your Computer

Log into your computer to verify the migration has successfully happened and log into any applications you may need:

1. Log into Windows using your PennKey credentials. Notice the login box should say "Sign into: kite.upenn.edu.'



    - This may take some extra time as the computer connects to KITE the first time.
2. Verify that your profile looks the same by checking your Desktop and documents.
    - If anything doesn't look right, please reach out to your Wharton Computing Representative.
3. You may need to sign back into the following applications, as appropriate:
    - M365/OneDrive/Outlook/Word/etc.
        - You may see a pair of errors on first launch saying "Something has gone wrong"; simply hit the **Continue** or **Close** button, and you should be able to log in as normal.
    - Adobe
    - Chrome
    - Dropbox
    - Grammarly
    - Zoom

The Migration process triggers a restart, and that restart may trigger additional OS and/or Application updates. You may need to restart again.

Report any errors to your Wharton Computing Representative.

Fully Remote

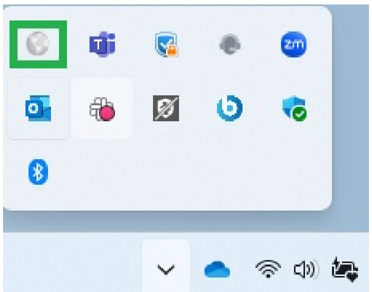
Not going to be on-campus during your scheduled migration? Not a problem, the migration can go ahead, but you'll just need to make sure you can connect with the Global Protect VPN (which will be installed on your computer before your migration date).

Be sure to verify your PennKey password before migration by using the PennKey Password Test.

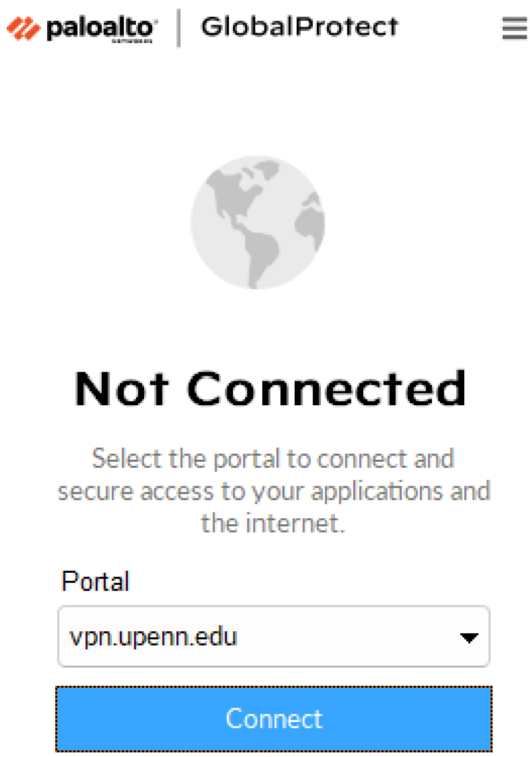
The Day Before Migration

Your computer needs to be connected to power and the network to ensure the migration will take place. At the end of the day when your migration is scheduled:

1. Plug your computer into power. You can plug into a hub-monitor or dock, but make sure that your battery indicator shows that it is charging.
2. Connect to the Global Protect VPN.
   1. In your system tray, click the **up-arrow (^)** to open the “hidden icons” and click on the **Global Protect icon** (grayed out globe):



   2. In the “Portal” field, select **vpn.upenn.edu** and click **Connect**; you're now connected to the Campus VPN.



3. Leave your computer signed in but locked by hitting **Windows+L**, or **Ctrl+Alt+Del**, and then selecting **Lock**. This will ensure that the computer remains connected to the network while the first part of the migration is accomplished.
4. That's it! The migration will take place automatically overnight.

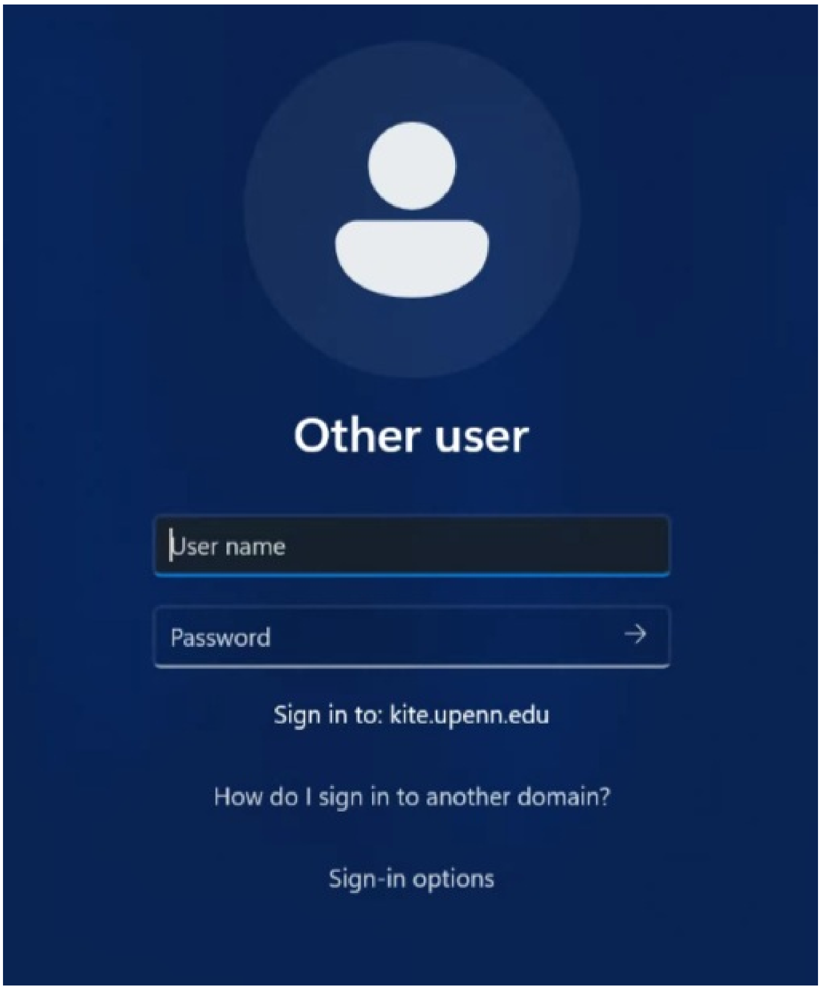
The migration process will restart your computer, so don't be alarmed if you notice the computer restarting at some point overnight.

The Day After Migration

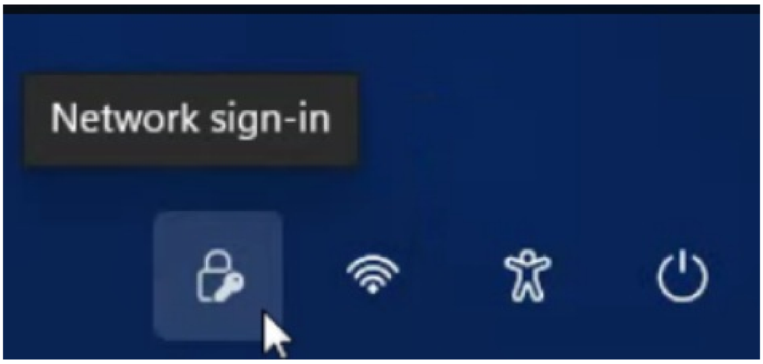
Your computer restarted during the migration, so you'll need to reconnect to the VPN network and then log into your computer to complete the migration process:

Once you sign in, the Global Protect app will still be connected. **If you plan to use mapped network drives or printers**, you should disconnect from Global Protect and **re-connect using Forticlient**, the same way you normally do.

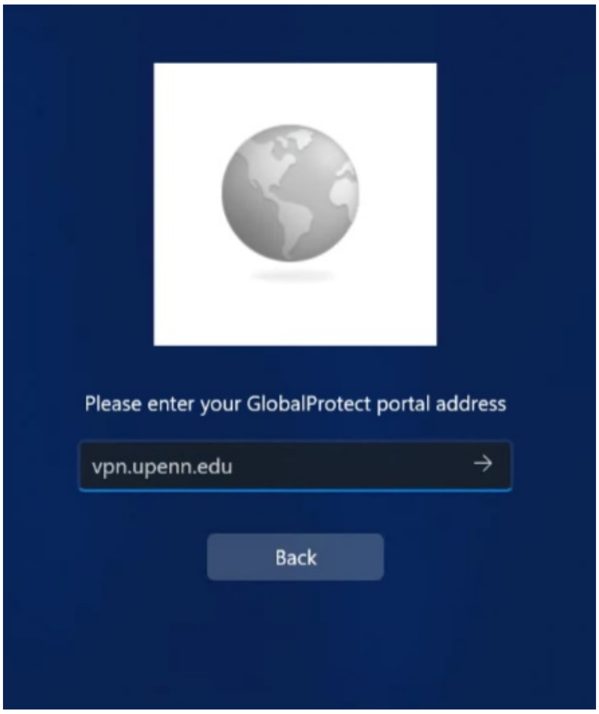
1. Hit **Ctrl+Alt+Del** to get to the Windows login screen.



2. Click the **Global Protect VPN** icon (padlock and key icon) in the bottom right corner of the screen.

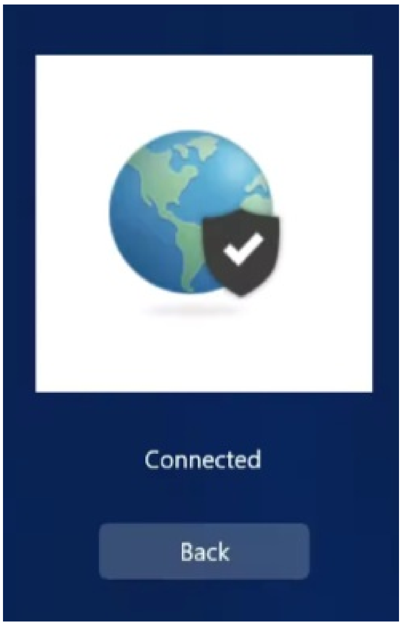


3. Type **vpn.upenn.edu** in the portal address field and press **Enter**.

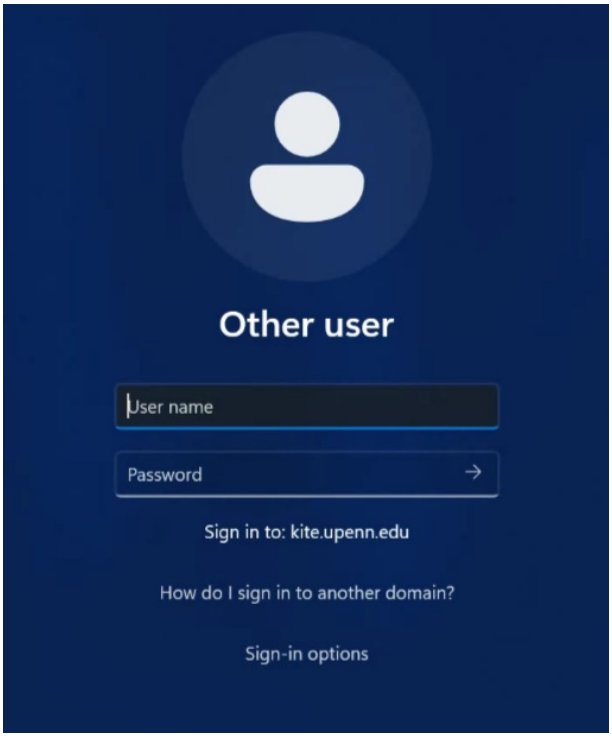


4. Enter your **PennKey** username and password and click **Log in**.

5. Verify this login via Duo.
6. Wait for the connection page to show "Connected."



7. Click the **Back** button to return to the Windows login page.
8. Log in to Windows **using your PennKey** credentials. Notice the login box should say "Sign into: kite.upenn.edu."



   - This may take some extra time as the computer connects to KITE for the first time.
9. Verify that your profile looks the same by checking your Desktop and documents.
   - If anything doesn't look right, please reach out to your Wharton Computing Representative.
10. You may need to sign back into the following applications, as appropriate:
    - M365/OneDrive/Outlook/Word/etc.
      - You may see a pair of errors on first launch, saying "Something has gone wrong"; simply hit the "Continue" or "Close" button, and you should be able to log in as normal.
    - Adobe
    - Chrome
    - Dropbox
    - Grammarly
    - Zoom

The Migration process does trigger a reboot, so there may be additional OS and/or Application updates that have been triggered by the reboot.

Report any errors to your Wharton Computing Representative.

Questions?

Asynchronous Teaching Using Canvas and Panopto

Last Modified on 01/30/2026 5:02 pm EST

Asynchronous teaching leverages pre-recorded lectures published in a place where students enrolled in the course can easily access them to flip the classroom. Panopto, Wharton's recording tool, allows instructors to seamlessly capture, edit, and upload video to Canvas.

Before You Start

You will need the following before you can complete this task:

- A Panopto Recorder App (either installed on your device or accessed through a web browser) OR Zoom
- A Canvas site
- Class Recordings tab (in Canvas)
- Enable cookies on your device

Before You Record

Recording a lecture is a very different experience from delivering a lecture in the classroom. Even if you've given the same lecture dozens of times before, it behooves you to do some planning before you hit **Record**.

Decide how you would like to record. You can record in Panopto, Zoom, or tool of your choice. We recommend recording in the tool you are most comfortable using.

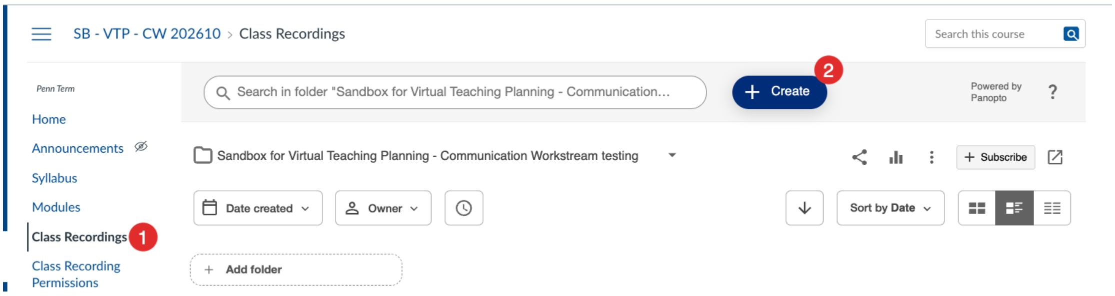
Suggestions and Recommendations

- Keep recordings 6-15 minutes in length to keep students engaged and allow for adequate breaks.
- Script ahead of time, or at least create an outline to best organize your thoughts.
- Consider different means of collaboration and participation, such as discussion posts.
- Initiate a test recording to become comfortable with the application's features. Place the test recording in your personal folder so students don't have access to it.
- Plan how you will handle any mistakes you make during the recording. You can:
    - Acknowledge the mistake and move on, as you would in class
    - Edit out the error prior to making it available to students
    - Discard the recording and start all over again
- If you are recording a video which you would like made available to multiple Canvas sites, please reach out to courseware@wharton.upenn.edu.

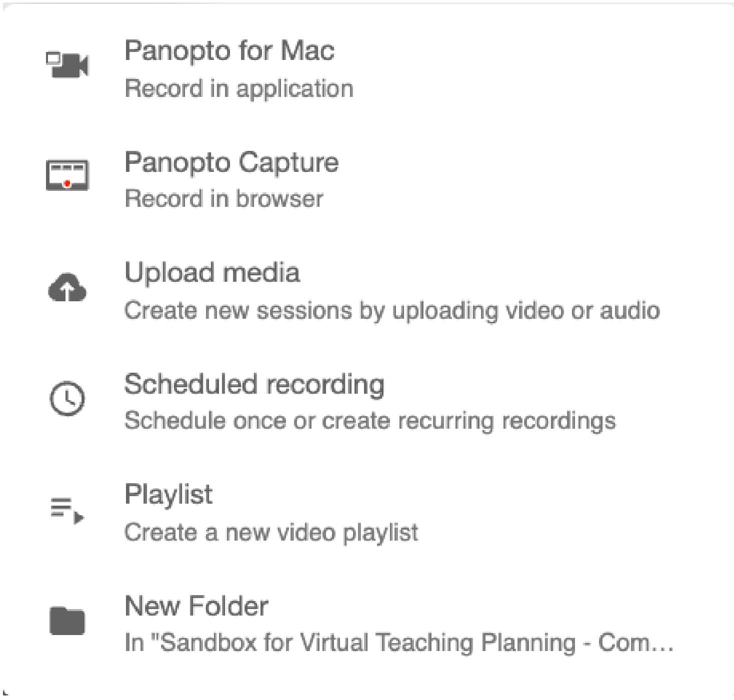
Recording in Panopto

Accessing the Panopto Recorder

1. Go to the Class Recordings folder for your Canvas site and click Create.
2. Select one of the Panopto recording options, either the Panopto Recording app (installation required) or the Panopto Capture web browser tool.

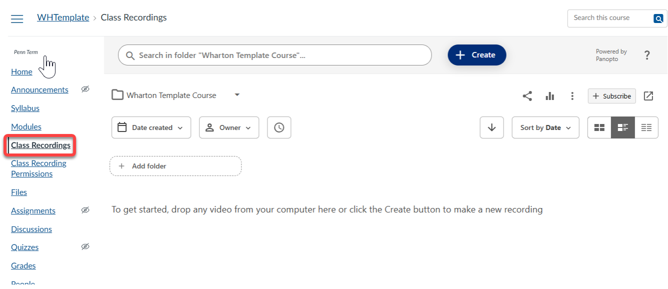


Panopto should recognize your Operating System.

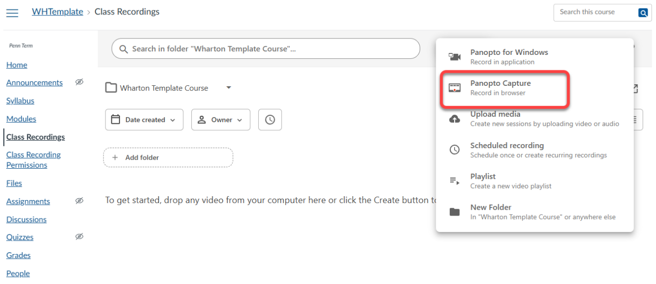


Starting a Panopto Recording

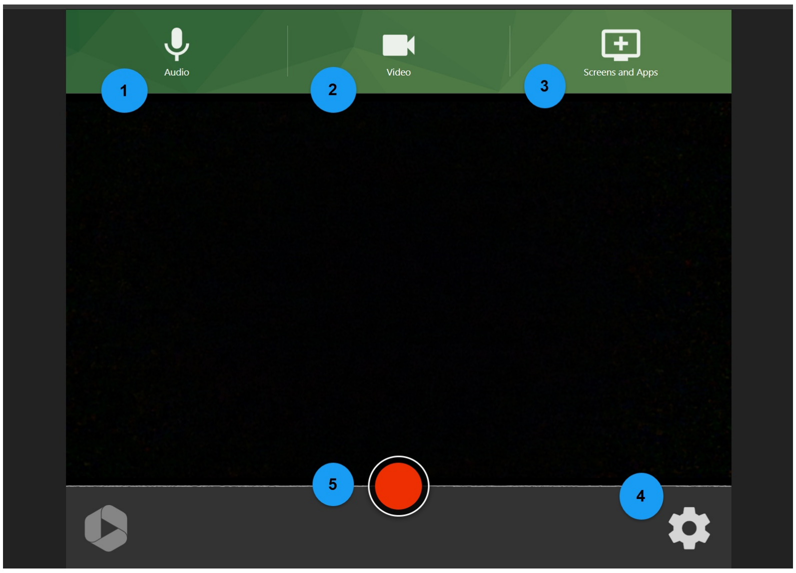
1. Log into the Canvas site where you'd like this video to live.
2. Click **Class Recordings** on the Courses menu:



3. Click the blue **Create** button in the upper right corner.
4. Click **Panopto Capture** to record in a web browser:

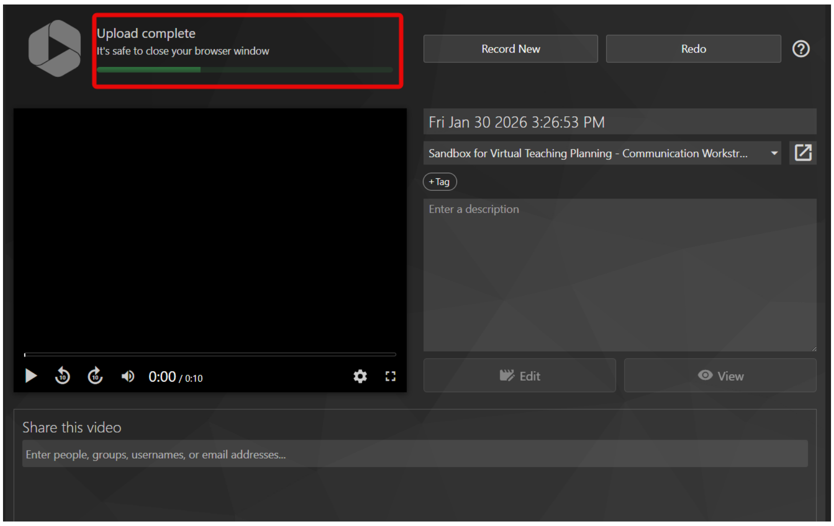


The Panopto Capture web browser app will launch in a new tab.



1. Control for Audio. This option will allow you to choose which microphone Panopto should use.
2. Control for Video. This will allow you to turn on your camera and blur or choose to add a background (see note in item #4)
3. Control for Screen Sharing. This will allow you to choose a Tab, Window, or entire screen.
4. Control for settings. This will allow you to configure streams, video layout, and add a background. There are limited backgrounds already available, or you can upload your own background image.
5. Control to start and stop recording. The default setting is for Panopto to display a 5 second countdown before the recording starts.

When you see **Upload complete**, you can close the Panopto Capture Web Browser tool, or select **Record New** if you would like to record additional videos.

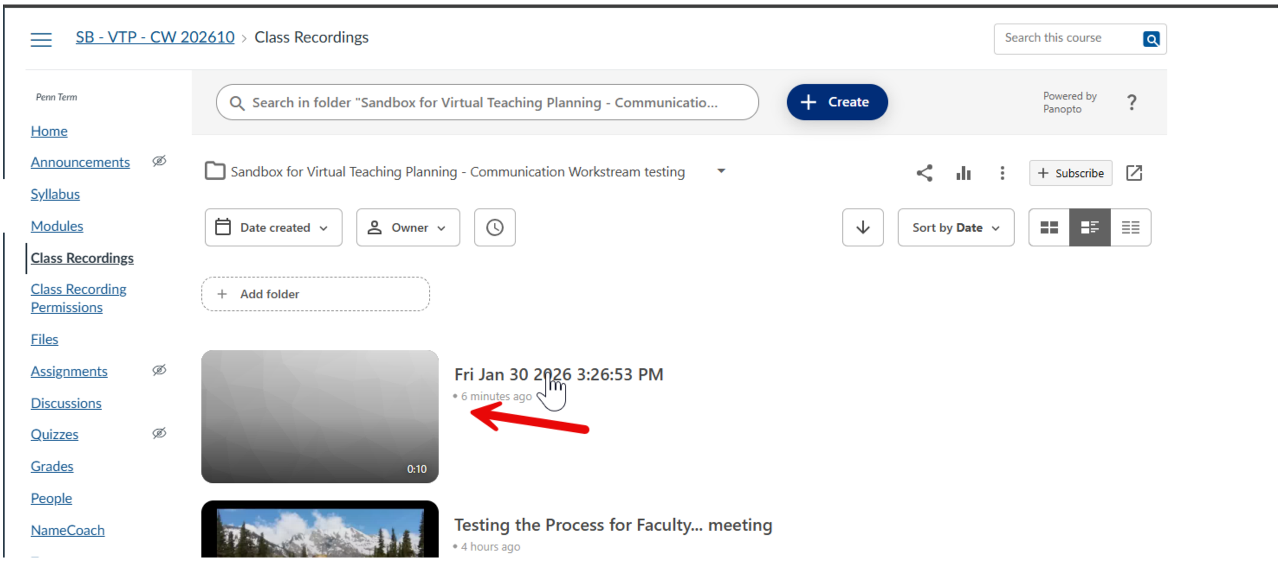


Panopto shows **Upload Complete** for a very short time before it moves to the next steps in processing your recording. This occurs before the bar is completely filled and no additional actions are needed.

If you see any of the following messages, it is safe to close your browser window:

- Upload complete
- Getting your video ready for editing
- Your video is ready
- Putting on the finishing touches

Panopto uploads your video to the Class Recordings tab of your Canvas site, then finish processing the video. While the video is processing, it will appear with a white thumbnail image in your Class Recordings tab. After it has finished processing, the thumbnail will shift to the first image of the recording.



Uploading a Recording to Panopto

If you record videos in Zoom (outside of Canvas) or another recording tool of your choice, they can be uploaded to Panopto following the instructions in our Upload Video Conference Recordings article.

Recording Best Practices

- Use a reliable headset with a microphone. It will improve the audio capture, which is a critical component of recording capture.
- Close any applications you don’t want to share with your class.
- Verify your background conditions using your camera:
    - Avoid bright background lights
    - Check that the image isn't too dark to see you.
    - Remove distracting items from the background.
- Open all applications you want captured before you begin the recording to avoid having to pause the recording to find them.
- Name recordings uniquely and be as consistent with the naming convention as possible. Consider: **Course - Section - Class or Week # - Lesson Title - Video #**. The video number should reflect which video it is in the lesson series.
    - Example: **MKTG 1010 - Section 001 - Virtual Class 1 - Developing Your Marketing Strategy - Video 1**

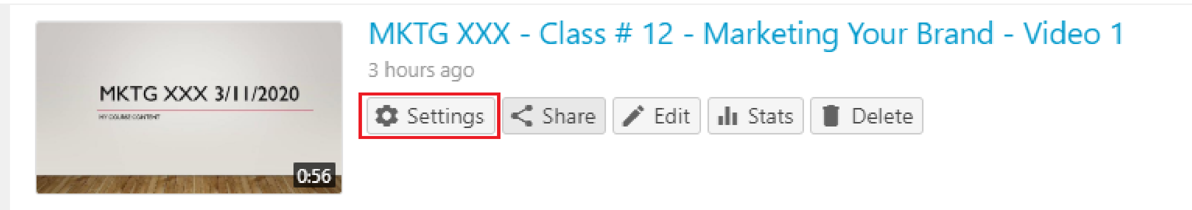
Managing Your Recordings

Recording Availability

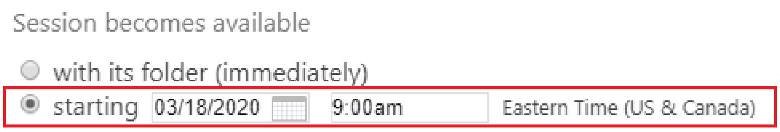
After a recording has been uploaded to Canvas, you'll be able to adjust the beginning and end dates of its visibility to students.

Important: The availability settings for newly recorded or uploaded videos will depend upon the settings configured in the Class Recording Permissions app.

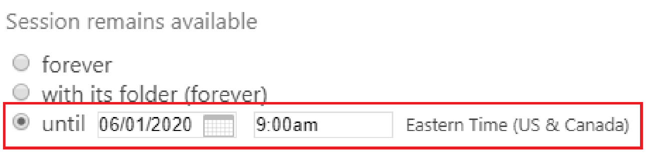
1. Hover over the newly uploaded recording.
2. Click the **Settings** button.



3. On the Overview tab, scroll to the Availability section at the bottom.
4. Adjust the availability start date by selecting the radio button of the option with the customizable date field and update the date and time fields accordingly.



5. Adjust the availability end date by selecting the radio button of the option with the customizable date field and update the date.



Copying a Recording

1. Click **Manage** > **Copy**
2. While the copy is processing, go to its Overview and edit the Folder name, choosing or typing the name of the desired target Canvas course site.
3. Click **Save**, which moves the newly created copy to that other course's Class Recordings.
    1. You may need to first click **Class Recordings** again in that target Canvas course to see the moved video.
    2. For semester-long viewing dates, choose **With its folder** for start and end.

Editing a Recording

You can edit videos in Panopto. More details about how to do this can be found in our Editing Videos in Panopto article.

Questions?

- For assistance with downloading the app, contact your academic support representative
- Request help with using the Panopto Recorder app by emailing class-tech@wharton.upenn.edu

Upload Video Conference Recordings

Last Modified on 01/30/2026 4:32 pm EST

We are aware that Zoom is rolling out changes to its interface that may affect some of our directions. We are working on updating these pages, but in the meantime you can visit Zoom's Release Announcement. Please reach out to Wharton Computing if you have any questions.

Some instructors may want to upload the recordings of their Zoom meetings separately from the automatic posting of scheduled class meetings in Canvas. You'll need to first download the recording from the Zoom interface and then upload that file to Class Recordings using Panopto.

The instructions in the **Uploading the Recording to Panopto** section can be used to upload any video, not just recorded Zoom meetings, to the Class Recordings page ("tab") of a Canvas site. In case your Class Recording Permissions app is configured for "no access" or "student request access," follow the instructions for Managing Your Recordings.

Accessing the Recording in Zoom

Zoom meetings scheduled via Canvas and recorded are automatically uploaded to the Class Recordings tab (Panopto) in Canvas. These recordings are *not* stored on Zoom and are only accessible via the Class Recordings tab.

You may expect that a Zoom recording would consist of one file, however, a Zoom recording will often have many files for you to pick from:

- There are several Recording layout files (Shared screen with speaker view is probably the best choice for uploading to Canvas).
- Audio only.
- Audio transcript.

The instructions below will show you have to download all the available recordings for a meeting at once, or pick and choose. **Click Read More** to see the instructions:

Uploading the Recording to Panopto

Zoom class meetings scheduled via Canvas and recorded are automatically uploaded to the Class Recordings tab (Panopto) in Canvas.

Now that you've downloaded your recorded meeting, you can upload it to Class Recordings using Panopto by following these steps:

Questions?

- For more assistance, contact your Academic Support Representative
- Request help with using the Panopto Recorder app or student recording permissions by emailing class-tech@wharton.upenn.edu

Editing Videos in Panopto

Last Modified on 05/04/2023 10:08 am EDT

Whether you've recorded the videos with the Panopto Recorder app or using another recording source such as Zoom, you can edit the content once it is uploaded to Panopto. If you have content that needs to be uploaded, review the Upload Virtual Meeting Recordings to Canvas article first.

Before You Start

You will need the following before you can complete this task:

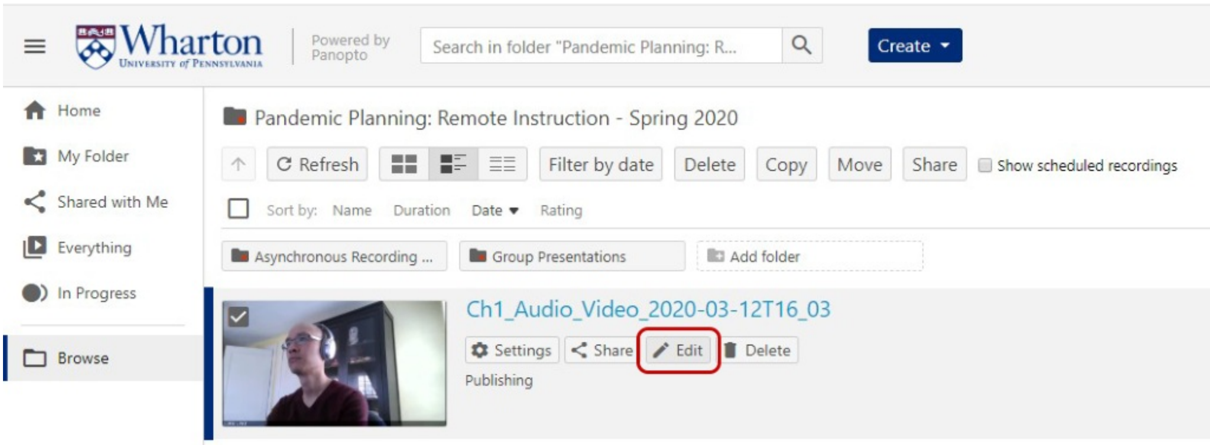
- A Canvas site for your course
- A video that has been recorded in or uploaded to Panopto

Trimming the Ends of a Video

Once you've either recorded your content directly or uploaded it to Panopto, you'll follow these steps to trim out the unwanted content (called "heads" or "tails") at either end of it.

You will need to make all necessary end-trim edits **prior** to clicking the "Apply" button in the Panopto editor. After you've clicked the Apply button all changes will be submitted and the video will begin re-processing. Depending on the video length, the re-processing could take several hours.

1. Launch your Canvas course, if you haven't already.
2. Click the **Class Recordings** tab in the navigation menu.
3. Locate and hover over the video you want to edit.
4. Click on the **Edit** button that displays to the right.



5. The Panopto editor will launch in a separate tab and the timeline of your video will appear at the bottom of the screen. This is where you will perform your edits. Check the **Preview cuts during playback** box, if it's not already checked.

Heads Editing

Follow the below steps to remove unwanted content from the **beginning** of your video.

Tails Editing

Follow the steps below to remove unwanted content from the **end** of your video.

Video Permissions

Click **Read More** to learn how to make the video available to students.

Questions?

Email: class-tech@wharton.upenn.edu

Zoom recording autodelete to be enabled on 1/20/21

Last Modified on 08/15/2022 4:35 pm EDT

Beginning Wednesday, January 20, 2021, recordings stored in Penn Zoom that are older than 120 days will be deleted from Zoom's cloud storage.

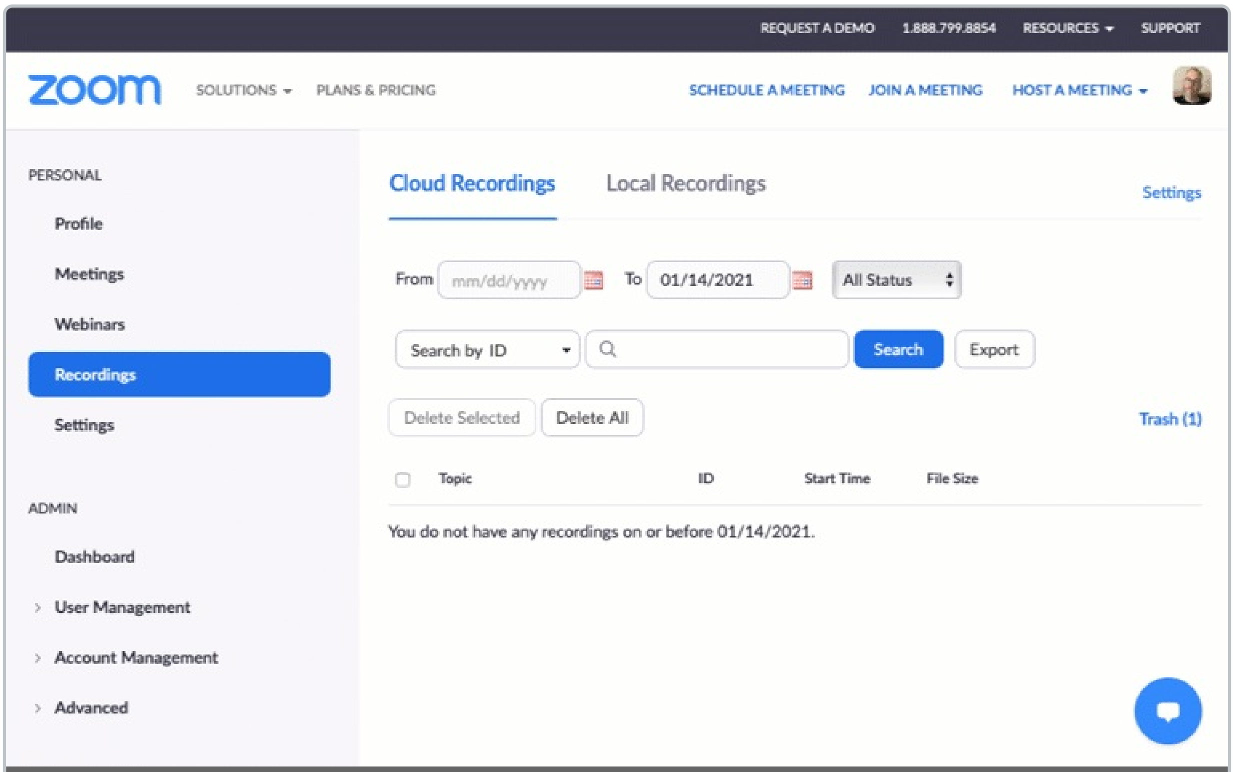
Starting on Wednesday, January 20, 2021 Penn Zoom will auto delete cloud recordings older than 120 days. **This change impacts all recordings made on Penn Zoom.**

Any recordings from before September 20, 2020 will be deleted from Penn Zoom on January 20, 2021. Going forward, all recordings that are 121 days old will be deleted.

Existing recordings in Panopto will NOT be affected by this change. PennZoom classroom recordings initiated from within Canvas will continue to automatically be moved into Panopto for long-term storage.

Restoring Deleted Recordings

Deleted recordings are held in your Penn Zoom trash bin for 30 days. They can be recovered from the trash bin:



Restoring a recording from the trash.

These instructions walk through the process: https://support.zoom.us/hc/en-us/articles/216378863-Recover-a-Deleted-Cloud-Recording.

After 30 days in the trash bin the video is permanently deleted and cannot be restored. See the next section for strategies around downloading and long-term storage for Zoom videos.

Downloading and storing recordings

You can download your Penn Zoom recordings for storage elsewhere, but keep in mind Zoom does not allow deleted or downloaded recordings to be re-uploaded to Zoom.

Information about how to download recordings is available at: https://www.isc.upenn.edu/how-to/pennzoom-cloud-recording-management

Some suggestions for alternative storage of recordings are:

- Classroom recordings initiated directly from Zoom can be manually imported into Panopto for long-term storage.
    - Instructions for importing previously scheduled Zoom meetings into Panopto can be found here: https://infocanvas.upenn.edu/guides/zoom/zoom-for-faculty-staff-tas/
- Dropbox/Box can be used if you are keeping the video for your own use, or just sharing it on a one-by-one basis.

For more information on Penn Zoom's autodelete policy, including instructions on downloading your recordings, and information about recording files, please visit https://www.isc.upenn.edu/how-to/pennzoom-cloud-recording-management.

Zoom Recordings

Last Modified on 12/15/2025 5:10 pm EST

We are aware that Zoom is rolling out changes to its interface that may affect some of our directions. We are working on updating these pages, but in the meantime you can visit Zoom's Release Announcement. Please reach out to Wharton Computing if you have any questions.

Zoom allows you to record meetings in two ways:

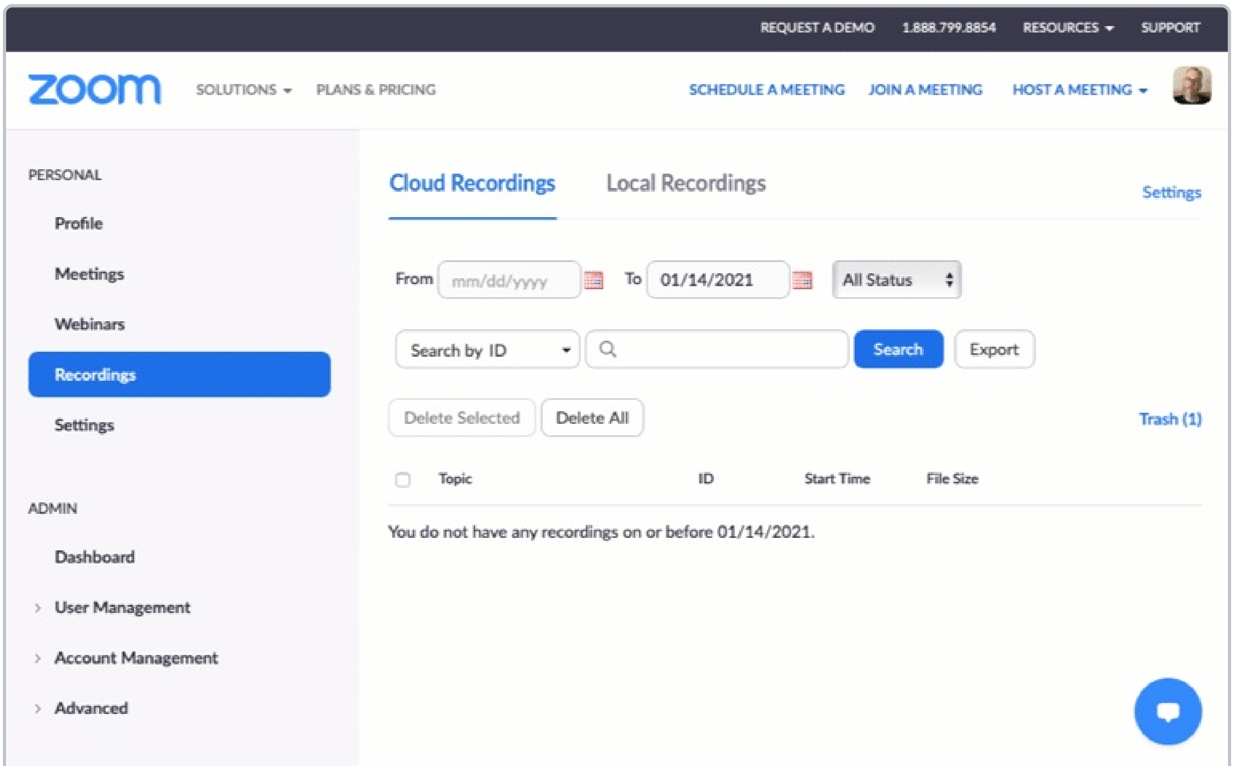
- Cloud recordings are stored in your Zoom account and are available for streaming from a browser or download to a computer.
- Local recordings are saved on your computer and are only available locally unless you upload them elsewhere after the fact.

Wharton Computing recommends cloud recordings in most cases. It is important to note that **Penn Zoom auto deletes cloud recordings older than 120 days**. This impacts all recordings made on Penn Zoom, including work meetings and Zoom class recordings.

PennZoom classroom recordings initiated from within Canvas will continue to be moved into Panopto for long-term storage automatically as recordings in Panopto are NOT be impacted by this auto delete policy.

Restoring Deleted Recordings

Deleted recordings are held in your Penn Zoom trash bin for 30 days. They can be recovered from the trash bin:



Restoring a recording from the trash.

These instructions walk through the process: https://support.zoom.us/hc/en-us/articles/216378863-Recover-a-Deleted-Cloud-Recording.

After 30 days in the trash bin, the video is permanently deleted and cannot be restored. See the next section for strategies around downloading and long-term storage for Zoom videos.

Downloading and storing recordings

You can download your Penn Zoom recordings for storage elsewhere, but keep in mind Zoom does not allow deleted or downloaded recordings to be re-uploaded to Zoom.

Information about how to download recordings is available at: https://www.isc.upenn.edu/how-to/pennzoom-cloud-recording-management

Some suggestions for alternative storage of recordings are:

- Classroom recordings initiated directly from Zoom can be manually imported into Panopto for long-term storage.
  - Instructions for importing previously scheduled Zoom meetings into Panopto can be found here: https://infocanvas.upenn.edu/tools/zoom-for-instructors/
- Dropbox/Box can be used if you are keeping the video for your own use or just sharing it on a one-by-one basis.

For more information on Penn Zoom's autodelete policy, including instructions on downloading your recordings and information about recording files, please visit https://www.isc.upenn.edu/how-to/pennzoom-cloud-recording-management.

Captioning Service

Last Modified on 11/17/2023 1:26 pm EST

Professional captioning and transcription services for files with an audio component via 3Play are available to Wharton organizations (with a budget code) and Wharton student groups.

To take advantage of this service:

- **Wharton Faculty, Students, and Staff** - Submit requests via our **Caption Request Form**.
- **Wharton Faculty** - Please contact your Academic Computing Support representative if you need additional assistance with caption requests (acs-support@wharton.upenn.edu). Captioning for course materials is at no cost to the academic department.

Before You Start

You will need the following before you can complete this task:

- An uploadable file with audio or a shareable link to a file with audio.
- A budget code (for non-student group requests).

Our captioning service charges a time-based fee for each captioned file with a higher per-minute charge based on the desired turnaround time. Standard turnaround time is 4 business days. Faster turnaround time may be available depending on the captioning vendor's capacity.

Price per minute	Turnaround Time
$1.85 / minute	4 business day turnaround
$2.70 / minute	2 business day turnaround

Captioning time is estimated at 2x the time of the spoken words in the recording. Prices fluctuate based on the amount of captioning requested; the more we order as a university, the lower the prices get throughout the fiscal year.

The per-minute price is based on the time it takes to caption the file, estimated at 2x the time of the spoken words in the recording and **not** the length of the source audio.

To take advantage of this service:

- **Wharton Faculty, Students and Staff** - Submit requests via our **Caption Request Form**.
- **Wharton Faculty** - Please contact your Academic Computing Support representative if you need additional assistance with caption requests (acs-support@wharton.upenn.edu).

Video Conferences

Last Modified on 01/25/2021 3:13 pm EST

This article covers using video conferences for individual meetings and small group collaborations. To learn about using video conferences for teaching or learning within Canvas, see Video Conferences for Instruction.

Penn offers both Zoom and Microsoft Teams for video conferencing, but most classes will take place on Zoom. Teams is not covered in this article.

Before You Start
You will need the following before you can complete this task:

- An active PennKey account
- **Faculty and Staff:** admin access to your devices (to install the app)
    - Zoom is generally pre-installed on Wharton-provided laptops or desktops (but not on smartphones).

Zoom

Zoom is a cloud-based cross platform video conferencing service. Zoom makes it easy to collaborate with your colleagues, and can be started and joined via a PC, Mac, smartphone, or regular landline (audio only). Each meeting can accommodate up to 300 participants and supports recording of the meeting and screen/media sharing. All Wharton students, faculty, and staff have access to Zoom.

Install the Zoom App

The native Zoom app isn't required to use Zoom, but we highly recommend it for the best Zoom experience. Read Logging into Wharton Zoom for instructions detailing installing and logging into the Windows, Mac, and mobile versions of the app.

If you are working on a Wharton-provided laptop or desktop, Zoom should already be pre-installed.

Accessing Zoom Meetings

Is your Zoom meeting for a Wharton class? **Log into Canvas first**, launch your class, and then choose Zoom from the left navigation pane. (Most Zoom meetings for classes are created through Canvas.)

Although we recommend accessing any video conferences created in Canvas by logging in via Canvas, it's also possible to see all your meetings by logging directly into the meeting software (https://upenn.zoom.us).

Scheduling a Meeting

Scheduling for a class that's using Canvas, where all students will join via Zoom? See Video Conferences for

Instruction.

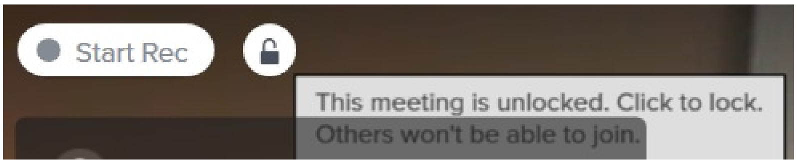
Scheduling for a guest speaker or other attendee who will attend your face-to-face course remotely? Follow these directions:

Advanced Features

Advanced features are useful in customizing your meetings. You can customize them on a per meeting basis, or for all the meetings that you schedule.

- Scheduled meeting sessions: for meetings that you are scheduling, any changes you make will only affect that meeting.
- Personal settings: if you make changes in your personal settings, that will affect all meetings that you schedule.

For security, moderators have the ability to lock out users from joining their meeting (indicated with a lock icon at the top left corner of their screen).



Feature Recommendations

Zoom has a large number of feature settings. Here are suggestions for a variety of settings.

Questions?

For additional help and support:

- See the Zoom FAQ
- Check out the Zoom Knowledge Base
- Contact Zoom support directly

Roles in a Video Conference

Last Modified on 11/03/2023 3:26 pm EDT

Each user connected to a video conference is assigned a role that determines their level of control over the meeting.

For more information, see Zoom's documentation.

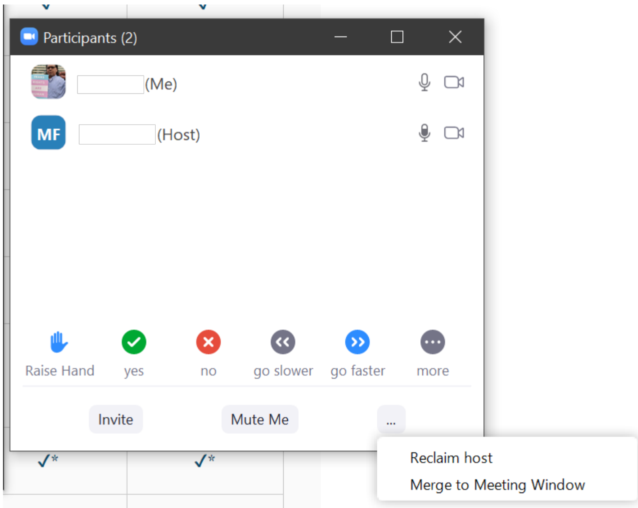
Zoom offers several roles:

- **Participants** - Most meeting attendees (including students) will be participants. This is a person who was invited to the meeting, can see other meeting participants, share content (if allowed by the moderator), and see call details. Most students in a class will be participants.
- **Host** - This is the person who scheduled the meeting and has full access to meeting controls. Each Zoom meeting can have only one host, which is typically a faculty member (in the case of remote instruction).
- **Co-hosts** - A person in the co-host role has some (but not all) access to meeting controls and can help manage participants. **Co-hosts *cannot* start a meeting.**

Note: See specific Host and Co-host controls here.

- **Alternative Hosts** - Have the same control access as co-hosts with the additional ability to start the meeting. For Zoom meetings scheduled via Canvas the course's listed TA is automatically added as an Alternative Host. To reclaim host controls from your alternative host during a meeting...

1. Go to **Participants**
2. Click the "three dots" button at the bottom of the panel
3. Click **Reclaim host**



Video Conference Features

Last Modified on 12/15/2025 5:04 pm EST

We are aware that Zoom is rolling out changes to its interface that may affect some of our directions. We are working on updating these pages, but in the meantime you can visit Zoom's Release Announcement. Please reach out to Wharton Computing if you have any questions.

Video conferences come equipped with features that can be used during lectures to assist with content delivery. These built-ins are available when creating and joining a meeting through Canvas. Some of the same tools may also be available when joining a meeting using an app or web browser, but not all will be.

Before You Start

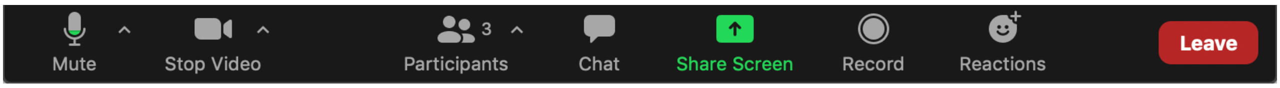
You will need the following before you can complete this task:

- A published Canvas site
- A video conference created within Canvas
- The latest version of the video conference program

Accessing the Features

Zoom

You can access all of Zoom's functionality when in a meeting via the meeting toolbar:



Key Features

Breakout Rooms

All users need to have the latest versions of the Zoom app for best results with Breakout Rooms.

See our Video Conference Breakout Rooms article for more information.

Whiteboard

The Whiteboard feature can come in handy when participants need to view what you are writing in real time. It can take the place of writing on a whiteboard or using a document camera in the classroom. Learn how to share a Whiteboard on Zoom.

Annotation

Learn how to use annotation tools on a shared screen or whiteboard in Zoom.

Polling

Zoom does have an integrated polling function. Keep in mind that a single Zoom meeting can have a maximum of 50 polls with 10 questions each.

Upload & Share Video

Learn how to optimize a shared video in Zoom.

Questions?

Email: courseware@wharton.upenn.edu

Planning a Virtual Event

Last Modified on 02/12/2025 10:38 am EST

Virtual Events are a way to conduct larger gatherings with more control than a standard virtual meeting can provide. Events can be added to your account by a Wharton Computing administrator.

We recommend limiting your events to 1,000 participants. Events larger than this may incur charges. Contact Wharton Computing for a consultation.

When to Use Virtual Events

Use Events for:	Use a Meeting for:
Events larger than 200 participants, including presenters and moderators.	Informal events or team meetings.
Controlling and tracking attendance.	Broadcasting to a large audience, via social media streaming, without the need for closely monitored interactions.
Structured interaction between presenters and attendees.	Options for informal interactions, realtime chats and breakout sessions.

Events Features

Some of the features that are often used at Wharton include:

- Public or Private meeting invites and links
- Event registration
- Video/Audio interaction
- Chat
- Raise hand
- Polling
- Q&A
- Recording
- Chat transcripts and attendance reports

Roles

In the Virtual Events world there are four roles:

- Meeting Organizer
- Moderator
- Presenter
- Attendee

Meeting Organizer

This is the event planner. They're responsible for:

- Scheduling the Events meeting
- Inviting all participants
- Coordinating the event
- Creating the agenda and production timeline
- Overall communication for the actual event

Moderator

This role controls the broadcast, or event, from behind the scenes. There can be more than one moderator per event. Traditionally a moderator introduces the guests or asks them thoughtfully prepared questions. While you can (and probably should) still have a moderator of that type at your event, multiple people can be assigned the Moderator role. This means you can have a moderator who is focused on behind-the-scenes issues in addition to someone acting as a more traditional moderator.

Moderators can:

- Help control content
- Manage the flow of the event
- Troubleshoot technical problems
- Mute/unmute presenters

Think of your virtual Event as a carefully planned production and the moderators are the people behind the curtain.

Presenter

This is the person, or people, the audience is here to see. By design, the presenter role has a smaller subset of the moderator controls when they join the event.

Presenters can:

- Mute/unmute their audio and video
- Share their content and videos
- Chat with all participants or just the moderators
- Review and answer question posted in the Q&A
- View poll results

They will rely on the moderators for more complex tasks so they can be focused on content delivery.

Attendees

These are the people invited to attend an event. Unlike a regular meeting, attendees will not have the ability to share their audio, video, or any content unless they are invited to do so by a moderator.

Best Practices for Meeting Organizers

Below are some best practices for managing the technical aspect of your Virtual Event.

- **Plan properly** - Work through each section of this article, no matter the size of your event.
- **Invite at least 2 moderators** - There are too many details for one person to manage effectively. At least one of the moderators should be fairly tech savvy and familiar with Virtual Events. Training can be provided upon request.

- **Conduct a test event** - Hold a dry run with all presenters and moderators at least two days prior to the scheduled event. This will help work out all the kinks and get everyone familiar with the platform.
- **Create a production timeline** - A production timeline is your agenda with technical cues written in where appropriate; it is very specific and detailed. The technical cues include, but aren't limited to:
  - When to mute/unmute a presenter
  - Q&A Sessions
  - When to initiate a poll, along with the name of the poll
  - Using/recognizing verbal cues for significant transitions
  - Recording the name of the moderator assigned to a planned task
- **Upload videos in advance** - Anyone sharing videos will need to upload them to the meeting rather than embed them into a presentation. Upload times vary depending on video length. We recommend uploading videos **at least 30 minutes before your TEST event**. Do not wait until the day of your event to upload videos.
- **Join using the Events app** - All Moderators and Presenters must join with the events app. This app is not the standard meetings app; be sure to recommend presenters and moderators download it ahead of time.
- **Schedule your presenter arrivals** - All presenters should not arrive at the same time. Instead schedule their arrivals in staggered 15 minute intervals before the event and have a moderator ready to help them check their audio, video, content sharing, and any video content they may present.

Before Scheduling the Event

After you've reviewed the best practices, it's time to start the planning process. Planning for a virtual event is similar to an on-site event in many ways, therefore, much of the event planning found in the MarComm Event Toolkit is relevant.

Click **Read More** for a list of questions you and the event planning team should think about and answer before you schedule an Event.

Before the Dry Run

Preparation is the key to running a smooth event, and we recommend you stage a dry run before your event. Click **Read More** for a list of tasks to complete prior conducting this dry run.

Before the Event

Complete these additional tasks before your event;

- Approve all pending registrations.
- Distribute a final copy of the production timeline to involved parties.
- Verify all presenters and moderators have the latest version of their content ready.
- Verify all video content that will be shared has been uploaded to the event.
- Recommend attendees log in 48 hours before the scheduled event time to make sure they can access the event.

Additional Assistance

- Review our informational articles:
  - Zoom: Using Zoom Webinars
  - Visit the Zoom website for more articles and videos.
- Contact your Wharton Computing Representative to request access to Events.

Request a consultation, training or ask additional questions by emailing class-tech@wharton.upenn.edu.

Logging into Zoom

Last Modified on 01/29/2026 4:28 pm EST

Before You Start

You will need the following before you can complete this task:

- Penn Zoom account - In order to activate your Penn Zoom account, you must **log in at least once** to https://upenn.zoom.us with your PennKey. If you are unable to log into Penn Zoom using your PennKey reach out to Wharton Computing for assistance.

When logging into Penn Zoom, the three most important things to know are:

- **Service URL →** https://upenn.zoom.us
- **Service Domain →** upenn
- **PennKey username** and **password**.

Logging In with Multiple Devices: You may want to log into the same meeting with more than one device (e.g. to monitor chat in a separate window); see Zoom's article for more information.

Make sure you are logged into Penn Zoom: If you get an error, are unable to join a Zoom meeting from Canvas, or do not have access to certain features, you may be logged in with a non-Penn Zoom account. **Log into Penn Zoom**, in order to get proper access to platforms/features.

Directions for logging in vary depending on the device you're using:

On the Web

Using the Mac Native App

Using the Windows Native App

Using the iOS App (iPhone or iPad)

Using the Android App (Android Phone or Tablet)

How to tell if you're logged into Penn Zoom

If you are logged into Zoom with an account other than your Penn Zoom account you will not have access to all full feature set of Penn Zoom. To identify what account you're logged into:

1. Click **your profile picture** in the Zoom app (on the upper right corner of the mobile app or the upper left of the desktop app.
2. If the email address listed is an @upenn.edu email address, you're logged into Penn Zoom. Otherwise, log out of Zoom and log back in following the directions above.

Additional Resources

These resources may be helpful:

- Working and Learning Remotely - Students
- Video Conferences for Instruction

Questions?

For more information, see the related articles on this page orcontact your Wharton IT representative.

Activating Your Zoom Account

Last Modified on 01/29/2026 12:42 pm EST

Penn offers Zoom as our video conferencing solution for all students, faculty, and staff.

In order to activate your account, you must **log in at least once** with your PennKey.

To activate your Zoom account:

1. Visit https://upenn.zoom.us.
2. Click **Sign in**.
3. Enter your PennKey username and password.

Your Zoom account is now active.

After you've activated your Zoom account you can log into a variety of Zoom apps.

Zoom User ID

You'll use your PennKey and password to activate your Zoom account. Once you've activated your Zoom account your user ID and Zoom email are <YourPennKey>@upenn.edu.

Questions?

If you encounter an error during this process, please contact your Wharton Computing representative.

Zoom FAQ

Last Modified on 01/30/2026 1:42 pm EST

We are aware that Zoom is rolling out changes to its interface that may affect some of our directions. We are working on updating these pages, but in the meantime you can visit Zoom's Release Announcement. Please reach out to Wharton Computing if you have any questions.

Questions and troubleshooting tips that will help you use Zoom meetings at Wharton.

Some early adopters at Wharton created Wharton Zoom accounts, but now the accounts are managed by Penn. If you still have a Wharton Zoom account you should migrate it to Penn's instance.

Accessing Zoom

Setting Up

- **Internet Connection:** We recommend at least **10 Mbps/download** speed and **5 Mbps/upload** speed. Use fast.com to determine your internet speed.
- Browser/Client Requirements:
  - Latest version of the Zoom Desktop Client or Mobile App.
  - For web client, see minimum browser requirements
- **Account needed?**
  - To **participate** in a meeting, NO account is needed.
  - To **schedule** or **moderate** a meeting: log in with your PennKey at upenn.zoom.us or launch the app.
- See Zoom's support site for directions on downloading and using the Zoom client.

If you have a non-Intel Mac (M1, M2), you will need to use the Apple Silicon version of Zoom which you can download here.

Ways to Join

- **Client v. Web:** Check this link to compare the benefits of the desktop client, app, and web client experience.
- **Joining with multiple devices:** You can only log in with one of each kind of device; see Zoom's article for more information.

About Meetings

- **Who Can Join a Meeting:** Anyone who is invited or has the link can join a meeting.
- **Transcriptions/Captioning:** Live Automatic transcriptions are available through Penn's Zoom account.

Meeting Capacities

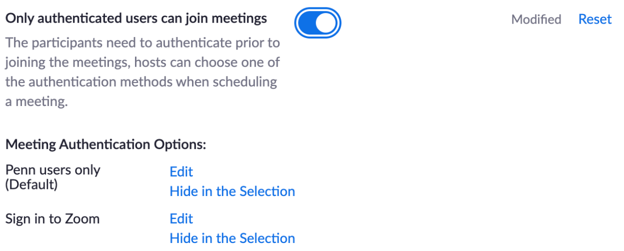
- **Participant Limit:** You can have up to 300 participants in one meeting.

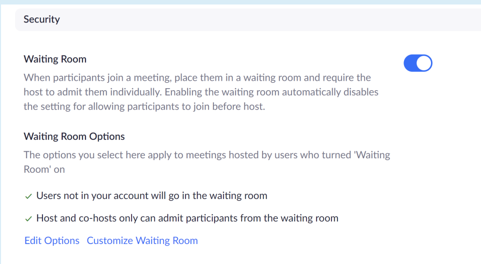
- **Maximum Meeting Length:** 24 hours.
- **Gallery View:** 50 (including your video preview) if you meet the hardware requirements.
- **Breakout Rooms:** 100 breakout sessions can be created, either pre-assigned ahead of time or randomly assigned in real time. More about the participant experience here.
- **Large Meeting Capacity:** Up to 1000 (requires Add On).
- **Webinars**: Up to 3000 (requires Add On).

Using Zoom

Managing Meetings

- **Scheduling Meetings (Faculty):** Please visit Video Conferences for Instruction to learn how to schedule a Class Meeting through Canvas.
- **Scheduling Meetings (All Users):** Please visit Video Conferences to learn how to schedule meetings
- **Breakout Sessions:** Please see Video Conference Features for more information.
- **Security:** Users can restrict a meeting to anyone authenticated to a upenn.edu email address by visiting upenn.zoom.us, going to **Settings > Meeting > Security** and turning on "Only authenticated users can join meetings."



> **Note:** If you choose this security setting, make sure to **enable Waiting Rooms** (**Settings > Meeting > Security**) so participants who may not have a upenn.edu address can be manually admitted to the meeting. Waiting room options can also be configured so only users not in your account will encounter them.
>
> 
>

Features

Attachments in chat: This setting is disabled in Penn Zoom.

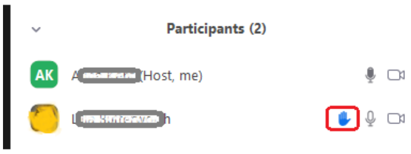
Creating Zoom polls: Once you have created a meeting in Canvas, click on the meeting title, scroll down to "Poll", and download the csv template. You can customize that template and upload it, right in that same section.

Poll Everywhere: Meeting participants can only see embedded Poll Everywhere slides in powerpoint (when in slide show mode) if the presenter shares their *entire screen*. See Penn's Canvas article on Poll Everywhere for more information.

Note: Penn's subscription to the Poll Everywhere software is currently only available to faculty as a tool; students who would like to set up polls should try an alternative solution such as Google Forms, which is available via students' Wharton Google account.

Screen share Zoom: Before a meeting in which you want to screen share your Zoom application, visit upenn.zoom.us and go to **Settings > In Meeting > Basic** and allow "Show Zoom windows during screen share."

Raise Hand: Students can use the Raise Hand feature to indicate they have a question. An easy way to monitor who has their hand raised is to keep an eye on the Participants list, where the hand will show up.



Closed Captioning: You can set your account to enable closed captioning for your meetings. Once this has been enabled, you and your attendees can turn on captioning on a per-meeting basis.

Zoom Reporting:

1. Log in to http://upenn.zoom.us.
2. In the left-hand column, under “Personal" (or "Admin," depending on the access) click on **Reports**.
3. There are Usage reports and User activity reports. If you're looking to see information about a particular meeting you'll want to click on **Meeting and webinar history**.
4. Locate the meeting you wish to download the attendance report for. Click on the number in the **Participants** column for that meeting (you may need to scroll in the table to see the column).
5. Check **Export with meeting data.**
6. If you check “**Show unique users**,” the report will combine multiple sessions for the same person. Note, the specific “join” and “leave” times will be replaced with the total number of minutes each person spent in the meeting.
7. Click on **Export**.

Recordings

See also Zoom Recordings

Zoom Recordings Autodeleted after 121 days

Penn Zoom stores cloud recordings of meetings for 120 days after their creation. Cloud Recordings are automatically deleted after 120 days (so their 121st day of existence). More information about Penn Zoom recordings can be found here.

Zoom Records for meetings scheduled via Canvas

Zoom meetings scheduled via Canvas and recorded are automatically uploaded to the Class Recordings tab

(Panopto) in Canvas. **Backup copies of Zoom recordings initiated through Canvas are removed from PennZoom once the recordings have been moved to Canvas. Course** instructors will still be able to access Zoom recordings in Canvas, provided that they were scheduled using Canvas for the whole class.

Class Recordings: Recordings of Zoom meetings scheduled through Canvas and set to record in the meeting will automatically be uploaded to the Class Recordings tab of the Canvas site they were scheduled in. The upload in Class Recordings will include captions/audio transcript (if enabled in the meeting), Screen-shared content, chat, and both the gallery and speaker views. Included are breakout rooms, reactions/hand-raising, and polls.

Breakout Room recordings: Breakout Rooms can only be recorded manually by someone in the breakout room, no matter how the Zoom meeting was scheduled (via Canvas or not).

> See Zoom's instructions for general information for creating Zoom recordings. More information on recordings at Wharton will be added to this document, so please check back.

Error Messages and Troubleshooting

Audio/Video Problems

For problems with audio or video quality, try these options

Screen Sharing

If "Optimize Screen Sharing for Video Clip" is greyed out, the Host must allow only one person to share a screen at a time, rather than multiple.

Black screen while Screen Sharing

If you're seeing a black screen when screen sharing enable "Use TCP connection for screen sharing" in the Advanced Screen sharing settings of your desktop client.

Authentication and Account Errors

Contact our support team for further help.

No Meetings Listed in Canvas

If you're logged into Canvas and click on the Zoom tab but don't see any meetings listed there are two potential reasons:

- Your professor didn't schedule any Zoom meetings as of yet.
- You're accessing Canvas via a link other than https://canvas.upenn.edu.

To solve this first log into Canvas via https://canvas.upenn.edu. If the Zoom tab still doesn't have any meetings in it, check with your professor.

Zoom Webinars

Livestream to YouTube: This is enabled by default for all Penn Zoom users.

Record and post online: Once you record the session, it gets stored on your Penn Zoom account. It can be downloaded then uploaded to YouTube or other sites.

Upgrade to 500 through 3000-person webinars: We would have to purchase a net new add-on license. Rates can be found on ISC's website https://www.isc.upenn.edu/pennzoom-rates.

More Resources

You can find a user guide that contains information for how to use this service at https://support.zoom.us/hc/en-us or contact a Wharton Computing IT Representative

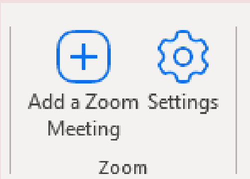
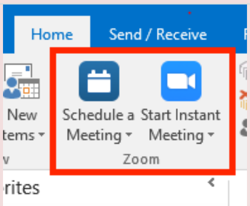
Installing the Outlook Add-in for Zoom

Last Modified on 02/02/2026 1:31 pm EST

We are aware that Zoom is rolling out changes to its interface that may affect some of our directions. We are working on updating these pages, but in the meantime you can visit Zoom's Release Announcement. Please reach out to Wharton Computing if you have any questions.

The Zoom Outlook Add-in makes it easy to create Zoom meetings without having to leave Outlook.

There is also an Outlook Zoom **plug-in**, which is an application and which we do NOT recommend installing. The Add-In is a native integration in Microsoft Office AppSource.

Zoom Add In	Zoom Plug In - NOT Recommended
	

In order to use the Zoom Outlook Add-in, you need:

- A Penn Zoom account.
- Microsoft 365 Outlook configured with your PennO365 account

Adding the Zoom Add-In

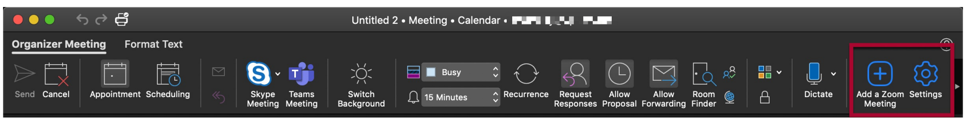
1. Launch Outlook and click **All Apps** (in the Outlook ribbon) and then **Add Apps**. If you are using new Outlook, click on **More Apps** (if the option is greyed out, click on an email message to enable it).

2. The Office Add-ins browser will appear. Search for **Zoom** using the search field in the upper left corner.

3. Click **Zoom for Outlook Add-in** and then click **Add** to install.

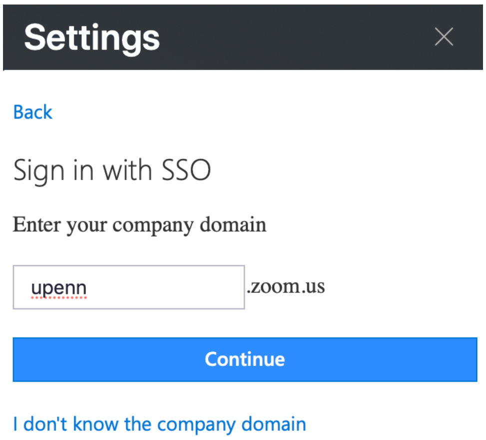
4. Now when you create a new Meeting or Appointment on your Outlook calendar you'll see two Zoom add-in icons added to the top menu bar: "Add a Zoom Meeting" and "Settings."

5.



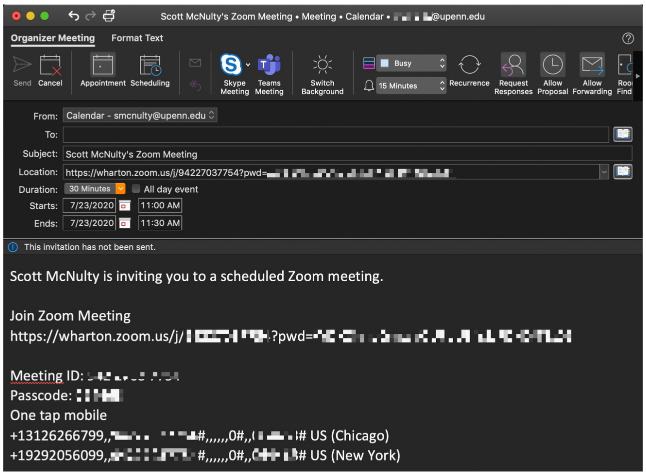
6. The first time you click **Add a Zoom Meeting** you'll need to log into your Penn Zoom account. Click **SSO** towards the bottom of the login screen that appears.

7. For **domain,** enter: **upenn** . Click **Continue**.



8. Enter your PennKey credentials and click **Log in**.

9. After you sign in, the Zoom add-in will create a Zoom meeting for that appointment and add the details:



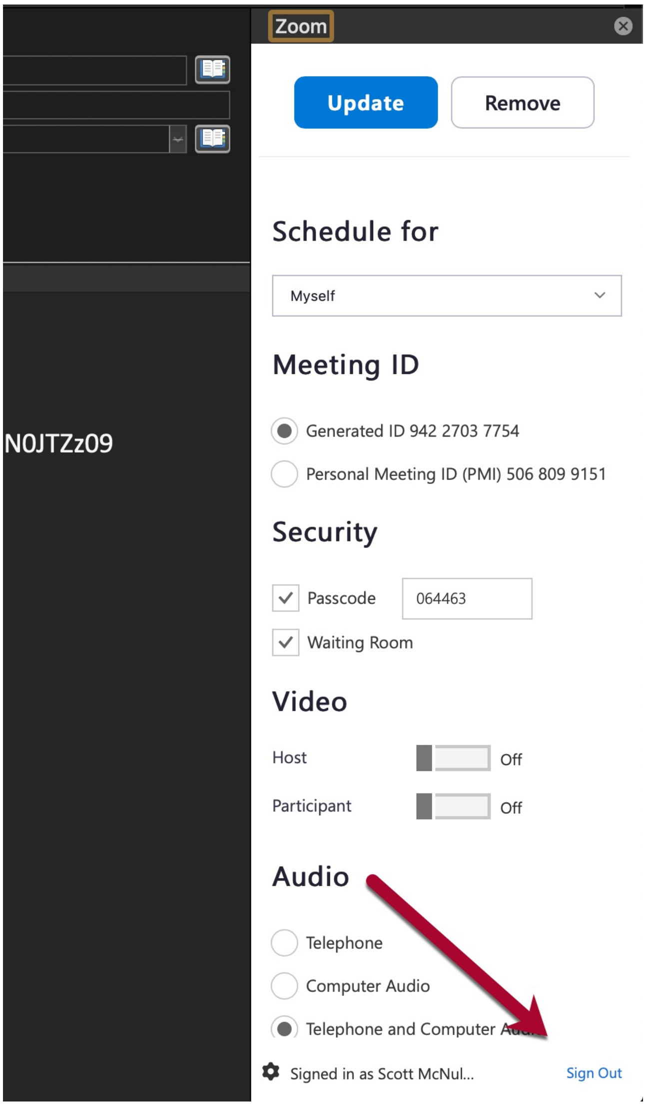
Signing Out of the Zoom Add-in

To sign out of the Zoom Outlook Add-in for any reason:

1. Launch Outlook, switch to your calendar, and **create a new Meeting or Appointment**.

2. In the Meeting or Appointment menu bar click the **Zoom Settings** icon (it is an icon of a blue gear).

3. The Zoom settings panel appears. Click **Sign Out** in the lower right corner.



4. To sign in again, follow the instructions above in Adding the Zoom Add-in.

Questions

For questions, contact Wharton Computing Client Services.

Sharing Your iPad or iPhone Screen with Zoom

Last Modified on 12/15/2025 5:07 pm EST

We are aware that Zoom is rolling out changes to its interface that may affect some of our directions. We are working on updating these pages, but in the meantime you can visit Zoom's Release Announcement. Please reach out to Wharton Computing if you have any questions.

Zoom on a Mac or PC allows you to share the screen of an iPad, or iPhone, with your meeting. This enables you to use your iPad as a whiteboard that your fellow meeting attendees can see, or you can show a PowerPoint presentation from your iPad and use the touchscreen to annotate as you present.

The way you set up your sharing will depend on whether you are using a home network or whether you are on campus, using Penn's wifi network AirPennNet. Choose the directions below that apply to your use case.

Sharing iDevices on AirPennNet (Campus Wifi)

Because of security features in place, the AirPennNet wifi network will not allow Zoom on a Mac or PC to share the screen of an iPad or iPhone. Instead, those on campus can:

- Open Zoom on an iPad or iPhone and then share directly from that device.
- Use the "Wired" option detailed below; this is available for Macs only.

Sharing iDevices using a Mac on a Home Network

With Zoom for the Mac, you have two options for sharing your iPad/iPhone screen: wirelessly or via a wire.

Wirelessly

Wired

Sharing iDevices using a PC on a Home Network

Apps

Sharing your iPad/iPhone screen allows you to use your favorite apps to teach. A couple of popular apps for whiteboarding and annotating include:

- Notability - A full-featured app that allows you to treat your iPad like a whiteboard.
- Microsoft PowerPoint - PowerPoint on the iPad supports a few options for annotating your presentation.

Wharton Virtual Backgrounds

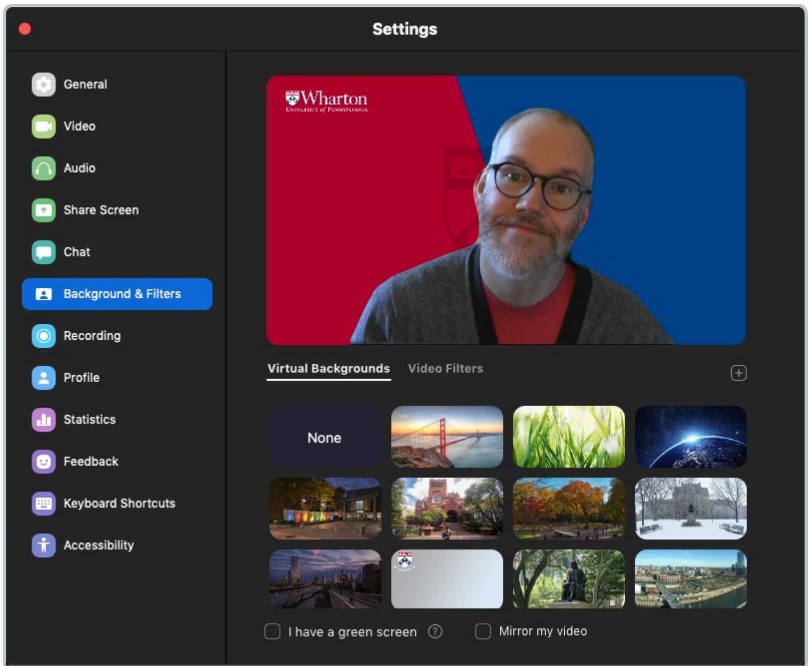
Last Modified on 09/08/2025 5:13 pm EDT

Your computer must meet the system requirements in order to use Virtual Backgrounds.

Zoom supports "virtual backgrounds" – pictures or movies that can be set as your background to obscure whatever is behind you on camera.

After setting up your PennZoom account, you'll find several Penn-related backgrounds you can choose from.

This feature works best with a solid background (or a green screen) and even lighting. If Zoom cannot distinguish between you and the background, you will not achieve the desired effect.



Zoom's Background and Filters

Using Virtual Backgrounds

The Virtual backgrounds Zoom documentation goes into detail on how to set/change a virtual background on each Zoom client (desktop and mobile).

Note: When changing your virtual background during a meeting, the change takes place immediately and is visible to all meeting attendees (unless you've muted your video).

Using Zoom Webinars

Last Modified on 06/14/2023 11:59 am EDT

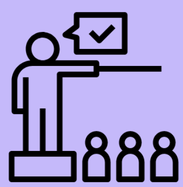
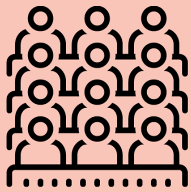
In this article we'll provide best practices and resources for each Zoom Webinar role.

Before You Start

You will need the following before you can complete this task:

- An invite to a Zoom Webinar
- Students will need to contact their Program Office to moderate or host a webinar.
    - **Undergraduate Students:** Contact the Student Life office to get started.
    - **MBA Students:** If the event is part of a WGA initiative, contact the WGA for a budget code and then write to student support. If it is not connected with WGA, contact the MBA program office to get started.

Aside from the meeting organizer, there are four roles used in Zoom Webinars. Each has their own set of privileges and a different experience for its users.

		
Hosts + Co-hosts	**Panelists**	**Attendees**
Hosts ensure the event goes smoothly by making sure everything is working ahead of time and managing the flow of the event.	The panelists are the people the audience is there to see. They are speaking, sharing content, and answering questions.	Attendees are view-only audience members of a Zoom Webinar.

For more details on the unique abilities of each type of Webinar role, see this Zoom support article.

Hosts + Co-hosts

Best Practices

Being a host is a big responsibility. You're in charge of running the event from behind the curtain. Here are some things you can do to ensure the event runs as smoothly as possible:

Tech Checklist

When each panelist enters the greenroom you'll be responsible for helping them test their technology. If you have more than one speaker, things could get a little messy and time is precious. This tech check should be performed during the dry run **and** before the live event. Click **Read More** to learn how best to manage the process and check each presenter's technology in a timely manner.

Managing a Webinar

- Learn how to get started with Webinar.
- Learn how to enable and add a co-host.
- Learn how to invite panelists to a Webinar.
- Learn how to manage participants in a Webinar.

Panelist

Best Practices

You've been invited to present at a virtual event, which can be a little unnerving. We've put together a list of best practices to ensure your presentation runs as smoothly as possible.

Attendee

Learn how to join and participate in a webinar as an attendee.

Additional Assistance

Review our Getting Started with Virtual Events article to get started using the platform.

Visit the Zoom Help Center for more articles and videos on Webinars.

Contact your Wharton Computing Representative to request access to Zoom Webinars.

Request a consultation, training or ask additional questions by emailing class-tech@wharton.upenn.edu.

Zoom AI Companion

Last Modified on 12/15/2025 5:09 pm EST

We are aware that Zoom is rolling out changes to its interface that may affect some of our directions. We are working on updating these pages, but in the meantime you can visit Zoom's Release Announcement. Please reach out to Wharton Computing if you have any questions.

Zoom AI Companion is a suite of Zoom features powered by Generative AI designed to make your Zoom meetings more productive.

All Zoom AI Companion features are **off by default**. This article describes each feature and details how to enable them for individual meetings or for all of your future meetings.

Note: Access to Zoom AI Companion in PennZoom is currently in pilot. Zoom AI Companion may be disabled, pending University negotiations with Zoom. Please see the University's Zoom AI Companion Guidance for details on the acceptable use of this tool at Penn.

Zoom AI Companion is not approved for:

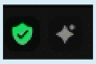
- Meetings where HIPAA data/Protected Health Information, Social Security Numbers, or credit card data will be part of the meeting due to existing restrictions on recording and storage of such high-risk data within Zoom.
- Meetings involving non-student minors.

Generally, University data that is classified as "high" (including PII, PCI, and HIPAA) is not permissible in Zoom AI.

Zoom AI Companion **does not** use any of your meeting data (attendees, transcripts, shared items) to train any AI models. More details can be found in Zoom's article "How Zoom AI Companion features handle your data".

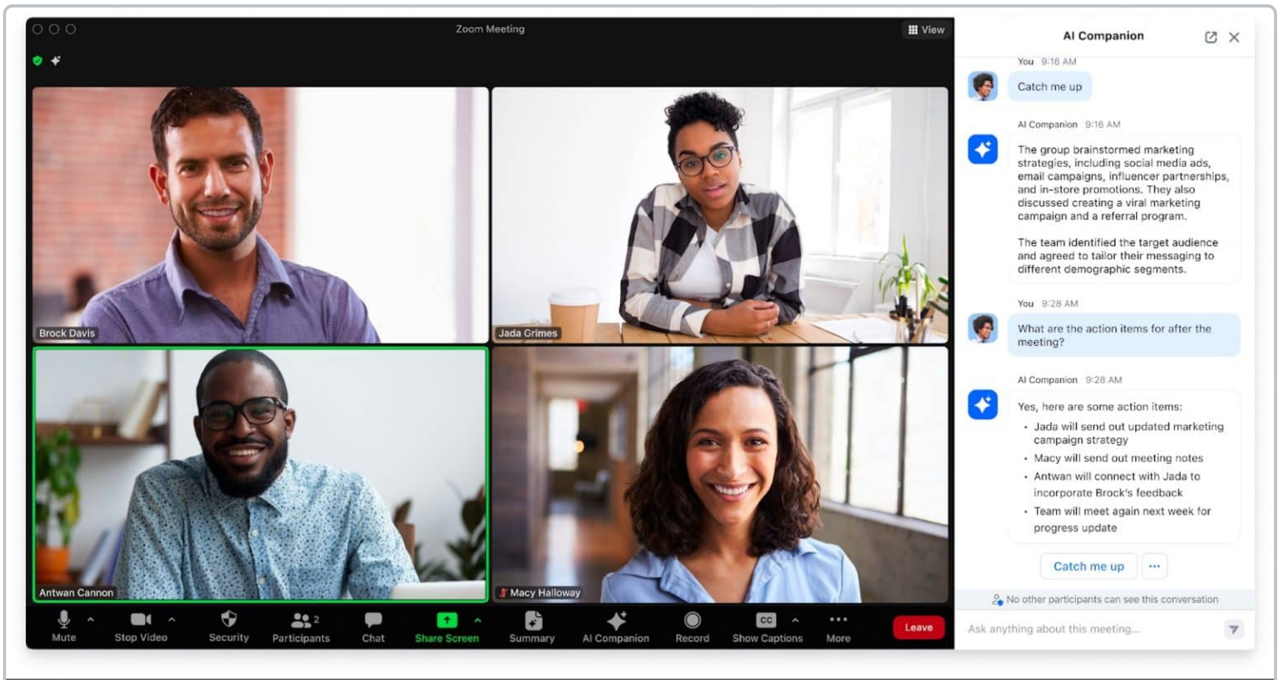
Zoom AI Companion is sprinkled throughout the Zoom experience, but there are four main meeting features to be aware of:

- Meeting AI Companion - Allows you to ask questions about what happened in the meeting using a chat interface.
- Meeting Summaries - Summaries are generated post-meeting and sent to the host, who can then share them widely.
- Smart Recordings - Automatically adds highlights, summaries, smart chapters, and more to cloud recordings.
- Whiteboard Content Generation - Generates content such as stickies, tables, or mind maps in whiteboards.



All of the Zoom AI Companion meeting features listed above can only be started in a meeting by that meeting's hosts or co-hosts. When attending a meeting with any of these features enabled, participants will be notified. Participants can either confirm that they are ok with being in a meeting with Zoom AI Companion features running or they have the option of leaving the meeting. This pulsing start icon appears in the upper lefthand corner of your Zoom meeting when AI Companion is active.

Meeting Questions with AI Companion



Screenshot via Zoom

Meeting AI Companion allows meeting participants to ask questions about an in-progress meeting that they are attending via a chat interface. Meeting AI Companion can tell you things like:

- Was my name mentioned in the meeting?
- Has anyone left the meeting?
- What are some of the major topics that have been discussed thus far

Meeting AI Companion Set-up

Meeting AI Companion isn't on by default in any meetings; it must be purposefully started by a meeting host or co-host (participants cannot start or stop Meeting AI Companion). Meeting AI is off by default on your PennZoom account, but it is easy to enable.

Meeting AI Companion can only answer questions about portions of the meeting after it has been started.

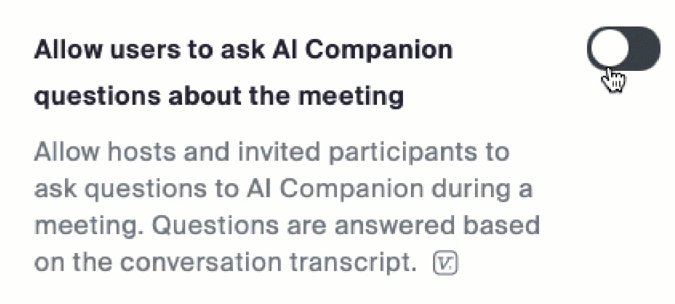
When starting Meeting AI Companion, the host decides who can ask Meeting AI Companion questions:

- **All participants** - Anyone in the meeting can ask about any portion of the meeting since AI Companion has been active.
- **All participants only from when they join** - Anyone in the meeting can ask questions, but the answer will be based only on the portion of the meeting they have been in.
- **Only hosts** - Only hosts and co-hosts can ask questions, but attendees will be notified that Meeting AI

Companion has been turned on.

Enabling Meeting questions AI Companion

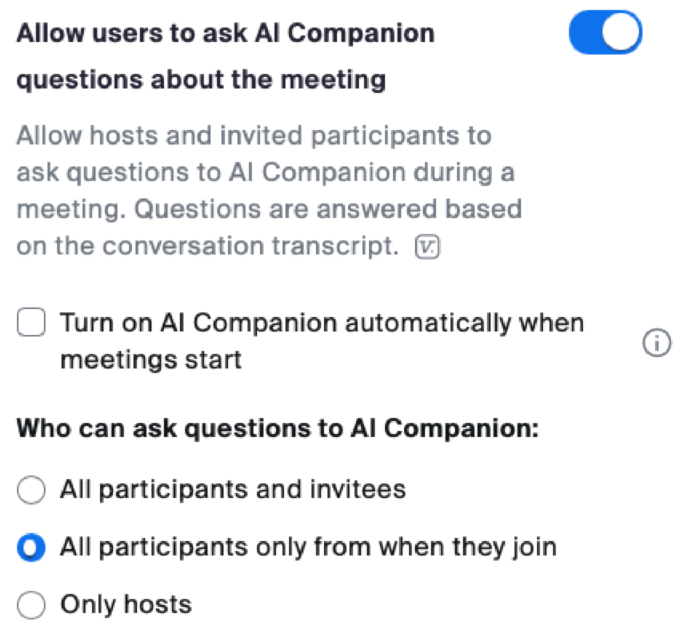
Following these directions will make the AI Companion available in all your future meetings, though it will still need to be turned on in each meeting.

1. Log into http://upenn.zoom.us with your PennKey username and password.
2. Click on **Settings** in the lefthand sidebar.
3. Click on the **AI Companion** tab.
4. 

   In the **Meeting** section, click the **toggle next to Allow users to ask AI Companion questions**about the meeting. Blue means it is enabled for any meetings going forward; gray means it is disabled.

The next section details how to change the default AI Companion question settings.

Changing Meeting questions defaults



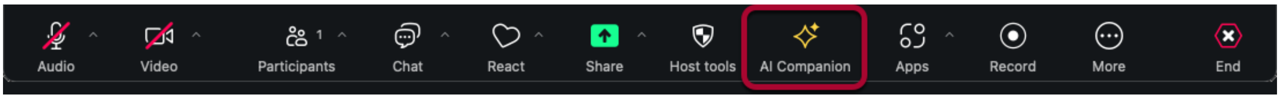
When enabled, Zoom AI Companion meeting questions must be started manually by a host or co-host in each meeting. You can change your meeting defaults to have it start automatically (amongst other things):

1. Log into http://upenn.zoom.us with your PennKey username and password.
2. Click on **Settings** in the lefthand sidebar.

3. Click on the **AI Companion** tab.
4. Scroll down to the **AI Companion Questions** section.
    1. Check **Turn on AI Companion automatically when meetings start** and all future meetings will have AI Companion on right from the start of the meeting. Participants will be notified as they join that this feature is on.
    2. **Who can ask questions to AI Companion:** defaults to “All participants only from when they join.” Click another option to apply it to all your scheduled meetings.

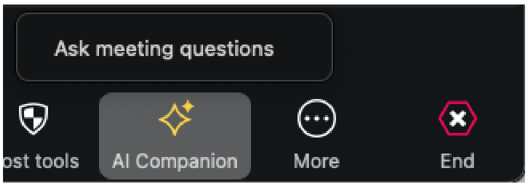
Starting AI Companion Questions in a meeting

With AI Companion questions enabled on your PennZoom account, you will see a new AI Companion icon at the bottom of your Zoom meeting:

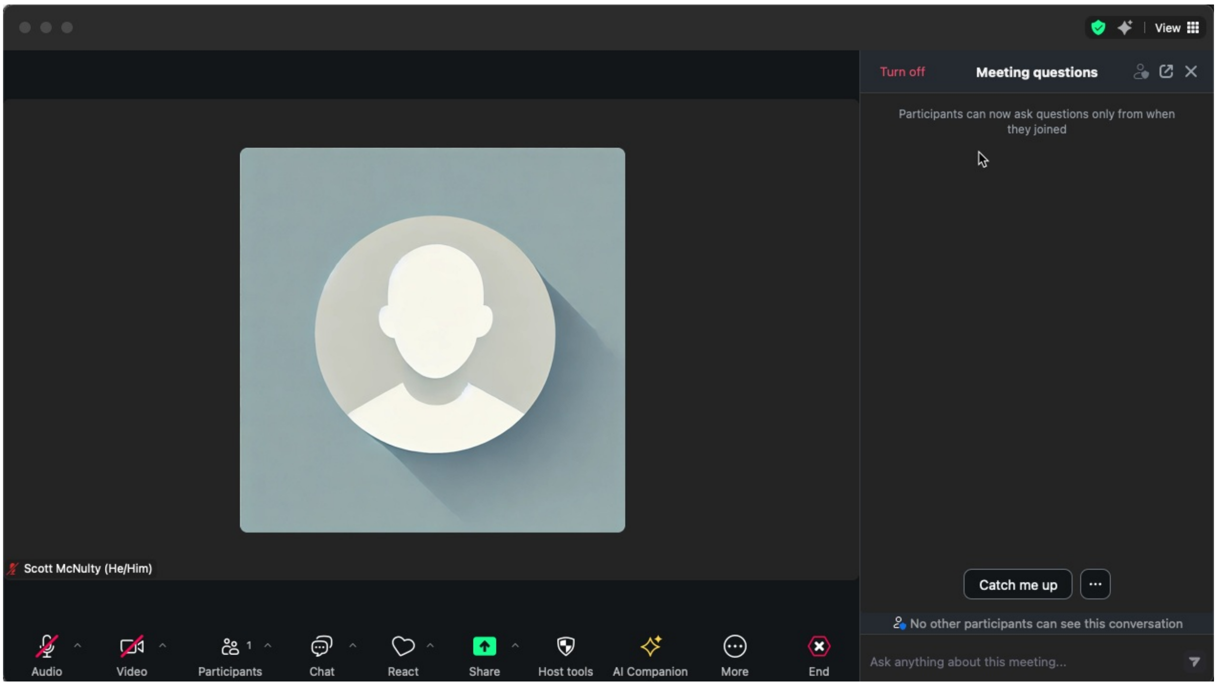


To start the AI Companion questions in your meeting:

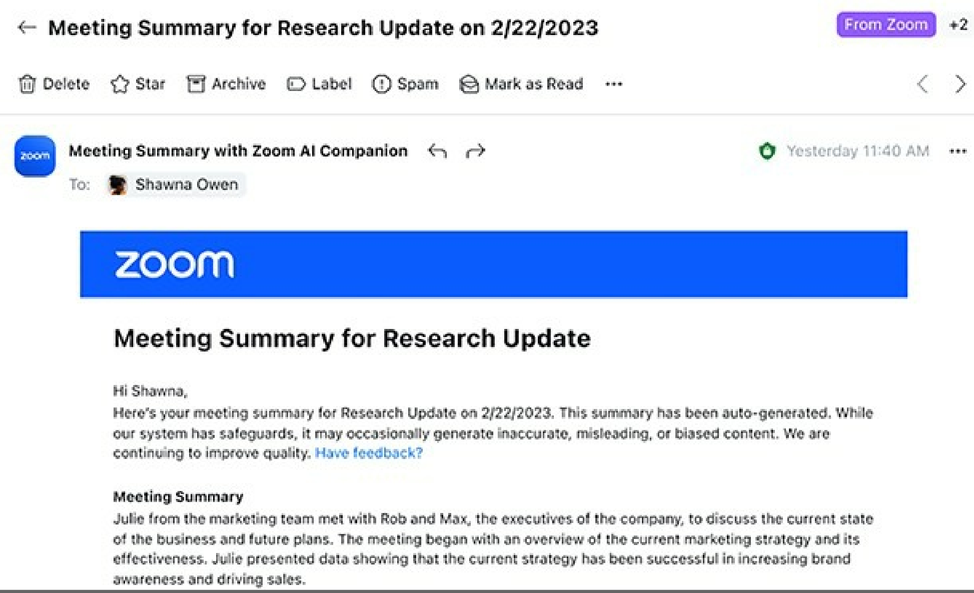
1. Click on the **AI Companion icon** at the bottom of the Zoom window.
2. Click on **Ask meeting questions**. If you have other AI Companion features enabled, you may see multiple choices in this menu.



3. The Questions pane appears and will be available to either all participants or only the hosts, depending on your settings.



Meeting Summaries



Screenshot via Zoom

Meeting Summaries, as the name implies, will create a written summary of a meeting generated by AI. Hosts or co-hosts of meetings can start a Summary at any point during a meeting by clicking **Start Summary**. Keep in mind that anything before “Start Summary” is clicked will not be included in the meeting summarization.

Meeting AI Summary Set-up

By default on PennZoom, Meeting Summaries are disabled. Participants in meetings where Meeting Summary is enabled can request the host start a summary but cannot do so themselves.

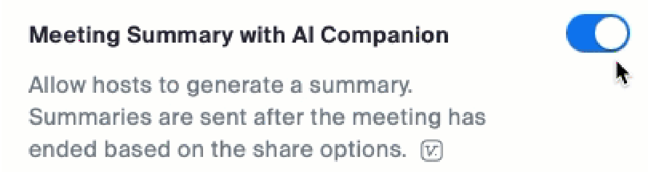
The meeting host can control to whom the meeting summary is automatically sent to after the meeting ends. The options are:

- **Only me (meeting host)** - The host of the meeting is the only person who will receive the summary, though they can then forward it to others.
- **Only myself (meeting host) and meeting invitees in our organization** - The meeting host and any other Penn participant in the call will receive the meeting summary email.
- **All meeting invitees, including those outside of our organization** - Everyone in the meeting (the host, Penn participants, and non-Penn participants) will get a copy of the meeting summary.

Meeting summaries are shared as emails. These emails can be forwarded and shared with anyone. You may want to remind your meeting attendees about this potential privacy issue.

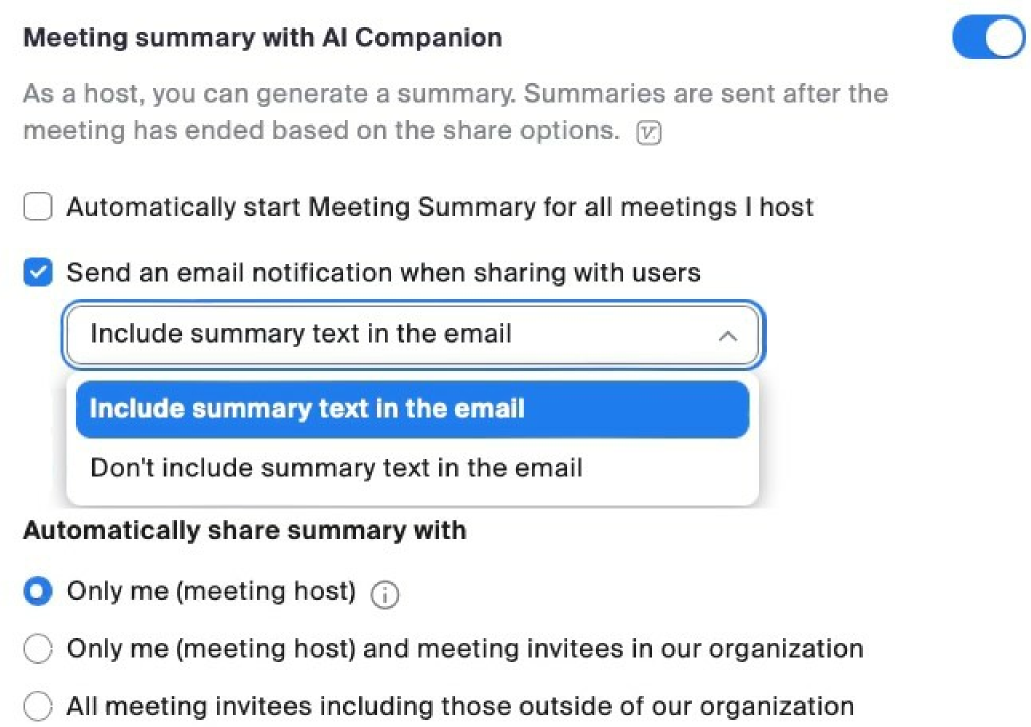
Enabling Meeting Summary with AI Companion

1. Log into http://upenn.zoom.us with your PennKey username and password.
2. Click on **Settings** in the lefthand sidebar.

3. Click on the **AI Companion** tab.
4. 

   In the **Meeting** section, click the **toggle next to Meeting Summary with AI Companion**. Blue means it is enabled for any meetings going forward; gray means it is disabled.

Changing Meeting Summary with AI Companion Settings



To change your Meeting Summary with AI Companion defaults for all of your scheduled Zoom meetings:

1. Log into http://upenn.zoom.us with your PennKey username and password.
2. Click on **Settings** in the lefthand sidebar.
3. Click on the **AI Companion** tab.
4. In the **Meeting** section, you'll find the Meeting Summary settings:
   1. If you'd like summaries for every one of your meetings, check **Automatically start Meeting Summary for all meetings I host**.
      - Participants will be notified as they join that the meeting will be summarized using AI.
   2. Checking **Send an email notification when sharing with users** tells Zoom to generate an email whenever you share your summaries, and you can configure it to include the text of the summary in the body of the email or just a link via the dropdown.
   3. The **Automatically share summary with** setting determines who the summary is shared with after the

meeting is complete:

- **Only me (meeting host)**: This is the default.
- **Only me (Meeting host) and meeting invitees in our organization**: This option will send the summary to the meeting host and any Penn invitees.
- **All meeting invitees including those outside of our organization**: Anyone invited to the meeting will receive the summary.

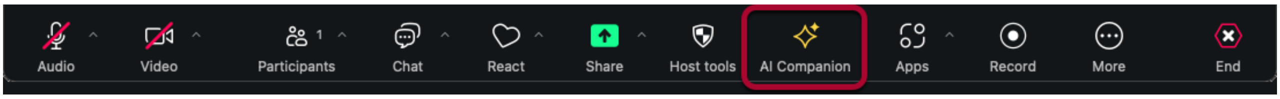
Summaries will only be automatically sent to invitees of the meeting. Ad-hoc participants, added during the meeting or joining via a link, are not included. However, summaries can be shared with them manually.

Using AI Companion Meeting Summary

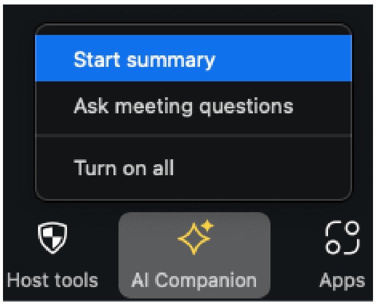
Once you've enabled AI Companion Meeting Summary on your Penn Zoom account, you'll want to use it in your Zoom meetings. This section details how to start a summary and how to access summaries.

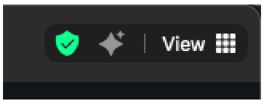
Starting Meeting summary AI Companion in a meeting

With Meeting summary with AI Companion enabled on your PennZoom account, you will see a new AI Companion icon at the bottom of your Zoom meeting:



To start AI Companion summaries in your meeting:

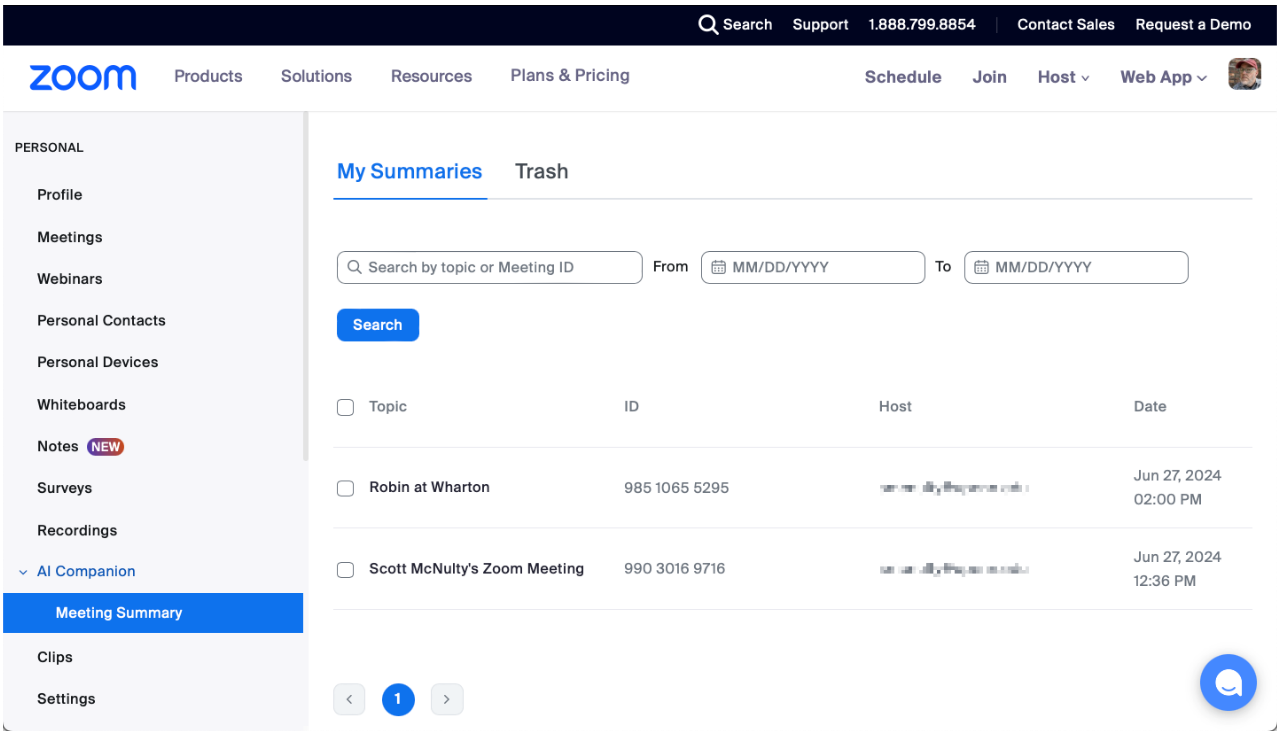
1. Click on the **AI Companion icon** at the bottom of the Zoom window.
2. Click on **Start summary**. If you have other AI Companion features enabled, you may see multiple choices in this menu.


3. A small AI Companion icon will appear in the top right of the Zoom window to indicate an AI Companion function is enabled in the meeting.


To stop the Meeting summary with AI Companion:

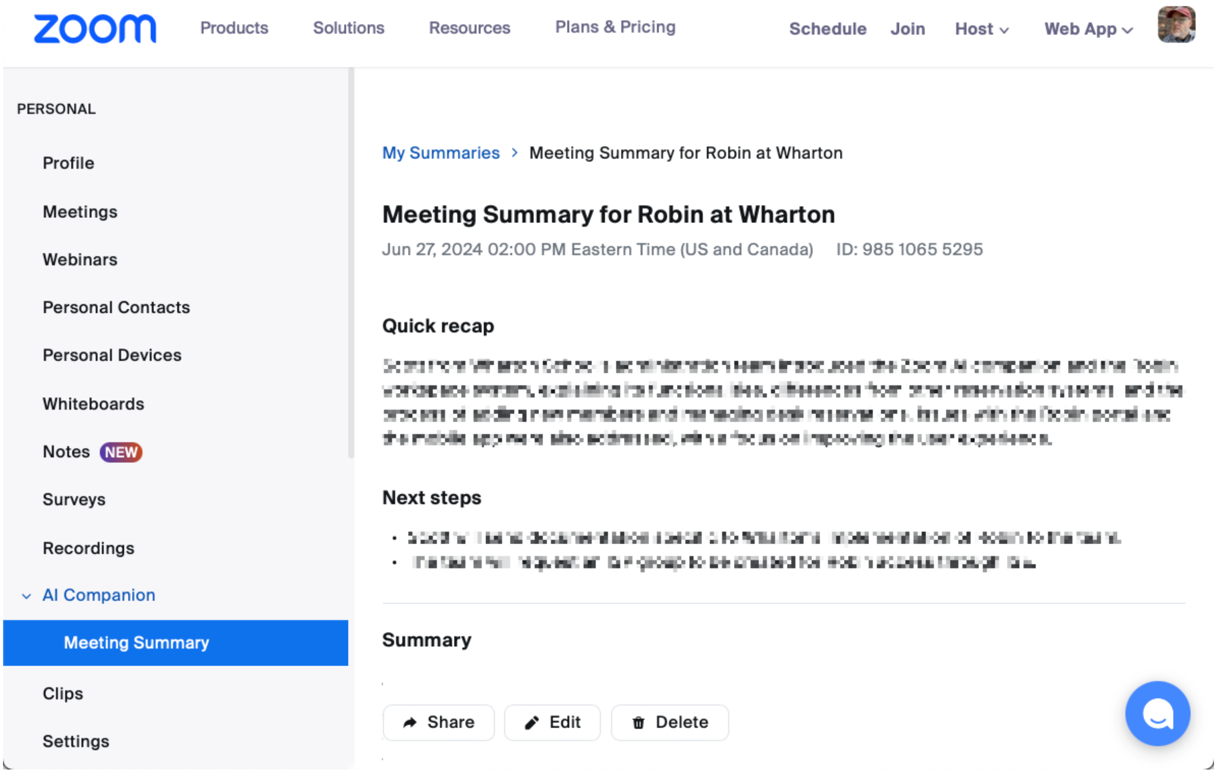
1. Click on the **AI Companion icon** at the bottom of the Zoom window.
2. Click on **Stop summary.**

Accessing AI Companion Meeting summaries



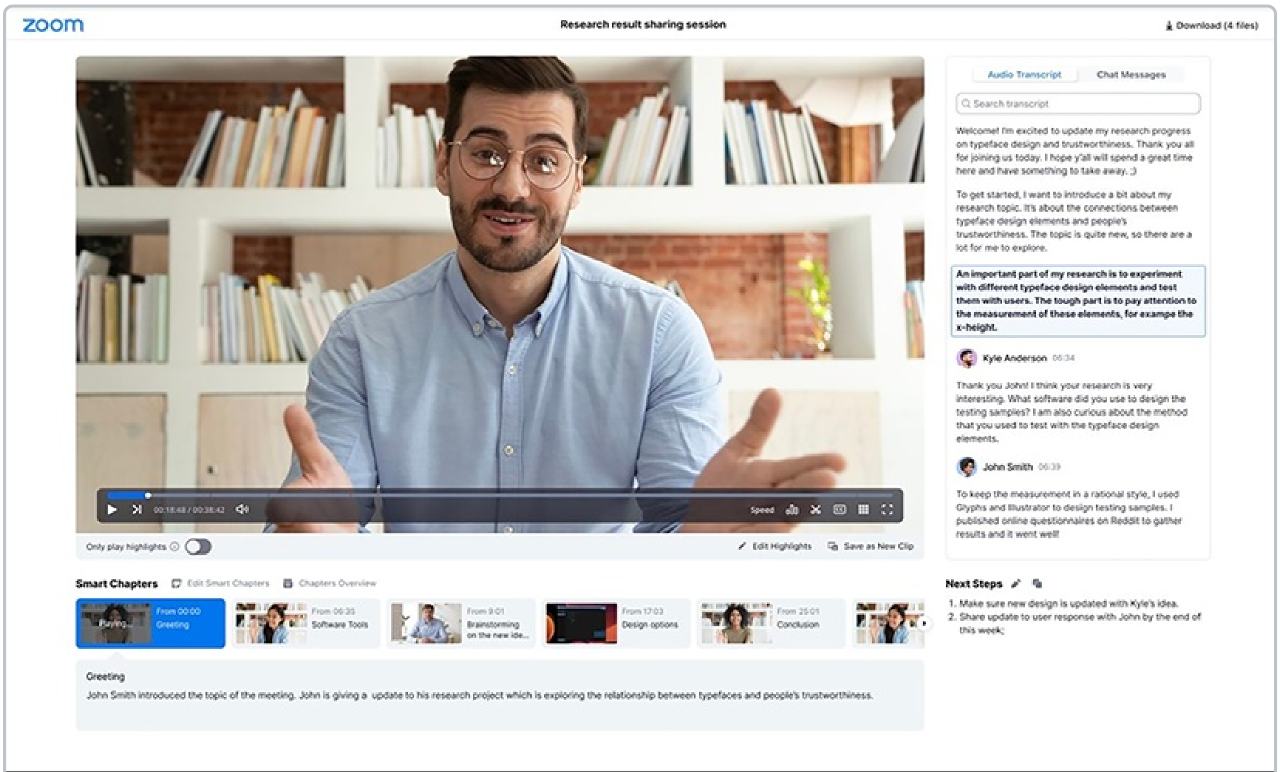
Once a meeting is over, Zoom AI Companion will email the host when the summary is complete. You can find all the meeting summaries you have access to by:

1. Log into http://upenn.zoom.us with your PennKey username and password.
2. Click **AI Companion** on the left-hand sidebar.
3. Click **Meeting Summary**.
4. All of your Meeting Summaries are listed, the most recent at the top.
5. Click on **the topic of the meeting** to see the summary. You can read the summary here and have access to the following functions via buttons at the bottom of the summary:



- **Share** - Click the share button to enter the email addresses of people you'd like to share the summary with.
- **Edit** - Click Edit to edit any section of the summary (Remember that these summaries are generated by AI and aren't infallible).
- **Delete** - Click delete to delete the summary altogether. This only deletes the summary from Zoom.

Smart Recordings



Screenshot via Zoom

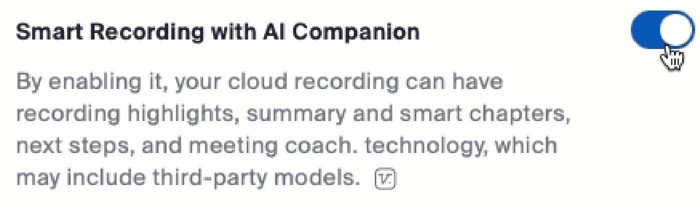
Smart Recordings takes your cloud-recorded Zoom meetings and adds a few things to them:

- **Recording highlights** - Zoom AI Companion highlights noteworthy sections of the meeting. When watching the recording you can choose to only see the highlights, or watch the whole thing. A new video with only the highlights can be created, and highlights can be manually edited.
- **Smart chapters** - Chapters, along with titles and a brief one-line summary, are inserted into the meeting so you can skip to just the right section. The meeting host can edit smart chapters, adding or subtracting them.
- **Next steps** - Based on the contents of the meeting, suggested next steps can be generated. They are displayed in a panel below the recording and can be edited by the host.
- **Meeting coach** - Creates metrics and analytics about your meeting performance, including talk-listen ratio, talking speed, filler words, longest spiel, and patience. Only the host of the meeting can see these results in the recording.

Enabling Smart Recording with AI Companion

By default Smart Recordings are off on PennZoom. To enable it on your account:

1. Log into http://upenn.zoom.us with your PennKey username and password.
2. Click on **Settings** in the lefthand sidebar.
3. Click on the **AI Companion** tab.
4. Scroll down to the **Recording** section.
5. Click the button next to **Smart Recording with AI Companion**. Blue means it is enabled for any meetings going forward; gray means it is disabled.



Changing the Defaults

By default, Smart Recordings are off on PennZoom. To change any of the defaults:

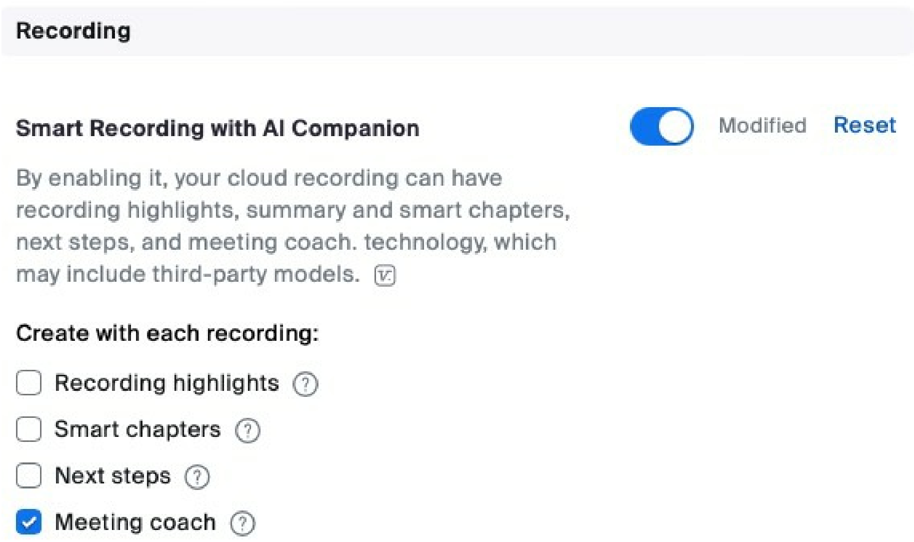
1. Log into http://upenn.zoom.us with your PennKey username and password.

2. Click on **Settings** in the lefthand sidebar.

3. Click on the **AI Companion tab**.

4. Scroll to the **Recording section**.

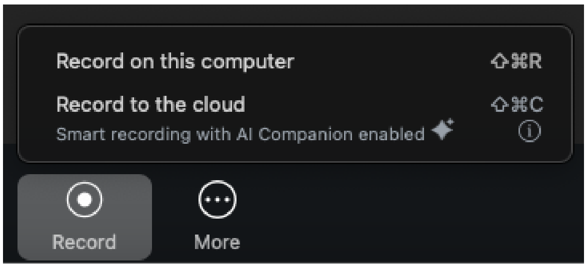
5. Click the button next to Smart Recording with AI Companion to toggle it on and off. Blue means it is enabled for any meetings going forward; gray means it is disabled. When enabled, you can specify which features you'd like to include with your smart recordings - checked features are enabled, and unchecked features are not.



Using Smart Recording

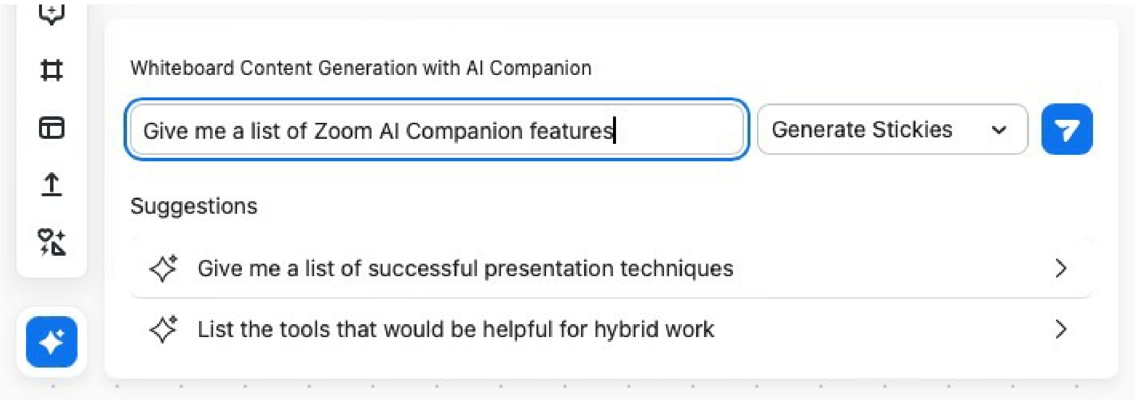
With Smart Recording enabled, all of your cloud recordings become "smart." This means you can record your meetings as you normally do, and gain all the benefits of this feature. To start a Smart Recording:

1. Ensure that Smart Recording is enabled on your Penn Zoom account (see the Enabling Smart Recording with AI Companion section for instructions).
2. Click the **Record** button in the lower toolbar of your Zoom meeting.



3. Click **Record to the cloud**. You'll see a note about Smart recording when it is enabled.
4. Participants will be notified that the meeting is being recorded, as usual.

Whiteboard Content Generation



Give Whiteboard Content Generation with AI Companion a prompt, and it will generate whiteboard objects for you, which you can then edit or expand on your own.

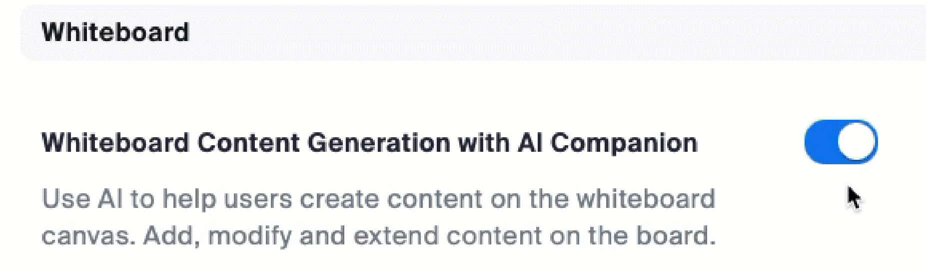
Whiteboard Content Generation with AI Companion can create:

- Stickies
- Tables
- Text
- Mindmaps
- Flowcharts

Enable Whiteboard Content Generation

By default, Whiteboard Content Generation with AI Companion is off in PennZoom. You can either enable or disable this feature; there are no other settings.

1. Log into http://upenn.zoom.us with your PennKey username and password.
2. Click on **Settings** in the lefthand sidebar.
3. Click on the **AI Companion tab**.
4. Scroll to the **Whiteboard section**.
5.



Toggle it off/on by clicking the button next to **Whiteboard Content Generation with AI Companion**. Blue means it is enabled for any meetings going forward; gray means it is disabled.

Questions?

Contact your Wharton Computing Representative with any questions about Zoom AI Companion.

Video Conference Breakout Rooms

Last Modified on 12/15/2025 5:03 pm EST

We are aware that Zoom is rolling out changes to its interface that may affect some of our directions. We are working on updating these pages, but in the meantime you can visit Zoom's Release Announcement. Please reach out to Wharton Computing if you have any questions.

Zoom features breakout rooms that can be an excellent addition to the classroom. However, using them effectively takes a little planning and some extra know-how.

Overview

Zoom offers breakout rooms to split meeting participants in up to 50 separate rooms for group collaboration. For best results, all users need the latest Zoom app.

There are three methods for assigning participants to breakout rooms in Zoom:

- **Pre-assigned** - Each person is assigned a breakout room ahead of time. This method is**highly recommended**. Faculty should use the directions below; staff and students should use Zoom's instructions: https://support.zoom.us/hc/en-us/articles/360032752671
- **Random** - During a Zoom meeting the host can push a button and randomly distribute attendees (including co-hosts) into breakout rooms.
- **Manual** - You can create breakout rooms during the meeting and manually assign students to rooms. This is difficult to do quickly, especially in meetings with larger numbers of participants.

Configuring/Managing Breakout Rooms

Both hosts and co-hosts can create and manage breakout rooms during the meeting. Co-hosts can move between breakout rooms once they have been assigned to a breakout room by the host.

For complete information on the different roles in a meeting, see Zoom's article Roles in a Meeting.

Creating Pre-Assigned Breakout Rooms in Canvas

The following directions are for **faculty using Canvas**. Staff and students should use Zoom's instructions to create breakout rooms: https://support.zoom.us/hc/en-us/articles/360032752671

Pre-assigning breakout rooms can make sending students to the correct rooms during a meeting quick and seamless. However, setting these up needs to be done with care, since **only Zoom meeting hosts and co-hosts can manage breakout rooms** and **students <u>must</u> join the meeting with their Penn Zoom accounts for pre-assigned breakout rooms to work**.

Creating Breakout Rooms Randomly or Manually

There may be times when you wish to create breakout rooms randomly or manually. It's a good idea to practice these options ahead of time so that you're comfortable with the process, since you'll be doing it in real time during the class/meeting. **Only Zoom meeting hosts and co-hosts can manage breakout rooms**.

Participant Options in Breakout Rooms

Hosts, once they are in the meeting, have a number of options they can set for participants.

For more information, learn how to enable, manage, and participate in Zoom Breakout Rooms.

Recording Breakout Sessions

Each breakout session will be recorded if the original video conference had auto-record enabled (as is our recommendation) **AND** that recording process was not stopped and restarted manually.

Only a meeting moderator –denoted by a star in the participants list – can manually start a recording in an individual breakout session. Keep in mind the moderator can only start a recording in a breakout session they are currently in.

Questions?

Please contact your Wharton Computing representative.

Getting Started with BlueJeans Events

Last Modified on 10/14/2020 11:53 am EDT

This article is a redirect url for "Planning for Virtual Events" article that has a new url.

File Sharing and Collaboration

Last Modified on 01/14/2026 10:12 am EST

Wharton offers many options for file sharing for personal, work, and study purposes. Each option has pros and cons; please review the recommendations below for more information.

Depending on your role at Wharton, you may have different options. Please choose your primary role, listed below, and review those choices.

File Sharing | Collaboration Options at Wharton

Depending on your role at Wharton, you may have different options. Please choose your primary role, listed below, and review those choices.

Students

Students have a number of collaboration options available. These have been chosen because they represent the most widely available options to all University students.

	Personal	Classwork/Clubs	Club Accounts	Reasons to Choose
Google Workspace	✓	✓	✗	All students have a Wharton Google Workspace account.
PennBox	✓	✓	✗	Collaborate securely with anyone at the University.
PennO365 Online | OneDrive	✓	✗	✗	All Penn students, faculty, and staff are eligible for PennO365 storage.

	Personal	Classwork/Clubs	Club Accounts	Reasons to Choose
Penn's Secure FileShare	✅	✅	❌	Share sensitive data (e.g. password) within the University

✅ Recommended
❌ Not recommended / Not Available

While you cannot use these options for a dedicated club account, you can use your personal Wharton account to share or collaborate with other club members. Remember to transfer ownership of any shared club folders when you leave Wharton.

Security Considerations for Shared Data: Please consult Wharton's Data Classification and Management Standard to confirm whether your data is safe to share with users external to Wharton or Penn. High-risk data may not be shared using these services.

Faculty

Faculty have a number of options that are automatically available to all Wharton Faculty. Some options may be preferable if you are planning to share with colleagues at Penn or around the world.

	Personal	Collaboration with Wharton Colleagues	Collaboration with Penn Colleagues	Reasons to Choose
Google Workspace	✅	❌	❌	We don't recommend sharing personal Google files with students' Google accounts. Pick another option.
PennBox	✅	✅	✅	Collaborate securely with anyone at the University.

	Personal	Collaboration with Wharton Colleagues	Collaboration with Penn Colleagues	Reasons to Choose
PennO365 Online | OneDrive	✅	❌	❌	All Penn students, faculty, and staff are eligible for PennO365 storage.
Penn's Secure FileShare	✅	✅	✅	Share sensitive data (e.g. password) within the University
Wharton Dropbox	✅	✅	❌	Collaborate with other faculty/staff at Wharton. Wharton Dropbox is not available at all schools across the University.
Teams	✅	✅	✅	Collaborate with other faculty/staff at the University. Also collaborate outside of Penn.*

✅ Recommended
❌ Not recommended / Not Available

Security Considerations for Shared Data: Please consult Wharton's Data Classification and Management Standard to confirm whether your data is safe to share with users external to Wharton or Penn. High-risk data may not be shared using these services.

*If you have data sharing needs with external parties, contact your Wharton computing representatives to ensure we have the right process appropriate to the data you are working with.

Staff

Staff have a number of options available

	Personal	Collaboration with Colleagues	Reasons to Choose
Google Workspace	✅	❌	We don't recommend sharing personal Google files with students' Google accounts. Pick another option.
PennBox	✅	✅	Collaborate securely with anyone at the University.
Office Online | OneDrive	✅	❌	All Penn students, faculty, and staff are eligible for PennO365 storage.
Penn's Secure FileShare	✅	✅	Share sensitive data (e.g. password) within the University
Wharton Dropbox	✅	✅	Collaborate with other faculty/staff at Wharton. Wharton Dropbox is not available at all schools across the University.
Teams	✅	✅	Collaborate with other faculty/staff at the University. Also collaborate outside of Penn.*

✅ Recommended
❌ Not recommended / Not Available

Security Considerations for Shared Data: Please consult Wharton's Data Classification and Management Standard to confirm whether your data is safe to share with users external to Wharton or Penn. High-risk data may not be shared using these services.

*If you have data sharing needs with external parties, contact your Wharton computing representatives to ensure we have the right process appropriate to the data you are working with.

Questions?

For advice or troubleshooting, contact Wharton Computing Client Support Services

For more help articles about using Dropbox for Business, visit the Dropbox Help Center.

Remote Instruction Quick Start

Last Modified on 01/30/2026 5:06 pm EST

Before You Start

All remote instruction requires that both faculty and students are using their Penn Zoom accounts. Instructions on how to register/check if you're logged into Penn Zoom are available.

Canvas and Penn Zoom are both behind PennKey Two Step authentication. Configure your two step settings, if you haven't already.

Remote instruction relies on two main tools:

- Penn Zoom - Penn's preferred video conferencing application.
- Canvas - Penn's learning management system.

Students **Faculty**

- Verify your Penn Zoom account by logging into Penn Zoom.
- Await notification from your professors about how they will be teaching.

Preparation varies depending on how you choose to teach your class, but it is essential that you communicate your plans to student through an announcement in Canvas:

Synchronously: Hold your class on Zoom during the regularly scheduled time.

- Verify your Penn Zoom account by logging into Penn Zoom.
- Schedule your Zoom meeting via the Canvas course site

Asynchronously: Leverage pre-recorded lectures accessed through Canvas.

- Review the instructions in the Asynchronous Teaching Using Canvas and Panopto article.

Resources

- Remote Teaching: This guide has some tactics for teaching a remote class.
- Remote Teaching Checklist: Some things to consider before, during, and after teaching a remote class.
- Working and Learning Remotely - Students: Information for attending classes remotely.
- Asynchronous Teaching Using Canvas and Panopto: Guidance for creating and sharing asynchronous course videos.
- Video Conferences for Instruction: Information for holding your class via Zoom.

Questions?

If you need support, please reach out to Client Support Services:

- Email: support@wharton.upenn.edu
- Phone: 215-898-8600
- Zoom: https://upenn.zoom.us/j/97933532076

Wireless Network Overview

Last Modified on 08/06/2025 9:54 am EDT

Laptops with the new Snapdragon CPU are unable to install the security configuration needed to access AirPennNet. As a workaround, you can follow the instructions for Wharton-managed devices to set up AirPennNet, but please be aware that using this method on a non-Wharton-managed device will result in your connection being less secure and is not recommended.

Before You Start

You'll need:

- an active PennKey
- administrative access to your device (faculty/staff/anyone using a corporate computer)
- to be in a location with access to AirPennNet

Penn's wireless network (AirPennNet) gives you high speed access to the Internet from your own laptop, notebook computer, or wireless handheld device while on campus.

In a hurry and want to configure your Penn Wifi without reading on? See the University's directions at: https://www.isc.upenn.edu/how-to/connecting-airpennnet-and-joinnow

AirPennNet Vs. AirPennNet Guest: Which One Should You Use?

Using AirPennNet-Guest

Use AirPennNet-Guest for:

- Connecting to Penn's wireless network for the first time on a device,
- Guests who wish to use the wireless network services.

Students, faculty and staff who want to connect to the wireless network **should NOT use** AirPennNet-Guest. This option is designed for guests at the University and for initial connections, and has limited bandwidth.

When connecting to wireless at Penn you'll notice you have four different options in most areas. But which one should you use? The four options, and when they should be used, are as follows:

- **AirPennNet**: Students, faculty, and staff should connect to AirPennNet when possible. More secure and robust, it is PennKey authenticated. Installation and configuration instructions are listed below.
- **AirPennNet-Guest**: As the name suggests, this option is for guests at the University. The AirPennNet-Guest service is NOT recommended for students who want to connect to the wireless network. Users must register themselves on this network every day; however, it does not require any configuration because it is an open network with limited bandwidth and no encryption. Most areas on campus have a limited number of IP addresses for AirPennNet-Guest and you may be unable to connect during peak capacity. For more information please see: The AirPennNet-Guest network at Penn
- **AirPennNet-Device:** AirPennNet-Device is specifically designed for devices that cannot connect to the

normal AirPennNet Network. This can include devices such as gaming consoles, tablets, and more. You'll need to follow these directions to register the device's IP address to gain access.
- **Eduroam**: eduroam allows students, faculty and staff to use their home institution's credentials (for Penn affiliates, their PennKey) to easily access the wireless network when visiting other participating institutions. eduroam can be found in all locations where AirPennNet service is available, but must be set up at your home institution.

Accessing the AirPennNet Wireless Network

To access the AirPennNet wifi network on campus, you'll need to authenticate yourself using your PennKey and password. (To reset your password or get more information on PennKey, see our article on PennKey Accounts.)

For detailed directions, see the University's directions at: https://www.isc.upenn.edu/how-to/connecting-airpennnet-and-joinnow

Reconnect to AirPennNet

Occasionally you may need to reconnect your University-owned and managed Windows computer to AirPennNet.

Wharton-Managed Windows Devices

All Other Devices

For any device other than a University-owned and managed Windows computer follow the appropriate steps listed in the **Accessing the AirPennNet Wireless Network** section of this article.

Supported Devices

Devices that can connect to AirPennNet include:

- Windows (7, 8/8.1, 10)
- Mac OS X (10.11.3 or higher)
- iPhone, iPod, and iPad (10.3 or higher)
- Android (4.0 and higher)
- Kindle Fire
- Ubuntu (9.04 and newer)

AirPennNet-Device

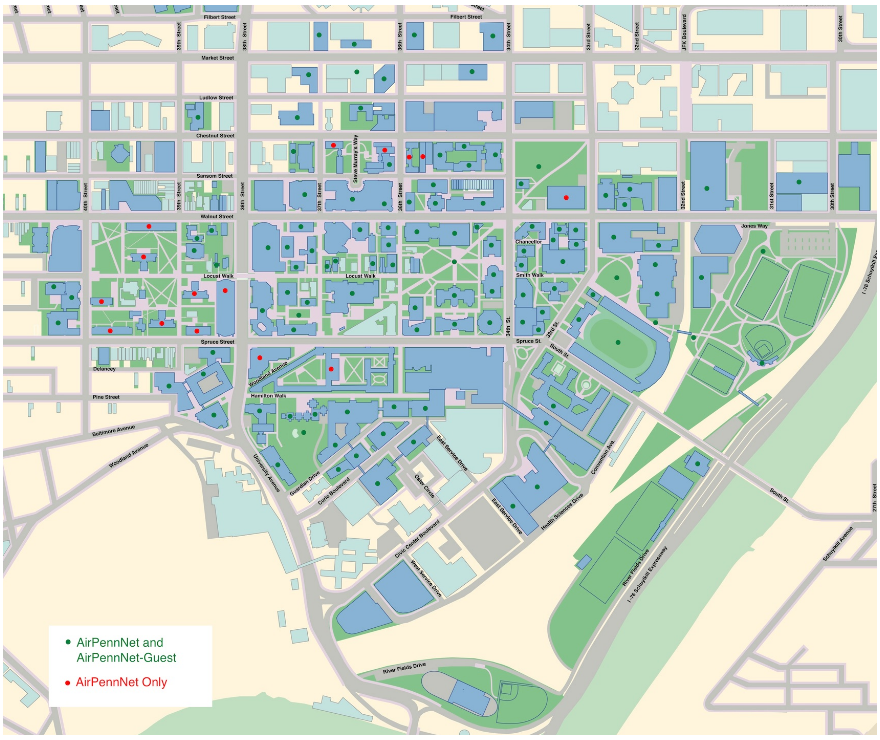
For more information regarding AirPennNet-Device, please reference ISC's article.

To see what devices may require AirPennNet-Device, please reference Connectivity Options.

Troubleshooting

Our Troubleshooting Wireless Issues article lists a number of steps you can take if you're encountering issues. If these article doesn't resolve your issue reach out to your Wharton Computing rep.

Wireless Coverage at Penn



Eduroam at Penn

Eduroam is a wireless network shared by multiple universities so that, when traveling, you can have easy and free access to the internet. Please keep in mind that for the best experience **set up Eduroam at your home university**.

For directions, see the University's configuration page:https://www.isc.upenn.edu/how-to/using-wireless-penn#Overview (scroll down towards the end of the page).

Questions?

Questions about AirPennNet?

For more information on AirPennNet, please visit thePenn Computing website.

For questions related to using AirPennNet at Wharton, contact yourWharton Computing representative.

Questions about Eduroam?

Contact: Help @ ISC

Email: help@isc.upenn.edu

Website: https://www.isc.upenn.edu/how-to/using-wireless-penn

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Troubleshooting WiFi (AirPennNet) Issues

Last Modified on 03/13/2025 2:24 pm EDT

The AirPennNet Configuration Tool, *Connect to AirPennNet*, was retired on July 16, 2024.
Use AirPennNet Guest to configure or re-configure your device for AirPennNet.

This article will help you diagnose & troubleshoot any issues you might be having with Penn's WiFi network, AirPennNet. Please see below for a list of common problems & solutions. For more information and troubleshooting steps, please see the University's Tips.

Returning to campus after being away for several months? You may need to Reconnect your University-owned and managed Windows computer to AirPennNet.

Before You Start

You will need one or more of the following before you can complete this task:

- PennKey credentials
- Administrative rights to your device

AirPennNet-Guest is NOT recommended for students, faculty and staff who want to connect to the wireless network. This option is designed for guests at the University and has limited bandwidth.

Laptops with the new Snapdragon CPU are unable to install the security configuration needed to access AirPennNet. As a workaround, you can follow the instructions for Wharton-managed devices to set up AirPennNet, but please be aware that using this method on a non-Wharton-managed device will result in your connection being **less secure** and is **not recommended.**

General Connectivity Issues

AirPennNet Status

Having trouble connecting to AirPennNet? Check our status page to make sure it isn't a widespread problem.

Invalid Username or Password

Connectivity Problems

Configuration Problems

Reporting Coverage Issues

If you would like to report any weak signal or network coverage issues in Wharton buildings, you canuse this form.

Android Issues

If you have followed the directions for configuring your Android phone/device and are still having trouble connecting, you can try the following.

> These directions may vary depending on your Android version and whether the phone manufacturer has customized it.

MacOS Issues

Make sure to follow all the steps, including a restart of your computer.

iOS (iPhone, iPad, etc) Issues

Forget the network & reconnect

Safari Stuck on Connect to AirPennNet

Configuring the Wharton VPN

Last Modified on 05/19/2021 4:48 pm EDT

Wharton's virtual computing offerings differ depending on whether you are a student, or faculty and staff. The Wharton VPN is for faculty and staff; the Wharton Virtual Lab allows students to use the public computers from off campus.

Students

Students should use the Virtual Lab client to access the Wharton public computers.

Faculty and Staff

The Forticlient gives you access to secured Wharton resources from off campus. Use the link below to download the client for your operating system of choice (Linux, Mac, or Windows) and then follow the instructions on the tabs to install. For directions on using the VPN, see the article Using the Wharton VPN.

Before You Start

You will need the following before you can complete this task:

- an active Wharton account
- admin access to your devices
- access to the Internet

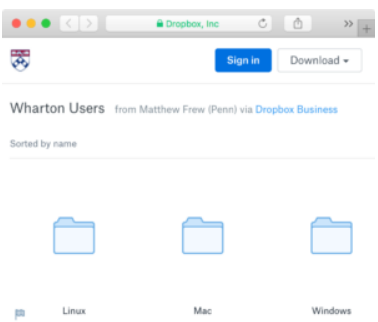
Download Forticlient

Downloading the Forticlient by going to:

https://vpnclient.wharton.upenn.edu

Click on the folder of your computer's operating system to download the appropriate client.

- Most people should install the x86 version.
- Do not choose the UWP version.



Install and Configure the VPN

After you have successfully downloaded Forticlient, follow the instructions for your Operating System to install and configure the VPN.

Windows Instructions

Mac Instructions

Linux Instructions

Wharton VPN

Last Modified on 09/02/2025 1:59 pm EDT

The Wharton VPN gives faculty and staff access to secured Wharton resources from off campus; the Wharton Virtual Lab client allows students to use the public computers from off campus.

Before You Start

You will need:

- To be either a Faculty, Staff or PhD student at Wharton
  - MBA and Undergraduate students should use the Virtual Lab client unless otherwise instructed
- An active Wharton account
- Access to the Internet
- Administrative access to your devices

If you are looking for instructions to upgrade from a currently-installed version of FortiClient on a Wharton-managed computer, please see our Updating your Wharton VPN article.

There are two ways to install the VPN:

- Using BigFix Self-Service (Windows) or JAMF Self-Service (Mac) on a Wharton-managed computer.
- Downloading the client and installing it manually following the directions below.

Installations via the two Self-Service options will not prompt you for your administrative password. If you follow the manual download and install instructions, you'll need to have an administrative password to complete the installation.

If BigFix or JAMF is installed on your computer, it is a Wharton-managed machine.

Wharton Managed Computers: Self-Service

You can install the latest version of the VPN on Wharton Managed computers using either BigFix or JAMF self-service. This will install the VPN on your computer without the need for an administrator password.

Windows Instructions

Windows users must restart their computer after the installation is complete. Please **save and close all open work/apps** before completing the installation.

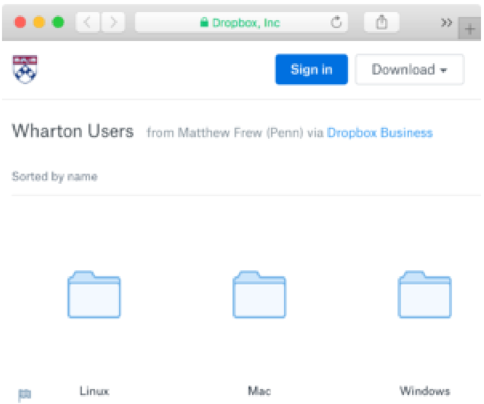
Mac Instructions

Manual Download and Install

Download the VPN client (FortiClient)

Installers for a variety of operating systems are available so that you can manually install the FortiClient:

1. Go to **https://vpnclient.wharton.upenn.edu**
2. Click on the folder of your computer's operating system to download the appropriate client.



3. Click the installer located in the Operating System folder you picked to download the installer.

Windows Users: Most people using Windows should install the x64 version.

Install and Configure FortiClient

After you have successfully downloaded FortiClient, follow the instructions for your Operating System to install it.

In order to manually install the FortiClient VPN client using the steps below, you will need to have administrator privileges for your computer. If you need help with this, contact your Wharton Computing Support Team.

Windows Instructions

Mac Instructions

Linux Instructions

Connecting to the VPN

Windows

There are two ways to connect to the Wharton VPN using Windows: launching it from the System Tray or by using the FortiClient console.

Mac

To launch the VPN on a Mac:

Questions?

For additional help on this article, contact your Wharton Computing representative.

For general information or self-service help, see our Client Services website.

Find Your VPN Client Version Number

Last Modified on 02/15/2024 2:10 pm EST

These instructions, for Windows and Mac OS X, detail how to find what version of the Wharton VPN you have installed on your computer.

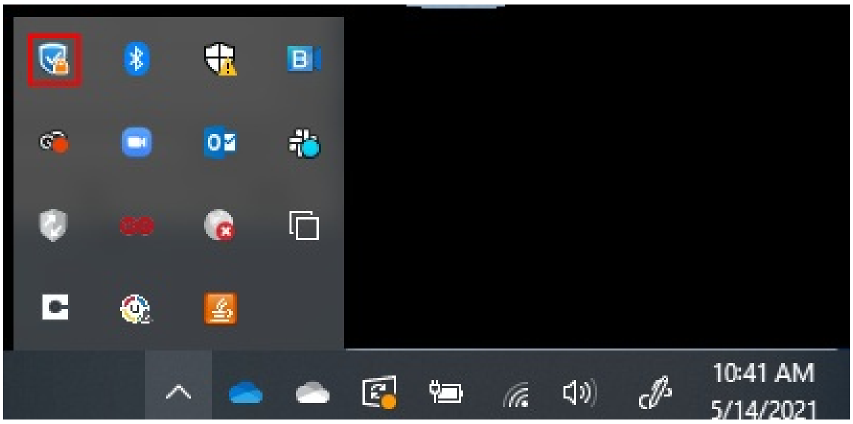
Before you start

You will need:

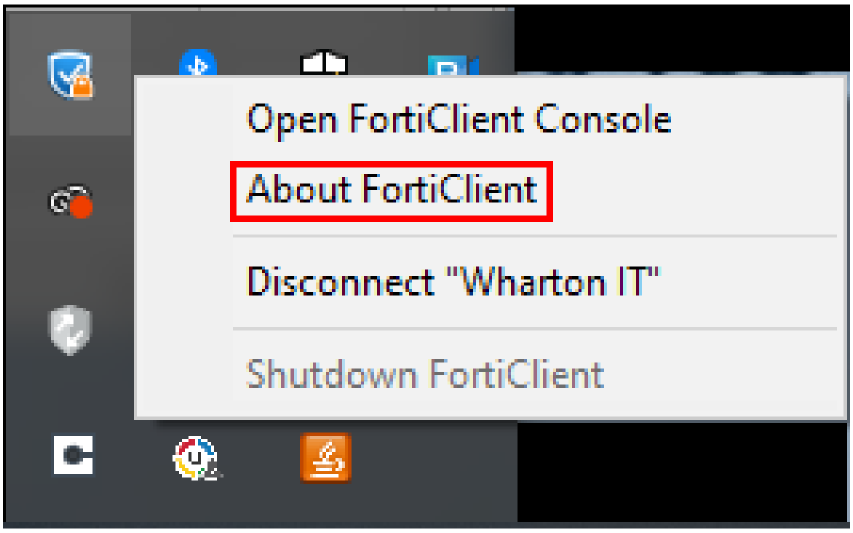
- The Wharton VPN Client (FortiClient) installed on your computer.

Windows

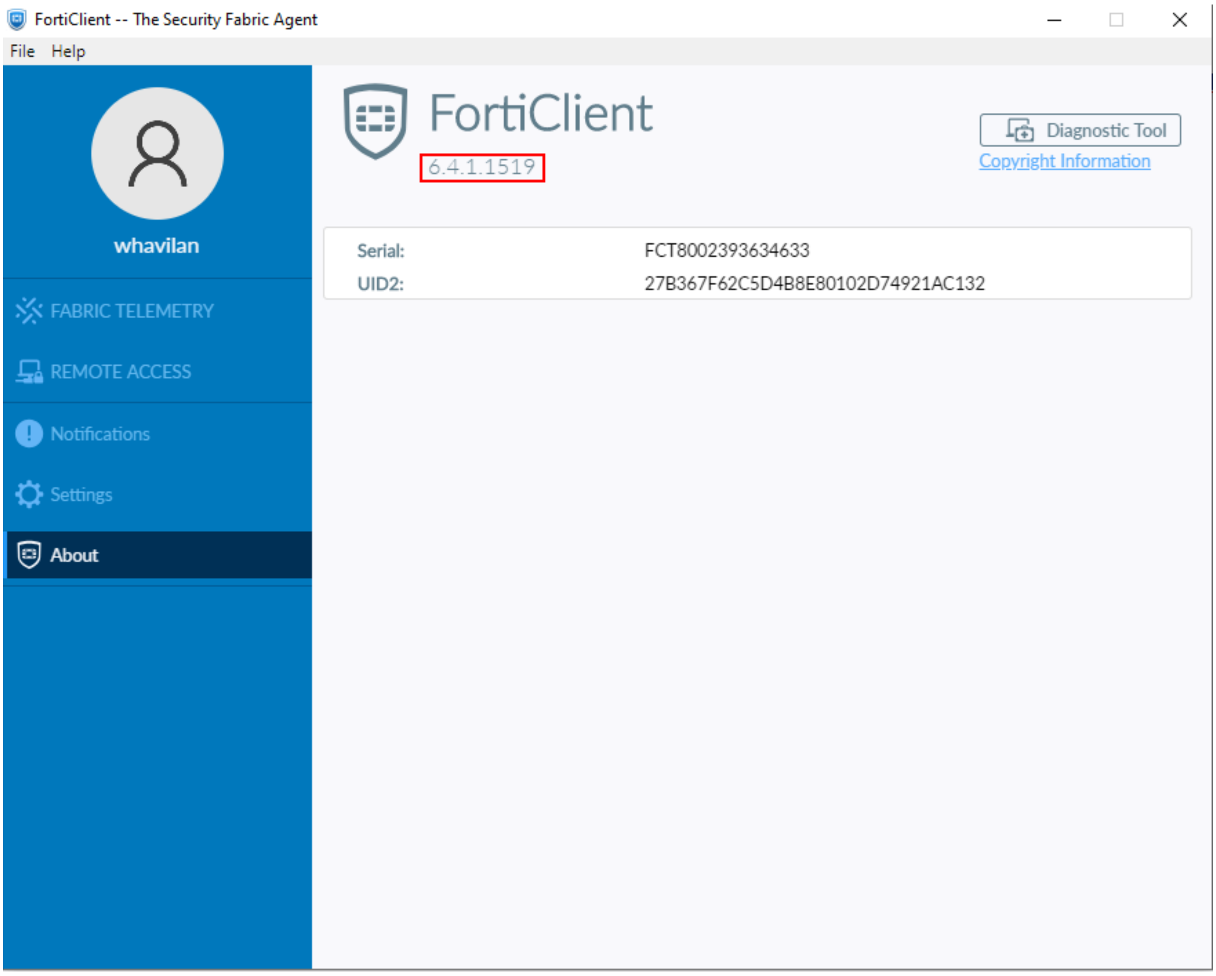
1. The FortiClient icon will appear in the SysTray on the your toolbar in the bottom right of your screen. You may need to click the ^ icon to expand your SysTray.



2. Right click on the FortiClient shield icon (it may be blue, like above, or red). Select **About FortiClient** from the context menu.

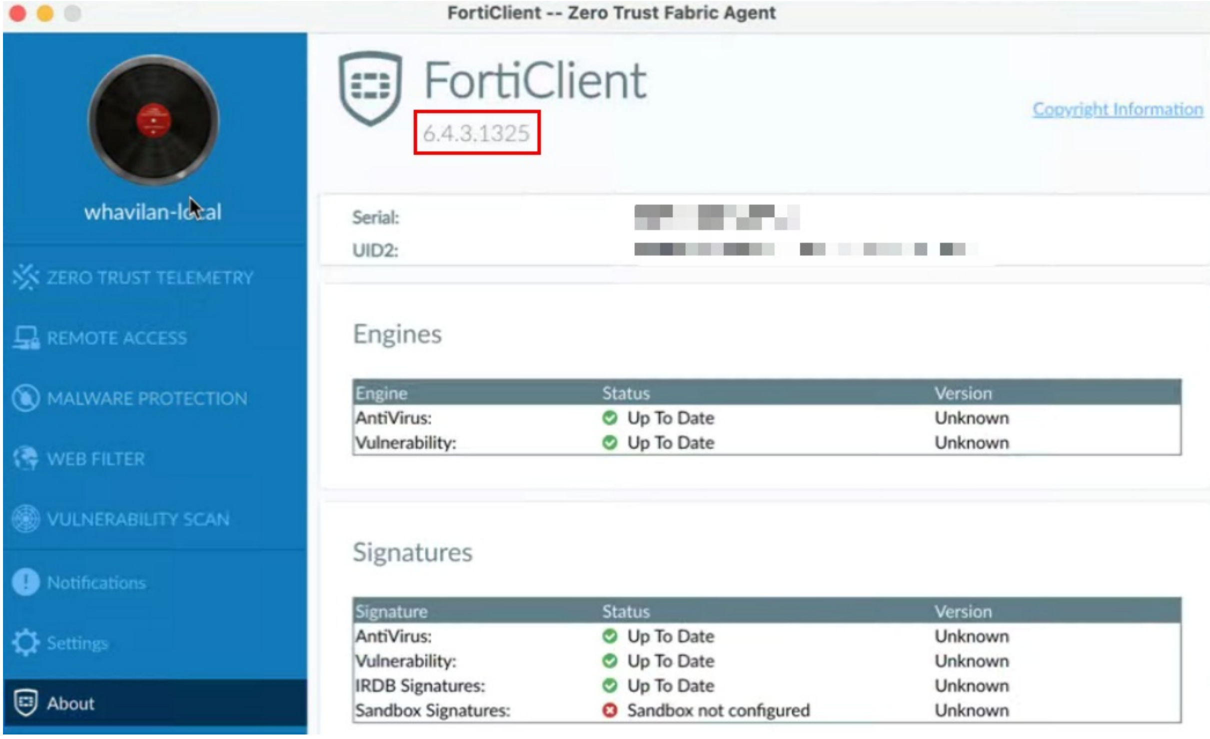


3. The FortiClient console will open on the **About** page, and the version will be displayed at the top center of the console:



Mac OS X

1. Launch the **Wharton VPN Client** (FortiClient).
2. Select **About** from the left panel in the client:


FortiClient -- Zero Trust Fabric Agent
whavilan-local
ZERO TRUST TELEMETRY
REMOTE ACCESS
MALWARE PROTECTION
WEB FILTER
VULNERABILITY SCAN
Notifications
Settings
About
FortiClient
6.4.3.1325
Copyright Information
Serial:
UID2:
Engines
Engine Status Version
AntiVirus: Up To Date Unknown
Vulnerability: Up To Date Unknown
Signatures
Signature Status Version
AntiVirus: Up To Date Unknown
Vulnerability: Up To Date Unknown
IRDB Signatures: Up To Date Unknown
Sandbox Signatures: Sandbox not configured Unknown

Updating Your Wharton VPN

Last Modified on 02/25/2025 12:55 pm EST

This article helps you manage a VPN update on your own and teaches you how to check your VPN version number.

> **MBA and Undergraduate students:** use the Virtual Lab client unless otherwise instructed. The Wharton VPN is available to Faculty, Staff and PhD students.

Checking your Current VPN Version

The ways to check which version of the VPN you're running varies by your computer's operating system:

Windows

Use these directions to check the version on Windows machines:

macOS

Use these directions to check the version on macOS machines:

Updating your Forticlient VPN

> These directions are for Wharton-managed computers using the automatic installation process provided by Wharton Computing. If you are manually installing or updating your Forticlient VPN, see our Wharton VPN article.

The steps for updating your Forticlient VPN vary by your computer's operating system.

Windows

Use these directions if your computer is running Windows.

macOS

Use these directions if your computer is running macOS.

Questions?

Contact your Wharton Computing representative.

Connecting to the Network Drive: Faculty and Staff

Last Modified on 04/09/2024 12:19 pm EDT

This article will help faculty and staff connect to your network drive (e.g. u:\\ ) from off-campus or a device that's not joined to our domain. Students should consult MyGoogleDrive.

Before You Start

You will need the following before you can complete this task:

- A Wharton account
- The path to your network drive

Windows

1. If you are off campus, first connect to the VPN.
2. Open File Explorer from the taskbar.
3. In the left pane, right-click **This PC** and select **Map Network Drive.**
4. In the folder field, enter the path to your network drive. Contact your Wharton Computing representative if you do not know what to enter here.
    - If you would like the connection to the network drive to remain after the computer is rebooted, check **Reconnect at sign-in**.
5. Check **Connect using different credentials.**
6. Click **Finish**.
7. When the Windows Security box appears, enter **wharton\<your Wharton username>** in the user name field and your Wharton password in the password field.
8. Click **OK**.

Questions?

Contact: Wharton Computing

PennKey Accounts

Last Modified on 12/09/2025 11:21 am EST

A PennKey is a University of Pennsylvania username used for online authentication. This article provides an overview of PennKeys, including the services they govern and how to obtain or reactivate your PennKey.

Known Issue: If you get an error that includes the words "web stale request", try the following:

- Refresh your app or webpage and log in again.
- Clear your browser's cache.
- If you are using Chrome and the first two options don't work, try logging in to a*different* PennKey-based platform and then return showing Stale Request.
- If you are on your phone, make sure you only tap **Go OR Login,** not both. It's easy to tap one and then the other, which will send the request twice and generate this error.

Before You Start

You will need the following before you can complete this task:

- Access to a standard internet browser
- **Students:** To create a PennKey, you must have received an email from the University containing a setup code. If not, please contact support@wharton.upenn.edu.
- **Faculty / Staff:** Work with your hiring contact to obtain the appropriate PennKey setup instructions.
- **Alumni**: Contact the Alumni PennKey team to help you set one up, or reset your password.

Notes:

- All Penn-affiliated users must have a PennKey to log in to Penn Canvas. This is a University of Pennsylvania policy, one for which we can't offer exceptions.

Creating a New PennKey

Your PennKey is the username you use to access many of Wharton and Penn's networked systems and services. Begin this process well before you will need access -- we recommend at least a week. Depending on whether you are a student, faculty, staff, alumnus, or guest, the process will vary.

We **strongly** recommend that once you obtain your PennKey you enroll in the Self-Service Password Reset service (also known as **SSPR**). This will allow you to reset your PennKey password online if you forget it. If you do not enroll in SSPR, resetting a lost password becomes far more difficult.

Access and Privileges

Curious about what services your PennKey allows you to use?

Understanding Your Accounts

The University has many online services -- you may find you have more than one account and wonder what each one does.

Canvas Caveats

New PennKeys will automatically work on Canvas for users already enrolled (or the instructor of record) in a course where Canvas has been requested. Teaching teams may contact Courseware to arrange access for TAs, auditors, and other users.

If you're unable to login to Canvas 24 hours after creating your PennKey, please contact the Courseware Team and provide them with the following information:

- First & Last Name
- Email Address
- PennKey Username
- PennID

> **NEVER** send passwords via email. Wharton Computing will never request that you reveal your password.

PennKey Reactivation

If you previously had a PennKey (eg, you're an alum), and you need it reactivated to gain access to a Canvas site, please use the table of contacts below for the appropriate help links.

PennKey Help

Reset or test a known PennKey	• PennKey Support website.
Activating PennKeys for Canvas	• For Penn Canvas courses, PennKeys will work for users **already enrolled** (or for the instructor of record). TAs, auditors, and other types of users should ask their teaching teams to contact courseware@wharton.upenn.edu for access to Penn Canvas .
Faculty and Staff	• Wharton Computing Client Support Services, 215-898-8600 ◦ For guest PennKey requests contact pennkey-help@wharton.upenn.edu. *Please do not use for obtaining new faculty, student, or staff PennKeys.*
Students	• Wharton Computing Client Support Services, 215-898-8600 • pennkey@isc.upenn.edu
Alumni	• PennKeys and Passwords for MyPenn and alumni resources • https://isc.upenn.edu/alumni-support-directory • daralumnipennkey@dev.upenn.edu

Wharton Gmail Overview (Students)

Last Modified on 01/07/2026 2:30 pm EST

Google@Wharton – our name for the suite of customized Google-based email and collaboration tools – provides Wharton students with key communication tools. To get the best user experience with your Google account, it is recommended that you **install and use Google Chrome**.

Before You Start

You will need the following before you can complete this task:

- An active Wharton Gmail account

Getting Started

Gmail

Your Wharton Gmail address is based on your PennKey username and thus comes in the form of ***pennkeyusername@wharton.upenn.edu***. When logging into Gmail.com, please ensure you are typing in your full address (including the @wharton.upenn.edu) instead of just the username.

Google Calendar

Your calendar is connected to your Wharton email address (username@wharton.upenn.edu). This means that all your classmates also have a Google calendar, and you can see their Free/Busy information if they choose to allow that. This can be a powerful scheduling tool for learning teams and other collaborative projects.

Students have reported an issue attaching documents to Google Calendar invitations. We have raised this concern with the vendor and as of now recommend sending attachments and meeting invitations separately.

Note: If you forward mail to a personal Gmail address, you will not have the ability to RSVP for event invites sent to your Wharton Gmail address, however you will still be able to add the event to your calendar.

Others from Google Workspace:

Collaborate with your fellow Wharton students using these Google Apps that are tied to your Wharton Account:

Contacts	Drive	Chat

Why Google@Wharton?

Using Google provides Wharton Computing with an opportunity to provide students with a cohesive, communicative ecosystem that includes email, chat, calendaring, document sharing, and document management. It provides:

- **Tighter integration between Google and Wharton's online services**: Frequently requested by many students already using Google for their personal online communication and collaboration needs.
- **Collaboration**: An opportunity for students to collaborate and communicate online in real-time, which is very much in demand for group work.
- **Easily Accessible**: Provides the ability to access these features anytime, anywhere, and from any device.

In addition, Wharton students who have been using the platform have cited the following benefits as particularly useful:

- **Multiple calendars interact together well**: Provides benefits such as viewing multiple Google calendars and email accounts in a single browser tab.
- **Calendar-sharing options**: Allows you to share your calendar with friends or create multiple calendars accessible to other Google users for group work.

Frequently Asked Questions

More Information

- Sending and Receiving Email
- Searching your Inbox
- Add, Edit, View, and Navigate Contacts

Questions?

Contact: Wharton Computing Student Support

Email: support@wharton.upenn.edu

Penn Students Taking a Wharton Class

Last Modified on 03/06/2024 5:22 pm EST

This article is intended for for non-Wharton Penn students taking Wharton classes. All students taking Wharton classes will need to create a Wharton account in order to gain access to Wharton resources like public computers and software.

Full-time Wharton student? See our Create Your Wharton Account article instead.

Before You Start

If you are creating an account, you must meet one or more of the following requirements:

- Have an active PennKey Account
- Have been enrolled for at least one business day in a Wharton course in the **current or upcoming** semester

Note: Access to the Wharton student portal, MyWharton, is currently only available to full-time Wharton students.

Creating a Wharton CLASS Account

If you are a student **in another college at Penn** and are taking a class at Wharton, you should create a *Wharton class account*. This account ensures access to the computer labs, virtual lab, and use of educational software specified by faculty.

You will still need to use your regular PennKey account to log into most Wharton resources.

Use our Wharton Account Creator App to create your class account.

Important notes

- **Taking courses in upcoming semesters?** Class accounts are generally available one week before the start of the term.
- **When can you create your account?** You must allow **at least 1 business day after enrollment** before creating your account. You may encounter difficulty using the account creation form on the *same* day you enroll in a course, or if you have an account already because of recent courses or work at the Wharton School. If you are enrolling by permit and can't add the course through Path@Penn, contact your school's office or registrar to complete your registration the day before creating a class account.
- **Auditing? Early Account Access?** Auditors and pre-enrollment accounts **need faculty permission**. If you are a non-Wharton student who is also not enrolling in a Wharton course, but you are taking the class, instructor permission is needed. While many faculty work with Wharton Computing directly to arrange for access, if you have an email related to your permission to attend the course please forward that to the Student Computing Team.
- **Access to Canvas.** Wharton accounts are no longer required to access Wharton courses in Canvas.

Wharton Services Available with Wharton Class Account

Account created? Your Wharton account enables you to access the following Wharton services to help with your classwork.

Public Computers

Although you will use your PennKey account to log into the Wharton public computers, your Wharton account is required to complete the authentication and enables you to actually use them. You'll have access to:

- Personal storage space on the public computers (MyWhartonDrive) .
- Software your professor may require for your class work.
- Wharton public printing.

Printing Services

Wharton printing services require a Wharton account for access. Use these links to learn more about printing on the Wharton campus:

- Public printing from the Wharton campus printers(using funds from your PennCash account).
- Printing to Wharton campus printers from your laptop (PC or Mac).

Canvas

Use Penn's Canvas link to access your course material in Canvas. Your Wharton course(s) should show up alongside your other Penn courses.

Problems Creating A Class Account

If you encounter an error stating "Can't create Account, Account Already Exists" or "There is already an account in your name," our system may already have a record of you. Please submit the following information to the Student Support Team:

- PennKey/Wharton username (they are the same)
- PennID number
- Faculty name and course name (eg. ACCT1020, Joseph Wharton)
- If you're enrolled, auditing the class or are a TA

Department Website Faculty Profile

Last Modified on 05/30/2023 11:34 am EDT

This guide will help you get started with the Wharton Faculty Platform. If would like to report a bug, submit a feature request or schedule one-on-one training, please submit a ticket to Marketing Technology Support.

Before You Start

This platform is for Wharton Faculty.

You will need the following before you can complete this task:

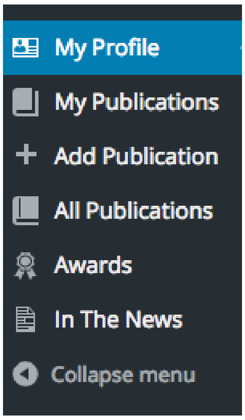
- *an active PennKey account*

Viewing a Profile

Faculty, student, and staff profiles are distributed throughout the ten department sites. Profiles page URLs follow this pattern:

https://**[department]**.wharton.upenn.edu/profile/**[pennkeyusername]**

Logging In to Edit



To edit your faculty profile, visit https://faculty.wharton.upenn.edu/cms-login/ and use the **PennKey Login** option. Once you log in, you will be redirected to your profile page. You can return to the profile page by selecting **My Profile** on the left menu.

Editing a Profile

Editing all of the profile information (excluding research/publications) now occurs on a single page. Utilize the **Quick Links menu** on the right hand side of the page to easily navigate the profile. Changes will take effect once you click the **Update** button in the top right of the screen.

GENERAL INFORMATION

This page contains basic information for the profile, including name and contact information. All of the information including email, phone numbers and physical addresses will be publicly available on your profile page.

To add additional contact information fields, simply click the **Add Email Address**, **Add Phone** or **Add Address** button to create another entry. Once multiple entries are created, you can sort the information by clicking **Edit Order** and dragging the rows into the correct order.

Faculty titles can only be edited by select Wharton staff. Contact your department IT representatives if your title is displaying incorrectly.

BIOGRAPHY

The biography section will control what appears in the Overview tab on the profile page. You are able to insert links, images and embed other media in this section.

A more detailed tutorial on using the WordPress content editor is available here.

DEPARTMENTS

This section controls the departments affiliation in addition to where and how your profile will appear. An **Enabled** profile will allow the profile to be displayed on that particular department site while a **Disabled** profile will appear in the faculty listing on that site, but the profile page will not be accessible.

RESEARCH

The content editor allows for static content to appear under the Research tab on the profile page. Below, you will find a listing of your 10 most recently added publications. To edit a recent publication, simply click the **Pencil** icon next to the citation. To view all of your publications, click the link below the **10 most recent** or the **My Publications link** on the left menu.

TEACHING

The content editor allows for static content to appear under the Teaching tab on the profile page. Course listings are dynamically pulled into the profile page.

AWARDS AND HONORS

The content editor allows for static content to appear under the Awards and Honors tab on the profile page. Below, you will find a listing of your 10 most recently added awards. To edit a recent award, simply click the **Pencil** icon next to the listing. To view all awards click the link below the 10 most recent. To add an award, click the **Add a New Award** button and fill out the form. Once added, the new award will appear in the preview section and you can further edit the details by click the **Pencil** icon.

IN THE NEWS

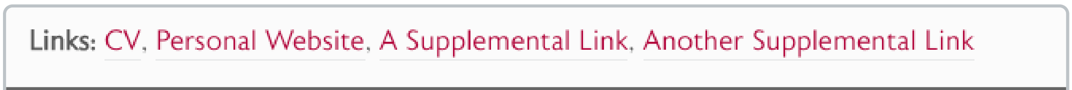
The content editor allows for static content to appear under the In the News tab on the profile page. Below, you will find a listing of your 10 most recently added news items. To edit a recent news item, simply click the **Pencil** icon next to the listing. To view all awards click the link below the 10 most recent. To add an award, click the **Add a News Item** button and fill out the form. Once added, the news item will appear in the preview section and you can further edit the details by click the **Pencil** icon.

LINKS

One or more additional links can be attached to a profile page. Enter the link URL and select a link type. You can also optionally enter additional information in the Link Text and Link Title fields. The link text will appear on the screen while the link title is additional information to appear when a user hovers over the link. If no link text is entered, the full URL will appear as the link text.

The type of link selected will impact the position of the link as it is output on the profile page:

- **Supplemental Link**: These are additional links that will display after the profile CV and Personal Website (if included). Supplemental links can be either internal (upenn.edu domains) or external web addresses such as a twitter profile.
- **Personal Website**: The personal website field will appear similarly to a supplemental link, but the personal website will be prioritized at the beginning of the list.



Display order of links

CV and external web links will appear above the profile content.

FILES

One or more files can be attached to a profile page, including a headshot and CV. To upload a file, click **Upload** and then drag your file into the media uploader. Select **Insert in Post** in the bottom right of the screen. Select the appropriate File Type from the dropdown below. A link to the CV will appear in the **Links** section pictured above. If multiple headshots or CVs exist on a profile, the system will display the first uploaded file.

MISCELLANEOUS TAB

The Miscellaneous section of the profile editor controls the additional tab on the profile page. The profile editor allows for static content to be added to the tab. The website editor has the ability to insert links, images, and embed other media within this section. The name of the tab as displayed on the profile itself can be selected from the Tab Label drop-down menu.

Editing a Publication

To edit a publication you click on the **Pencil** icon from within your profile edit screen or click the **My Publications** link in the left menu to view all publications and **click Edit** on the desired publication.

General Info, Abstract, Description and Files for publications are edited similarly to the profile page.

CITATION PREVIEW

When adding or editing a publication, you can preview the citation that will be displayed in the publication listings. Click the **Preview Citation** button to generate the initial preview.

AUTHORS

To add additional Wharton Authors or Guest Authors, begin typing the authors name into the input below the currently assigned authors. The system will begin to search for existing Wharton Authors and Guest Authors. To edit how the authors appear in the publication citations, drag and drop to reorder. You can also remove authors from a publication by clicking the **X**. If you remove yourself from as an author for a publication, you will no longer be able to edit that publication.

Adding a Publication

To add a new publication, you can either click the **Add a New Publication** button in the Research section of the profile edit screen or select **Add Publication** from the left menu. Select a publication type and enter the publication title and then select **Continue**. Confirm the details of the publication by clicking the **Create New Publication** button.

Publications must be created with a single Wharton Author. Additional Wharton Authors and Guest Authors can be added once the publication is created.

Questions?

Contact your Department IT Representative (PennKey login required) with any questions.

Wharton Alumni Account

Last Modified on 07/22/2020 4:42 pm EDT

This article provides information on your Wharton Alumni account.

Alumni Account

Your Alumni account gives you access to many benefits including WhartonConnect, the Wharton Webinar Series, and the MBA Career Management website.

Registering Your Alumni Account

I don't have an Alumni Account

If you don't have an account please navigate here and click "Register Now" underneath "Don't have an account?". Follow the on-screen instructions to complete your account registration.

I don't know if I have an Alumni Account

If you're not sure whether you have already registered your account, try logging in here.

Questions or Issues?

Please contact Wharton Alumni Relations directly: alumni.relations@wharton.upenn.edu.

Wharton Computing Accounts & System Policies

Last Modified on 10/25/2022 5:16 pm EDT

This article includes information on Penn and Wharton computer policies, security and ethical behavior.

The computing systems, software, and networks of the Wharton School provide a wide range of services. The use of these resources involves certain risks and obligates users to certain responsibilities.

The Wharton School's computer systems and networks are the private property of the Wharton School and the University of Pennsylvania. Access to these systems is a privilege granted by the Wharton School and the University of Pennsylvania, and may be revoked without prior notice.

All Wharton accounts, computer systems, networks, and policies are ultimately subject to the University of Pennsylvania's **Acceptable Use Policy**.

Privacy & Protection

The policy governing privacy rights and protections at the University of Pennsylvania is the **Policy on Privacy in the Electronic Environment**.

Security

Computer security is essential to the well-being and health of the University of Pennsylvania's computing systems and its users. Some of the requirements for any computer connected to PennNet include, but are not limited to:

- Be protected by strong passwords that are resistant to dictionary attacks
- Security patches must be applied on a timely basis
- [If] the operating system includes a software firewall, activating it is a minimum requirement
- For operating systems for which Penn supports or recommends antivirus software...there must be a regular program of maintaining current virus signatures and real-time scanning

The policy governing computer security requirements at the University of Pennsylvania is the **Computer Security Policy**.

Alumni Accounts

Wharton students may currently use their email accounts for up to one year following graduation. All student account policies outlined in this article remain in force during this account extension period.

The policy and practices for closing accounts for **Undergraduate and MBA Wharton Students**.

Questions?

Students - Wharton Computing Student Support

Faculty - Academic Distributed Representatives (login required)

Staff - Administrative Support (login required)

Alumni - Wharton Alumni Relations | (215) 898-8478

Graduating Students: Account Closing Dates

Last Modified on 10/07/2025 11:16 am EDT

Before You Start:
This article is for all Wharton students - Undergraduate, MBA, and PhD.

Access to Wharton and Penn Online Services ends at various times after you graduate. Access to most services will end within a month of graduation. A few services remain accessible for longer. Use this table to figure out when your access to each service or resource will end. See our Graduation Technology To-Do list for advice on how to transition your data.

Service or Resource	Access End Date
Wharton Research Data Services (WRDS)	At graduation
Canvas Course Sites • See this article for more access information	Penn will support alumni access as long as the University uses Canvas, but individual course sites will eventually close. Therefore, it is wise for students to **download desired materials from Canvas as soon as possible after they graduate.** **most videos hosted in Class Recordings (Panopto) cannot be downloaded by students.*
University of Penn Licensed Software • Library database access – see the Penn Libraries Alumni Services guide for information about resources available to alumni. • Zoom Video Conferencing • Study.Net (access ends 90 days after course ends)	Within 30 days of graduation
Personal Password Manager • Dashlane Premium (https://isc.upenn.edu/resources/dashlane#dashlane-premium - Dashlane account will transition to a free basic license)	Within 1 year of graduation
Wharton Virtual Lab	Within 30 days of graduation
Dropbox for Business	Students: Within 30 days of graduation PhD Students, Faculty and Staff: Last day of employment
Slack	30 days after graduation

Penn O365 (Including OneDrive) • After 60 days, any documents on OneDrive are not retrievable • This includes Wharton Outlook Email with Penn Office 365 for PhD Students, Faculty and Staff	Within 60 days of graduation
MyWhartonStudent Portal • GSR Reservation Access	90 days after graduation
Wharton Google with a Gmail Account • Use of username@wharton.upenn.edu (mail to this address will bounce) • Google Drive	1 year following graduation
Campus Groups	1 year following graduation
Wharton's Public Technology • Access to public computers • MyWhartonDrive (Y:) **Note**: MyWhartonDrive (Y:) may be decommissioned before this deadline – check this site for further updates. We recommend saving any data you want to keep as soon as possible.	1 year following graduation
ChatGPT Edu	14 days following graduation

Questions?

Contact: Student Computing

Google@Wharton (Faculty and Staff)

Last Modified on 04/22/2025 11:18 am EDT

Google@Wharton for Faculty and Staff lets you securely access Google's productivity suite with your PennKey username and password. You can collaborate using Google's tools and enjoy the legal protections of the University's contract with Google.

Before You Start

You will need the following before you can complete this task:

- An active Wharton faculty or staff affiliation
- An active PennKey

Google@Wharton for Faculty and Staff includes **only** the following Google services:

- Drive
- Shared Drives
- Google Workspace (Docs, Sheets, Slides, Forms)
- Google Chat
- Google Chrome Sync
- Google Meet

Support for Google Services in Wharton Google Workspace

Support for Google Service in the Wharton Google Workspace **is limited to the browser only** for **Faculty and Staff** users.

Students will receive best-effort support for specific Google applications, including Gmail and Calendar, which are part of the enhanced service offerings available to student accounts.

Google provides stand alone applications are created for Windows OS, MacOS, Android Mobile OS and iOS and iPadOS. These applications use web connectivity as a primary resource for their functionality.

Wharton Computing's support for Google Services for faculty and staff is limited to features available from the web interface only. This is due to the limited service offering for Wharton Google Workspace services for faculty and staff and the additional technology offerings these groups have available (Ex. Office 365).

Feature sets available from Google Apps or other third party apps that interact with Google services, will be provided on a best-effort basis and will not be guaranteed to function as a part of our service offering.

Gmail is **not** included in Google@Wharton for Faculty and Staff. PennO365 remains our email solution for faculty and staff; for more information, see the "Services Not Included" section of this article.

How to Request a Google@Wharton Account

If you don't have a Google@Wharton account, or aren't sure, contact your Wharton Computing Representative and they will be able to help you.

Access your Google@Wharton Account

To access your Google@Wharton account:

1. Go to account.google.com.
2. Click the blue **Go to Google Account** button in the upper right-hand corner of the screen.
3. Enter your pennkey**@wharton.upenn.edu** email address.
4. Click **Next**.
5. Enter your **PennKey username and password**.
6. Click **log in** and provide your Two-factor authentication.
7. And you've logged into your Google@Wharton account.

Resources

Google has a lot of great service documentation. We've collected some of the most useful in this table to help you answer some common questions.

Google Drive	• Getting Started with Google Drive: Learn the basics of navigating Google Drive and managing your files and folders. • Upload and Create Files: Instructions on uploading files and creating new documents. • Share Files: How to share files and set permissions. • Share folders from Google Drive: How to share folders and set permissions. • Organize Your Files: Tips on organizing your files with folders. • Make someone else the owner of a file: Instructions on transferring ownership of a Google Drive file to another person. • Google Drive cheat sheet: Quick reference guide for shortcuts and tips on using Google Drive efficiently.
Google Shared Drives	• Getting Started with Shared Drives: Learn the basics of using Shared Drives. • Add files and folders to a shared drive: How to share and collaborate using shared drives. • Best practices and tips for shared drives: Recommendations for managing shared drives effectively. • How file access works in shared drives: Explanation of how permissions and access work for files in shared drives. • Shared drives cheat sheet: Quick reference guide for shared drive tips and best practices.

Google Workspace

Google Workspace gathers Docs, Sheets, Slides, and Forms in one location, so you can use it as a starting place.

For help using it, see Google Workspace Help Center, or review help for individual apps:

Google Docs

- Google Docs Help Center: Comprehensive help resource for everything related to Google Docs.
- How to use Google Docs: Instructions on creating and editing documents with Google Docs.
- Google Docs cheat sheet: Quick tips and shortcuts for using Google Docs effectively.

Google Sheets

- Google Sheets Help Center: Help resource for learning about Google Sheets and its functionality.
- How to use Google Sheets: Guide to working with spreadsheets in Google Sheets.
- Google Sheets cheat sheet: Handy tips and shortcuts for using Google Sheets.

Google Slides

- Google Slides Help Center: Help center for learning about creating presentations using Google Slides.
- How to use Google Slides: Step-by-step guide on creating and managing presentations.
- Google Slides cheat sheet: Quick reference for tips and shortcuts in Google Slides.

Google Forms

- Google Forms Help Center: Help resource for learning about creating forms and surveys with Google Forms.
- How to use Google Forms: Instructions for building and managing forms.
- Google Forms cheat sheet: Handy guide for tips and shortcuts in Google Forms.

Google Chat	• Google Chat Help Center: Comprehensive resource for understanding and using Google Chat. • What you can do with Google Chat: Overview of features and uses of Google Chat for communication. • Google Chat cheat sheet: Quick tips and shortcuts for using Google Chat.
Google Chrome Sync	• Chrome Sync Help Center: Resource for managing your browsing data across devices using Chrome Sync. • Getting Started with Chrome Sync: Guide for setting up and using Chrome Sync to sync bookmarks, history, and more.
Google Meet	• Google Meet Help Center: Help center for learning about Google Meet's video conferencing features. • Getting Started with Google Meet: Basic guide for setting up and using Google Meet. • Google Meet cheat sheet: Quick reference for tips and shortcuts in Google Meet.

Services Not included

Any Google services not included in the above list are **not** a part of the Google@Wharton offering.

The following list highlights *some* core Google services not currently offered in Google@Wharton for Faculty and Staff, so are not accessible using your PennKey username and password, and don't include the legal protections of the University's contract with Google. This list isn't exhaustive:

Questions?

Contact: Your Wharton Computing Representative

Google@Wharton (PhD students)

Last Modified on 11/21/2024 9:23 am EST

The Google@Wharton offering for PhD students allows you to use selected Google tools with your PennKey username and password and enjoy the legal protections of the University's contract with Google. There are three main changes associated with our Google@wharton transition:

1. **You'll log in with your PennKey username and password -** Google authentication will no longer be used for Wharton's Google accounts.
2. **GMail is not included** - there is no option for Gmail in the Google@Wharton offering for PhD students
3. **Separated from Personal Accounts -** The ability to link your Wharton email address to a personal Google account to allow for Google sign in, password recovery & notifications, is not supported with the Google@Wharton offering.

Before opting into the Google@Wharton offering you will need to remove the link between your Wharton email address and personal Google account. The data in your personal account will not be impacted, but you will be required to log into your personal Google account with an alternative personal email address.

Before You Start

Please review the below requirements before requesting a Google@Wharton account. If you have any question please contact acs-support@wharton.upenn.edu for assistance.

- You must have an active Wharton PhD affiliation. If you are unsure of your affiliation, please email: acs-support@wharton.upenn.edu to confirm.
- Make sure you have an active University PennKey.
- If your Wharton email address is linked to a personal Google account to sign in, recover your password, or get notifications, you must first remove the link between your Wharton email address and your personal Google account before you can proceed with the Google@Wharton offering. See the Preparing for a Wharton Google Account section below for directions on removing your Wharton email address from your personal Google account.

Google@Wharton for PhDs

Google@Wharton for PhD students includes some, but not all Google services. See the table below for a list; where there is an alternate service available for a non-included Google product, we've listed it here.

GMail is **not** included in Google@Wharton for PhD students. PennO365 remains the email solution for PhD students.

Included in Google@Wharton for PhD	NOT Included in Google@Wharton for PhD	Alternate Available
Google Drive	GMail	PennO365
Google Docs	Analytics	
Google Chat	Google Cloud	Penn+Box, Dropbox
Google Chrome Sync	Gemini	
Google Meet &Task	Maps	
Google Calendar	Google Vault	
	Groups for Business	
	Jamboard	
	Keep	
	Migrate	
	Sites	

Preparing for a Wharton Google Account

If you already have a personal Google account, these items are important to consider before signing up for a Google@Wharton account.

Requesting a Google@Wharton Account

Contact acs-support@wharton.upenn.edu if you would like a Google@Wharton account.

Access your Google@Wharton Account

To access your Google@Wharton account:

1. Go to http://drive.google.com/.
2. Click the blue **Go to Google Account** button in the upper right-hand corner of the screen.
3. Enter your pennkey@wharton.upenn.edu email address.
4. Click **Next**.

5. Enter your **PennKey username and password**.
6. Click **log in** and provide your Two-factor authentication.

Now, you've logged into your Google@Wharton account.

Questions?

Contact: acs-support@wharton.upenn.edu

Google@Wharton Account Migration

Last Modified on 10/28/2024 12:19 pm EDT

Certain types of Google accounts can be migrated to Google@Wharton. Depending on the account type, the migration may or may not include all the supported content associated with the migrating account.

Before you start:

- You must be eligible for a Google@Wharton account.

Personal Google Account associated with Wharton Address

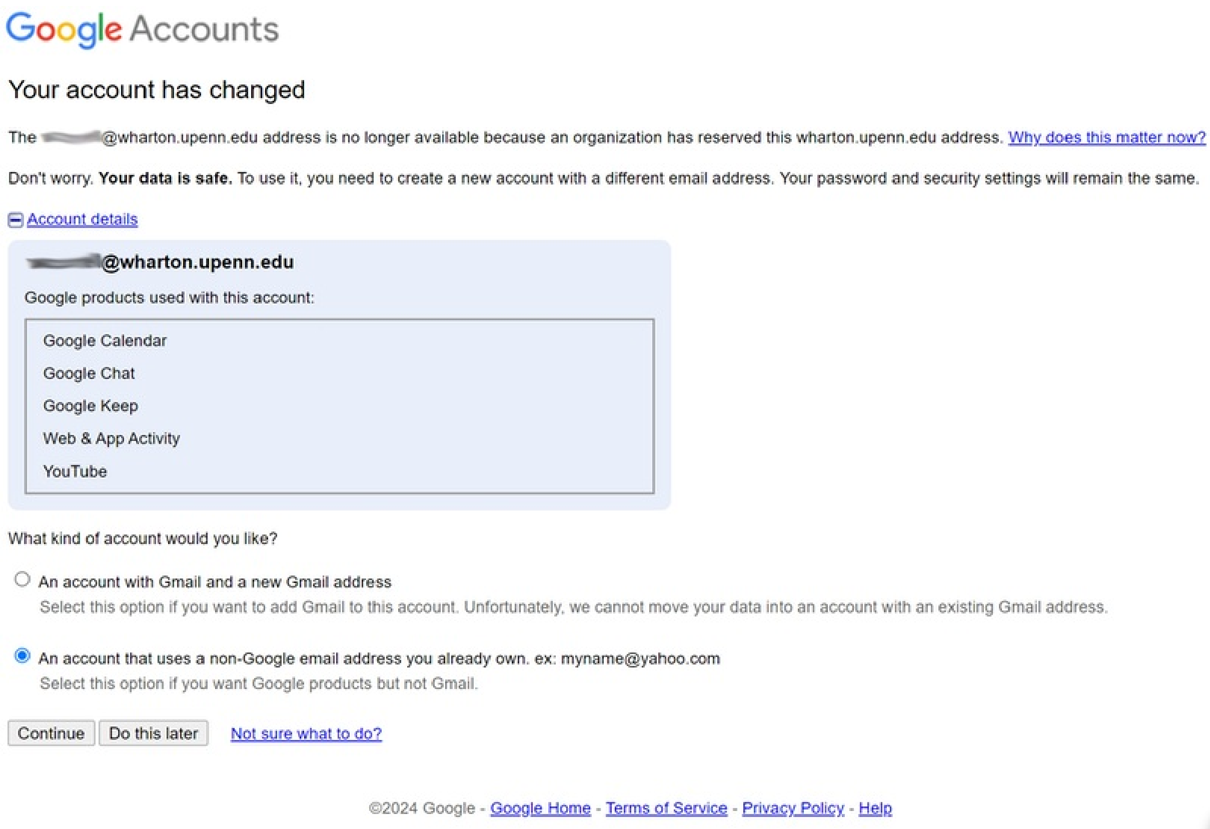
If you have associated a personal Google Account with your Wharton email address to access Google productivity tools, it can be migrated to Google@Wharton. This allows you to access those same productivity tools more securely.

No data is automatically migrated from your personal account to your Google@Wharton account. You'll need to migrate your content using a tool like Google Takeout after your account has moved into the Google@Wharton workspace or copy things manually.

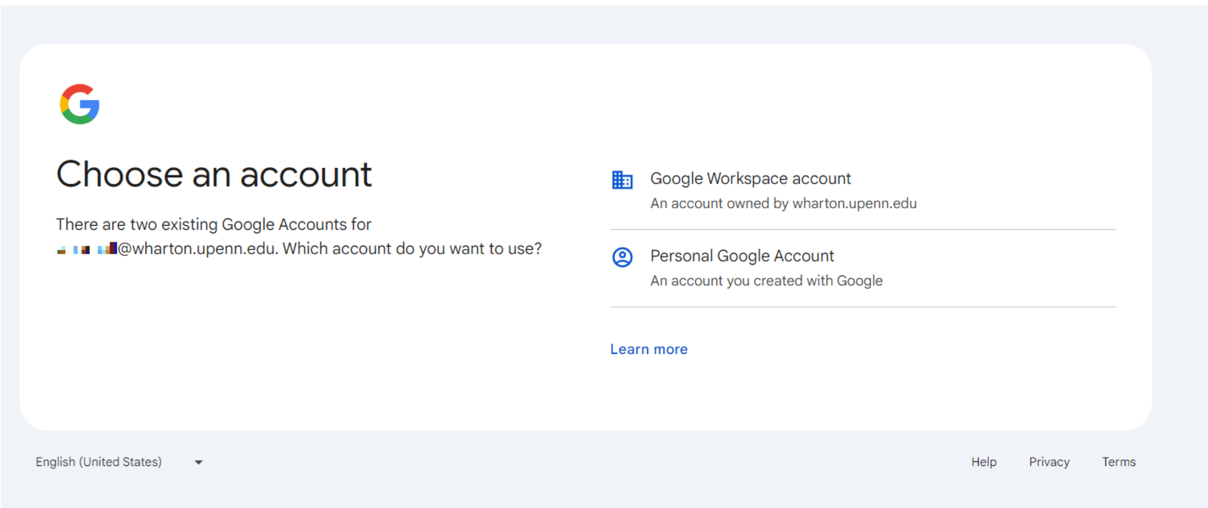
If you have a personal Google Account associated with a Wharton email address that is not part of Google@Wharton after 10/29/24, reach out to your Wharton Computing Representative to request it be migrated - be sure to include the Wharton email address associated with the personal Google account.

Once an account is migrated to Wharton@Google:

1. When you next log into the Google account, you'll be notified that your Wharton address is no longer available (because it has been moved to the Google@Wharton workspace). You need to associate a new email address with the contents of this Google account.



2. Click Account details to see what services and information are associated with the account. Then, you need to create a new Gmail account or associate the account with a non-Google email address you already own. Select an option and click **Continue**.
3. Click on **Google Workspace account** to log into your new Google@Wharton account.



4. Enter your PennKey username and password.
5. Click **login**.
6. On your first login only you'll need to **click** I understand after reading the terms of service.
7. Enjoy using your Google@Wharton account (details of the service found here).

All other Google Account Types

Contact your Wharton Computing representative to determine if your account can be migrated to Google@Wharton.

Create Your Wharton Account

Last Modified on 05/07/2025 9:41 am EDT

This article provides instructions on how to create your Wharton account based on the kind of user you are.

Non-Wharton Penn student taking classes? See Penn Students Taking a Wharton Class

Before You Start:

- Wharton Account holders must have a PennKey account. If you don't already have one, see Create Your PennKey Account.
- All users of Wharton Accounts are required to agree with Wharton's Account Policies.
- Faculty and Staff should reach out to their Wharton Computing representative to obtain a Wharton account.

Students

New Undergraduate or MBA / WEMBA students

It's best to complete this process prior to arriving on campus so you're familiar with Wharton's online resources.

Transfer / Dual-Degree Students

Accounts will be available several days after your program office notifies you of admission.

International Exchange Students

Exchange students receive accounts for the time they are attending Wharton.

Problem Creating your Wharton Student Account?

There are a few common problems when trying to create accounts; here they are along with some suggested solutions.

If any of the below solutions do not solve your issue, feel free to reach out to Wharton Computing Student Support.

Faculty, Staff, and Others

Wharton accounts for faculty, staff, and others are managed by your Wharton Computing representative. See the section below, Questions about your Wharton Account, for specific information on who to contact about your Wharton account.

Questions About your Wharton Account?

Faculty, Academic Staff, and PhD Students: Contact your Academic Distributed Representative (login required) or email acs-support@wharton.upenn.edu

Administrative Staff: Contact Admin Support (login required) or email admin-support@wharton.upenn.edu

Students: Contact Wharton Computing Client Support Services or email support@wharton.upenn.edu

Problem Creating your Wharton Account?

Last Modified on 06/25/2020 2:15 pm EDT

Before You Start

You will need one or more of the following before you can complete this task:

- A PennKey Account:
  Test your PennKey

There are a few common problems students run into when trying to create accounts; here they are along with some suggested solutions.

Student

If any of the below solutions do not solve your issue, feel free to reach out to Wharton Computing Student Support.

Faculty/Staff/PhD Students

For help, please contact your respective IT Support Representatives. Their contact information can be found at the links below:

Faculty & PhD Students

Staff

Change or Reset your Password

Last Modified on 11/19/2025 11:18 am EST

This article includes information on how to change your PennKey and Wharton passwords.

For tips & guidelines when creating password, see our Pennkey Password Guidelines article .

PennKey Username

Your PennKey username is identical to the beginning of your Wharton email address. For example, if your email address is **bfranklin@wharton.upenn.edu** then your PennKey username is **bfranklin**.

Example PennKey in an Email Address

If you have forgotten your PennKey username, you can try looking yourself up in the Penn Online Directory at https://directory.apps.upenn.edu/directory/jsp/fast.do. If you have not restricted your public profile, you may be able to see your email address and derive your PennKey from it.

Managing Your PennKey Password

🔐The minimum password length for new, and updated, PennKey passwords is now 16 characters. This applies to new passwords, or for passwords updated after November 18, 2025.

You can manage your PennKey password using the following links:

- PennKey Self-Service Password Reset (Enrollment Required)
  The PennKey Self-Service Password Reset allows you to reset your PennKey passwords through a non-Penn, pre-registered personal email address and/or cell phone number. After you've enrolled, you'll be able to request a password reset link be sent to your registered personal email or number.

- Change a Known PennKey Password
  If you know your PennKey password and would like to change it, use the Change Known Password application to create a new PennKey password.

- Reset a Forgotten PennKey Password
  If you do not remember your PennKey password and have also enrolled in the PennKey Recovery Service, you can reset your password by answering your previously filled-out security questions via the Reset Forgotten PennKey password application.

- See Penn's ISC PennKey troubleshooting tools for more tips.

If you have any problems resetting your password or need further assistance, contact the PennKey administrators at pennkey@isc.upenn.edu.

Managing Your Wharton Password

In addition to your PennKey username and password, you also have a Wharton account and password (your username is usually your PennKey).

Managing your Wharton password is easy by using the following links:

- Change your Wharton password
- Reset a forgotten Wharton password

It's rare these days that you'll need to actually use this account to log in (a few examples include certain staff and faculty network drives, office printers, and some admin accounts for certain services).

PennO365 Password

The PennO365 password is now the same are your PennKey. Please use the Managing Your PennKey section above to manage your password.

Test Your Password

PennKey

To confirm that you are using your PennKey password, try the Test My PennKey link:

- Test My PennKey

Wharton

To confirm that you are using your Wharton password, use the Test Wharton Password app:

- Test Wharton Password

Questions?

If you were unable to change or reset your password online, please contact our Client Support Services team.

Alumni Contact: alumni.relations@wharton.upenn.edu

Change Your PennKey Username

Last Modified on 01/17/2023 8:45 am EST

This article contains directions and guidelines for changing your PennKey username.

Can I Change My PennKey Username?

If you already have a PennKey username and wish to change it, the University requires that you meet at least ONE of the following criteria:

- You have legally changed your name.
    - If this is your situation, please start by updating your official University record through your Program Office.
- Your PennName is judged offensive to the Penn Community.
- You are being harassed or threatened through email.

If you meet these criteria, please contact support@wharton.upenn.edu explaining your situation.

If you do not meet these criteria, you are not eligible for a name change. The rules on this are quite strict; for more, please see the University's PennKey FAQs under **Can I change my PennKey username after I register it?**

Workaround: Alumni Forwarding Address (Students)

If you're not eligible for a PennKey username change, there is a workaround. As a Wharton student, you also have access to an alternate email alias called your Alumni Forwarding Address (AFA). This alias can be used in place of your short address, allowing you to keep your current PennKey for sign-in purposes, but use the AFA as your main means of email.

Questions?

Students: Wharton Computing Student Support

Faculty: Academic Distributed Representatives (PennKey login required)

Staff: Administrative Support (PennKey login required)

Wharton Passwords: Guidelines and Tips

Last Modified on 11/19/2025 10:23 am EST

This article outlines tips and guidelines for creating passwords for your PennKey and Wharton accounts. Both accounts share the same password requirements.

To change your password, see Change / Reset Password.

NOTE - To help take the burden of complex passwords off of your shoulders, Wharton offers access to an encrypted password manager called Dashlane. Find out more about how it works and how to sign up.

Wharton Password Guidelines

This list of guidelines and requirements will help you pick a strong password.

Password Length

Your Wharton password must meet differing requirements, depending on length (minimum length now required is 16 characters):

Password Length	Requirements	Example (Do NOT use these for your actual password.)
20+ Characters	Any US keyboard characters.	*boldaugustpretzelcloud*
16-19 Characters	Upper and lower-case letters	*BoldAugustPretzel*

Invalid Passwords

Your password cannot be:

- Easily guessed or a known compromised password (example: 12345678).
- Your PennNet ID, username (even backwards), or your first, middle, or last name.
- Single dictionary words, even if they meet the length requirements.

Refresh Your Password Frequently

You should change your password every 90-120 days (3-4 months).

Enable MultiFactor Authentication

Whenever possible you should enable multi-factor authentication. Also known as "two-step verification", this will keep your credentials safer. See our article on Two Step Verification.

Tips for Creating a Password

Your password should be easy for *you* to remember, but should not make sense to anyone else.

- **No PII.** Avoid basing your password on your personal information like your birthday, phone number, address, or other personal information that may be publicly available.
- **Make it Long.** String together four or more unrelated words for a long, secure password.
- **Mask it.** Replace letters with numbers that look similar to make an easy to remember yet strong password.
    - For example, turn "Wireless" into "W1r3l3ss" or "learning" into "13arn1ng"

For more tips, see the University's password guidelines.

Questions?

If you have questions, please contact the Client Support Services team.

Two-Step Verification: Start Here

Last Modified on 11/21/2022 12:09 pm EST

Two-Step Verification provides an added layer of protection for your online accounts. After you log in with your username and password, you'll be prompted to verify your identity – the second step – using a device in your possession, such as a mobile phone or an emailed code.

This article focuses on Two-Step Verification for PennKey and Google accounts, as all members of the Penn community have Two-Step Verification associated with their PennKey accounts, and students whose accounts were created before December 2023 have this service for their Wharton Google accounts. PennO365 accounts leverage PennKey's Two-Step Verification as well.

For more information regarding various options for Two-Step, please see our Two-Step: Methods of Verification article.

Before you Start

You will need one or more of the following before you can complete this task:

- An active account (e.g., PennKey, Google) that has not been enrolled in Two-Step Verification
- Administrative access to your smartphone (if you plan to install the recommended smartphone apps)

PennKey

Enroll in PennKey Two-Step

Full instructions found here.

Google

Enroll in Google Two-Step

Full instructions found here.

Questions?

Faculty & PhD Students (login required): Academic Distributed Representatives

Staff (login required): Administrative Support

Students: Wharton Computing Student Support

Exchange Students Account Closing To-Do List

Last Modified on 04/02/2025 11:19 am EDT

Before You Start:
This article is designed for **Wharton Exchange students**. Undergraduate and MBA students should refer to their own graduation to-do list, and PhD students should contact their Academic Distributed Representative.

Wharton Student Computing wants to ensure that your account closing process is as smooth as possible. To help you, we've compiled a to-do list of items to make sure that all your data (emails, files, & accounts) are ready to go!

Prepare Your Email for Transition

Your Google@Wharton account (Gmail, Google Docs, Google Drive, etc.) is *deleted* approximately one month after your semester ends. Learn how to save important emails and set up a Change of Address notice.
Note: Only full time graduates of the Wharton School receive an alumni email address.

1) Set a Change of Address Notice

Make sure your contacts know that your Wharton address will be expiring! Set an Out of Office providing a *non-Wharton* email address and any additional information you'd like.

Out of Office messages will stop working once your Wharton account closes. At that time, any messages sent to your Wharton student email will bounce back to the sender.

2) Transfer Your Emails

Transfer your Wharton emails to a personal account. We suggest starting this process shortly before the end of your semester.

MyWharton - Bookmark All Links

You will lose access to MyWharton within 30 days after the end of your semester. Bookmark any important links from the All Links section while you still have access!

- You will no longer be able to reserve GSRs
- Resolve any class absences with the *Class Absences Report*
- Check your grades & transcript via *My Grades*
- Take advantage of your remaining print credits before you lose them
    - Check how much you have via *Print Credit Balance*

Save Files You Want to Keep

Save important files that you'd like to keep! You'll lose access to different services at different times, so make sure you do this before or ***shortly*** after your semester ends.

Wharton Google Drive

Canvas

Study.Net

MyWhartonDrive (Y:)

OneDrive

OneDrive

Additional Backup Options

Tech Support

Wharton Computing Tech Center

Support available via in-person (walk-ins & appointments), phone, chat, and email!
Check our KnowledgeBase for list of services, troubleshooting guides, and much more.

Contact Us
Office: SHDH-114
Phone: 215-898-8600
Chat: computing.wharton.upenn.edu
Email: support@wharton.upenn.edu

Graduation Technology To-Do List

Last Modified on 08/01/2025 2:58 pm EDT

Before You Start:

This article is for Undergraduate, MBA, and WEMBA Wharton students.

PhD Students should see the Graduation Technology To-Do List for PhDs.

Wharton Student Computing wants your technology transition at graduation to be as smooth as possible. To help you, we've compiled a list of items to make sure your email, data, and accounts are ready to go and that you know all of the important dates for account closings.

Congrats on this major milestone!

Review Account Closing Dates

Your access to Wharton and Penn online services ends shortly after you graduate, and some services end earlier than others.

See our Graduating Students: Account Closing Dates articlefor a comprehensive table with important dates for your student accounts.

Prepare Your Email for Transition

Your Google@Wharton account (Gmail, Google Docs, Google Drive, etc.) is ***deleted*** one year following graduation. Learn how to save important emails and begin forwarding to your Alumni Forwarding Address.

1) Set a Change of Address Notice

Set an Out of Office providing both your Alumni Forwarding Address and a personal email address.

2) Begin Forwarding

Use your Wharton Alumni Forwarding Address to maintain a Wharton e-mail that forwards to a personal account.

3) Transfer Your Emails

Transfer your Wharton emails to a personal account. We suggest starting this process shortly before or shortly following graduation.

Manage Mailing Lists

Before you leave campus, unsubscribe from any mailing lists you're currently on. If you are the owner of a mailing list(s), identify and assign a new owner for the list. (Only **current Wharton students** can own mailing lists).

Unsubscribe

1. Navigate to the Mailing List App.
2. If prompted, login with your PennKey credentials.
3. Choose the **My Membership** tab.
4. Click **Unsubscribe** for each mailing list.

Transfer Ownership

1. Navigate to the Mailing List App.
2. If prompted, login with your PennKey credentials.
3. Choose the **List Ownership** tab.
4. Click **Edit List** for each mailing list.
5. Add any new owners and remove yourself.
6. Click **Submit Changes.**

Save Data You Want to Keep

Save data you'd like to keep before you lose access. To find out *when* you lose access to certain services, see our Graduating Students: Account Closing Dates article.

Wharton Google Drive

Canvas

Study.Net

MyWhartonDrive (Y:)

OneDrive & OneNote

Dropbox

Slack

Additional Backup Options

Migrate your G Suite Documents (for Club Owners)

When your Google@Wharton account is deleted, all shared documents will be as well! In order to avoid this, we suggest changing ownership for files that club members will still need as well as doing a complete backup of your account.

1) Change Ownership for shared files

Follow Google's instructions to change the ownership for each file to another Wharton user.

Yes, you have to do this for each file you want transferred!

2) Backup all your files

Use the Google Takeout service to download a personal backup of all your Google Drive files.

Check Your Print Account Balance

Print credit is non-refundable but is usable until your Wharton account expires. Funds remaining in PennCash will be refunded shortly following graduation.

Print Credit (non-refundable)

Print credit is non-refundable but is usable until your Wharton account expires. To check your balance, log in to MyWharton, click **All Links**, and click **Print Credit Balance**.

PennCash (refundable)

Log in to PennCash.com to view any remaining funds.

A refund will be issued automatically shortly following graduation or you can request one manually by contacting the PennCard Office.

3601 Walnut St, Rm 219, Philadelphia, PA 19104
penncard@upenn.edu
215-417-2273

Stay Connected

Even though your access to some services will end, remain a part of the Wharton family post-graduation by visiting the Wharton Alumni Relations Website and MyPenn.

Visit Wharton Alumni Relations Website

Visit the Wharton Alumni Relations website to learn more about your opportunities as a Wharton graduate.

Activate Your MyPenn Profile

MyPenn is a one-stop portal for Penn and Wharton alumni. It is your online directory that connects you with fellow alumni around the world. You will also find an events calendar and access to exclusive alumni resources. Log in today to update your profile and explore the Wharton community.

Alumni PennCard

Although your PennCard will expire shortly after graduation, alumni are able to purchase an Alumni PennCard which offers many of the same benefits and discounts as your student PennCard. For more information on what is available to you, visit the Alumni PennCard website.

Tech Support

Student Tech Center

Wharton
UNIVERSITY of PENNSYLVANIA

Support is available via in-person (walk-ins & appointments), phone, chat, and email!
Check our KnowledgeBase for list of services, troubleshooting guides, and much more.

Contact Us

Office: SHDH-114

Phone: 215-898-8600

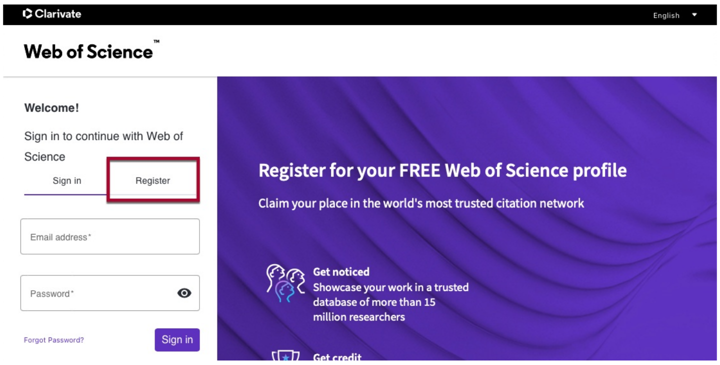
Chat: computing.wharton.upenn.edu

Email: support@wharton.upenn.edu

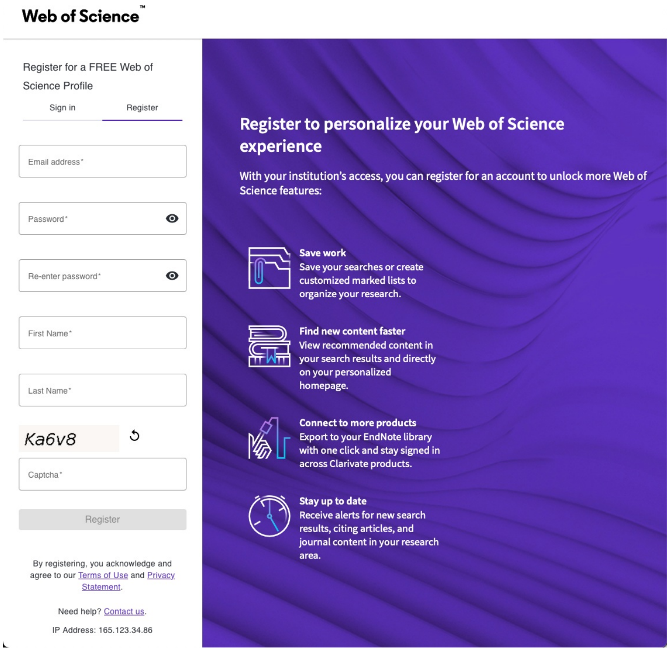
Create a Web of Science Account

Last Modified on 02/04/2026 4:43 pm EST

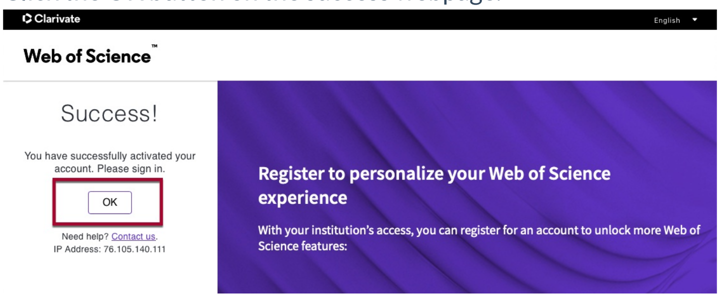
1. Go to https://www.webofscience.com and click **Register**.



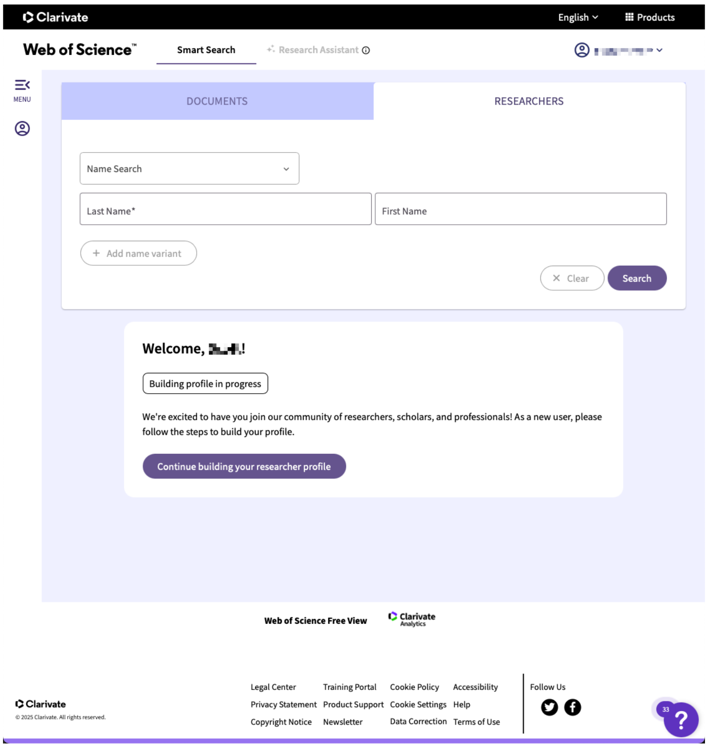
2. Enter your details (we suggest using your Wharton email address), the Captcha, and click **Register**.



3. You'll have to confirm your email address by clicking the link in an email Web of Science sends you. The subject line will be "Please activate your Web of Science account."
4. Click the OK button on the success webpage.

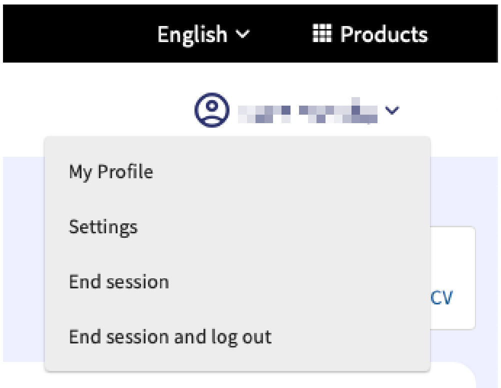


5. Log in using your email address and the password you set, and you now have a Web of Science account.

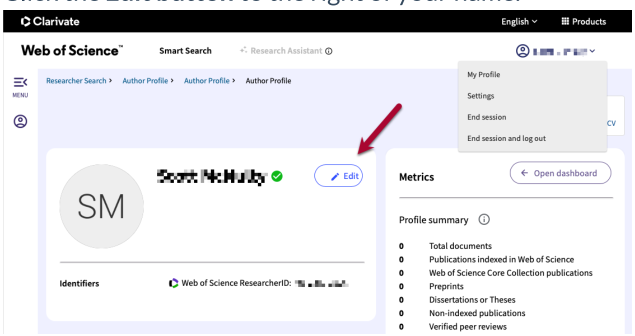


Linking your ORCiD to your Web of Science Profile

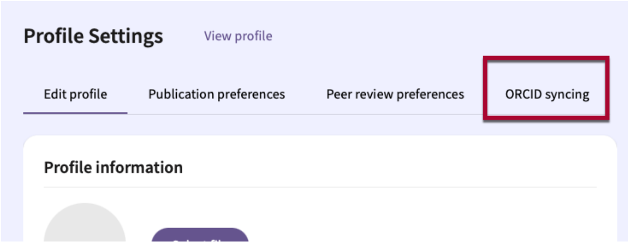
1. If you're already logged into your account, skip to step 3, otherwise, go to https://www-webofscience-com.proxy.library.upenn.edu/
2. Log in with your PennKey username and password.
3. Click on your profile picture in the top right corner of the screen and click on **My Profile** in the dropdown.



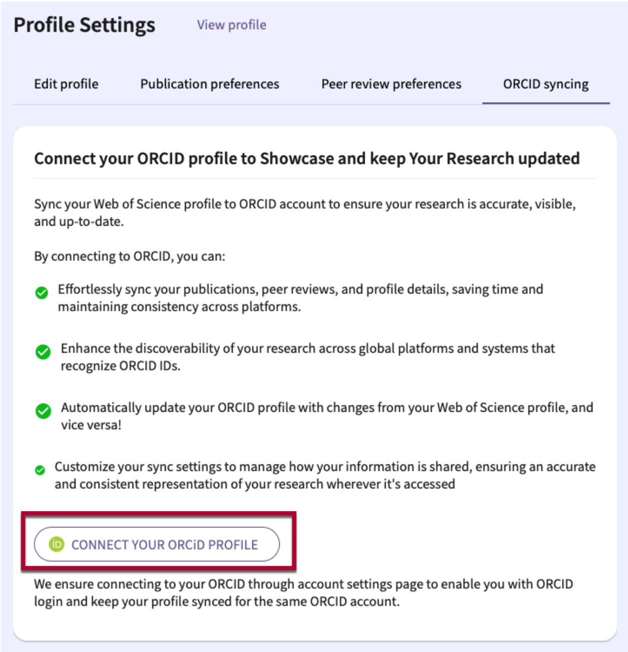
4. Click the **Edit button** to the right of your name.



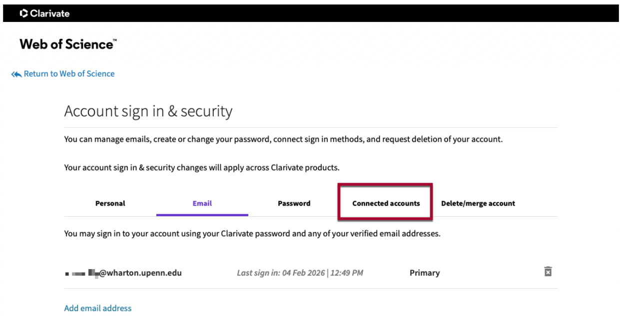
5. Click the **ORDIC syncing** tab.



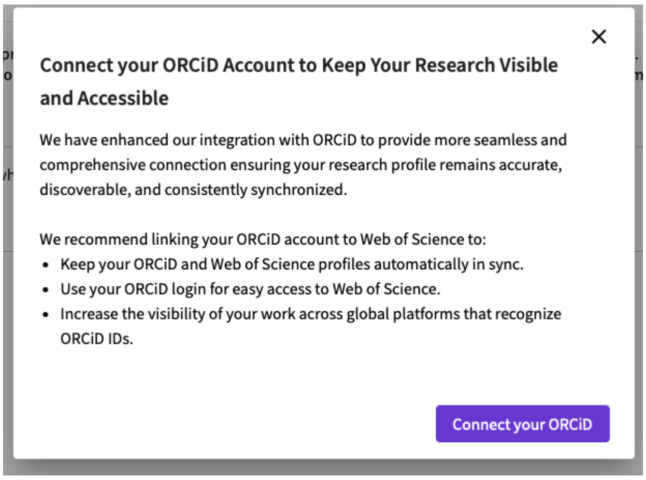
6. Click the **CONNECT YOUR ORCID PROFILE** button towards the bottom of the page.



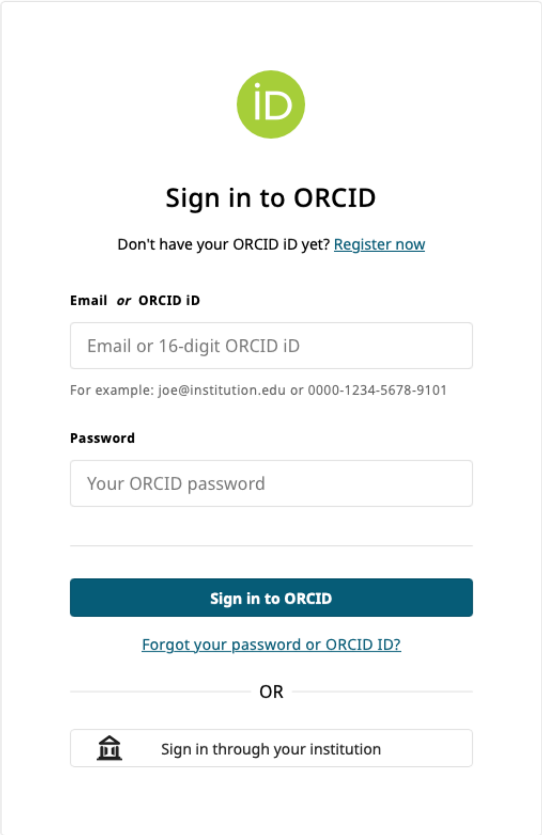
7. This takes you to the Account sign & security section of your account. Click on**Connected accounts**.



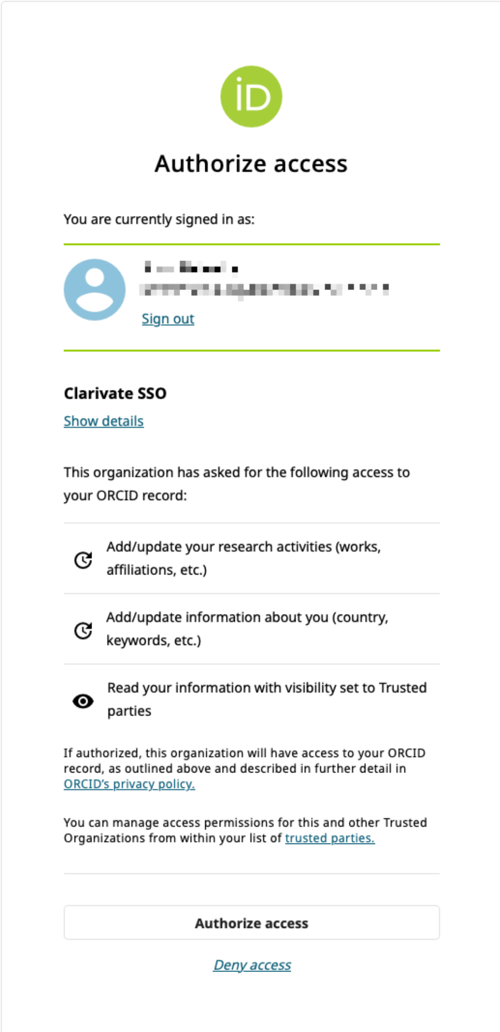
8. Click the purple **Connect your ORCiD** button in the popup that appears. *If the popup doesn't appear, click the Connect button next to ORDiD in the More Options section.*



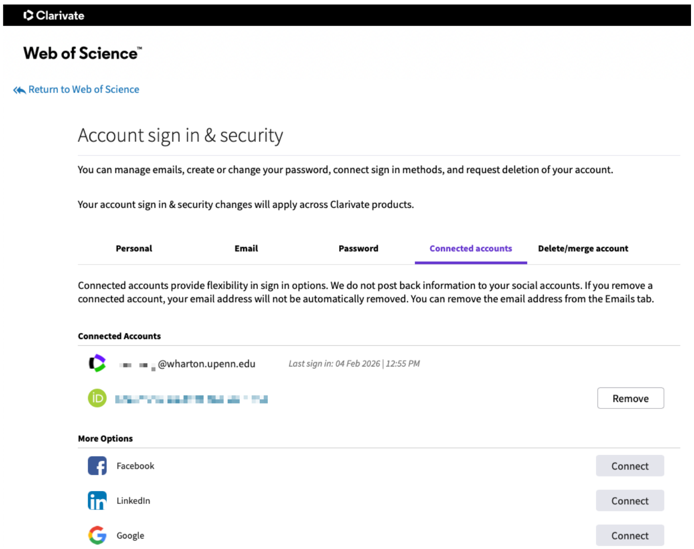
9. Enter your ORCiD username and password and click **Sign in to ORCID**.



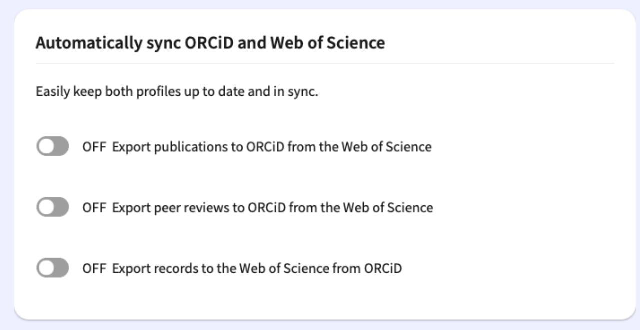
10. You'll be asked to Authorize Web on Science to access your ORCiD information. Click **Authorize Access**.



11. You'll be taken back to the Connected Accounts section of your Web of Science profile, and your ORCiD should be displaying as connected.



12. Click on the **Return to Web of Science** link towards the top of the page.
13. Go to Profile settings to configure your ORCiD sync. You can toggle on/off the following:



- Export publications from Web of Science to ORCiD
- Export peer reviews from Web of Science to ORCiD
- Export records from ORCiD to Web of Science

Alumni Forwarding Address

Last Modified on 04/02/2025 11:15 am EDT

Wharton alumni forwarding addresses should not be used to establish third-party accounts (Adobe, Microsoft Suite, Facebook, etc.).
The forwarding mechanism may stop important verification or password reset emails from arriving successfully; **Wharton cannot assist in account management if you sign up with a forwarding address.**

Full-time MBA, Executive MBA, and undergraduate students receive an alumni forwarding email address when their Wharton student account is created. This forwarding address does not expire even after you graduate from Wharton. It's also separate from your Penn Alumni address. (For information on your Penn Alumni address, see the Quaker Gmail FAQ.)

Your alumni forwarding address is linked to your Wharton student email while you are a student. If you forward your student email to another account such as Gmail, the alumni address will forward there as well. And if you **unforward** your student email, the alumni address will follow suit. They stick together while you are a student.

Before You Start
You will need:

- Full-time MBA, Executive MBA, or undergraduate student status at Wharton
- Wharton student account

Alumni Forwarding Address

The alumni forwarding address **is not a separate account**, and **you cannot log into it** as you would with a regular email account. **It only acts as a FORWARDING address.** After graduation you must choose a personal email address (e.g.: *youraccount@gmail.com*) as the destination for messages sent to your alumni forwarding address.

If you're not sure what your alumni forwarding address is, you can look it up:

- **Current MBA & Undergraduate Students:**
  - **Navigate** to the **Forwarding Application**
  - **Log in** with your **PennKey** username and password
  - **Look under the Send to Wharton Google** section. You should see your alumni forwarding address listed there.
- **Alumni & Ph.D Students :**
  - PhD students **do not** receive an automatic forwarding address. Please refer to the section below that references the process for them.
  - **Look up your name in MyPenn**, the online alumni directory. You can access MyPenn with your PennKey.
  - In your **Contact Information** section, **find your Wharton Alumni Forwarding Email** under **Email Addresses**. From there you can click to change your forwarding.
  - PhD students who don't already have one can request an alumni forwarding address by writing to the Alumni Relations office .

After you graduate, you should begin using your alumni forwarding address exclusively. Many students begin using it long before they graduate to ease the transition at graduation.

- As an alumni, you should not use your student email address as the forwarding address after you graduate. **Your account will close and therefore will be unavailable for use.**

For long-term contacts, we recommend using your alumni forwarding address on any contact information you distribute to people who may need to reach you after you graduate.

> While you are a student, you are able to set your student email to send email using your Wharton alumni forwarding address. For more information on how to do this, see our Send as Your Alumni Forwarding Address article.

Format of the Address

Alumni forwarding addresses include your first and last name and must include your graduation year. Here are some sample examples:

- **MBA Student**: Josephina.Wharton.WG24@wharton.upenn.edu
- **Undergraduate Student**: Joseph.Wharton.WH24@wharton.upenn.edu
- **PhD Students:** Jo.Wharton.WP24@wharton.upenn.edu

Changes to your alumni forwarding address are permitted under certain circumstances as long as the basic format – first_name.last_name.grad_year@wharton.upenn.edu – is maintained.

Set or Update Forwarding

Depending on where you are in the process of studying, directions for forwarding will vary. **Your alumni forwarding address is linked to your Wharton student email while you are a student.** If you forward your student email to another account such as Gmail, the alumni address will forward there as well.

Current Students

Alumni forwarding addresses for current and recently graduated Wharton students automatically forward to your Wharton student email account (username@wharton.upenn.edu) while the account is still active.

Recent Alumni: (Student Account still Active)

Your Wharton student account remains open for one year after you graduate. See Graduating Students: Account Closing Dates for complete information and timelines. To change your Alumni Address forwarding:

Alumni (Student Account Closed)

Once you graduate, use MyPenn to change the forwarding for your Alumni forwarding address:

Requesting Changes

You may request appropriate changes by contacting the Student Support Team. Please include the way your alumni forwarding email is currently displayed, and the way it should look.

The naming convention for alumni forwarding addresses includes your school (WG for Wharton Graduate, and WH for Wharton Undergraduate) and your graduating year. (Your alumni forwarding email *must* contain your division and year of graduation; it cannot be removed under any circumstances.)

If your year of graduation changes, your alumni forwarding email can be updatedby contacting the Student Support Team. Please include both the way your alumni forwarding email is currently displayed and the way it should look.

More Information

- Graduating Students: Account Closing Dates

Support

Students: Wharton Computing Student Support | **Email:** support@wharton.upenn.edu

Alumni: Please contact Wharton Alumni Relations directly: alumni.relations@wharton.upenn.edu. You may also contact the Alumni PennKey Support: alumnipennkey@lists.upenn.edu

Managing your Google@Wharton Gmail Account (Students)

Last Modified on 09/26/2025 4:37 pm EDT

This article provides instructions on how to manage your Google@Wharton Gmail account – including changing your display name, adding signatures, creating and editing labels, and more.

Before You Start

You will need one or more of the following before you can complete this task:

- An active Wharton Gmail address

Change Your Display Name

Following the steps outlined in Google's Documentation will ensure that anyone you email will see your new Display Name as opposed to your default Wharton Account Name.

If you wish to change the way your name is displayed for all G-Suite services, send an email to support@wharton.upenn.edu.

Create an Email Signature

Using a signature ensures that any email you send or reply to will have a standardized sign-off – usually including your name, contact information, and profession. See Google's Documentation.

Remember to use your Alumni Forwarding Address in your signature -- that way your contacts will be able to reach you after you graduate.

Create, Apply, and Edit Labels

Use labels to categorize your messages. Labels are like folders, but with a twist: you can apply multiple labels to a message, so you can **store** a single copy of a message in multiple labels. You can also:

- Open a label on the left side of your Mail window to see all messages with that label
- Search for all messages with a label
- See labels on messages in your Inbox, to quickly identify different types of messages

Make your labels easy to identify by applying different colors to them.

Move Emails without Labels

Clean up your inbox by archiving emails – this will allow you to **move** emails to labels, similar to the way a traditional email folder works.

Create Email Filters

Set up email filters to automatically label, block, or prioritize specific senders or domains.

Questions?

Contact: Wharton Computing Student Support

Email: support@wharton.upenn.edu

Forward Your Wharton Gmail to a Personal Mail Inbox (Students)

Last Modified on 08/27/2025 3:46 pm EDT

These directions guide you on setting up your Wharton Gmail (and Alumni Forwarding Address) to forward to a personal address.

Before You Start

You will need the following before you can complete this task:

- An active Wharton Gmail account or Alumni Forwarding Address
- An active personal Email account

Note: Forwarding your email comes with **an increased risk of deferred (delayed) messages and message bounces.** For more information, please see our Common Problems Forwarding to Gmail article.

Forwarding Your Email

Un-Forwarding Your Email

Send-As Settings

Tips About Forwarding

Questions?

Contact: Wharton Computing Client Support Services

Email: support@wharton.upenn.edu

Send as your Wharton Short Address from your Personal Gmail (Students)

Last Modified on 06/05/2025 12:45 pm EDT

This article will provide instructions on how to send as your Wharton Gmail short address (PennKey@wharton.upenn.edu) from your personal Gmail account.

Before You Start

You will need the following before you can complete this task:

- An active PennKey account
- An active Wharton account
- A personal Gmail account
- Two-Step Verification enabled for your Google@Wharton Account

Please make sure that your personal email account is hosted by Google and not any other organization (i.e. your personal email should end with **@gmail.com**)

This only works for students with an active Wharton account because Google requires authentication to an active account. After you graduate and your Wharton email account is closed, this option will no longer work.

Send as your Wharton Short Address

Directions on setting this up will depend on whether you have enabled Two-Step Authentication for your Google@Wharton account.

If Two-Step (for Google@Wharton) is not Enabled:

If your account was created **after December 2023**, you will need to enable Two-Step Verification for your Google@Wharton account.

If Two-Step (for Google@Wharton) is Enabled:

Once you've successfully enabled Two-Step for your Google@Wharton account (or your account was created before December 2023), the following steps will guide you through the process of configuring sending as your short address from your personal Gmail account.

Questions?

Contact: Wharton Computing Student Support

Email: support@wharton.upenn.edu

Send as your Short Address from your Personal Gmail (Students)

Last Modified on 06/11/2020 1:29 pm EDT

Before You Start

You may need one or more of the following before you can complete this task:

- An active Pennkey account
- An active Wharton account
- A personal Gmail account

Note: This will only work for students with an active Wharton account because Google requires authentication to an active account. Once you have graduated and your Wharton email account has been closed, this option will no longer work.

This article will provide instructions on how to send as your Wharton Gmail short address (username@wharton.upenn.edu) from your personal Gmail account.

Please make sure that your personal email account is hosted by google and not any other organization (i.e. your personal email should end with **@gmail.com**)

Send as your Short Address

This procedure is best for students who would like to send mail as their Wharton Gmail short address (username@wharton.upenn.edu) from their personal Gmail account.

Two-Step (for Google@Wharton) is not Enabled:

Two-Step (for Google@Wharton) is Enabled:

Questions?

Contact: Wharton Computing Student Support

Email: support@wharton.upenn.edu

Send as your Alumni Forwarding Address (Students)

Last Modified on 02/19/2024 10:25 am EST

This article provides instructions on how to send as your Alumni Forwarding Address from either your Wharton Gmail account or your personal Gmail account. This option is frequently requested by students and alumni who want to share their Wharton Alumni forwarding address with contacts.

This will only work for students with an active Wharton account because Google requires authentication to an active account. Once you have graduated and your Wharton email account has been closed, these options will no longer work.

Before You Start

You might need one or more of the following before you can complete the following task(s):

- An active PennKey account
- An active Wharton account
- An Alumni Forwarding Address
- A personal Gmail account

From your Wharton Gmail Account

Option 1 - Set as Default through Gmail Settings

This procedure works best for students who want to use their Alumni Forwarding Address as their default/primary address but **don't** want to change their Wharton Gmail Account credentials.

Option 2 - Add as an Alias through Gmail Settings

Note: Your Alumni Forwarding Address should be added as an alias to your short address by default.**If it is not**, follow the directions below.

This procedure works best for students who want to send and receive as their Alumni Forwarding Address but want to keep their short address (username@wharton.upenn.edu) as their default/primary address.

From your Personal Gmail Account

Add as an Alias through Gmail Settings

This procedure works best for students who want to send and receive mail as their Alumni Forwarding Address from a personal gmail account but don't want their Wharton Gmail Account login credentials to change.

Questions?

Contact: Wharton Computing Student Support

Email: support@wharton.upenn.edu

Setting Up an Out-of-Office/Vacation Message in Gmail

Last Modified on 07/25/2023 11:55 am EDT

Out-of-office or vacation messages are a great way to let people know you may be delayed in getting back to them, or that your email address is changing. Google offers a service for Gmail users that allows for automatic out-of-office replies. Wharton students may find the service useful for the following situations:

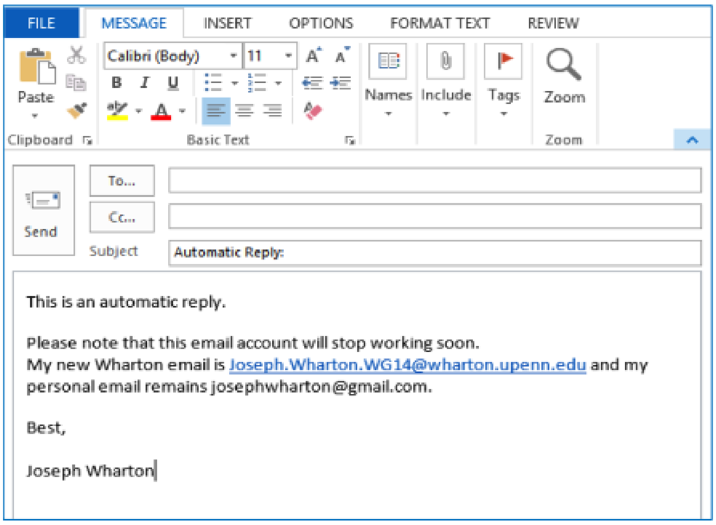
- Travel during school breaks.
- Notifying contacts that your email address will change (following Graduation or other circumstances).

Before You Start

You might need one or more of the following before you can complete this task:

- An active Gmail account (Google@Wharton or personal)

Sample Address Change Notification



Setup

Gmail provides step-by-step directions on setting up an out-of-office reply: https://support.google.com/mail/answer/25922?hl=en.

Questions?

Contact for Students: Wharton Computing Student Support | support@wharton.upenn.edu

Contact for all others (choose your IT support link): Wharton Computing IT Support

Retrieve Complete Headers from an Email

Last Modified on 08/22/2024 10:58 am EDT

When troubleshooting email problems, we may ask you for the headers of an email to support a technical issue (for example when emails are being blocked by our spam filters or anti-phishing services) or to support a security-related matter.

> When you are dealing with an actual suspected phishing attack, Wharton's Information Security Office needs to see the whole message, not just the headers. See the section Forwarding a Message as an Attachment below for advice in these situations.

For more information about headers and their function, see Penn ISC's information on Email Headers.)

Unfortunately, simply forwarding an email to your Wharton Computing representative will not include the email's original header information. Instead, you'll need to follow the directions linked below for the email client you use to read your email.

Email Headers by Client

Each email client displays their complete headers in slightly different ways. Find your email client and use the links provided for directions on copying email headers.

If you don't see your client listed, see ISC's Email Header section on Other Email Clients.

Gmail

Use this Gmail Help article to help you locate the message header for an email.

Outlook (Windows and Web Client)

Use this Microsoft Support article to help you locate the message header for an email.

Outlook (macOS)

Use these steps to help you locate the message headers for an email:

Apple Mail

Use this Apple Support article to help you locate the message header for an email.

Forwarding a Message as an Attachment

In cases where a phishing email is suspected, we will need the following information in order to fully investigate:

1. In your mail client, **right-click or open the options menu** on the original email.

2. In the menu that appears, select **Forward as Attachment**.
3. A new email will appear with the full message attached as a .eml file attached.
4. Add **security@wharton.upenn.edu** in the "To:" field of that new email and send!

Depending on the type of device you are using, you may also be able to simply click and drag the original email to your desktop to get the .eml file we need - you can attach that in an email to security@wharton.upenn.edu. On iOS/Android mobile mail clients, the menu on the original phishing message should also show a "Forward as Attachment" option; in these cases skip to Step 4 and send.

Questions?

- General Questions - contact your Wharton Computing representative.
- Urgent Security Issues/Questions - contact the Wharton Information Security Office.

Set Your Primary Email Address in Penn Directory

Last Modified on 08/16/2023 12:11 pm EDT

Many software services at Penn rely on an email address for identifying you. For this reason, you will need to choose a primary address and and enter it in the Penn Directory.

Before You Start

You will need one or more of the following before you can complete this task:

- A Pennkey account
- A Wharton account

Students

In most cases, Wharton students will want to set their Wharton address as their primary address. However, here are some situations where that might be different:

- Dual Degree students have two email addresses, one for each degree program.
- Students forwarding to a personal email address may wish to consider which address they prefer to list as a primary address in the Penn Directory.

Services that Use Penn Directory Listing

Keep in mind that the following services use the listing in the Penn Directory as their email address of record:

- Penn Canvas
- Study.Net
- Virtual Meetings -- requires a Penn email address as the primary address.
- Penn Emergency Notifications (for Faculty and Staff)
- Wharton Slack

Set Your Default Listing

To make your Wharton email address your primary address, follow these steps:

1. Navigate to the **Penn online directory**: http://www.upenn.edu/directories/
2. Click the **Update directory listings** link and **log in** with your Pennkey credentials.
3. Click **Manage Public Profile**
4. Edit the **Email field** to make Wharton your primary address.

Questions?

Students - Wharton Computing Student Support

Faculty - Academic Distributed Representatives

Staff - Administrative Support

Whitelist Addresses or Domains in Gmail

Last Modified on 06/25/2020 4:14 pm EDT

Before You Start

You might need one or more of the following before you can complete this task:

- An active Gmail account
- An email address or domain you want to receive mail from

Spam, Junk and Whitelists

Email providers (Gmail, O365) have spam filters that try to ensure untrustworthy, or possibly malicious, email doesn't make its way to your Inbox. Gmail provides basic spam filtering that will automatically move suspicious mail to your spam folder. Some email providers call this folder "Junk", so keep an eye out for either term.

Gmail also offers an option to add specific addresses or domains as "safe" so they aren't automatically marked as Spam. This list is known as a "Whitelist". If you want to accept all email sent from Wharton, for instance, you can go into your settings in your Gmail inbox and add **@wharton.upenn.edu** (or another domain, for instance @seas.upenn.edu).

Your Whitelists only apply to your Gmail account, and must be managed and set by you.

Adding Addresses to Your Whitelist

The instructions below detail how to add a filter that will whitelist specific addresses or domains will NOT be sent to spam:

1. Log in to your Gmail at gmail.com.
2. Click the gear icon in the top-right, and select **Settings.**
3. Click the **Filters and Blocked Addresses** tab.
4. Click **Create** at **New Filter.**
5. In the pop-up window, enter the email address you want whitelisted in the From field.
    - NOTE: If you want a whole domain whitelisted, you can just enter the domain (ie, "@example.com").
6. Click **Create filter.**
7. Check "Never send it to Spam".
8. Click **Create filter.**

Questions?

Student - Wharton Computing Student Support

Faculty - Academic Distributed Representatives

Staff - Administrative Support

Back Up Wharton Account Data using Google Takeout (Students)

Last Modified on 04/08/2025 5:26 pm EDT

This article provides instructions on how to back up your Wharton account data. **Every student should have a Google Takeout Archive** to ensure you have all of your Wharton account data. Instructions on how to transfer/import/view your mail using various services can be found **here**.

You can also do this for any personal Gmail account, just replace **your Wharton address** in the following instructions with your own personal Gmail address.

Before You Start

You will need one or more of the following before you can complete this task:

- An active Wharton Gmail account
- A few days for processing time
- Proper storage space on your personal computer

Google Takeout is an archiving service that allows you to export data from your Google@Wharton account to a zip file that you can store on your computer or cloud service. This service can be used by Mac and Windows users. Google Takeout will allow you to export data from the following Google Services (and more) associated with your Google@Wharton account:

- Mail (as MBOX files)
- Calendar
- Contacts
- Google Drive

Note: Sharing a document in Google Drive does **not** grant ownership of the file. When the owner's Google Drive expires, if the owner has not been changed, the document will no longer be available to the shared users.

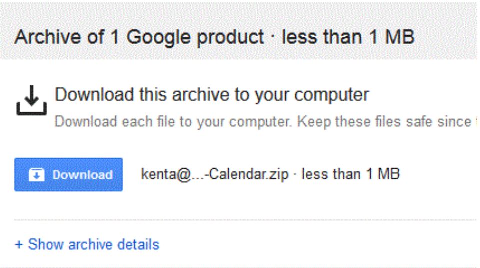
Create a Backup Using Google Takeout

1. **Visit** http://www.google.com/takeout
2. **Sign-in** using your Wharton email address and password
    - **Note:** Please check what Google account you are signed in to. Google Takeout is able to create a backup for any Google account, if you need to back up your Wharton account, please sign in to that.
3. **Select** the items you would like to backup (blue = selected)
4. **Scroll down** and click **Next Step**
5. **Select** your Delivery Method, Frequency and File Type/Size
6. Click **Create Export**
   At this point the services you selected are being backed up. You do not need to monitor this process and do not need to stay logged in to your account for the process to continue. You will be notified by email when your back up is ready to be accessed.

   You can also access your archive by going to http://www.google.com/takeout and clicking the **Manage**

Exports.

7. Click **Download** to save the zip file locally once your archive is ready.



Note: Your archive is only available for seven days on Google's servers so you will need to download this file within this time frame.

8. **Backup** your Takeout file(s) to a safe location
9. **Verify** that all your files are in your Google Takeout archive as expected

Import Your Data

E-Mail: To see view/import your Mail data backup or learn how to transfer emails using other services, please see the instructions in this article.

Calendar: Please see Google's instructions on how to import your Wharton Calendar into another Gmail account.

Contacts: Please see Google's instructions on how to import your Wharton Contacts into another Gmail account.

Shared Files

Sharing a document in Google Drive does **not** grant ownership of the file. When the owner's Google Drive expires, if the owner has not been changed, the document will no longer be available to the shared users.

You cannot change owners to a user outside the Wharton domain, and thus this feature is most commonly used for clubs. See Google's documentation for how to change ownership of a file in Google Drive, Docs, Slides, or Sheets.

Questions?

Contact: Wharton Computing Student Support

Email: support@wharton.upenn.edu

Transfer/Backup Wharton Email to a Personal Account (Students)

Last Modified on 09/10/2025 4:59 pm EDT

Most students start the process of moving their Google@Wharton email account to a personal account shortly before or shortly following graduation. Regardless of how you view your mail, **every student should have a Google Takeout archive**. See our Back Up Data using Google Takeout article.

Please Note:

- This article **only provides instructions for E-mail** backup, import, or transfer. **For any other data**, please see the Google Takeout article.
- Contacts & Calendars are **not moved**. For instructions on how to back up that data, see the Google Takeout article.

Before You Start

You may need one or more of the following before you can complete this task:

- An active Wharton account
- An active personal Gmail account
- A Google Takeout Backup (instructions here)
- The M365 Suite (including Outlook) or MacMail, depending on which you use.

Wharton Gmail to Personal Gmail (Takeout Transfer)

This is the recommend method for backing up your Wharton email and is best for students who want all of their Wharton email transferred to their personal Gmail account. Please keep in mind the following things before starting this process:

- **This method can take a long time**, especially if you have a lot of email in your account. Don't wait until a few days before your account closes to start.
- **Label structure is not kept.** Any mail in the Inbox or various labels will be moved into one label in your personal account.
- **Contacts and Calendars are not copied**. To back up these items, create a Google Takeout backup.

Takeout Transfer has the ability to migrate Google Drive data. **However**, if the destination Google Drive does not have enough free space you will not be able to initiate a transfer. If you would like to back up your Google Drive data, we recommend creating a Google Takeout backup.

Back Up via Outlook

PST File Backup

This method is best for students who do not or will not have access to a personal Gmail account. Please keep in mind that you need access to Outlook to be able to view any mail backed up with this method.

Back Up via MacMail

Google Takeout Import

The following methods will guide you through how to view a Google Takeout archive for mail. They can also be used if you do not or will not have access to a personal Gmail account or Outlook. These methods are not guaranteed to retain label structure as Gmail's labels are not actual folders, and are not carried over when converted into the mbox file (via Google Takeout).

Thunderbird Import (Windows)

MacMail Import (MacOS)

Questions?

Contact: Wharton Computing Client Support Services

Export & Transfer Messages from Mail on Mac (Students)

Last Modified on 05/11/2023 1:15 pm EDT

This article is for students who are already viewing their Wharton email in Mail on Mac or Outlook and want to create a backup of their data. **For more information on backing up or transferring your Wharton Gmail account data, please see our Transfer/Backup article.**

Before You Start

You might need one or more of the following before you can complete this task:

- An Email configured in Mail on Mac or Outlook
- Enough storage space for your Mail data file

Mail on Mac: Export Mailbox as an MBOX File

1. In MacMail, **click** on the mailbox you would like to export on the left hand side in the Mailboxes tab.
2. **Click** on **Mailbox** in the menubar.
3. From the Mailbox menu**, Select Export Mailbox...** And **choose** a save location.
4. You will now have a MBOX file safely stored on your computer.

Outlook: Export Mail as a PST File

For instructions on exporting Outlook data, please see Microsoft's instructions here.

Questions?

Contact: Wharton Computing Student Support

Email: support@wharton.upenn.edu

Configuring Outlook for Gmail (Students)

Last Modified on 06/05/2025 12:42 pm EDT

This article provides instructions on how to set up Wharton Gmail accounts within Outlook for both Windows and MacOS computers.

For the best experience, Wharton Computing recommends accessing your Google@Wharton through a web browser like **Chrome**.

Before You Start

You might need one or more of the following before you can complete this task:

- An active Wharton Gmail account
- Microsoft Office Suite (including Outlook)
- G Suite Sync Tool downloaded
  - G Suite Sync ONLY works for Education Gmail accounts, NOT personal Gmail accounts

Microsoft Outlook for Windows

Using GWSMO (formerly G Suite Sync)

For students who prefer to use Outlook for their Wharton Gmail account, they'll need to download and install Google Workspace Sync for Microsoft® Outlook. This will sync Email, Contacts, and Calendars every time you open the application. It will also push any changes made to Calendars in Outlook to Gmail.com.

Microsoft Outlook for Mac

This option is best for students who are using a Mac and prefer Microsoft Outlook's interface. Alternatively, MacOS users can follow the instructions outlined in MacMail for Google@Wharton (Students).

Questions?

Contact: Wharton Computing Student Support

Email: support@wharton.upenn.edu

MacMail for Google@Wharton (Students)

Last Modified on 01/09/2024 11:27 am EST

This article includes directions for configuring your Google@Wharton Email account in Mac Mail.

Wharton Computing recommends using a web browser like **Chrome** (rather than using MacMail) to access your Google@Wharton Inbox.

Before You Start

You need the following before you can complete this task:

- An active Google@Wharton account (Students)
- A MacOS computer

Configuring Mac Mail

If you have never added an account to MacMail

1. Open **Mail.**
2. Select **Google** and click **Continue.**
3. Sign in with your Wharton Gmail Account.
4. Select whether you want **Mail, Contacts, and/or Calendars** to be synced.
5. Click **OK.**

If you already have an account in MacMail

1. Open **Mail.**
2. Click **Mail** in the top-left corner of your screen.
3. Select **Accounts.**
4. Select **Google** and sign in with your **Wharton Gmail Account.**

Questions?

Contact: Wharton Computing Student Support

Email: support@wharton.upenn.edu

Accessing a Wharton Group Email Account (Students)

Last Modified on 05/01/2023 10:30 am EDT

This article provides instructions on how to access a group account on Wharton email systems for students.

Before You Start

You might need one or more of the following before you can complete this task:

- Google@Wharton account
- Requested access to a shared group account from the group's owner.

Google@Wharton Group Accounts

Once you have been granted access to the shared account, you will receive an email from Google asking you to **accept access** to the account. After you have accepted access, do the following to access the account.

1. Log in to your **Wharton Gmail** account.
2. Click your **account photo** (located in the upper-right corner of the page). You should be able to see the group account in this menu.
3. From the drop-down menu, **select the desired delegated account**. A new window or tab will open displaying the delegated account.

Questions?

Contact: Wharton Computing Student Support

Email: support@wharton.upenn.edu

Mailing Lists: Overview

Last Modified on 12/06/2023 1:49 pm EST

This article describes Wharton's mailing list system that provides mailing lists for courses, clubs and organizations related to students' academic and extracurricular pursuits.

For information on the official mailing lists for Cohort and Student Class lists, see Cohort and Class Lists.

Before you start:

You may need one or more of the following before you can complete this task:

- An active Wharton account
- An active PennKey account

Mailing lists can be open to anyone, or restricted to just the organization. Lists can also be set up so that only certain people can send to that list.

Accessing Mailing Lists

All Wharton mailing lists use the same list application used by the University. You can visit this application by navigating to https://apps.wharton.upenn.edu/mailinglist/.

You can view the lists you are already on, subscribe to new lists, or unsubscribe. List owners can easily add other administrators or moderators, change owners and manage list subscribers.

Individual Subscriptions

Individuals can subscribe themselves to most mailing lists, unless the list is private or is an official list that syncs automatically based on enrollment (course lists) or student status (class lists).

Managing Mailing Lists

Students, staff and faculty can request a mailing list for a group.

Questions?

Contact: Wharton Computing Student Support

Email: support@wharton.upenn.edu

If you have more questions about how your Alumni Mailing Address works, please contact the Alumni Relations office.

Spam Filtering Overview

Last Modified on 02/01/2024 2:14 pm EST

About 50% of all email messages sent globally are spam. Email providers – including both Microsoft and Google – spend a lot of time, effort, and money making sure that most of that spam doesn't end up in your inbox (and that legitimate emails don't end up in your spam folder).

How Spam Filtering Works

Broadly speaking there are two methods used to automatically flag spam messages: heuristics and neural networks. Each company has their own ways of using these methods, which they keep secret in an effort to thwart spammers.

Heuristics

Heuristics is just a fancy way of identifying common characteristics of a thing and using those characteristics to categorize them. In this case, a lot of spam messages share qualities like:

- Country of origin
- Mismatched sender/reply to addresses
- Subject matter
- And more

Email systems keep track of these characteristics, or subscribe to a clearinghouse that provides lists of the characteristics to look out for, and flag messages with certain combinations as spam.

Neural Networks

Google attributes its success in identifying and filtering spam to neural networks. Neural networks are, simply, a way in which one can train a computer, or a network of multiple computers, to make highly accurate decisions about what a thing might be.

This means that Google has a bunch of computers that have been trained, by looking at countless examples, to identify spam messages. But wait, you say, that sounds an awful lot like heuristics! Sort of, but not quite.

Think about when you send someone to the market with a shopping list. Heuristics is the kind of shopper who will stick exactly to the list. If the store doesn't have the exact yogurt you want, you aren't getting yogurt. If a spam message doesn't match something on the characteristics list, it isn't marked as spam. Neural Networks, however, are the sort of shopper who will see what you asked for but is willing to get something that meets the need even if it isn't an exact match. Neural Networks can flag things that perhaps aren't obviously spam according to some checklist but meet the general spam profile that it has learned.

Client Side Spam Filtering

Both of the methods described above are applied to your email messages by your email provider before the message ever gets delivered to you. They all happen on those remote email servers and as such are known as "server side" Spam filtering.

Client side filtering happens on your computer and in your email client (Outlook, for example). Most programs allow you to manually flag messages as spam, remove messages from your Junk folder, and create rules that will filter messages into Junk. These are all known as "client side" filters, and can be tweaked individually.

More Information

- Penn Email Routing
- Why you might get Spam from Wharton addresses (Email Spoofing)
- Creating an allowlist on Gmail (Students)
- Creating Safe Senders in Microsoft O365

Class Lists

Last Modified on 07/30/2024 3:34 pm EDT

This article details how course and class lists work at Wharton, and how to use them.

For information on individual and group mailing lists, see Mailing Lists: Overview.

Before you start:

You may need one or more of the following before you can complete this task:

- An active Wharton account
- An active PennKey account

Student-focused Services

Class Lists

Wharton class email lists refer to the mailing lists for your entire class (e.g. Wharton Undergraduates Class of '26).

Course Lists

The University Classlist Service provides a way to send an email directly to all of the members of your course. These lists are created automatically by the enrollment of the class. Students must have their email address listed in the Penn Directory in order to be included on the list. If you are enrolled in a class and would like to be able to email the entire class you can ask your instructor for your class's class list email address.

For more information on Course/Class lists, see Penn's ISC Class Mailing Lists article.

Faculty-focused Services

Several features of the faculty tools available provide additional methods of communicating with students.

Alumni and Lists

Lists are no longer available for alumni. If you are a *Wharton Magazine* Class Notes correspondent who has used these lists for outreach to your class, please contact the Alumni magazine at classnotes@wharton.upenn.edu for updated outreach guidelines.

MyPenn is a good way to get in touch with other fellow alumni. If you have more questions about how your Alumni Mailing Address works, please contact the Alumni Relations office.

Questions?

If you need help with Classlists or receive an error, contact your Wharton Computing representative.

Add/Remove M365 on Mobile

Last Modified on 03/01/2024 5:36 pm EST

These directions describe how to add or remove the M365 account from your iPhone's **built-in** mail and calendaring applications. The Android instructions only cover how to configure the Outlook mobile app.

If you prefer to install the Microsoft Outlook app (recommended for staff) on your mobile device, see these directions from Microsoft.

Before You Start

First, please ensure that you are enrolled in PennO365 Two-Step Verification by following the steps here: Two-Step Verification (PennO365 Email Accounts)

Add M365 Account

Android (with Duo Two-Factor Authentication)

iOS (with Duo Two-Factor Authentication)

Remove M365 Account

iOS (with Duo Two-Factor Authentication)

These instructions will show you how to remove your PennO365 account for the Mail app on iOS.

If you have an active O365 account, removing the account will only remove your information from the phone - and everything in your account will remain available on the server and on any other devices that you've configured to read your email.

Questions?

- Faculty & PhD Students →contact your Academic Distributed Representative (login required)
- Staff → contact Admin Support or email admin-support@wharton.upenn.edu
- Students → contact Wharton Computing Student Support or email support@wharton.upenn.edu

Course Class Lists

Last Modified on 11/18/2024 2:58 pm EST

This article explains ways to communicate with other members of your courses. It includes a review of the course membership mailing lists that are created by the University for each course.

Before You Start

Keep in mind that this article covers the **communication options for individual courses**. If you are looking for information on Class lists or Cohort lists, see our Class and Cohort Lists article.

Course Communication Methods

There are three main ways to communicate with the members of a specific course:

Canvas Announcements

Prerequisites: Only faculty and some staff can post announcements. Faculty must request and **Publish** the Canvas site before sending announcements. Access to a computer and a compatible web browser is required to send an Announcement.

Use case: Best for general class communications

Reasons to use:

- A record of all messages is stored in Canvas and it is easy to use.
- Students who add the course late can go back and look at what they missed.

Things to be aware of:

- Students can opt-out
- There are no error messages or out-of-office responses.

The Instruction Center "Copy all Emails"

Positives: This works with any email client and can be sent from any email address. There are error messages and out-of-office responses. Students can't opt-out. You can exclude people from the communication. Instant communication. Attachment size is limited by the email server.
Negatives: Email addresses of students are shared with everyone unless you BCC: Someone could reply with sensitive information. No record of messages for students who join a class late.
Use case: Urgent communication. Back up to Canvas.

Prerequisites: This option is only available to faculty who are teaching a course. Students must have an email address listed in the Penn Directory. Access to a computer and compatible web browser is required to copy the list of addresses into an email client.

Classlist Email Address

Positives: There are error messages and out-of-office responses. Students can't opt-out. Instant communication. Email addresses of students are not shared with everyone. ACS closely monitors the lists.
Negatives: Very old technology. No record of communications. Large attachments can generate errors.
Use case: Urgent communication. Simple to use on the go or with a low-quality internet connection. Back up to Canvas.

Prerequisites: Must be teaching a course. Both the students and professors must have an email address listed in the Penn Directory. Any device that can send an email sends a message to a classlist.

Setting Up Your Course/Class List

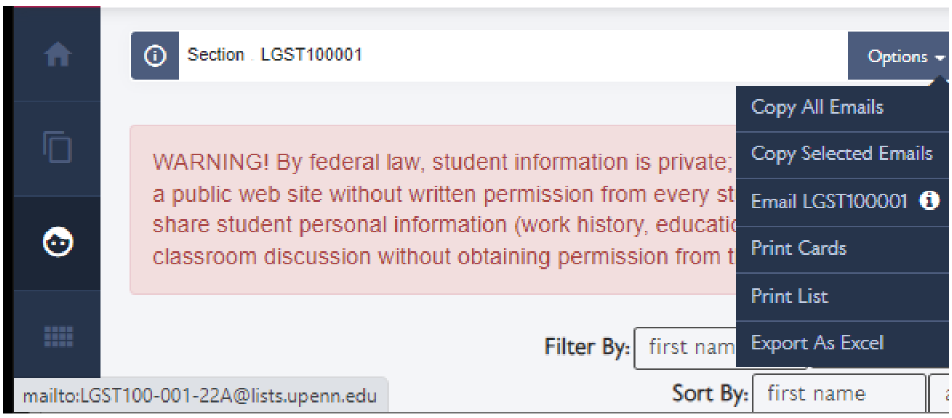
The University Classlist Service provides a way to send an email directly to all of the members of your class.

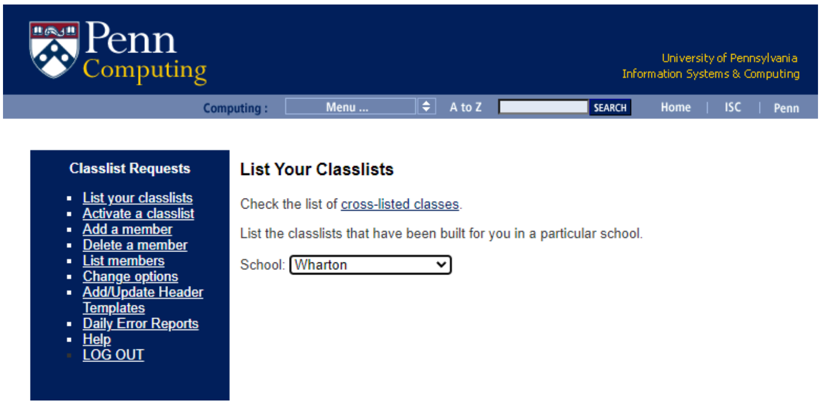
Getting the Service

The classic service is managed by Penn's ISC:

https://www.isc.upenn.edu/classlists

Class lists can be found in the instruction center or by logging into the Classlists service:





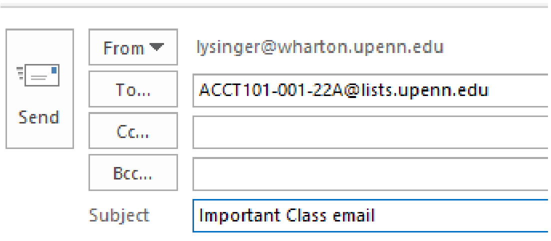
List Format

The format of class list email addresses is as follows:

ACCT101-001-22A @lists.upenn.edu
Department - Course Number - Section - Year and Semester
(A=Spring, B=Summer, C=Fall)

Sending a Message

To send a message you can simply put the address into the To... field of your email client:



The email address faculty and staff use to send and receive messages must be the same email you have listed in the Penn Directory.

Name	Affiliation - Title/major Organization	Contact
Ben Franklin	Faculty - Wharton	215-898-5000 benfranklin@wharton.upenn.edu

Questions?

If you need help with Classlists or receive an error, contact Academic Computing Services.

If ACS is unable to solve the problem they will escalate the issue to help@isc.upenn.edu

Common Problems When Forwarding Email

Last Modified on 09/25/2025 5:10 pm EDT

Forwarded Email May Bounce or be Deferred

We have seen occasional increases in bounced (i.e., messages not delivered with a note to the sender) or deferred (delayed but delivered) messages sent to Wharton/Penn addresses that are forwarded to a personal address (this most often occurs when forwarding to a free Gmail address, but does affect other email providers).This intermittent issue primarily affects students who are forwarding their Google@Wharton account to another address, and alumni using their alumni forwarding address.

Another common problem we have seen when email forwarding is active is the non-delivery of verification codes or other emails to the destination address. This is because forwarded mail needs to circumvent security checks between both the Inbox from which it is being sent, and the Inbox that is receiving it, in order to effectively 'forward' your mail. These deferrals and bounces are often the results of unexpected changes in the way the recipient's email host handles spam email or changes made to mail security settings that affect all mail sent from the University.

We are investigating long-term architectural changes that we hope will mitigate these issues, but currently there is no universal solution to this problem.

How it Affects You

Bounced Messages

A message that "bounces" never reaches your inbox and generates an error notification to the sender. A reason and error code is often provided in this situation, for example:

```
550-5.7.26 This message does not have authentication information or fails to
550-5.7.26 pass authentication checks. To best protect our users from spam, the
550-5.7.26 message has been blocked. Please visit
550-5.7.26  https://support.google.com/mail/answer/81126#authentication for more
550 5.7.26 information.
```

Generally, senders will notice the error and notify you via an alternate contact method if your forwarded mail is consistently bouncing messages. Most bounces/message denial reasons will point back to configurations on the part of the sending email domain as the cause (i.e., there is an issue with the sender's configuration).

Deferred Messages

Deferred messages are emails that won't arrive in your inbox until hours - or in some cases more than a day - after sending. Deferrals usually occur due to transitory reputation issues with the sending mail servers or, in some cases, Penn's mail servers. Email headers included as part of the message will confirm when and where delays happen. If instructed by Gmail to "try again later," Penn's mail servers will reattempt sending the message until successful (as confirmed in the headers).

Take Action

Students/Faculty/Staff

If either of these situations occurs for you, and you have a Wharton or Penn-provided Google mailbox, we **recommend unforwarding your mail so that mail arrives directly into your inbox**. Unforwarding your mail reduces the likelihood of blocked messages to near zero, and significantly decreases the chances of having messages deferred.

Alumni Forwarding

For users without a Wharton or Penn-provided Google mailbox, such as alumni, you may **try changing your forwarded mail destination to a non-Gmail provider** (e.g., Yahoo or Outlook). However, this may not work in all situations and may pose similar or new challenges to those experienced with Gmail.

Questions?

We will update this page as we learn more about the problem, and/or identify a more permanent solution. If you still have questions, please contact:

Current Students: Wharton Computing Client Support Services

Alumni: Alumni Relations

PennO365 Shared Mailboxes

Last Modified on 09/23/2024 11:52 am EDT

This article provides instructions on requesting and opening a shared mailbox in Penn's O365 mail system.

Before You Start

You will need the following before you can complete this task:

- An active PennKey account
- Access to a PennO365 email address

Requesting a Shared Mailbox

Requesting a new shared O365 email account

- Write to your Wharton Computing Support Representative requesting a shared mailbox to be created with the desired email address. The front part of the address (before the @wharton.upenn.edu) must be between 9 and 17 characters to meet naming standards.
- Provide a display name for the mailbox (often some variation of the email alias).
- Provide the PennKeys of everyone who should have **Send As** access and/or **Full Access** to the mailbox.

Requesting access to a shared O365 email account

If you need access to an already-created O365 account:

- Write to your Wharton Computing Support Representative to request **Send As** access and/or **Full Access** to a shared mailbox
  - Include the **email address of the mailbox** in your request.
  - Provide the PennKeys of everyone who should have **Send As** access and/or **Full Access** to the mailbox.

Once changes have been made, it takes approximately 15 minutes to receive access to the account.

Accessing a shared mailbox

Accessing a shared mailbox using Outlook on the web

- Log in as yourself to your regular PennO365 account.
- Go to your picture in the top right hand corner.
- Select **open another mailbox.**
- Search for and **select the mailbox.**

Accessing a shared mailbox using the Outlook client (Windows)

- You should be able to see the email as an additional mailbox in your Outlook profile about 15 minutes after it has been delegated, but you can also set up a separate profile using your own credentials (see directions in the next step).

Creating an Outlook profile (Mail Merge Option):

If you need to create a mail merge with mail coming from the address of the shared mailbox, you will need to sign out of your mail profile and sign into the shared account. To create a profile for the shared account in your Outlook, follow these directions:

- Go to **Control Panel**, search for and select **Mail (Microsoft Outlook)** => **Show profiles...**=> **Add**.
- **Enter a description**. This will bring you to the Add Account window. It should either show an empty name and email address field, or it will autofill your information.
- **Change the email address** to the shared account's address (eg: *whausername*@wharton.upenn.edu). Name and password fields can be ignored. Note: any shared account will have **wha** prepended to the username.
- Once Outlook finds the account, a new window will pop up with the shared email auto-filled in the account field. Continue to the next prompt.
- Another window will pop up with the shared email auto-filled. Change the email address to your **PennO365 username** (eg. pennkey@upenn.edu) and your **O365 password** (it needs to be an account that has access to the shared mailbox) and **click OK**.

This should finish the setup and now you can access the account in its own profile.

Accessing a shared mailbox using the Outlook client (Mac)

- In Outlook, navigate to **File** => **Open** => **Shared Mailbox...**
- Start typing the email address and select and open the mailbox once it appears.

Passwords

Access to non-PennKey mailboxes is limited to delegation only. Logging in with a password on new non-PennKey mailboxes is automatically disabled. This was done to mitigate security risks as non-PennKey user accounts cannot participate in Penn's Two-Step Verification service.

Questions?

For questions, contact your Wharton Computing Support Representative

Wharton Mailing Lists

Last Modified on 02/26/2025 6:10 pm EST

This article describes Wharton's mailing list application that provides access to the creation, editing, and maintenance of mailing lists for activities, clubs, and organizations related to students' academic and extracurricular pursuits.

For information on the official mailing lists for Cohort and Student Class lists, see Cohort and Class Lists.

For information on Penn Course lists, see Penn's ISC Class Mailing Lists article.

Before you start:

You may need one or more of the following before you can complete this task:

- An active Wharton account
- An active PennKey account

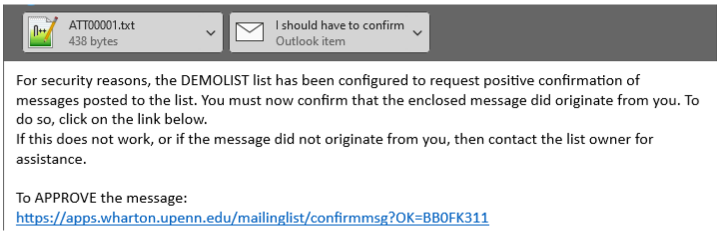
Mailing lists are lists of email addresses, usually created around a central theme or purpose. Wharton mailing lists can be open to anyone, or restricted to the members of the list. Lists can also be set up so that only certain people can send to that list.

Using Mailing Lists

To send an email to a list, enter the list address in the address line of your email. The email will go to each person on the list.

At Wharton, for security reasons, you may need to verify yourself as an appropriate sender when sending to certain lists. To do this, you'll need to follow these steps:

1. **Send an email** to the list.
2. **Look for a confirmation email** from the list in your email account.



3. **Click the link within 24 hours** to verify that you are a legitimate sender and approve the message. If you do not click the link within 48 hours, the message will be discarded.

Accessing and Updating Mailing Lists

Wharton mailing lists do not use the same list application used by the University of Pennsylvania. The two separate applications are:

- Wharton Mailing Lists: https://apps.wharton.upenn.edu/mailinglist/
- University of Penn listserv: https://provider.www.upenn.edu/computing/lists/

The Wharton mailing list app lets you:

- **create** lists.
- **view** lists where you are listed as the owner, editor, moderator, or to which you are subscribed.
- **search** for and subscribe/unsubscribe to lists.
- **manage** lists for which you are listed as the owner.

List owners can easily add administrators or moderators, change owners and manage the list's subscribers.

Individual Subscriptions

Individuals can subscribe themselves to most mailing lists unless:

- the list is private or,
- it is an official list that syncs automatically based on enrollment (course lists) or student status (class lists).

Managing Mailing Lists

Students, staff, and faculty can request a Wharton mailing list for a group.

Alumni and Lists

Cohort lists are no longer available for alumni. If you are a Wharton Magazine Class Notes correspondent who has used these lists for outreach to your class, please contact the Alumni magazine at classnotes@wharton.upenn.edu for updated outreach guidelines.

MyPenn, the online alumni directory, is a tool to connect with fellow alumni. Update your email and mailing address in your MyPenn profile to ensure you receive University communications and access to regional alumni opportunities. Learn more about MyPenn by visiting the Alumni Relations FAQs or contacting alumni.relations@wharton.upenn.edu.

Common Questions and Troubleshooting Tips

Email Confirmation Never Arrives. Check your email application's junk folder. If this is a continual problem, consider a custom Inbox rule that searches for the phrase " **Confirmation required (** " in the subject header, and move that email to your inbox. If you're still having issues with mail delivery, please contact your Wharton Computing representative.

Additional Questions?

Contact: Wharton Computing Support Team

If you have more questions about how your Alumni Mailing Address works, please contact the Alumni

Relations office.

Mailing Lists: Approving Messages for Moderated Lists (For Students)

Last Modified on 03/14/2024 12:23 pm EDT

This article describes how to approve messages for Wharton's mailing list system for moderated mailing lists.

For information on the official mailing lists for Cohort and Student Class lists, see Cohort and Class Lists.

Before you start:

You may need one or more of the following before you can complete this task:

- An active Wharton account
- An active PennKey account

As a moderator for a moderated list you will be notified each time an email has been sent to that list for moderation. You may also be required to confirm messages you, as a moderator, send to the list (see this article about the security changes already set on some mailing lists). The email you will receive looks something like this (Outlook client example):

> This attached message was originally submitted by johnd@wharton.upenn.edu to the EXAMPLEGROUP list at LISTS.WHARTON.UPENN.EDU and requires moderation.
>
> Click the link below to APPROVE the message:
> https://apps.wharton.upenn.edu/mailinglist/confirmmsg?OK=237C44EC
>
> To DISCARD the message, simply do nothing (message will automatically expire in a week) or visit the moderate all messages link below.
>
> For additional help with moderation, please contact apps-support@wharton.upenn.edu.

If you are using GMail as your email client, the confirmation/moderation email will be shown below the message wording seen above, rather than as an attachment.

Approving from a Desktop/Laptop (Recommended)

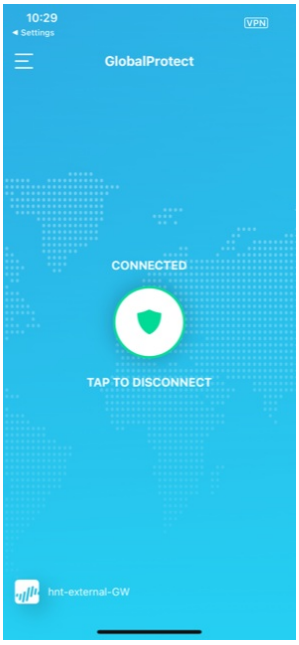
The easiest way to moderate a list, or confirm a message you've sent from a desktop/laptop, is to use theWharton Virtual Lab. You must log onto a virtual lab machine and then sign into your email from there. Instructions on how to get on a virtual lab machine can be found at https://support.wharton.upenn.edu/help/virtual-lab.

Once connected to the Virtual Lab machine, open your email via a web browser and click on the approval link in the confirmation/moderation email. This will route you to the listserv system where you will be prompted to log in using your PennKey account credentials. Now the email will be sent to all recipients of the list.

Approving from a Mobile Device

To moderate from a mobile device, you will first need to be on the University's Virtual Private Network (VPN). To get on the VPN, follow the instructions here specific to your Operating System and device: https://www.isc.upenn.edu/how-to/university-vpn-getting-started-guide

Once connected you can return to the confirmation/moderation email, and click the approval link. It is recommended that **when you are done working, you should disconnect from the VPN**. On a mobile device, click on the circle in the center of the screen.



Re-Connecting to GlobalProtect VPN

If you have connected to the VPN via GlobalProtect at least once before, you'll notice there is no app called GlobalProtect installed on your mobile device. Instead of opening an app, go to your Settings, turn on VPN and then follow the prompts for PennKey authentication.

Questions?

Contact: Wharton Computing Student Support

Email: support@wharton.upenn.edu

If you have more questions about how your Alumni Mailing Address works, please contact the Alumni Relations office.

Mailing List Security Update

Last Modified on 02/25/2025 4:19 pm EST

Wharton Mailing Lists have been updated to require confirmation of all messages before they are sent to the mailing list members.

- **Moderators of moderated lists** must approve all messages from senders before they are sent to the list.
- **Senders to unmoderated lists** must click a confirmation link sent to their email immediately after sending a message to the list. You must **click the link within 48 hours to confirm** you sent the message before the list will deliver your message.

If you do not use the link to confirm your message, it **will be deleted after 48 hours**. If you do not receive the email containing the link within 1 hour, check your junk folder or search for the phrase: '**confirmation required**'.

If you still don't see that self-confirmation email and the list is not a moderated list, please contact Wharton Computing.

List Types and Behavior

This security feature was launched in December of 2023 and helps protect from potential misuse of mailing lists. There are two main types of Wharton mailing lists: moderated (with oversight by "owners") and unmoderated.

Sender's Role	Moderated List	Unmoderated List
List Member	No need for confirmation, no link sent	Must confirm their own messages to the list before they are released to list members.
Editor	Must confirm their own messages before they are sent to list members.	Must confirm their own messages to the list before they are released to list members.
Moderator	Must approve messages sent by anyone except an editor before they are sent to list members. Must confirm their own messages before they are sent to list members.	N/A
Owner	Must confirm their own messages before they are sent to list members.	Must confirm their own messages before they are sent to list members.

Note: Moderators, Editors, and Owners of moderated lists must confirm their **own** messages before they are sent to list members. Click the link in the confirmation email to send the email to the list.

Questions?

For more extensive information on mailing lists, including troubleshooting tips, see Wharton Mailing Lists.

Mailing Lists: Confirming a Message

Last Modified on 12/05/2023 3:15 pm EST

Wharton Mailing Lists require messages, in some circumstances, to be confirmed by the sender before they are sent to the members of the list. This article details how to confirm a message to a Wharton Mailing List which requires it.

The following types of messages to Wharton Mailing Lists require confirmation:

- Messages from moderators and editors of moderated lists (most Wharton Mailing Lists are moderated).
- Messages from anyone to unmoderated lists.

Confirming a message

To confirm a message sent to a Wharton Mailing List which requires it:

1. You'll receive an email confirming that you meant to send the message to the Mailing List. The sent message is attached.
2. Click the confirmation link in the email.
3. A browser window will open with a confirmation message, and the original email is sent to the list.

> **Note**: Messages must be confirmed within 24 hours of being sent.

Email Security Changes at Google and Yahoo

Last Modified on 02/13/2024 3:22 pm EST

Google and Yahoo are changing the way they handle bulk email delivery, which impacts anyone sending bulk email to these services.

> This change only impacts bulk email sending. Individual emails sent from your personal accounts at Wharton/Penn will not be affected.

If you're using a third-party service to send emails, you may have already received a warning about these changes and the actions you'll need to take for your email to continue to be delivered properly.

Please get in touch with your Wharton Computing representative to ensure that any third-party tool you use for bulk emailing is configured correctly. In the email you send, include:

- The name of the service
- Any documentation that the service provided about how it needs to be configured

Each service has a slightly different configuration, so this documentation is essential for Wharton Computing to provide the correct information.

Central Wharton instances of services like Campaign Monitor have already been correctly configured.

If you're curious about more technical details, this ProofPoint blog post does a good job explaining what the changes are and why they are being made.

Wharton Calendar Overview (Students)

Last Modified on 06/13/2025 2:12 pm EDT

This article outlines what calendars are available, where you can view them, how to manage individual events via MyWharton, and how to add/remove calendars from various applications.

Before You Begin

You will need the following before you can begin:

- Access to MyWharton and/or Canvas
- Access to a calendaring service (i.e. Google Calendar)

Calendar Options

MyWharton Feeds

My Courses	
My Appointments	
My RSVPs	
Club Events	
Career Events	
Program Events	
Your course schedule	
GSR reservations and CareerPath appointments	
Events you've RSVP'd for	
Club & group events	
Key program dates, events, deadlines	
Non-Club, Non-career, Non-course and Non-Personal Events	

Other Calendars

Canvas Feed (canvas.upenn.edu/calendar)
Shared WGA Calendars (MBAs only)
Shared Personal Gmail Calendar
• Course assignments, exams, and events
• Wharton Conferences • Wharton Club Events • Wharton Student Life • Wharton Social Events
• All events added to your personal Gmail account calendar

Calendar Applications

Google Calendar via the Browser	
Outlook G Suite Sync* (Windows only)	
Outlook	
Calendar on Mac	
Mobile: Google Calendar App	
Mobile: Default Calendar App	
Default Google	

Account Calendar
✓
✓
✗
✓
✓
✓
Calendar Feeds (i.e. *MyWharton*)
✓
✓
: ✗ : ✓
✓
✓
✓
Shared Google Calendars
✓
✓
✗
✗
✓
: ✗ : ✓
Editable Events that sync to Google
✓
✓
✗

✓	
✓	
✓	

*G Suite Sync is a google-provided tool that syncs mail, contacts, and calendars from **Google Education accounts** to Outlook. When using G Suite Sync, only one email account can be configured per Outlook profile.

Manage Events in MyWharton

Mark events that interest you so that they display in your **My RSVPs** feed.

Note: Marking an event is **NOT** the same as RSVPing to that event.

Bookmark an event:

1. Navigate to my.wharton.upenn.edu
2. If prompted, login with **PennKey credentials**
3. Click the **Calendar** tab
4. Ensure Program *Events* is **checked** on the left-hand side
5. Select **an event** you're interested in
6. Click on the **+ Interested** button to indicate interest and add to your Calendar.

Remove a bookmarked event:

1. Navigate to my.wharton.upenn.edu
2. If prompted, login with **PennKey credentials**
3. Click the **Calendar** tab
4. Ensure Program *Events* is **checked** on the left-hand side
5. Select **an event** that you've bookmarked
6. Hover over the **Interested** button to see that it changes to **X Not Interested** and click on that to remove from your Calendar.

Add Calendars to...

...Google Calendar (***Action Required***)

On a Laptop/Desktop

...Outlook via G Suite Sync

...Outlook

...Calendar on Mac

On a Mobile Device

...Google Calendar Mobile App

...Default iOS Calendar

...Default Android Calendar

Remove Calendar from...

...Google Calendar

On a Laptop/Desktop

...Outlook via G Suite Sync	
...Outlook	
...Calendar on Mac	
Follow the steps above in *...Google Calendar.*	
Follow the instructions provided in Microsoft's documentation.	
Follow the steps above in *...Google Calendar.* • If you added calendar feeds manually (i.e. via *Open in Client*), follow the instructions provided in Apple's documentation.	

On a Mobile Device

...Google Calendar Mobile App

...Default iOS Calendar

...Default Android Calendar

Follow the steps above in *...Google Calendar*

1. Open the **Settings app**
2. Tap **Passwords & Accounts**
3. Tap **Subscribed Calendars**
4. Select the calendar you wish to remove and tap **Delete Account**

Follow the steps above in *...Google Calendar.*

FAQ

Q: I dropped/added a course, but it is/isn't showing on my calendar. Why?

Q: How do I show/hide individual calendars on my device?

Q: How can I share personal or Wharton Google calendars?

Questions?

Contact: Wharton Computing Student Support

Email: support@wharton.upenn.edu

Wharton Computing Student Resources

Last Modified on 08/05/2024 8:12 am EDT

This article provides an overview of the various services available to Wharton students.

Note: Each of the titled services (as well as each of the service logos) are links to other articles that provide additional information about the service, how to use them, and how to access them.

Student Portals

Canvas

- Learning Management System that organizes course files, class recordings, and Study.net materials
- View current, past, and future courses
- Canvas sites may contain assignment due dates and submissions, appointment sign-ups, discussions, grades and feedback on assignments, and more
- Download course content in bulk
- iOS and Android app available

MyWharton

- Main Wharton student portal
- Aggregates Wharton and Penn student resources
- Calendar contains school-wide events and feeds for Wharton
- Connects with Canvas
- iOS and Android app available

CampusGroups

- Hub for all MBA and UGR Wharton clubs
- Manages club application process and Virtual Fair for undergraduates
- Calendar helps manage club events and syncs with MyWharton calendar
- Club Officers can use it to manage membership, newsletters, websites, club forms/surveys, and more

Email Clients

Google Webmail

Access via Gmail.com

Microsoft Outlook

Access using G Suite Sync

MacMail

Access as a traditional Google Account

Internet Browsers

Google Chrome
Mozilla Firefox
Microsoft Edge

Productivity Software

Google Workspace

- Access to Google Docs, Sheets, and Slides
- Widely used sharing capabilities
- Unlimited Storage Space in Google Drive
- Students like Google Workspace for smooth multi-user editing

Microsoft 365

- Access to Word, Excel, and PowerPoint Online
- Access to full *offline* Office Suite
- 1TB of Data Storage in OneDrive
- Students like Office 365 for finalizing/formatting projects

Cloud Storage Options

Dropbox

Unlimited storage via
Dropbox for Business

Google Drive

Unlimited storage via
Google@Wharton

OneDrive

1 TB data storage through your Office 365 account

Penn + Box

Unlimited storage and single sign-on using your PennKey

Security Software

Duo Mobile

- 2-Step Authentication tool
- Used for your PennKey credentials

Secure Share

- Secure document sharing service
- Documents will delete themselves automatically

Antivirus Software

Sophos Home

- Antivirus Software, free with a PennKey account
- Recommended for MacOS, compatible with Windows 10 & 11

Windows Defender

- The default built-in Antivirus Software for Windows
- Recommended for Windows 10 & 11 machines

Virtual Tools

Zoom Meetings

- 300 simultaneous participants
- Connect from Windows, MacOS, Android, iOS, or Regular Landline
- Supports meeting recordings and screen sharing
- Integrates polling and allows up to 50 breakout rooms

Virtual Lab (a.k.a. VMware)

- Allows remote access to virtual versions of the Public Computers
- Includes access to specific departmental applications such as JMP and Matlab
- Use Windows Excel if you are a Mac user and do not want to install Windows

Research Databases, Resources, and Surveys

WRDS

- Web-based Business Data Research Service
- Access to over 250TB of data (financial statements, market data, ESG, marketing, economics, news, healthcare)

Library Resources

- Access to: the Wall Street Journal, Additional study spaces, Vitale Digital Media Lab, Bloomberg terminals in Lippincott, subscription data sources including Pitchbook, equipment lending

Qualtrics Survey Software

- Allows you to easily create, distribute, and analyze surveys
- Create detailed reports based on collected data

Public Printing Options

Laptop Printing & PaperCut Portal

- Print to Wharton Public Printers
- PaperCut Portal allows printing from Wharton public computers, laptops, and mobile devices
- Printer configuration needed for laptops

Campus Copy Center

- Specialty Printing
- Fast Turnaround Times (24 hours or less)
- Graphic Designer on Staff
- Shipping Center

UCS

- Specialty Printing
- Located in Houston Hall
- Offerings like the Business Package and Brochures

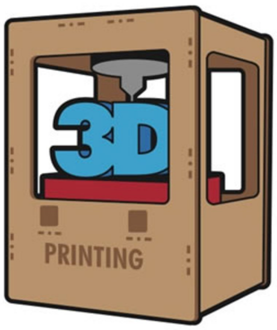
Additional Public Computing Resources

Solstice Screensharing

- Application that allows wireless screen sharing to the monitors in GSRs
- Up to 4 devices can be connected to 1 monitor

3D Printing at Education Commons

- 100% Free for Students!
- 3 printer available
- Training & Workshops available!



Departmental Applications

- List of applications and services available from the Public Computers, Computer Labs, and via Virtual Lab (VMware)

Tech Support

Student Tech Center

- Support available via in-person (walk-ins & appointments), phone, chat, and email!
- Check our KB for list of services. trouble shooting guides and much more.
- Human help is located in SHDH 114

ISC Tech Center (formerly the CRC)

- Support for Penn students living off-campus
- Support for all users of the Penn library
- Tech Center is located in room G-102 of Van Pelt Library

Questions?

Contact: Wharton Student Computing

Email: support@wharton.upenn.edu

Cloud Storage Options (Students & Staff)

Last Modified on 03/12/2025 2:22 pm EDT

Cloud storage solutions for Wharton students and staff are plentiful and can be confusing. The chart below outlines the differences between each of the services we offer and should help you decide which option is right for you.

For more information on the differences between cloud storage & other storage media, see Backing Up: What are the Best Solutions for You?

Before You Start

You will need to be one of the following in order to have access to these services:

- Full-time Wharton Student
- Wharton Staff

Cloud Storage Solutions

	Dropbox	Google Drive (*Students*)	MyWhartonDrive (Y:) (*Students*)	OneDrive	Penn+Box[1]
Accessible via	dropbox.com/login	drive.google.com	Public Computers	portal.office.com	upenn.box.com
Authenticate Using	pennkey@wharton PennKey SSO	pennkey@wharton Google pwd	N/A[2]	pennkey@upenn.edu PennKey password	pennkey@upenn.edu PennKey SSO
Storage Available	Unlimited	Unlimited	5GB	1TB	1TB
Sync Client?	✓	✓	✗	✓	✓
Mobile App?	✓	✓	✗	✓	✓ [3]

1. Penn+Box is not tied to your Wharton account by default. Add your Wharton address so that people can use it to share to you.

2. **Log in with your PennKey** username and your Wharton Gmail password.

3. To log in to the app, **select the Company Credentials** option, **enter your pennkey@upenn.edu**, and **log in with your PennKey credentials.**

Penn+Box: Add Your Wharton Address

The Penn+Box service is not tied to your Wharton account by default. We recommend adding your Wharton address so that people can use it to share documents with you more easily:

1. **Navigate to the box login page** and **enter your PennKey credentials.**
2. **Click the Circle icon** with your name in the upper right corner of the screen.
3. **Choose Account Settings** and **scroll down to the Login and Email Addresses section.**
4. **Click Add Email**, and **enter your Wharton address**.
5. **Log in to your Wharton email account**, and **follow the steps** in the Verification email.
   (There may be a delay; please wait a few minutes. If the email doesn't come, you can**click the Resend Confirmation email link in Penn+Box**.)

Questions?

Students: Email support@wharton.upenn.edu

Staff: Email admin-support@wharton.upenn.edu

Additional Software You May Need (Students)

Last Modified on 04/14/2025 3:33 pm EDT

This article outlines additional software Wharton students may need in various classes. Please keep in mind that Wharton does not provide this software; instead, it may be requested by or provided by individual instructors.

Note: To see a list of all **Wharton-provided software**, check our Wharton Computing Student Resources article.

Adobe Acrobat Pro

See our Working With PDF Files for more information regarding Adobe Acrobat Pro vs. Adobe Reader and how to access both.

JMP

JMP is a data analysis tool used on both Windows and MacOS devices that provides users with powerful data science tools for cleaning up and visualizing data.

- Data Cleanup
- Data Visualization
- Group, Filter, and Subset Data
- What-if Analysis
- Automation and Scripting

Get Service

Access requirements: JMP is a paid-for product. Thus, you must either be provided a product key from one of your professors or access the software via Wharton's public computers or Virtual Lab service.

Documentation/support:

- Installation Instructions
- FAQ

Macabacus

Macabacus is an Excel, PowerPoint, and Word plugin that focuses on cross-functionality between these apps. Namely, it can be used to improve financial modeling by mapping auditing formulas and live links between PowerPoint/Word and Excel.

- Reliably link to Excel
- Advanced Formula Auditing
- Charting Tools
- Shared Content & Template Libraries

Get Service

Access requirements: Macabacus is a subscription-based product. Thus, you must either purchase a personal license or be provided a product key from one of your professors.

Documentation/support:

- Installation Instructions
- FAQ

RStudio

RStudio is an open-source IDE (*integrated development environment*) for R. It is used to more easily navigate R packages as well as add handy tools like history and debugging.

- Execute R code directly from the source editor*
- Integrated R help and documentation*
- Extensive package development tools*

*Taken from https://www.rstudio.com/products/rstudio/

Get Service

Access requirements: RStudio is a ***free, open-source*** program and thus can be downloaded by any individual user.

Documentation/support:

- FAQ

Support

Wharton provides none of the software listed above; thus, functionality or compatibility is ***not guaranteed***. Wharton Computing Student Support will assist in the installation of the above software on a *best-effort* basis.

Contact: Wharton Computing Student Support

Email: support@wharton.upenn.edu

AWS Linked Accounts and Budget Codes

Last Modified on 10/16/2025 1:12 pm EDT

AWS (Amazon Web Services) Linked Accounts enable Wharton staff and faculty to log into AWS services using their Pennkey credentials. This article explains the AWS Linked Accounts and Budget Code policy enforced by Wharton Finance and Administration (F&A) and Wharton Computing.

Definitions

- **Linked Account:** An AWS account that is a part of the Wharton Computing Organization. All Linked Account charges are rolled up into the central "payer billing account" or Management Account.
- **Master Billing Account:** The central account at the root of the organization to which all accounts, billing & configuration link back.

Scope

This policy only addresses the assignment of costs. Linked-account owners are responsible for ensuring they do not exceed budgeted costs.

Purpose

Linked Account charges are assigned to a payer billing account, also referred to as the management account, which is paid by F&A. The costs are then charged back to the budget code associated with the Linked Account. All AWS-linked accounts are assigned to one or more budget codes so that AWS charges can be charged to the appropriate Wharton entity.

Account Policy

When a new AWS-linked account is created, it must be assigned at least one budget code. The Object Code in the budget code must be **5308** (070-9999-9-999999-**5308**-9999-9999).

Wharton Computing strongly prefers that a single budget code be assigned to a single linked account; however, more than one budget code can be assigned to a linked account. In these cases, the percentage for each budget code must be explicitly defined (for example 70% for budget code A and 30% for budget code B).

AWS-linked account budget code can be changed by writing to infrastructure-support@wharton.upenn.edu.

Requesting an Account

Refer to this article for the requirements to request an account.

Questions?

Budget Codes / Financial Considerations / Account Setup / Troubleshooting write to Wharton Computing - Infrastructure and Services at infrastructure-support@wharton.upenn.edu with your requests.

AWS Savings Plans and Reserved Instances Policy

Last Modified on 12/01/2025 9:55 am EST

Current governance policies **do not allow** AWS-linked account users to purchase commitments such as Savings Plans or Reserved Instances, among others, for the following AWS services:

- EC2 Instances, Fargate, and Lambda
- Relational Database Services
- ElastiCache
- Redshift
- MemoryDB
- OpenSearch Service (formerly Elasticsearch Service)

Note that savings plans or commitments for any new AWS service will also be blocked.

Please contact infrastructure-support@wharton with any questions or requests regarding the purchase of commitments for AWS resources related to the services listed above.

Applies to: Wharton AWS linked account users

Enforced by: Wharton Computing

Effective date: September 1, 2021

Definitions

- **Linked Account:** An AWS user account that is linked to the Wharton AWS master billing accounts.
- **Master Billing Account:** An AWS user account that all linked account charges roll up to.
- **Savings Plan:** A commitment to purchase a set amount of AWS EC2 resources in exchange for reduced rates. Savings plans can be applied to EC2 instances, Fargate containers, and Lambda
- **Reserved Instance:** A commitment to purchase a set amount of AWS resources in exchange for reduced rates. Reserved instances can be applied to EC2 instances and RDS instances

Purpose

The AWS Savings Plan and Reserved Instances Policy is intended to maximize the savings on AWS purchasing for Wharton as a whole.

Scope

This policy covers all AWS linked accounts at Wharton. It does not cover any other cloud services, such as Google Cloud Platform or Microsoft Azure.

Policy

Linked account holders should not make purchases of savings plans and reserved instances at the linked-account level. Savings plans and reserved instances are purchased several times yearly by Wharton Computing. These purchases are made at the payer-account level. The savings from these purchases are then applied to the linked accounts in the most efficient manner. This maximizes savings for Wharton as a whole, and minimizes the risk of purchased resources going unused. If a linked-account holder has a special reason for purchasing savings plans or reserved instances at the linked-account level, they should contact their Strategic Partner (SP).

Questions?

Contact: The SP who supports your area

Single Sign-on (SSO) Access in AWS Linked Accounts

Last Modified on 09/05/2024 11:44 am EDT

Summary

Wharton uses Single Sign-on (SSO) with Pennkey for access to AWS-linked accounts. Two roles exist by default when an AWS-linked account is created. The owner of the account can assign membership in those roles to anyone with a Pennkey. The owner can also assign additional administrators for the account.

Default linked account roles

When an AWS-linked account is created, Pennkey Single Sign-on (SSO) is available for logging in. The following two Grouper groups are created in the new account folder:

- **AdministratorAccess,** and
- **ReadOnlyAccess**

These groups match IAM Roles in the AWS-linked account.

How to access Grouper

Click here for web access to Grouper.

Use the search box in Grouper (upper right-hand corner) to search for the AWS account number.

Or, navigate to `penn:wharton:apps:awsProvisioning:accounts` and search for the AWS account number.

Changing Membership of the default AWS groups

Users that require to access the account assuming the *AdministratorAccess* role need to be added to the group: `accounts:<ACCOUNT_NUMBER>:inclusion:<ACCOUNT_NUMBER>AdministratorAccessInclusion` .

Users that require *ReadOnlyAccess* role need to be added to `accounts:<ACCOUNT_NUMBER>:inclusion:<ACCOUNT_NUMBER>ReadOnlyAccessInclusion`

These changes may take up to thirty minutes to take effect.

Account Grouper Folder Management

By default, the AWS-linked account owner can manage membership to the Grouper groups for AWS account access. If additional users need to manage AWS account authorization, their Pennkey needs to be added to the group `accounts:<ACCOUNT_NUMBER>:security:<ACCOUNT_NUMBER>FolderAdmins`

These changes should take effect immediately but will require the new administrator to log in again.

Adding Additional Roles for Federated Auth

If you need help with this process, ask your Wharton Computing Representative to contact Infrastructure Support

Manual Grouper Process

Create a new group in `accounts:<ACCOUNT_NUMBER>:inclusion` named <ACCOUNT_NUMBER><ROLENAME>Inclusion. For example, *123456789012poweruserInclusion*.

Create a new group in `accounts:<ACCOUNT_NUMBER>:businessLogic` named <ACCOUNT_NUMBER><ROLENAME>Active. For example, *123456789012poweruserActive*. Make it a composite group of the inclusion group created above and <ACCOUNT_NUMBER>Boundary with an AND relationship.

Create a new group in `accounts:<ACCOUNT_NUMBER>:authorization` named <ROLENAME> . For example, *poweruser*. Make this a composite group of the active users group you created above and the <ACCOUNT_NUMBER>Blocklist group with a NOT relationship.

It may take up to thirty minutes for these changes to show up on the AWS login page

AWS Process

Create a new IAM role with the permissions that you need, and with trust granted to federated users. The role will need to be in the root path "/" and have trust configured for SAML--assuming the account is already allowing federated authentication.

Note that the AWS Role Name and the Grouper authorization group name must match exactly.

```
data "aws_caller_identity" "current" {}

{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Sid": "",
      "Effect": "Allow",
      "Principal": {
        "Federated": "arn:aws:iam::${data.aws_caller_identity.current.account_id}:saml-provider/PennWebLogin"
      },
      "Action": "sts:AssumeRoleWithSAML",
      "Condition": {
        "StringEquals": {
          "SAML:aud": "https://signin.aws.amazon.com/saml"
        }
      }
    }
  ]
}
```

Questions?

For more information, contact your Wharton Support Representative

AWS Best Practices

Last Modified on 10/16/2025 1:10 pm EDT

AWS is Wharton's preferred cloud vendor. Wharton has AWS Enterprise Support and has integrated account creation for AWS, allowing payment via budget code. For information on obtaining an account see AWS Linked Accounts.

Enterprise Support

All Wharton faculty and staff with AWS-linked accounts can contact AWS directly for Enterprise Support.

- To open a support case, see Amazon Support's article, Creating support cases and case management.
- Enterprise Support includes:
    - Unlimited 24x7 support
    - Billing assistance
    - Architectural reviews
    - Proactive guidance

If you want more information about Enterprise Support, ask your Wharton Computing Representative.

Billing

All Wharton AWS Linked Accounts must have a budget code associated with it (see this article for more details). F&A charges back costs to the associated billing code quarterly.

> Wharton Research has a separate billing mechanism for users who use Research's AWS accounts. Those charges are billed back monthly.

Linked Account owners can see their charges using the AWS Cost Explorer in the account's console.

They can also request access to CloudHealth, a more sophisticated charge tracking tool, which includes:

- The only way to see charges for multiple AWS-linked accounts at one time.
- A Cost Anomaly Detector that uses artificial intelligence to detect surprising upward deviations in spending. The detector can be set to send an email alert when anomalous spending crosses a threshold.
    - Users can also set up cost anomaly detection on any single AWS-linked account.
    - To set up cost anomaly detection across multiple linked accounts, or simply to get assistance, email support@wharton.upenn.edu.

To request access to CloudHealth email support@wharton.upenn.edu.

Logging into CloudHealth

To log in after being granted access to CloudHealth:

1. Create and confirm a Broadcom account using [your PennKey]@upenn.edu

2. Go to CloudHealth and login with [your PennKey]@upenn.edu
3. If you are interested in an introduction to CloudHealth, ask your Wharton Computing Representative to contact the Infrastructure & Services team on your behalf.

User Access

By default, each AWS-linked account has two roles:

- An administrator role
- A read-only role

When the account is created, at least one person is assigned to the administrator role.

Wharton has implemented single sign-on so that account users can log on with their PennKey and password.

Roles

More finely scoped roles can be created to work with SSO. Email support@wharton.upenn.edu for more details.

User Authentication

Wharton strongly recommends that users authenticate with PennKey whenever possible:

- PennKey authentication ensures that users who no longer have active Pennkeys cannot access AWS-linked accounts.

If necessary, linked account users can create IAM users. This is a less desired configuration as IAM users are not protected by PennKey MFA (Multi-Factor Authentication). Also, IAM user accounts will not expire when the account user is no longer affiliated with Penn.

Linked accounts do not have root credentials.

Emergency Account Access

Wharton Computing has the ability to elevate access to all linked accounts in the organization. Access for staff-linked accounts is set by the account owner.

Wharton Computing can shut down AWS systems in certain situations:

- Security breaches - Wharton Computing can shut down systems that have security breaches.
- Anomalous cost increases.

> Wharton Computing's senior leadership has to approve any emergency access to shut down resources in linked accounts.

Security

AWS-linked accounts are configured by default to follow AWS best practices for security.

They use AWS Config, GuardDuty, and Security Hub to monitor potential threats.

Questions?

For more information, contact your Wharton Computing Representative.

Microsoft Bookings

Last Modified on 04/15/2025 9:35 am EDT

Microsoft Bookings integrates with your PennO365 calendar and lets you schedule and manage appointments for individuals or teams using a web interface. It's useful if you want people to know when you prefer to have meetings, and/or if you want to allow people who aren't using PennO365 email to schedule meetings with you.

There are two varieties of Microsoft Bookings:

- **Personal Bookings** - Allow you to make your PennO365 calendar available and bookable via a web-based booking page.
- **Shared Bookings** - Designed for a team of people to create a booking page to allow people to book time on a shared calendar.

Before You Start
You will need to:

- Be an active Wharton student, faculty, or staff member
- Have a PennKey username & password

A Bookings Tool Overview can be found in Microsoft's Documentation. Support for the plugin is offered “as is” without too much custom configuration (see below for specifics), so official Microsoft documentation is the best place to answer questions about the product.

See ISC's information about the Booking Tool on their Microsoft Applications page under the **Bookings tab**.

Personal Bookings

Personal Bookings is a feature within Microsoft Bookings that allows individual users to create and manage their personal schedules, for their own *personal* calendar. It offers a convenient way to share your own availability depending on your free/busy schedules.

You can learn more about how to get started in Microsoft's Personal Bookings documentation and read answers to Frequently Asked Questions.

Shared Bookings

Microsoft Bookings, or Shared Bookings, allows scheduling and managing appointments with a team. Bookings includes a Web-based booking calendar and integrates with Outlook to optimize your staff's calendar, giving your customers flexibility to book a time that works best for them. Bookings helps you easily conduct virtual appointments using Microsoft Teams. Bookings also helps you manage day-to-day scheduling via the Bookings web app or in Teams.

You can learn more about how to get started with Shared Bookings in Microsoft's Shared Bookings documentation and read answers to Frequently Asked Questions.

Note about PennO365 Bookings configuration

Please be aware that Penn's Bookings feature is configured so that all shared bookings accounts begin with "bookings-" and the email address for these accounts uses the bookings.penno365.upenn.edu domain. For example, if you create a shared booking account for "SAS-Helpdesk" would look like this:

Display Name: SAS-Helpdesk

Full account name (also known as "UPN"): bookings-sas-helpdesk@upenn.edu

Email address: bookings-sas-helpdesk@bookings.penno365.upenn.edu

Please note: the full account name is created for Bookings use and is **not** a valid email address. It cannot be used to deliver mail.

Requesting a Canvas site for a Wharton Course

Last Modified on 01/30/2026 1:15 pm EST

This article will help you request a Canvas course site, review the new site for accuracy, and publish the site.

Advisory for Blueprint Courses

The IDEA Courseware Team needs six weeks advance notice for new projects based on the Blueprint Courses feature of Canvas.

- If a teaching team hasn't used this feature before, we can accommodate these for courses in the upcoming semester or quarter with at least six weeks notice. Please request an instructional design consultation to initiate consideration.
- If a teaching team has used the feature before, we'll provide it again on a best-efforts basis as a specialized form of Site Copy.

Before You Start

Wharton instructors may make Canvas course site requests, as well as requests for Study.Net copyrighted readings and instructional consultations, using Wharton's Courseware Request Form. This form is one of several teaching-needs surveys made available to faculty in Wharton Instruction Center (under the **Tech Surveys** menu choice).

When filling out the form, if your course is not listed in the **Which Course(s)** selection box, choose "my section is not listed."

When preparing to use the Courseware Request Form, you'll want to gather the following information:

1. The course, section number(s) and Wemba cohort for any Wharton course (including Lauder Institute courses). Consider whether sections should be in separate Canvas sites or combined within a single Canvas site.
2. If requesting content to be copied over, please provide the full course name, section, and past semester; whenever possible, also include a link or URL for the past Canvas site to be copied. You can find a list of your past and current courses at **Courses > All Courses**; we can only copy other instructors' courses with their express permission.
3. Whether the course requires Canvas People group work.
4. The PennKey username for any other instructors or TAs who need access (no passwords are needed)
5. If not using the Courseware Request Form, a **finalized** syllabus or other guidance about desired features as described in Step 1 below.
6. See below for guidance on placing non-curricular or non-Wharton requests for Canvas.

Guidance for Non-Curricular and Non-Wharton Canvas Needs

As stated in our policies, the Wharton Computing IDEA Courseware Team cannot always create a net-new non-curricular Canvas site, nor can we afford the time to consult with staff seeking to establish one of these. Requests are being answered selectively under current resource limitations.

- Staff in academic departments and resource centers may contact acs-support@wharton.upenn.edu to arrange a discussion with an academic Strategic Partner about your needs.
- All other staff may contact admin-support@wharton.upenn.edu to reach Wharton Computing Client Support Services
- Please also note that the Penn Libraries' non-course/special-use Canvas service offering is unavailable for Wharton School needs.

Faculty who teach for other Penn schools may request a course Canvas site through the following teams:

- Graduate School of Education (GSE): email gse-help@lists.upenn.edu or use GSE's Site Request Form
- Penn Carey Law: email itshelp@law.upenn.edu
- For all other non-Wharton courses, please use Penn Libraries' Course Request Form.

Note: All Canvas sites for the Lauder Institute are supported through Wharton Computing, rather than Penn Libraries.

During peak periods, we will do our best to notify requesters when the start of work must be delayed due to the volume of prior requests. Once we're able to begin the work, expect up to *3 business days* for a standard Canvas course site request to be completed (e.g., a single Penn Canvas site configured for a Wharton course).

For specialized learning tool setup or in-depth feature configuration, we'll extend best-efforts service; note that some setups will be identified as *projects* requiring a consultation followed by an agreed-upon project plan.

Step 1: Choose your desired structure and features, or request a consultation

The Courseware Request Form guides you through a series of simple questions intended to help you obtain the functionality you need for each course you teach. For most faculty, using that form will be the easiest way to request Canvas on your own; please note that most student teaching assistants cannot currently access our form.

If you need to request a Canvas course site by email, or to have a staff colleague or TA request it on your behalf, here's what to include in that email (please also see Before You Start above). Wharton Computing historically offers a choice of four standard Canvas **site types,** or configurations: *template*, *starter*, *advanced* and *site copy*. In addition to those standard types, specialized Canvas projects for teaching (such as Blueprint Courses) are usually planned by requesting an *instructional design consultation.*

Step 2: Review your completed site

Once your Canvas site is created, it's important to verify it before publication to ensure the content is accurate and avoid potential issues. Please check your site to ensure that...

Step 3: Publish your site

You must publish your Canvas site before students may access it. Only instructors (not TAs or administrators) may publish a site, and the Courseware team will not do so unless asked.

Questions?

Email: courseware@wharton.upenn.edu

Each term, the IDEA Courseware Team offers a series of faculty webinars to share teaching tools and best practices. Any teaching team members or staff are welcome to attend. As new session sign-ups become available, they will show in our blog, along with Canvas Basics Training session sign-ups.

Getting around in Canvas

Last Modified on 10/18/2023 12:04 pm EDT

This article provides faculty and staff an overview of how to access and work within Penn Canvas. Students should see Canvas Access and Course Sites.

Before You Start

Before you start, you'll need:

- A working PennKey and password
- Access to the Internet

Getting to Canvas

Log in to Canvas at: https://canvas.upenn.edu with your PennKey and password. PennKey Help website if you do not have a Pennkey, or if you need help logging in.

Canvas Dashboard

- Once you've logged in, you'll see your Dashboard, which contains one "card" for each of your current course sites, along with *To Do*, *Coming Up*, and *Recent Feedback* in the right sidebar.
- The count shown next to the megaphone icon on a course tile are the announcements you haven't yet read. Click the megaphone to go directly to course announcements.

Navigating a Canvas Course Site

Here is an example of a course site home page:

As you can see, the page is split into several different sections.

- **Section A** is the Global Navigation Menu, from which you can access many Canvas features. Here you can get to your account (where you can change your preferences or adjust your notification settings, etc.), access Calendar, find a list of your past and current courses with All Courses, and open your inbox.
- **Section B** is the "breadcrumbs bar." If you find yourself a few layers deep in a site, you can always use the links here to go up or return to the course home page. You can click the "hamburger" (parallel-lines icon) to hide Section C on narrow screens, or show it if it is usually hidden (for example, in the Grade Book).
- **Section C** is the Course Navigation Menu, which allows you to navigate through the various sections of a course site—People, Files, Grades, Pages, etc.
- **Section D** is the main content area, where the material contained in the Canvas site—such as announcements, assignments, or files/folders— will appear.
- **Section E** is the sidebar, which will help you find certain features or catch up on what you need to do next for a course. On the course Home page, depending on instructor preferences, the sidebar may include To Do, Coming Up, and Recent Feedback sections. (This section does not appear on every page.)

Help using Canvas

- For general questions, visit the Canvas Guides or Ask the Canvas Community.
- The Help link in Penn Canvas's Global Navigation Menu launches a popup with links to these resources. Our website and contact information will also be listed as *Wharton Courseware Support*.

Questions?

Email: courseware@wharton.upenn.edu

Communicating through Canvas

Last Modified on 08/28/2025 12:11 pm EDT

There are several ways to communicate through Canvas, including **conversations, announcements and discussions**. This article explains how to use all of these.

Before You Start

You'll need:

1. An active PennKey
2. A Canvas account

Canvas Announcements

Use Announcements for communications all students should see, and to which they might later need to refer.

- After an instructor publishes a Canvas site, students will begin to receive notices about new announcements based on the Notification Preferences they have set.
- Up to three of the most recent announcements will appear on your course site's home page. Click **Announcements** in the left navigation bar to view all others.
- Once a notification has been sent about an announcement, Canvas will reflect any changes or deletions; however, the original version's wording will persist in the notification (which will also include a link to view it on Canvas).
- You can edit an Announcement and/or the sections to include, by using the Edit button.
- Once a Canvas course end date has expired, students will not receive Announcements.

Conversations

Canvas contains an internal messaging system called Inbox to begin conversations with other Canvas users.

- When messaging multiple students, **checkSend individual messages**.
- Students will receive a notice about new announcements based on their Notification Preferences.
- Canvas messages you receive from students will arrive as an email notification. You can reply to the email notification directly, without having to log into Canvas, and this reply will reach only the student who sent you the message, even if the message is part of a Group Conversation.

Canvas Discussions

Discussions allow you to enable interactive communication between two or more users.

- Discussions can be graded or ungraded.
- You can allow students to create discussions, to like replies, and you can edit or delete student replies.
- Discussions can be designated for groups.
- You can subscribe to a discussion so you will be notified of new posts. (Make sure your notification settings

permit this.)

Canvas handles notifications for new discussions and new replies/posts to discussions separately, so when adjusting your notification settings, consider how your students are posting questions. Are they creating new discussions, or are they replying to existing discussions, or both?

Questions?

Email: courseware@wharton.upenn.edu

Copying from one Canvas site to another

Last Modified on 06/03/2024 3:55 pm EDT

This article provides explains how to copy content from one course site to another. Find a list of yourpast and current courses with All Courses.

Using the Import Tool

Canvas provides an import tool that allows you to choose which items to copy. Choose **Select specific content** instead of copying everything. Since you can import content repeatedly, it pays to be conservative.

Please make sure to review all copied material.

- Unpublish or restrict files that should not be visible to students.
- Ensure that all assignments and quizzes are published or unpublished, as you prefer.
- Revise assignments, quizzes and calendar events to ensure they reflect the new due/availability dates.
    - You may set new dates by checking **Adjust events and due dates** when importing content. (You can also define day substitutions, like moving all Tuesday items to Wednesdays.) Canvas extrapolates these new dates, but you should carefully review dates for accuracy.
- Check carefully to ensure that all copied group assignments are linked to existing group sets in **People**. During a course site import, all group Assignments will be assigned to a single group set called Project Groups.
- Do not attempt to copy the link to Study.Net materials; each course pack is unique and specific to the course for which it is created.

Additional Resources

- Requesting a Canvas site for a Wharton course
- Canvas Help for Faculty and Staff
- Copying Videos

Questions?

Email: courseware@wharton.upenn.edu

Accessing NameCoach in Canvas (Instructors)

Last Modified on 01/30/2026 1:43 pm EST

NameCoach is a recording tool in Canvas that provides faculty and students with a simple and effective solution to identify pronouns, phonetically pronounce names and hear how others' names should be pronounced. Once a user updates their NameCoach profile, that profile will be saved in Canvas. It will then be available for listening in any course **after the user clicks on NameCoach in a course's navigation menu.**

Before You Start

This article is for faculty -- students should see the article Accessing NameCoach in Canvas as a Student.

You will need access to Canvas.

NameCoach was piloted at Penn for a period of two years from Fall 2022 through Summer 2024.

Accessing NameCoach

There are two main ways to access NameCoach once you've logged into Canvas:

- Through the global navigation Account tab
- From within a specific Canvas course

Account Tab Access

For access outside of a specific Canvas site, you have the option to record your name via the Account tab on your global navigation bar (***Figure A***). Once you click to access the NameCoach Account Profile, you will then see a table containing columns for your name and email address, name recording, and a space to edit your information (***Figure B***).

1. Log into Canvas, and click on the **Account** icon in the left Global Navigation Pane.
2. Select **NameCoach Account Profile**.

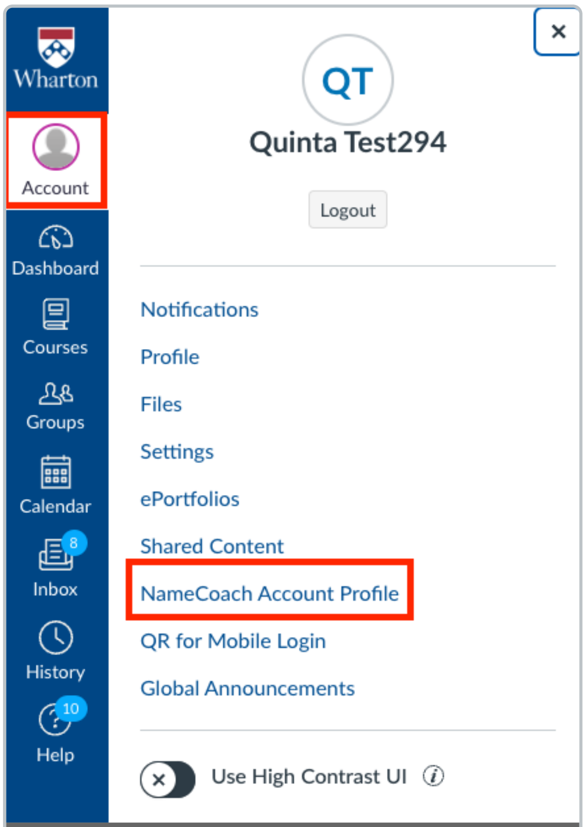


Figure A

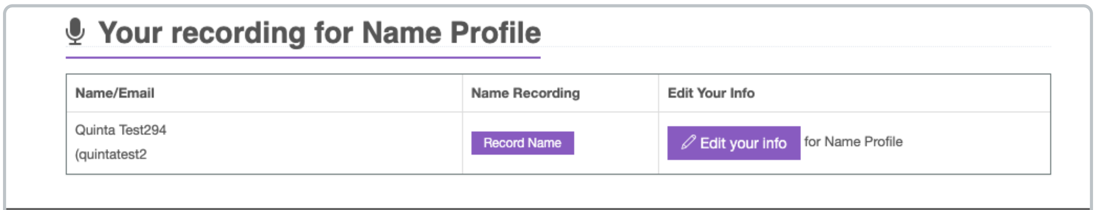


Figure B

Course Access

As an alternative access point, the NameCoach tab also appears as a sidebar item. This tab enables you to record your name and also specify your pronouns and the phonetic spelling of your name (***Figure C***). Regardless of where you choose to record for the first time, the recording will save and carry over to any Canvas site utilizing NameCoach as well as your Account profile.

1. Log into Canvas, click on **Courses,** and choose a specific Course.
2. Once you're in the course, select **NameCoach** from the sidebar menu.

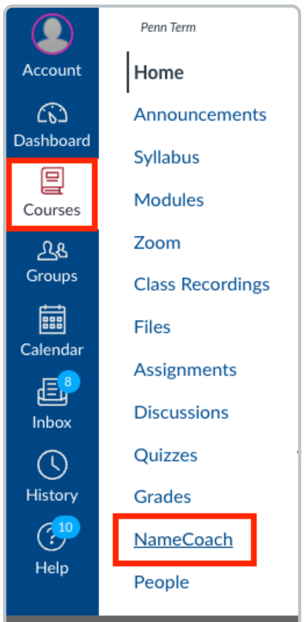


Figure C

Initial Access Confirmation Message

The first time you access NameCoach, you will be prompted to authorize NameCoach to access your account (***Figure D***).

NameCoach uses email to give permission to view the roster and listen to recordings. No other information is gathered when authorizing, and it is only used to grant access to recordings.

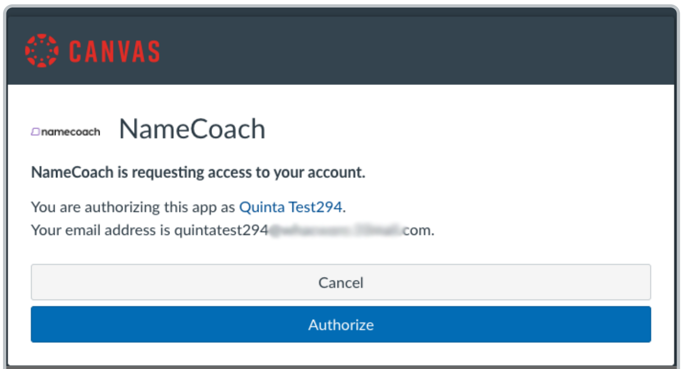


Figure D

Once you click **Authorize**, this will bring you to the NameCoach page for your course.

Recording a Name

Once you've accessed NameCoach using one of the options listed above, follow these steps to record or re-record your name at any time. You can have someone else record your name if you do not want to use your own voice:

1. Click the **Record Name** button (***Figure E.1***). The button may show **Edit your info (*Figure B*)** or **Update (*Figure E.2*)** if re-recording.

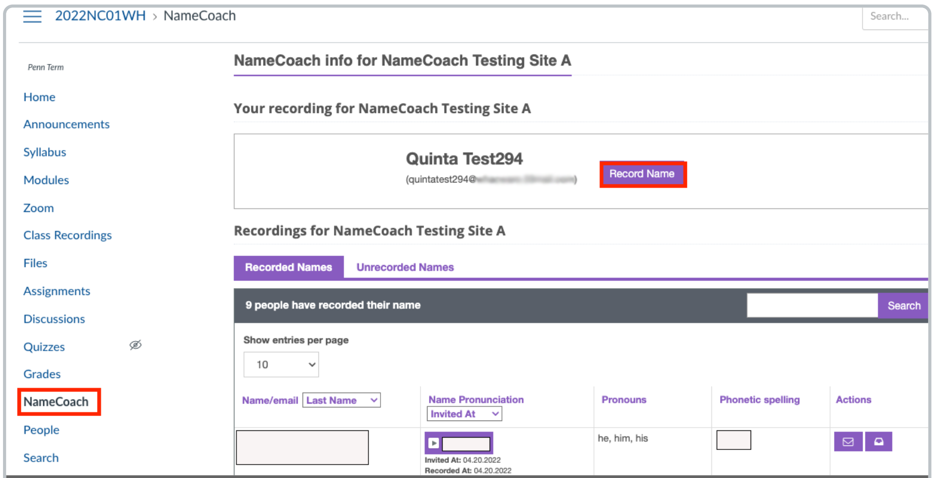


Figure E.1

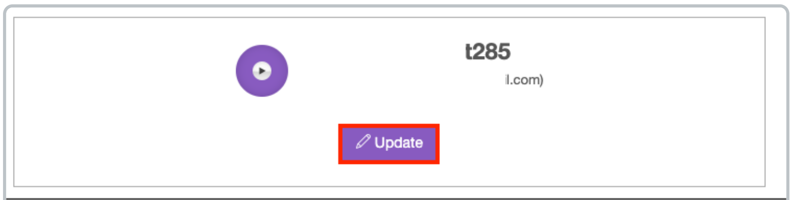


Figure E.2

2. Enter your **pronouns** and/or the **phonetic spelling** of your name (optional) (***Figure F***).

Figure F

- Phonetic spelling (easiest way to explain how to pronounce your name): If your surname is Blue, you can write: Blue like the color. If your name is Quinta, you can type Kwin-Ta.

3. **Record your Name**.
   There are three different ways you can record your name. Regardless of which one you choose, the recording will will be saved and available to any Canvas site that is using NameCoach. It will also be available in your Account profile.
   - **By Phone (*Figure G*):**
     Enter your phone number and click the **Submit and Call Me** button. You will get an automated call from NameCoach with instructions. You will be prompted to record. Press the # sign when you are satisfied with the recording. When you are satisfied, click **Submit and Finish**.

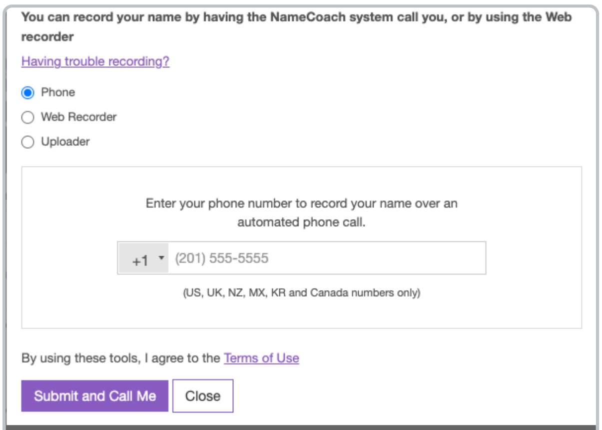


Figure G

- **Using the Web Recorder (*Figure H*):**
    - Click the **Record** button. You will be prompted to use your computer's microphone.
    - Click **Allow.** Follow the prompt before speaking.
    - Click **Stop** when done recording.
    - Click the **Play** button to hear the recording or **Record Again**.

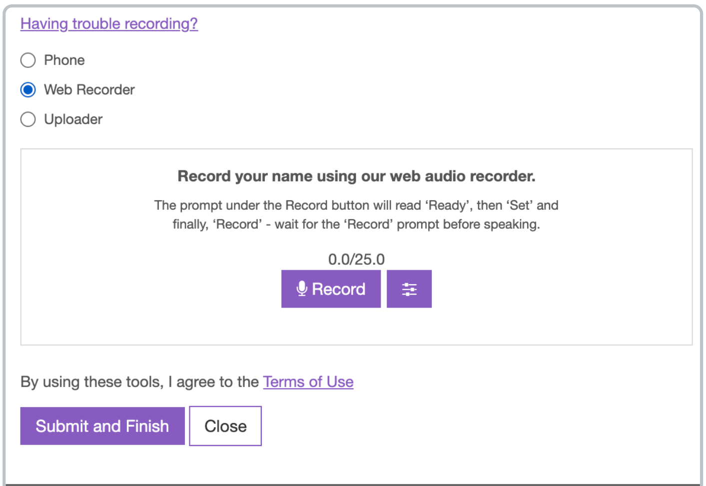


Figure H

    - Once you have finished recording, you can adjust the pitch. **Click the pitch icon** and this will reveal the pitch slider (***Figure I***). Set the pitch by dragging the button (left and right) on the slider. You can re-record, play back the recorded name, and set a **default pitch**.
    - Click the **Save rate** button and click **Submit and Finish**.

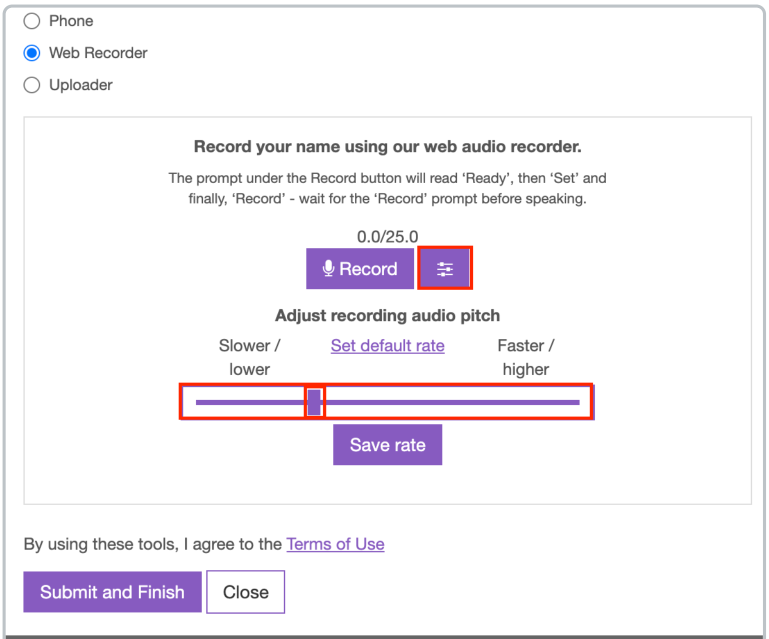


Figure I

- **Using the Uploader (*Figure J*):**
  Using a tool outside of Canvas, such as Audacity, Camtasia, iMovie, or any other audio recorder, you can record your audio and then drag and drop the file from your computer into the specified space for upload to serve as your recording.
  - Click your file and **Drag** it to the box, or use the **Browse for file** button to upload an mp3 file of your recorded name.
  - When you are satisfied, click the **Submit and Finish** button.

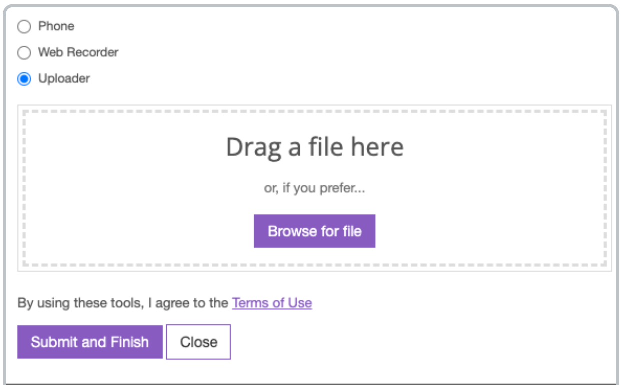


Figure J

Viewing Names in the Class

Students **must** click on NameCoach in your course menu for their name to appear on the list of unrecorded names and recorded names.

1. Scroll down on the **NameCoach** page and click the **Recorded Names** tab (***Figure K***).
2. Scroll to the corresponding name and click the **Play** button.

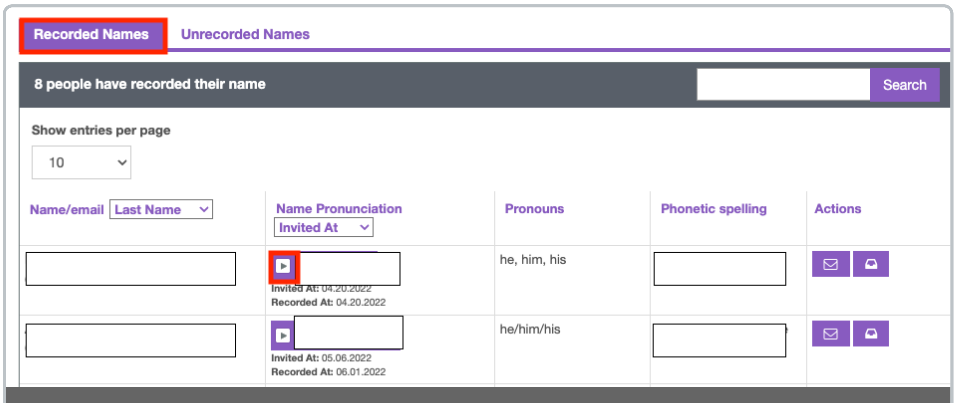


Figure K

Requesting a Re-record

- If you would like for a student to re-record their name, you can send an email reminder through your course's NameCoach page following the steps below:
    - Scroll down on the **NameCoach** page and click the **Recorded Names** tab (***Figure L***).
    - Scroll to the corresponding name and click the **Mailbox** icon.

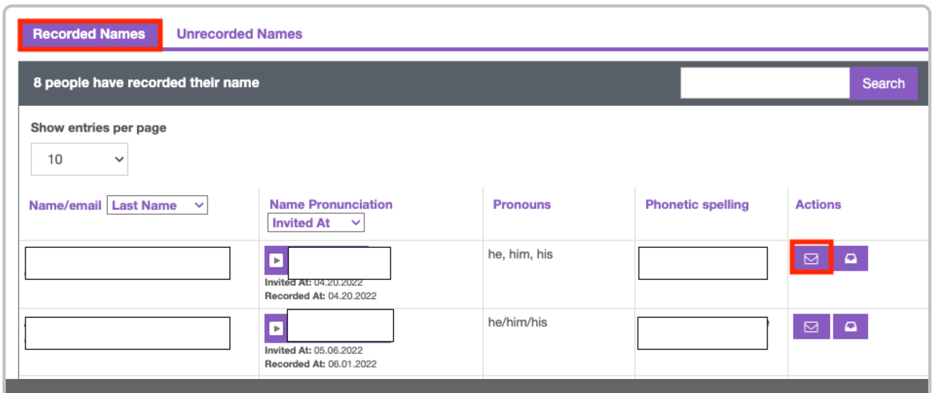


Figure L

Viewing Unrecorded Names

- Scroll down on the **NameCoach** page and click the **Unrecorded Names** tab (***Figure M***).
    - To email a student prompting them to record, click the **mailbox** icon.
    - To send a reminder email to all students who have not recorded, click the **Remind All** button.

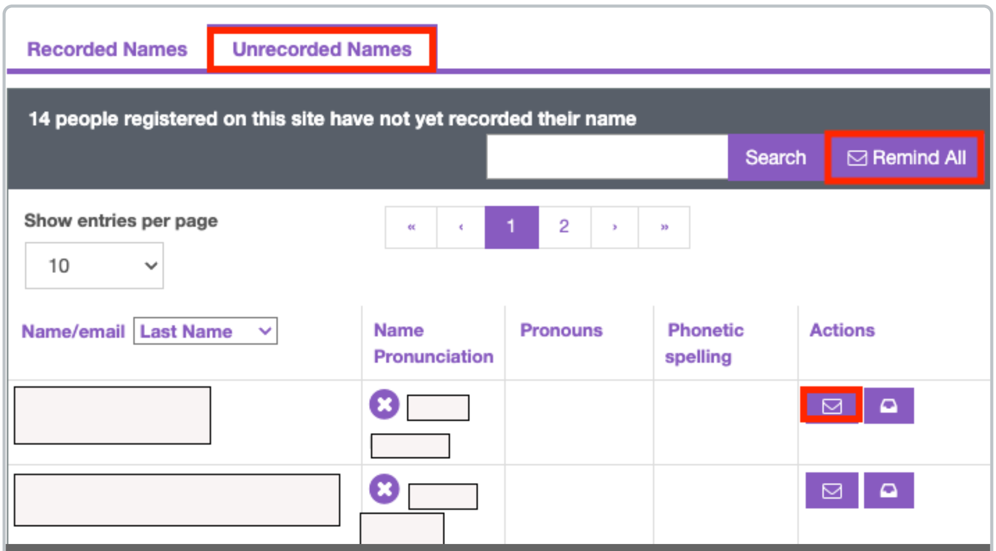


Figure M

Managing Other Features

Integrating NameCoach with an Assignment or Announcements

Add to Assignments

If you plan to provide a deadline for your students to complete their NameCoach profile:

1. Create a Canvas assignment through the **Assignments** tab (***Figure N***).
2. Add the **Assignment name** and a **description** in the proper fields.

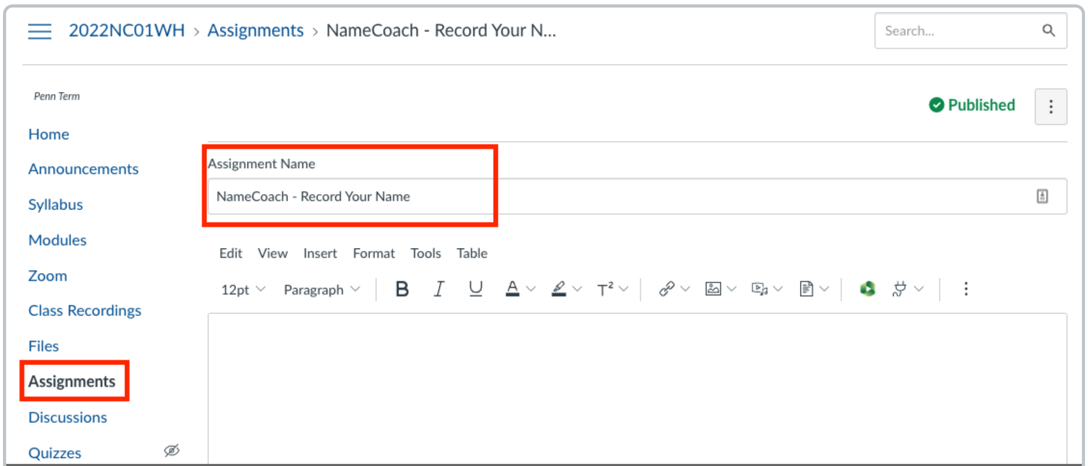


Figure N

3. Use the drop-down to change the Submission type to **External Tool** and click the **Find** button (***Figure O***).

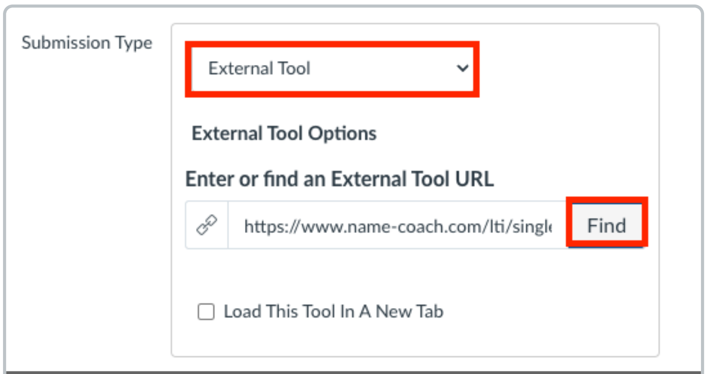


Figure O

4. Select **NameCoach** from the External tool URL and click the **Select** button (***Figure P***).

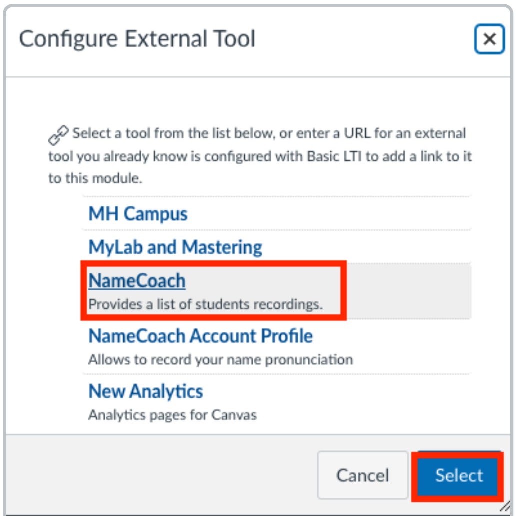


Figure P

5. Add a Due date and click the **Save** button to save the Assignment (***Figure Q***).

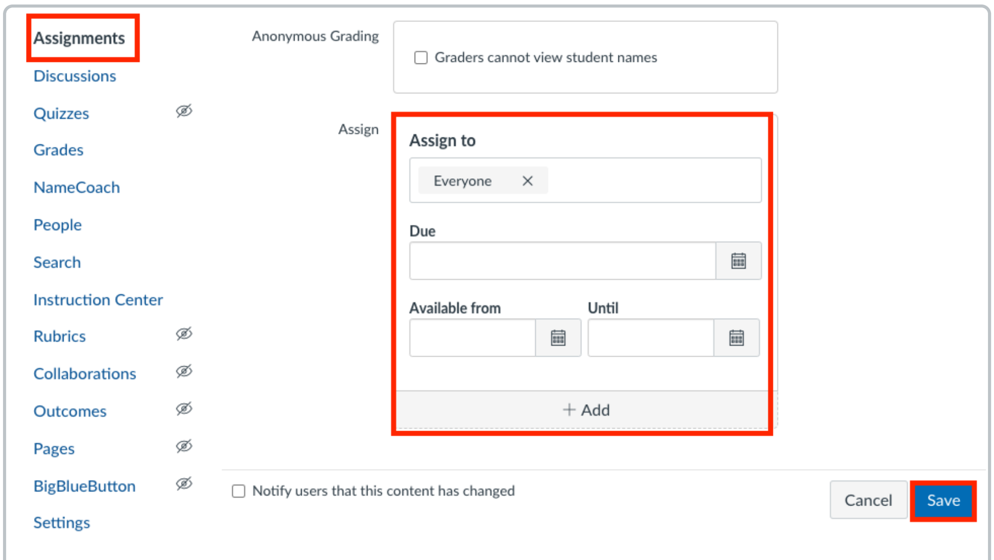


Figure Q

6. Once NameCoach is added to Assignments, it can also be linked in Modules.

Add to Announcements with a link to NameCoach

1. Click on **Announcements** on the Navigation Pane and then click on the **+Announcement** button on the right side of the screen (***Figure R***).

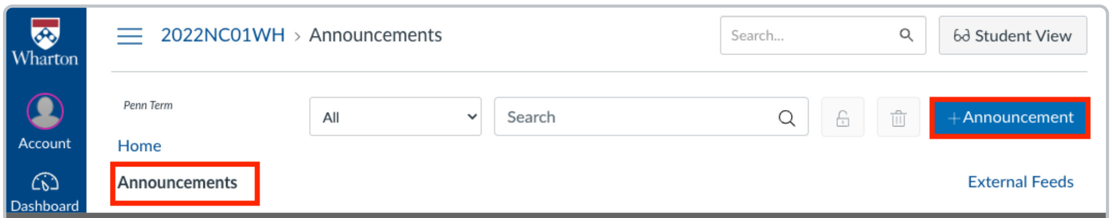


Figure R

2. Add a **Title** and a **line of text.** Click on the **Link** icon and select **Course Links (*Figure S*)**.

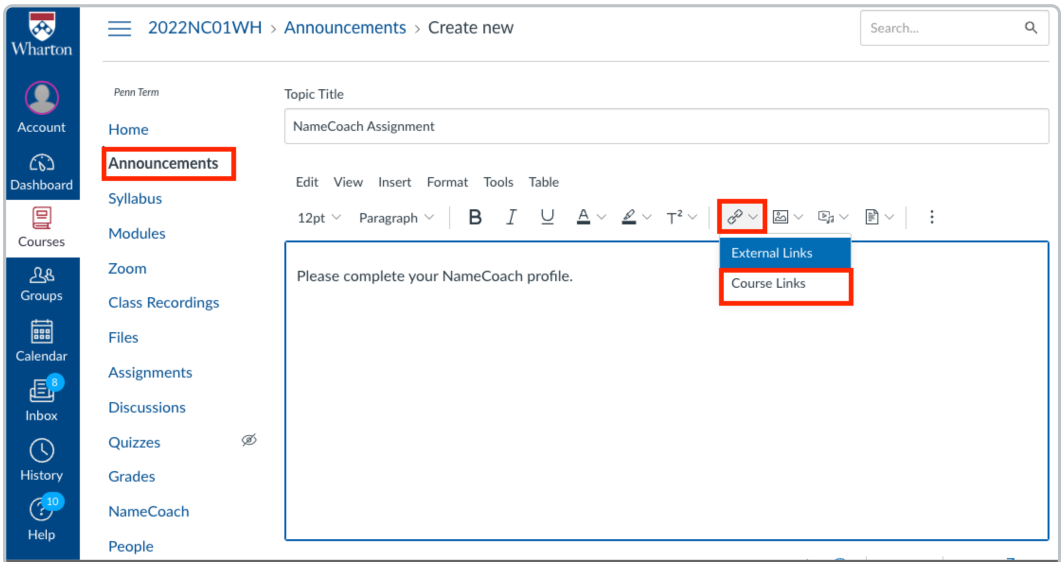


Figure S

3. Select **NameCoach-Record Your Name** under Assignments (***Figure T***).

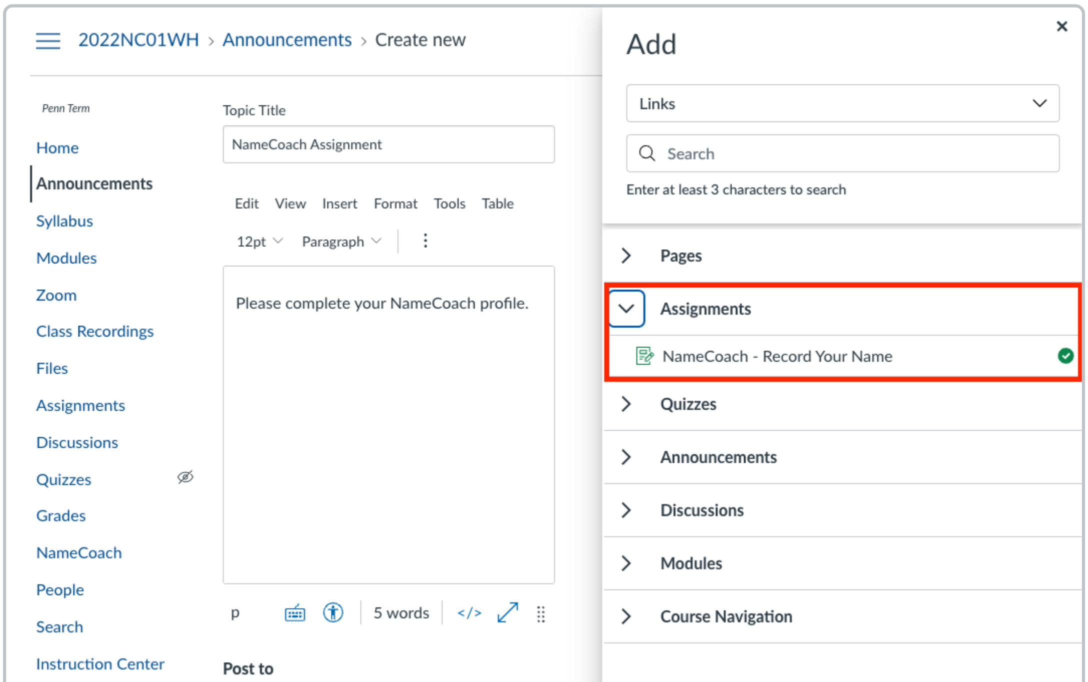


Figure T

4. Scroll to the bottom of the page and click the **Save** button.

Once you have finished updating your information as needed, you can scroll through the list of Recorded and Unrecorded Names within your course.

Troubleshooting tip: If you are using Safari and encounter any access issues, please refer to the guide linked here regarding using Safari with Canvas learning tools. Having trouble in Chrome, try using a different browser, like Firefox.

Questions?

If you need more assistance, please contact courseware@wharton.upenn.edu for support.

Accessing old course sites

Last Modified on 02/10/2023 12:35 pm EST

Students with active PennKeys, as well as recent alumni, may continue to access concluded Penn Canvas course sites as described below. (These policies do not apply to Penn Carey Law which uses a separate Canvas platform.)

Accessing Old Course Sites

Old course sites remain available, in a read-only state, for up to five years after they began. To access them:

1. Select **Courses** in the left navigation bar.
2. Click **All Courses**. Past course sites will appear beneath **Past Enrollments**. Course sites not listed there are no longer available, possibly because the instructor closed post-course access.

Note that Class Recordings, Study.Net, library reserves, and other licensed materials typically expire shortly after the end of the course, even if the Canvas site itself remains. Your instructor may choose to close post-course access early, at a time of their choosing; after that happens, access is only possible by permission of the instructor.

While the University of Pennsylvania's current subscription to the Penn Canvas LMS platform runs through August 14, 2023, a multiple-year renewal is planned.

After Students Graduate

Students will sometimes ask how long they retain access after they graduate. Penn will support up to 5 years of alumni access, after the end of each course, as long as the University uses Canvas. However, individual course sites will close at different times. Therefore, it is wise for students to download desired materials from Canvas as soon as possible after they graduate.

After students graduate, they will use alumni computing services, many of which will continue to use their PennKey. Students should be sure to sign up for the PennKey Recovery Service so that they can easily reset their PennKey passwords after graduation.

Questions?

Email: courseware@wharton.upenn.edu

Adding users to a Canvas site

Last Modified on 01/22/2026 12:08 pm EST

This article describes how to provide Canvas users, like TAs and auditors, with membership in your Canvas course site, which they access through PennKey.

IMPORTANT NOTE: Please do not manually add users as *Student* or *Auditor* in your Canvas course site; doing so causes difficulty for the University Registrar and within the course site itself.

- Starting in Spring 2024, students with registration holds may encounter delays in Canvas membership related to timing of when enrollment becomes official at the University level.
- When an unregistered student *not* facing a hold must submit graded work in your course, contact the IDEA Courseware Team to inquire about Canvas membership possibilities for them.
- True auditors will automatically be given *Student* membership in a course site when they obtain formal audit status in that course, at their home school, in order to meet a degree or major requirement. If you had granted a formal auditor the *Observer* role in Canvas, *Student* will be added automatically based on the Registrar's process.

Adding a User to a Canvas Site

1. Select **People** in the course navigation on the left.
2. Click the **+People** button. *
3. For *Add user(s) by*, select *PennKey*. (If you are instead prompted for *Login ID*, you can still enter the PennKey.)
4. Enter the PennKey username.
    - To add multiple users (with the same role and in the same section) enter one PennKey per line.
5. Select the correct role:
    - *TA* for a grader or teaching assistant.
        - IMPORTANT: The TA must not be granted membership access to a course site in which they are enrolled as a student. (Contact the Courseware Team with any questions about this recommendation.)
        - TAs added to a single section will normally have access to the entire Canvas site, similar to the instructor's access. (Contact the Courseware Team to arrange TA access restricted to specific sections of a multi-section course, or when a TA needs to be able to publish the Canvas site.)
    - *Limited TA* for a teaching assistant who does not grade.
    - Designer for an administrative assistant.
    - Colleague for a faculty colleague.
        - Is based on the Designer (can not build or edit new quizzes) role, but with fewer editing options.
        - It allows for viewing of all published and unpublished content (including Creator access to Panopto videos).
        - Does not make students/student grades visible.
    - *Observer* for students informally sitting in, or anyone else not expected to grade or submit coursework.
        - IMPORTANT: A few faculty use *Observer* role to accelerate Canvas membership for waitlisted students. Be aware this is a manual process an instructor may choose to do, rather than a service Wharton Computing provides.
    - **Do not add anyone to the *Student* or *Auditor* role.**
6. Select the correct section.
    - Except in special cases, always avoid checking the "*Can interact with users in their section only*" checkbox.
    - It is recommended to add TAs and observers to the site's "default" section, which will typically include

the course code, semester, and year (e.g., **ACCT 2790 - Summer 2025)** but not any section number.
        - Please contact the Courseware Team if you're not sure which section to use.
7. Click *Next.*
    - If Canvas reports it cannot find the user, please contact the Courseware Team.
8. Click *Add Users*.
9. An invitation will then be sent from Canvas to the user's email address.

You can resend an invitation under **People**. The user can also accept the course invitation by going directly to the canvas site url.

You can remove a user who was manually added to a course site, but not users who were added automatically.

*If **+People** is disabled, that means the course site is concluded. Please contact the Courseware Team to grant membership to users in a concluded course.

Questions?

Email: courseware@wharton.upenn.edu

Canvas app (for instructors)

Last Modified on 09/11/2023 4:11 pm EDT

Before You Start

You need one or more of the following to use the Canvas Teacher app:

- An active PennKey
- A mobile device running iOS or Android
- Instructor (teacher) or TA membership in current, past, or upcoming Penn courses

Apps & Guides

- Canvas Teacher for **iOS** (Download)
- Canvas Teacher for **Android** (Download)
- Mobile Guides for Canvas Teacher (iOS and Android)

Logging In

When you first log into Canvas through the app:

1. In the **Find your School or District** field, type **canvas.upenn.edu,** and press **Go** or **Next** to continue. Selecting **University of Pennsylvania** will also work.
   NOTE: For this step, DO NOT select "University of Pennsylvania Law School" or "Wharton Online".
2. Log in using your **PennKey.**
3. After a successful Penn WebLogin, you'll be prompted that Canvas is requesting access to your account. Be sure to check **Remember my authorization for this service** so the app can log you in automatically whenever possible.

Teaching on Multiple Canvas Platforms

Faculty teaching courses on multiple Canvas platforms may want to take advantage of multi-user login capability. Doing this will give you a "Profile" for each different Canvas platform (e.g., Penn Law Canvas) you need to use. Here are instructions for multi-user logins:

- How do I switch to another account in the Canvas app on my **iOS** device?
- How do I switch to another account in the Canvas app on my **Android** device?

Capabilities

Canvas Teacher provides quick, anytime-anywhere functionality to make announcements, grade submissions, or to edit a Canvas site for a course you are teaching. Announcements can be made either course-wide or to specific sections.

If a teaching or editing feature is not yet available in the mobile app (for example, group sign-up lists), switch to Canvas in a mobile browser on your device, preferably Chrome. You can also choose to subscribe to your Calendar Feed with your preferred mobile calendar app.

Questions?

Email: courseware@wharton.upenn.edu

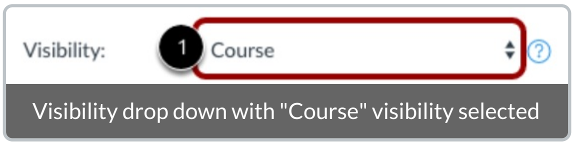
Canvas course site visibility settings

Last Modified on 12/10/2024 5:19 pm EST

This article describes Canvas visibility settings, which govern who may view your course site.

Changing Visibility Settings

1. Click **Settings** in the course navigation menu (left side on web, or center-top on mobile).
2. On the **Settings** > **Course Details** tab, look for the **Visibility** drop-down menu:



Visibility drop down with "Course" visibility selected

3. There are three visibility settings*:*
   - **Course visibility,** the default, limits access to enrolled students as well as to other members of the site (TAs, departmental support staff, informal auditors).
   - **Institution visibility** allows any logged-in PennKey holder who has the link to your course site to view the content, but they cannot interact with or even see students.
   - **Public visibility** allows anyone with the link to your course site to view the content, but they cannot interact with or even see students. Public users cannot submit assignments, nor can they take quizzes or access unpublished materials in **Files**.
4. To save your change, click **Update Course Details.**

5. Visibility settings become effective when you publish your site, or immediately if the site is already published.

Questions?

Email: courseware@wharton.upenn.edu

Managing notifications in Canvas (for instructors)

Last Modified on 10/21/2025 3:32 pm EDT

Customize your global Canvas notification settings or course level notification preferences.

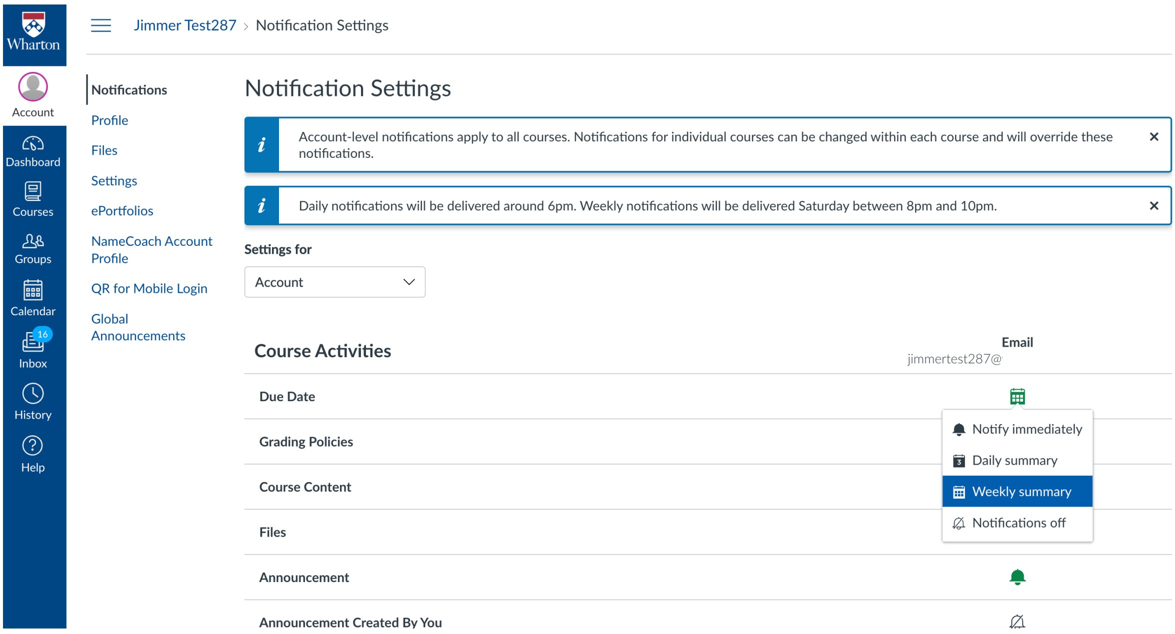
Before You Start

You need the following:

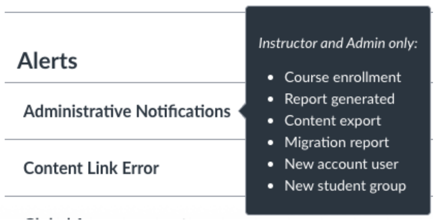
- An active PennKey account (or authorized email address)
- Enrollment in a current course site

Canvas Global Notification Preferences & Recommendations

- Canvas allows you to control how you are notified, when, and the frequency of notifications. You can update these settings at:
  - Web Browser: Penn Canvas > **Account > Notifications**
  - **iOS or Android :** Canvas Teacher app top left menu > **Settings**
- Each channel of communication (for instance, email and push notifications on mobile devices) can be set independently:
  - To add or manage emails where your notifications are sent, go to **Account > Settings** and use the Ways to Contact. Text messaging (SMS) notifications for announcements may also be enabled there.
  - If your Canvas notifications aren't set up appropriately beforeopting out of the Conversations Inbox, you may miss some messages.
  - Push notifications must first be enabled in your Canvas Teacher app; once enabled, further settings can be done either via web browser or in the app.
  - For best results with learning tools included in Canvas, ensure your default (starred) email in Canvas is the same as your primary email address in Penn Directory.
  - Frequency options are notify immediately, daily summary, weekly summary, or notifications off. These options pertain to all current courses.
  - Grades are not communicated via notifications (though availability of grades is).
- We recommend that you set announcement, grading, invitation, files, submission comments, and appointment availability to **notify immediately.**



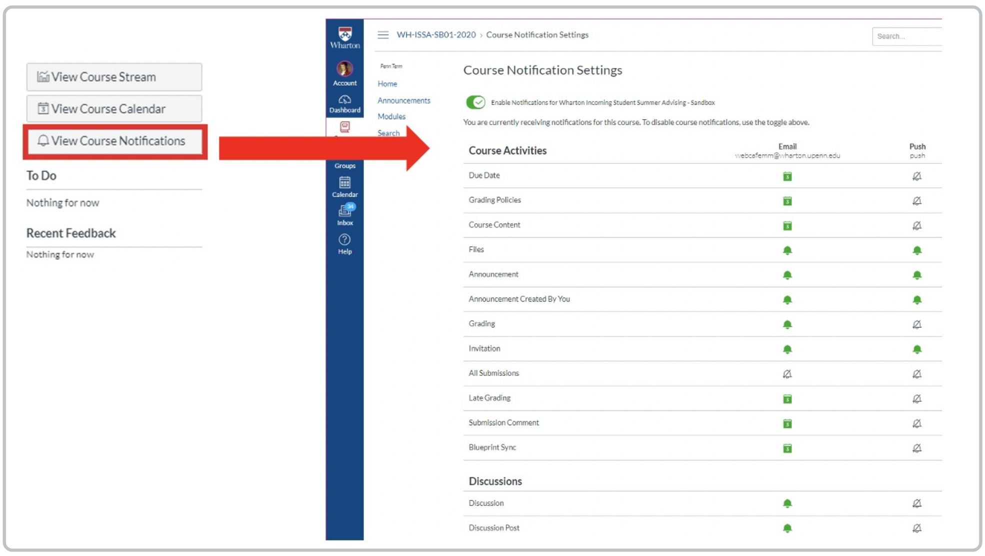
- Hover over the channel to learn more.



Course Level Notification Preferences

You can set notification preferences by individual course, too:

- To do this, open a specific course and click the **View Course Notifications** button on the course home page.
- To override the global notification settings, set them on this page.
- To disable notification for a course, deselect the **Enable Notifications for [course name]** under Course Notification Settings.



Conversations Inbox Opt-out

We recommend you disable the Conversation's Inbox unread messages badge and send all conversation messages and notifications via email.

Questions?

Contact: courseware@wharton.upenn.edu

All about appointment sign-ups

Last Modified on 09/16/2024 12:07 pm EDT

This article describes how to create appointment sign-ups for the faculty-student meals program, office hours, and group presentations.

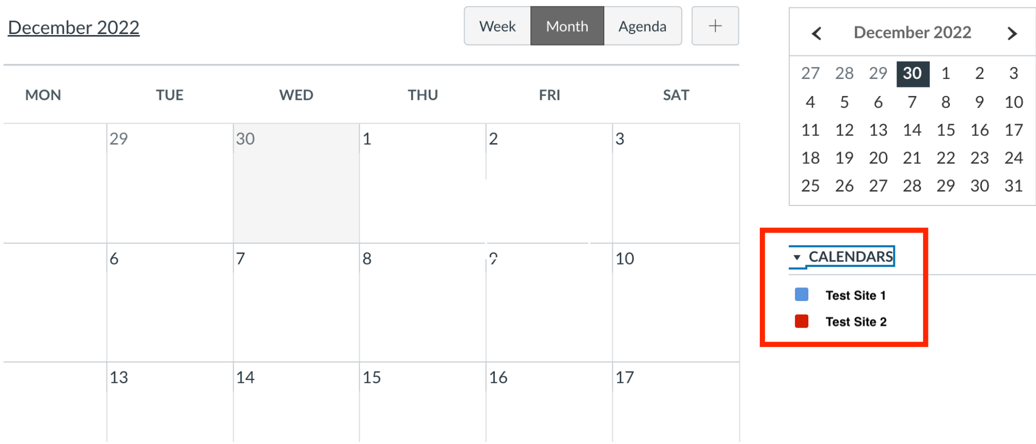
Before you start, the following information is needed for creating sign-ups:

- Name
- Location
- Calendar for Course
- Have/not have students sign up in groups
- Dates
- Start and End times per slot
- The user limit for each time slot
- Allow/not allow students to see who has signed up for time slots
- The limit for participants to attend appointments
- Any additional details and notes

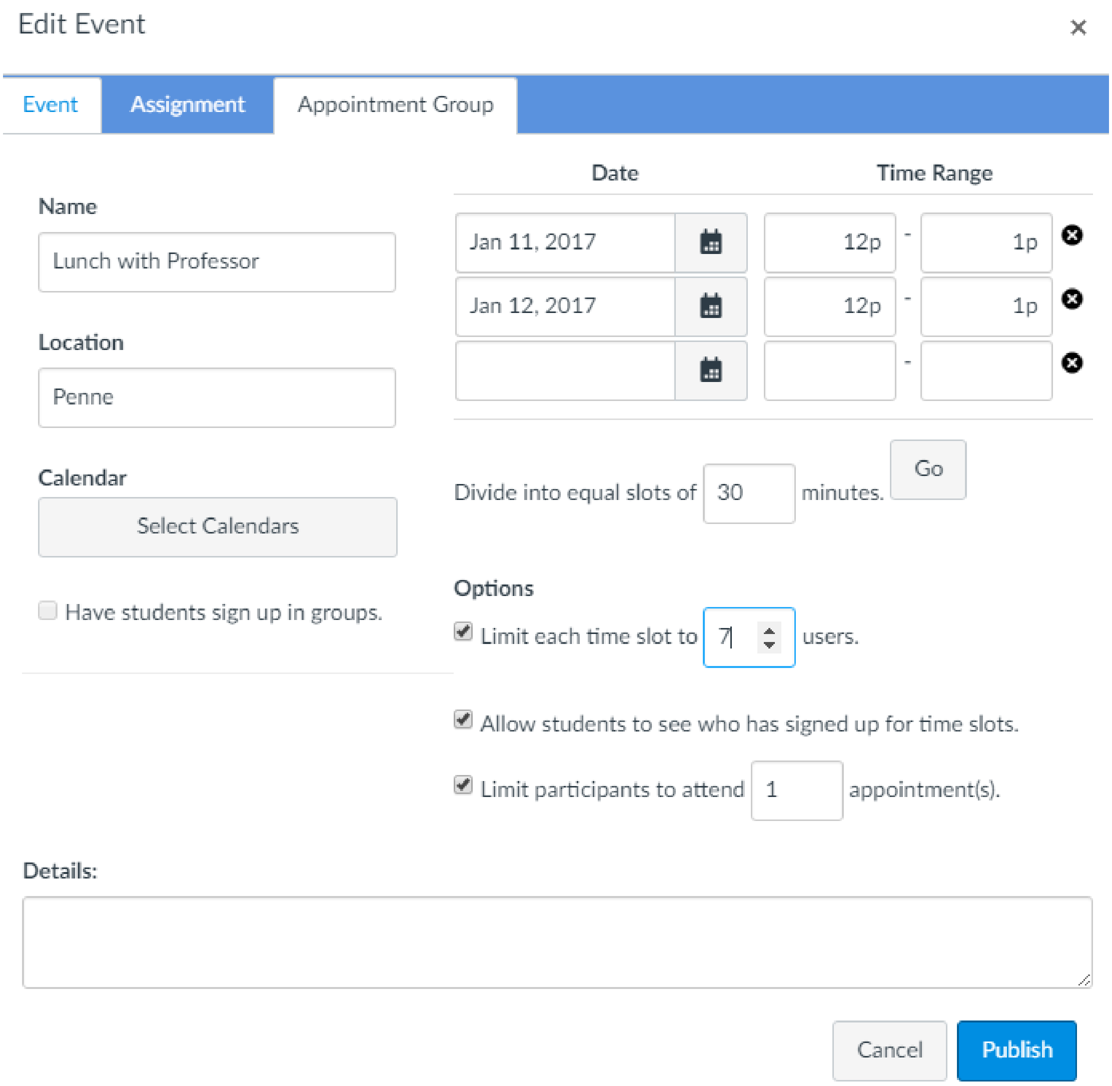
Creating sign-ups

Go to **Calendar** in Global Navigation pane

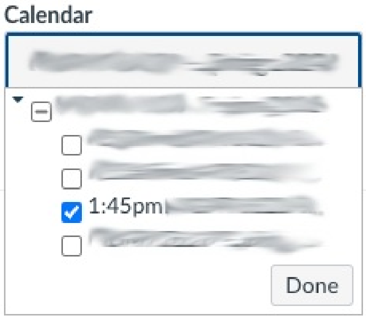
- Select the correct course calendar on the right side of the screen. The correct calendar needs to be selected, in order to see the option when creating an appointment group in the next step.



- Select the **+** button in the upper right or click on a date.
- In the **Edit Event** pop-up window, select **Appointment Group**



- Every appointment group needs a descriptive name.
- The location can be either a physical place or a virtual one, such as a Zoom meeting link.
- Use **Select Calendars** to choose which course(s) for which this appointment group is available. You can limit appointments to certain sections, by expanding the calendar tree and checking off the sections you want to include. (You cannot section-limit group appointments.)

- 

- For group-based appointments, check **Have students sign up in groups**. If you have more than one set of groups, select the correct group set from the **Group Category** dropdown that will appear after you check **Have students sign up in groups.**
- Enter the date and start/end time of each appointment in **Date** and **Time Range** boxes . Remove any unwanted slots by pressing **X** next to the slot you want to remove.
- **Divide** will allow you to quickly create consecutive appointments within a single time range. After you fill in the date and overall time range, add the desired length of each appointment into **into equal slots of __ minutes**. Press **Go** , and the time range will be split accordingly into separate consecutive appointments.
    - **Example**: If you set an appointment from 9am to 12pm, then divide into equal slots of 30 minutes, Canvas will produce six slots, starting respectively at 9am, 9;30am, 10am, and so forth.

Please check carefully before pressing Publish, because published sign-ups are difficult to change, and because students are notified about them, and can begin using them, right away. You can add a note in the details about the change and message your students.

Adding more time slots or changing settings

You can continue to use a previously-created appointment group, adding additional time slots. Here's how:

- Go to Calendar in the left navigation bar.
- Click an existing time slot.
- In the **Edit Event** pop-up window, select **Group Details**.
- Use the **Date** and **Time Range** boxes to add the date, start time and end time of any new appointment(s).
- Change the **Location** or **Details** to fill in or update the meeting location, Zoom link, or other overall instructions students should see for any time slot.
- Press **Save.** (Students will be notified of the newly available time slots, based on their notification preferences.)

Viewing, editing or canceling an appointment

In Calendar, you'll see available appointments as well as the name of students who are already signed up. To edit or delete an appointment, click on an available appointment.

- To cancel this appointment, click **Delete**. Any attendees listed will be notified and may reserve other available appointments.
- To remove an individual attendee, click the **X** next to that attendee's name.
- To change the maximum number of students who may reserve an appointment, or to add miscellaneous details, click **Edit,** make the changes, and then press **Update**.
- Or to change overall **Location, Details**, or default maximum, click **Group Details**. The **Group Details** page will also provide a summary of signups across all appointments, at the bottom of the page.

Sending a message to signed-up students

To send an Inbox message to users who have signed up for the appointment, click **Message Students**:

How students can find sign-ups

Here are instructions you can provide students on finding these sign-ups:

- Go to Calendar
- Scroll down the page, press **Find Appointment** on the far right
- Select from the drop-down list the course to which the appointment belongs and press **submit**
- Click on the preferred date and in the window that appears select **reserve**

Students are notified of new appointment groups, and of changes to existing groups, according to their notification preferences.

Reminding students to sign up

Send a message through Canvas to remind students to sign up for an appointment.

- Go to Calendar in the left navigation bar.
- Click an existing time slot.
- In the **Edit Event** pop-up window, click **Group Details**.
- Scroll down to locate **Message Students**.
- A pop-up window will appear with a list of **Users who haven't signed up.** You can type and **Send** an Inbox message to them, or you can optionally use the provided drop-down to choose **Users who have already signed up** or **All users.** (meaning both those students who have signed up, and those who have not).

Recommended settings

These settings are recommended when creating sign-ups.

- Always use **Limit each time slot to __ users** to keep the appointment at the desired maximum attendance.
- Unless the appointments are sensitive (e.g., office hours), it's better to check **Allow students to see who has signed up for time slots.** (That setting's especially significant for meals signups.)
- Always choose **Limit participants to attend __ appointment(s)**, normally 1 to ensure each student reserves only a single time slot.
- Use **Details** to include additional information, e.g.: **If fewer than 3 students sign up, the appointment will not take place.**

Group appointments

When you use group appointments, only one student per group needs select a time slot for that group. This feature works only if groups, populated with students, already exist on the Canvas page.

- Because groups are open to all members of a course site, you cannot share group appointments across separate Canvas course calendars, or limit them to certain sections.
- Once a group sign-up is published, it cannot later be converted to an individual sign-up, and vice versa.
- Students who have not signed up for a group cannot see team-based appointments.

Note: The calendar shows information based on your currently specified time zone; if appointments are elsewhere, switch your time zone in Settings while making the sign up, then switch back when you are finished.

Students can not manually be entered into a slot.

Questions?

Email: courseware@wharton.upenn.edu

All about Canvas groups (for instructors)

Last Modified on 08/30/2025 10:45 am EDT

Canvas Groups are an important element in many of the more collaborative, extemporaneous uses of Canvas. Use Groups to apportion each unit with assignments, repositories and other collaboration features for use in-class and in hybrid sessions. This article describes how to create, manage, and use Canvas groups.

Before You Start

You will need a Canvas site for your course.

Creating groups

Canvas allows you to create groups for students to work on projects, term papers, or any other assignment in which students work collaboratively. To create a group:

Linking groups to assignments

Once a group is created, instructors can deliver group assignments - with either group grading or individual marks per contributor. Learn how to link a group set to an assignment.

Joining groups

Students join groups through the People tab, but you should be aware that their view differs from that of an instructor.

Imported groups

Check carefully to ensure that all copied group assignments are linked to existing group sets in **People**. During a course site import, all group Assignments will be assigned to a single group set called **Project Groups**.

Edit groups

Once you have created a group set, you can edit it at any time by going to People and clicking on the Group tab. Click on the 3 dots button and Select Edit.

Move a student into a different group

You can move students within groups. Changes should be made before assignment submissions start. If you want to move a group member with a graded submission, you may want to clone the group set instead.

Managing groups

Groups have their own "sub-sites" that contain Files, Discussions, Announcements and a few other Canvas features.

Questions?

Contact: IDEA Courseware Team, courseware@wharton.upenn.edu

All About Assignments

Last Modified on 01/28/2026 5:26 pm EST

This article covers the basic and advanced features of assignments and assignment groups, as well as downloading files students have submitted to an assignment.

Before You Start

You will need a Canvas site.

Published assignments will appear appear in assignments, as well as syllabus and course calendar. The assignment will appear on the students' dashboard and in the **Upcoming Assignments** sidebar a week before the assignment is due; a week after, the assignment will appear in **Past Assignments**. Canvas will also notify students. Unpublish assignments or restrict to prevent student access.

Assignment Basics

When creating an assignment, you can take advantage of the following features:

Advanced Features

Assignments offer a number of advanced features.

Assignment Groups

Enhance your grading with assignment groups.

Download Submissions

Download the files students submit to an assignment.

Discussions as Assignments

Discussions are a good option for certain kinds of assignments and learning activities in which students are required to interact with each other.

TIP: Use student view to see assignments as students do.

Questions?

Email: courseware@wharton.upenn.edu

All about quizzes (Classic)

Last Modified on 10/15/2025 3:44 pm EDT

This article provides an overview of using the original quiz feature in Canvas LMS, known as "Classic Quizzes".

Before You Start

You will need a Canvas site.

Quiz Basics

Quizzes are formal exams or surveys, and can be graded or ungraded. To create a quiz:

Recommended Instructions for Students

We recommend providing the following information in all quiz instructions:

Configuring Take-Home Quizzes

You can 1.) prepare normal quiz questions; or you can 2.) have the students download a document containing the exam and then upload a document containing their answers to the quiz.

To create a file download quiz:

Previewing a Quiz

You can *preview* a quiz, to get an idea how it will appear to students, by clicking on the quiz and choosing **Preview**. Please keep in mind that a preview may leave out a few details of the student experience; for more accuracy, try student view.

Regrading Quizzes

Occasionally you may need to change an answer after students have taken the quiz.

Revealing Results to Students

Consider the following when deciding what to reveal to students:

Enabling Additional Attempts for Students

Occasionally you may want to give a student another attempt at a quiz. Here's how:

Downloading Student Responses

If you need to download student responses from a quiz (such as for a survey), you can do so through the Quiz Statistics.

Questions?

Email: courseware@wharton.upenn.edu

All about New Quizzes

Last Modified on 10/15/2025 3:45 pm EDT

Canvas's New Quizzes offers benefits such as printing, one-time accommodation entry per course, and additional re-gradable question types. These benefits improve upon the original feature set of Canvas's Classic Quizzes.

Before You Start

You will need a Canvas site.

Do NOT use New Quizzes if you:

- Prefer to bulk-download all student submissions to file-upload questions
- Have questions with no correct answer, such as for a survey

Please use the legacy Classic Quizzes tool instead if you need either of these features.

Creating a Quiz

To create a new quiz...

TIP: Use availability dates to allow specific students or sections to take the quiz at alternate times.

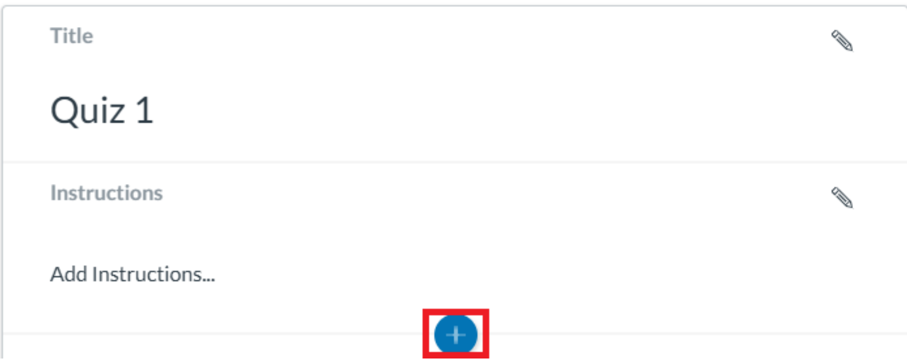
Quiz Settings

Open the **Settings** tab to configure quiz options:

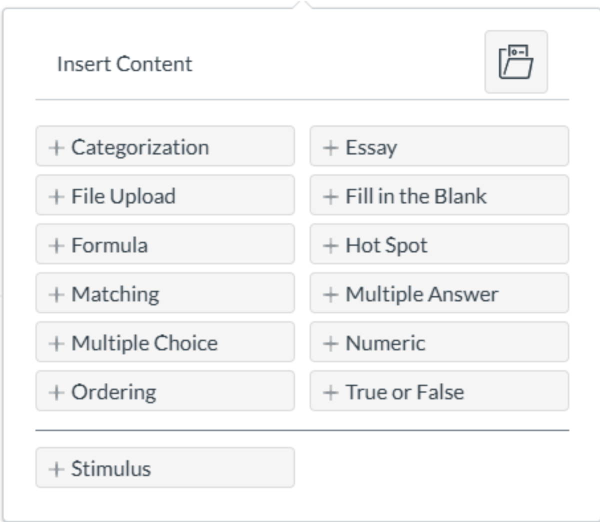
Adding Instructions and Questions

1. From the **Build** tab, add the quiz instructions and questions.

2. Use the **+** icon to add a new question.



3. This will display a list of question types. (Question types are explained in the next section.)



Question Types

Your quiz can include a mix of automatically and manually graded questions.

Item Banks

Use Item Banks to pull all questions or a specific number of questions randomly from a pool. This is a good way to add variety to the exam and/or keep similar questions together.

Exams with File Downloads

Use these instructions if you need to share a link to an exam file that students can access only during the exam.

Publish the Quiz

Before you publish the quiz, be sure to:

- **Add availability dates** so students cannot access the quiz until the start time.
- **Review the quiz settings** to ensure that **Restrict Student Result View** is enabled and that other exam settings are correct.
- **Preview the quiz** to view it as students will.
- **Permit additional time** by choosing **Moderate** to the right of the student's name. Under **Time adjustments,** select **Give additional time,** enter the extended time, and close the tab.
- If you place the quiz within a **Module**, be sure to **publish the Module** containing the quiz so that students can access it.

Viewing and Grading Online Quizzes

- Use **Moderate** to view student submissions, add more time or attempts for individual students, and to reopen a completed quiz.
- Add a score for any manually graded questions in **SpeedGrader**. (Final quiz scores cannot be directly edited in the Gradebook.)

Regrading Questions

You can regrade any automatically graded question, but this should be done only ***after* all students have finished taking the quiz**. When you regrade a question for one student, **the change will be applied to all** students who received that question.

For courses using Blueprint templates, the regrade will need to be applied in each section/child site, as regrades cannot be applied from the template.

If you are regrading a question contained in an Item Bank, consider editing the question in the bank after regrading in Speedgrader so that the future iterations of the quiz will have the updated version.

Releasing Scores

When you are ready for students to see their submissions and the correct answers, you should:

Enabling Additional Attempts for Students

Occasionally you may want to give a student another attempt at a quiz. Here's how:

Questions?

Email: courseware@wharton.upenn.edu

Delivering online exams (in-person)

Last Modified on 10/18/2024 11:49 am EDT

This article describes how best to deliver an exam through Canvas during in-person classes. **See Exams for Remote Instruction - Faculty for advice on delivering online exams remotely.**

Before You Start

With proper notice, the Courseware team can help prepare an exam for delivery through Canvas. Note that the Courseware team will not convert paper exams into online formats.

Exam venue

You can deliver an online exam either in a Wharton lab or your classroom.

Preventing cheating

There are several ways to prevent cheating during online exams.

Timing

A quiz can be given during a precise time period (e.g., April 4, 2020, 4:30 pm-6 pm), or can be made available during a longer period but for a limited duration (e.g. the student only has an hour to complete, and the quiz must be taken and submitted at some point during the period of April 2-6, 2020).

Student accommodations

You may have students that have been granted accommodations by Penn's Office of Student Disabilities Services; the Provost's Office has issued general guidelines for faculty.

Accommodations, such as granting extra time on an online exam, must be made in advance. It is not currently possible to allow students to edit previously submitted quizzes.

Creating a take-home exam

In place of a Canvas quiz, you have students download a document that contains the exam and then upload their answers in a Word file or pdf.

1. Create the document you will attach to the quiz. (We recommend .pdfs; it's easy for students to confuse the downloaded version of the Word file with the version they must upload.)
2. Store this document in Files, in a new folder whose permissions are set to "Only available to students with link."
3. Create or edit a quiz, including one file upload question for collecting a student's answers. If there is no time limit, you can use an assignment instead of a quiz.

4. Link your exam document either from a text question or from the File Upload Question details.
5. Use availability dates to prevent students from accessing the document too early and to prevent submissions after the due date.
6. Use a time limit in settings to limit the amount of time permitted for the quiz. We recommend allowing 5 extra minutes for students to save and upload their files.
7. Use Moderate Quiz to monitor progress or to allow extra time or attempts to individual students,

File upload quiz questions do not work in Internet Explorer for Windows nor in older Safari versions for Mac. These browsers also do not meet the general system requirements for Canvas.

After-hours Support

Please advise if your exam occurs outside of regular business hours (Mon-Fri, 9am-5pm Eastern Time).

Questions?

Email: courseware@wharton.upenn.edu

Exam accommodations

Last Modified on 10/14/2025 11:53 am EDT

This article describes how to use Canvas to grant students additional time and extended availability windows for exams, which, in Canvas, are called *quizzes*.

If a student in your course has an approved accommodation from Student Disabilities Services (SDS) or must take a quiz at a different time than the rest of the class (because of time zone or another reason), you should ensure that reasonable accommodations are made. You are responsible for setting up these accommodations in Canvas, or for asking the Courseware team to do so.

Please contact Courseware with accommodation requests at least 1 business day before the quiz is administered.

Availability Windows vs. Time Limits

The *availability window* is the total time period the quiz is open to students; e.g., from April 28 at 12pm to April 29 at 1pm.

The *time limit* is a specified amount of time given to students to complete the quiz (e.g., 60 minutes).

If your quiz uses both availability dates and a time limit, be sure to update both when making accommodations.

Student-specific Availability Windows

You can set different availability windows for students within the same quiz or assignment.

1. Open the quiz (in New Quizzes or Classic Quizzes) and scroll down to the **Assign to** field.
2. After setting the Due Date and Available from/Until dates, click the **+Add** button to create a second **Assign to** field.
3. Start typing the first few letters of the student's name and select their name from the student list that appears. You can assign a different availability window to multiple students or to different sections of students.
4. Enter the new due date and Available from/Until dates for these students.
5. Repeat steps 2-4 as needed, and click **Save** when you are finished.

Notes: Individual students can only be assigned one (1) Availability Window. Students will see *only* the due date and available from/Until dates assigned to them.

Extending the Time Limit

You can extend the time limit of a quiz for individual students without adjusting the time limit for the rest of the class. This is possible in both New Quizzes and Classic Quizzes, but should be done before students start taking the quiz.

New Quizzes

Classic Quizzes

"Stop-the-Clock" (STC) Breaks

Allowing Extra Time for In-Progress Quizzes

Questions?

Email: courseware@wharton.upenn.edu

Respondus LockDown Browser (for instructors)

Last Modified on 10/13/2025 1:34 pm EDT

Respondus LockDown Browser is a special web browser that helps prevent cheating during in-person proctored online exams (that take place in a classroom or computer lab) . Students take the exams using Canvas, but cannot use other programs, take screenshots, copy, paste, print, or navigate to other websites while the exam is in progress.

Note: LockDown Browser cannot be used for remote exam delivery; it is available only for in-person exams.

Before You Start

- LockDown Browser **can only be used for in-person exams**
- LockDown Browser **cannot be used for remote exam delivery take-home exams or quizzes**, as only supervision can ensure that students are not using an additional device.
- If students will use LockDown Browser on personal devices or in a computer lab, contact the Courseware team at courseware@wharton.upenn.edu *at least two* weeks before the first online quiz/exam, preferably.
- Plan to deliver a practice quiz using Respondus LockDown Browser beforehand to help familiarize students with the tool, so that students do not take extra time to set up on exam day.
- LockDown Browser is compatible with iPads for exams using Canvas New Quizzes, but you must contact the Courseware team in advance as this requires a special configuration. Alternatively, you can offer students without a Mac or Windows laptop a paper copy of the exam.
- If you place the quiz within a **Module**, be sure to **publish the Module** containing the quiz so that students can access it.

Enable Respondus LockDown Browser

Before your students can take quizzes/exams using LockDown Browser, it must be enabled for the course.

Using Excel with LockDown Browser

LockDown Browser includes a basic spreadsheet tool that enables .xls/.xlsx spreadsheets to be viewed and edited during an exam session. LockDown Browser has its own basic, built-in spreadsheet function that allows students to use a spreadsheet, but with limited functionality. This functionality is available for Windows, Mac, and iPad editions of LockDown Browser.

To enable the spreadsheet function in LockDown Browser, use these steps:

Day-of-Exam Troubleshooting

If students are having trouble opening the quiz/exam with LockDown Browser, there are a few troubleshooting steps you can take on your own. You can also contact the Courseware team for assistance.

We recommend having paper copies of the exam as a backup for students who are unable to open LockDown Browser or log *in with two-factor authentication.*

Note: If students report any error messages when attempting to view their exam submissions after you have posted grades and released the correct answers, the issue can be resolved by disabling Respondus LockDown Browser through the LockDown Browser tab in Canvas.

Additional Resources

1. If you are wondering when to use Respondus LockDown Browser versus other approaches, watch Courseware's on-demand session, Which Canvas Tool Is Right for My Exam? [49:24] which discusses Respondus at length with a number of useful tips.
2. The following resources are helpful when applying the LockDown Browser to specific quizzes:
   - Delivering Online Exams in-person
3. In addition, these resources are helpful for students:
   - Respondus LockDown for Personal Devices (Students)
   - Preparing to Take an Online Exam

Questions?

Contact: Courseware team

Email: courseware@wharton.upenn.edu

Administering and Troubleshooting Online Exams

Last Modified on 01/11/2024 4:10 pm EST

Administering an exam online using Canvas can allow for more versatility and less time spent grading. When preparing to administer an online exam, it's important to plan for possible technical glitches and know how to troubleshoot some of the most common issues.

Before the Exam

Administering Exams/Day-of Troubleshooting

Giving Students Extra Time or Attempts

After the Exam

Questions?

Email: courseware@wharton.upenn.edu

Setting Up Assignments Requiring Student Collaboration in FeedbackFruits

Last Modified on 03/20/2024 1:34 pm EDT

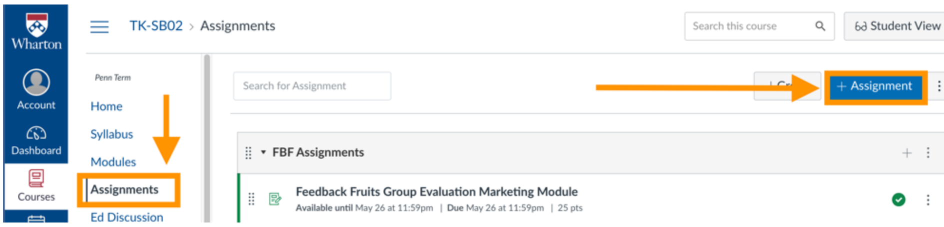
Before You Start

FeedbackFruits is an engaging suite of tools designed for active, reflective learning that integrates seamlessly with Canvas. The tools in the suite are designed to encourage a collaborative learning experience, as many of the assignment types also integrate with group sets in Canvas to enhance project work. Two of the most popular tools used by Wharton faculty, group member evaluation and peer review, help to enhance teaching and learning at Penn.

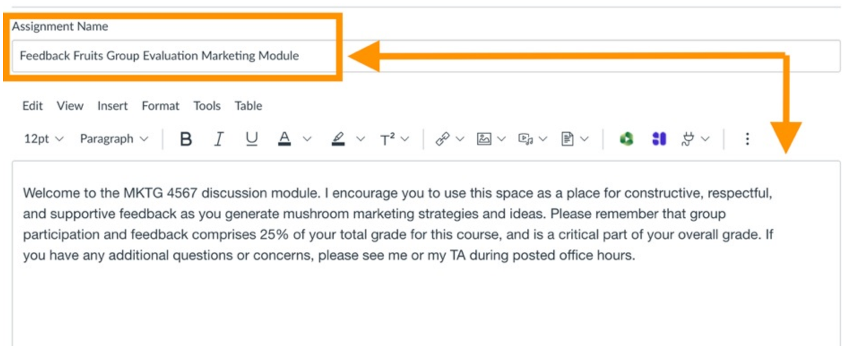
To provide the best possible experience for teaching team members who will be administering these tools, this article focuses on considerations for FeedbackFruits assignment setup. In the examples below, the **group member evaluation** tool is highlighted, but there are other collaborative assignment types you can use, as well, with small nuances in the settings.

Getting Started

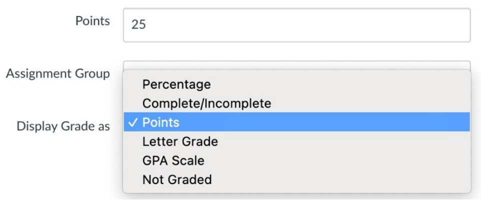
FeedbackFruits assignments are created in Canvas by selecting **Assignments** on the course navigation sidebar and clicking the **+ Assignment** button on the top right portion of the page.



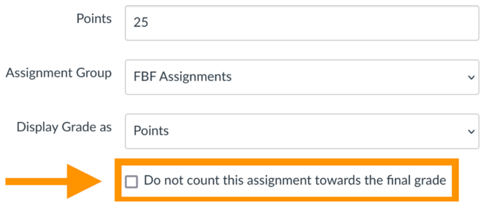
You will first need to create a title for the assignment. Below the title, you can add general instructions within the Rich Content Editor (RCE).



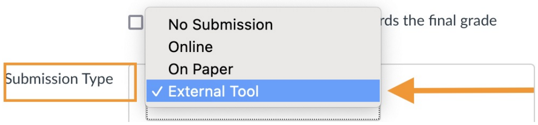
Beneath the RCE, designate the number of points the assignment is worth. Afterwards, select the correct assignment group (specific to your course) and decide how you would like to display the grade.

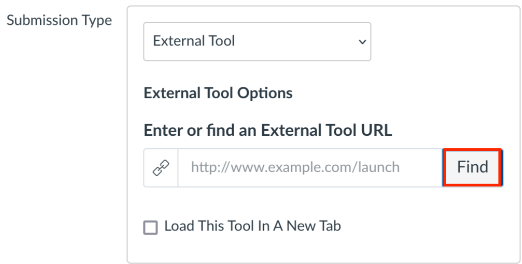


Note: This assignment type must be graded; however, there is a selection check box that can set the assignment so that it is not counted toward students' final grade, if needed.

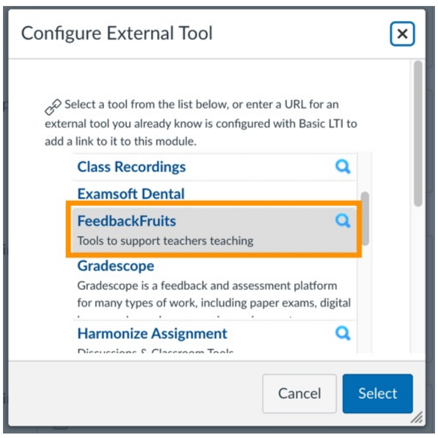


Next, choose the **Submission Type.** Select **External Tool** from the drop-down menu and select the **Find** button.

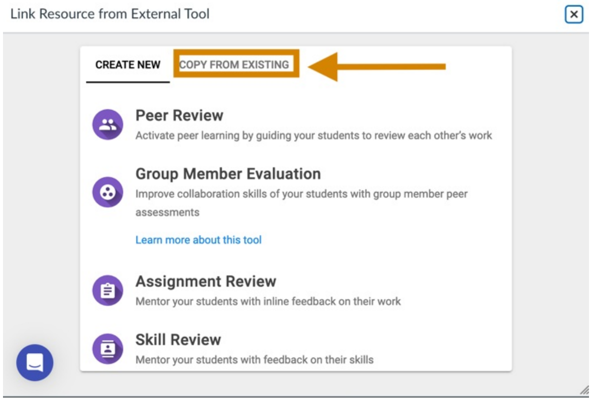




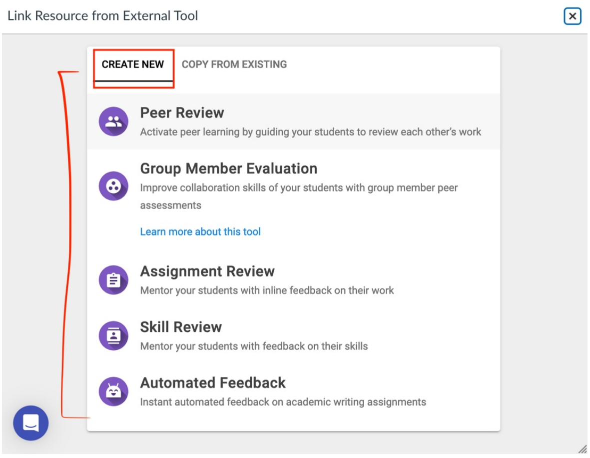
Note: You should *not* type a URL in the "Enter or find an External Tool URL" field. You can simply click the Find button. After you click Find, the Configure External Tool dialog box will open. Highlight the FeedbackFruits tool and click on it to open.



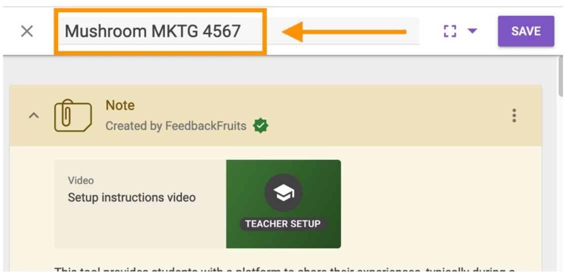
You can either create a new assignment or pull from an existing one (e.g., one you have set up in a previous semester) by using **Copy From Existing.** This is the recommended way to duplicate assignments from semester to semester.



If you choose to create a new assignment from scratch rather than pulling from an existing one, select the assignment type. As mentioned earlier, peer review and group member evaluation are the most commonly used FeedbackFruits assignments at Penn.



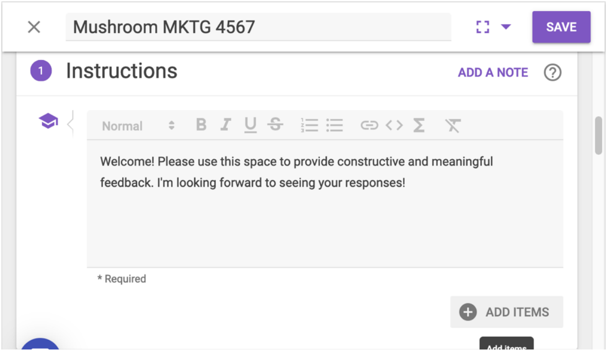
Once you begin working in the assignment, you can give it a title within FeedbackFruits. This new title is separate from the Canvas assignment title that was created earlier. We recommend including the course's four-letter acronym and four-digit number in this title, as this makes it easier for our team to track the assignment and assist with any troubleshooting needs.



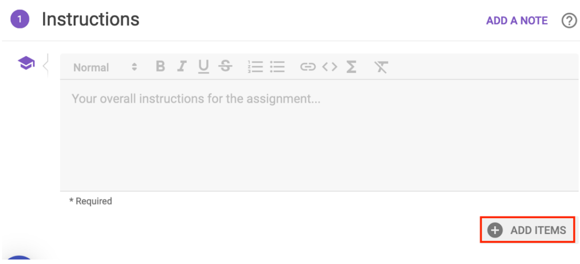
Assignment Setup

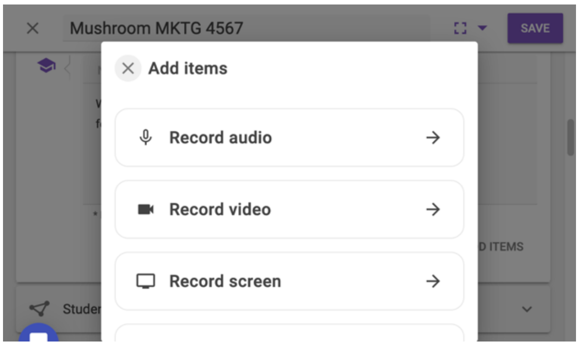
Step 1: Instructions

Begin by filling out the **Instructions** text box. This is needed to save and publish the assignment, so this text box cannot be left blank.

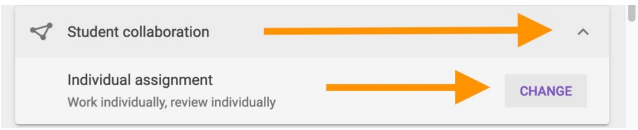


If you would like, you can add a voice note or other attachment here, as well.

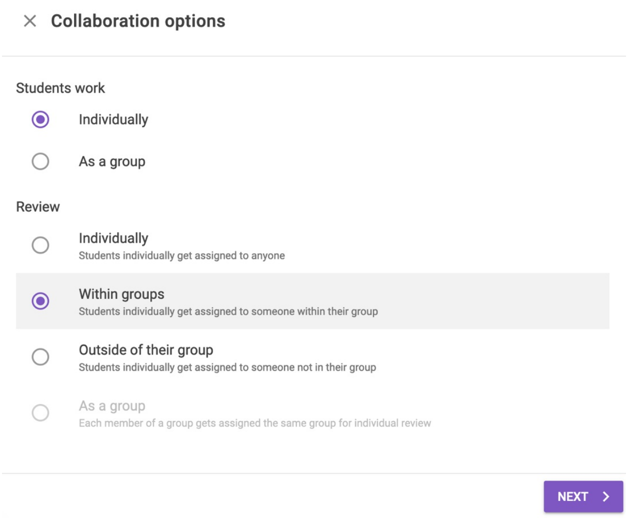




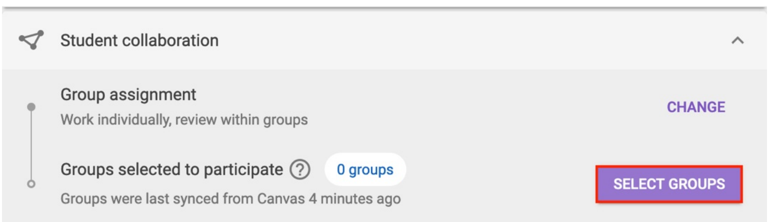
You now have the option to set up an assignment where students ***work*** individually or within a group. For assignments where you are reviewing other peers, you also have the option to ***review*** individually or within a group. To set this up, click on **Student collaboration** and select the **Change** button.

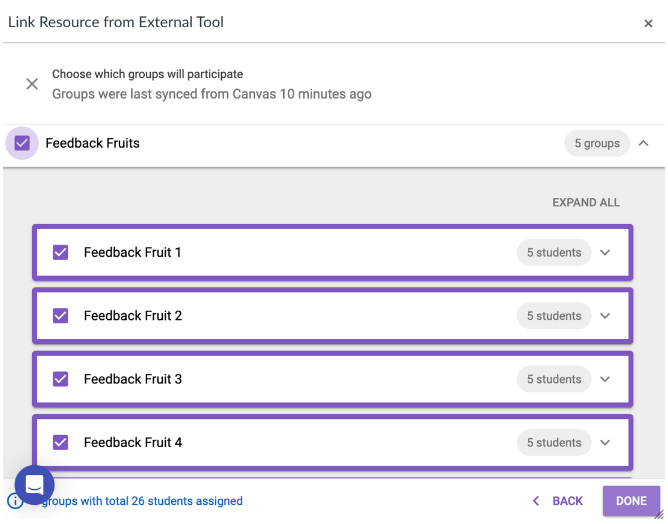


To create an assignment where students will individually review their group members following a group assignment or project, select Students work "Individually" and Review "Within groups." For any group assignments, these group sets will need to be configured in the Canvas People tab first and then synced in FeedbackFruits.



When choosing to incorporate group work, you will need to click on **Select groups** and choose the group that will participate in the assignment. Note that if you select a group with zero participants, you will need to edit and refresh the FeedbackFruits iFrame once you add students to the groups within the Canvas People tab for this to sync. Click **Done** when finished.





Before releasing any group assignment, double-check to make sure the group set is properly synced. If you are using the self sign-up feature for your Canvas groups, note that FeedbackFruits does have a lag time, so if students are moving in and out of groups, you will need to return to the "Groups selected to participate" section to refresh the sync each time a student joins a new group.

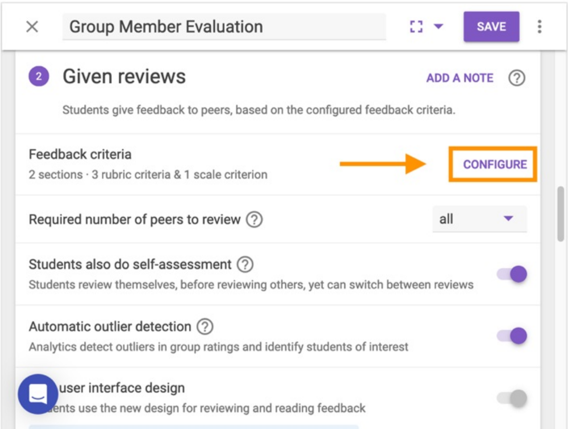
For this reason, it is recommended to turn self sign-up OFF and also wait until the add/drop period is over before using group assignments in FeedbackFruits. Otherwise, you will need to manually sync the groups.

Step 2: Given Reviews

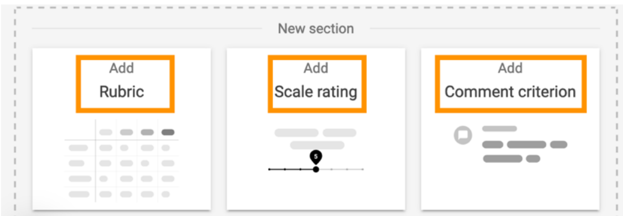
For a collaborative assignment type in FeedbackFruits, students give feedback to their peers based on criteria set by the instructor.

Feedback Criteria

Under **Feedback Criteria**, click on the **Configure** button.

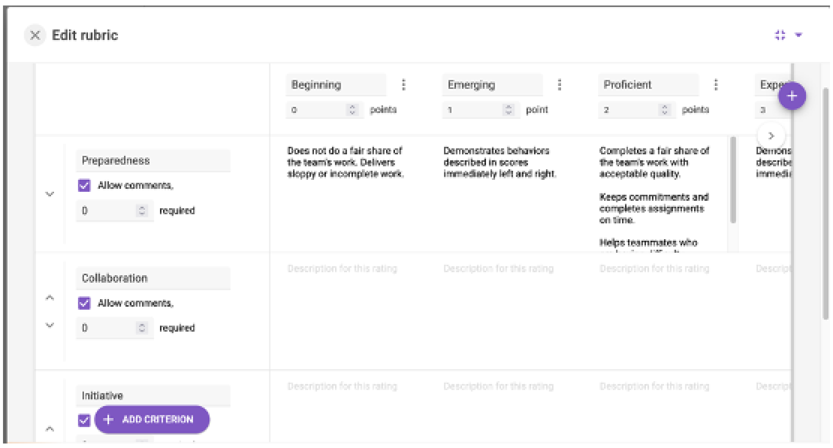


Next, build out your criteria. Here you can add as many or as few criteria sections as you would like. You can configure a rubric, scale rating, or comment criterion.



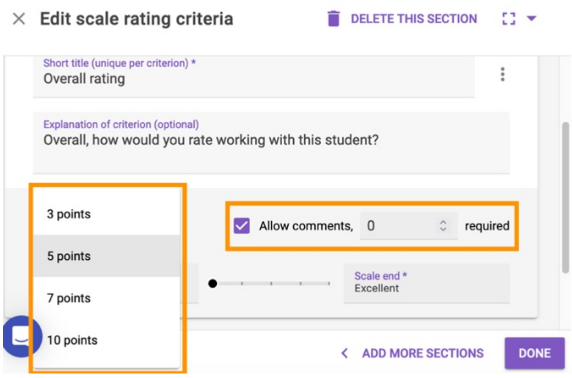
Rubrics

With rubrics, instructors can provide explanations for each level of the criterion and attribute grading points to this. A rubric example is shown below.



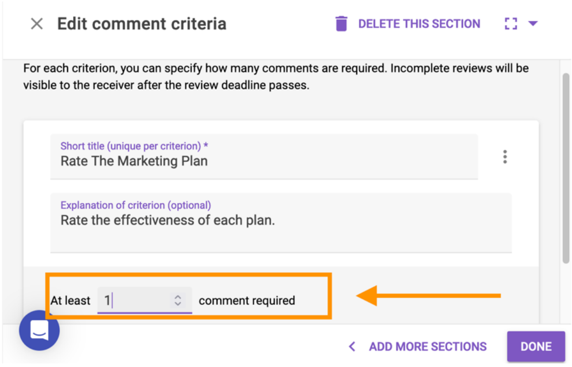
Scale Ratings

With scale rating criteria, you can assign various points along a rating scale. You can also set the number of comments required (if any) and adjust the text that appears from scale beginning to end. When finished, you can either click Done or continue building out the criteria.



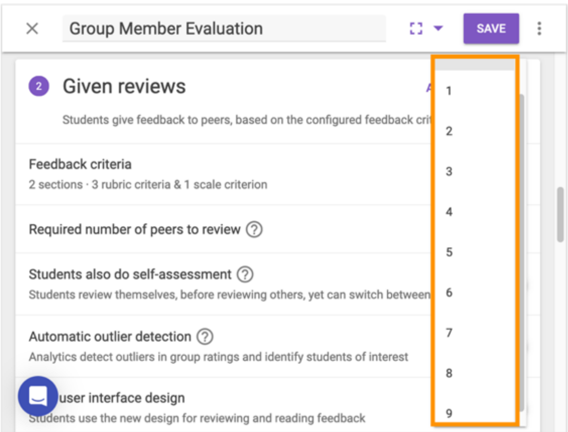
Comments

You also have the option to use the comment criterion in the assignment. In some cases, you might want students to only give qualitative feedback, where students do not have to give a score or select a level from a rubric.



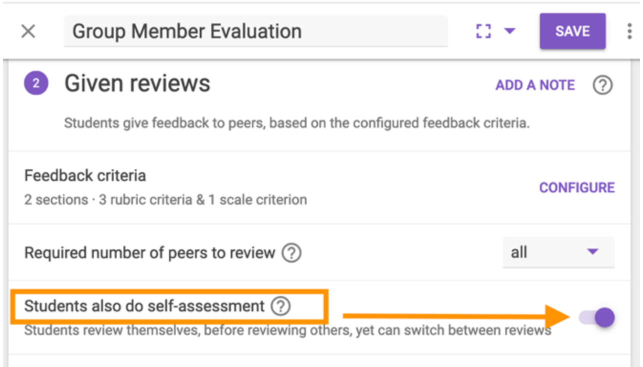
Number of Peers to Review

Next, select the number of peers students are required to review. You can select all students in the assignment or any number from one to nine. The **All** option is used when students have to review all their peers or groups (if set up as a group assignment).



Self Assessment

Student self assessment is a useful tool for your students to identify their own individual strengths and the areas where they need improvement. With self assessment turned on, students will fill out the same criteria they completed when reviewing their classmates, but this time they will be reviewing themselves. To activate this functionality, slide the radio button to the right.

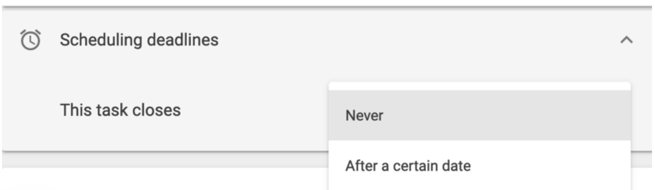


Outlier Detection

Automatic outlier detection helps instructors identify potential issues in groups such as overconfident students or group conflicts. Tips on how to use this function can be found here.

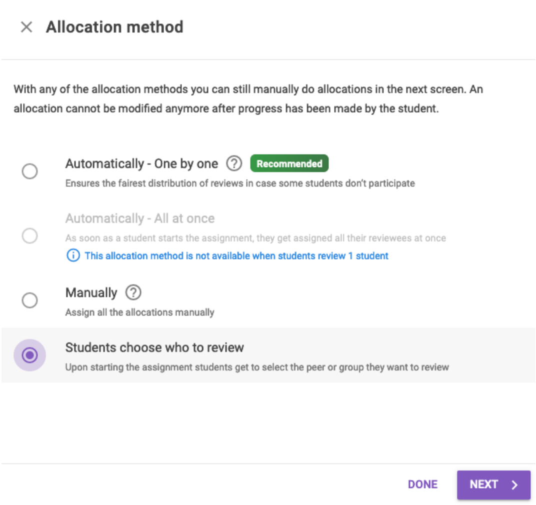
Scheduling Deadlines

You have the option to leave this task open for an indefinite amount of time, or you can have the task close after a certain date. Note that if the task is set to close after a certain date, students will **not** be able to begin submitting peer reviews or group member evaluations until after this deadline is reached. The deadlines can be altered at any time (even after students have started working on an assignment). If needed, instructors can also easily configure deadline extensions for specific students within the FeedbackFruits iFrame.

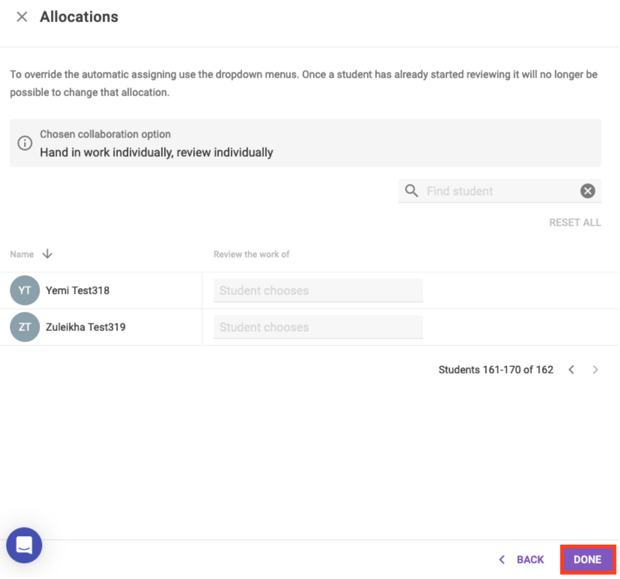


Allocations

Within a peer review or group member evaluation assignment, you can distribute reviews automatically, manually choose who each student reviews, or, as part of a more recent update, you can let students choose who to review.

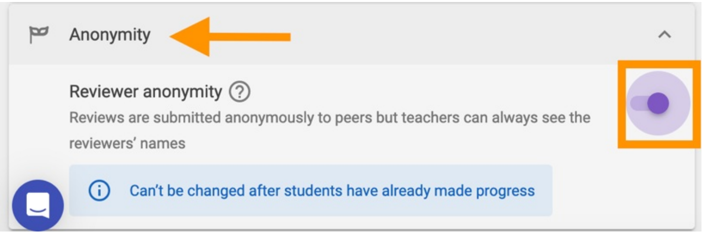


With this option selected, if you click the purple **Next** button, you will then be prompted to manually type in the name of a student for each reviewer; however, if you click **Done**, you can continue saving the desired setting for "Students choose who to review."



Anonymity – Who Can See Feedback

As you construct the FeedbackFruits assignment, you will have the choice of whether to release students' feedback to their peers. If you do choose to release the feedback, you can make this anonymous to the receivers. This is done by toggling the **Anonymity** function and activating **Reviewer anonymity**.



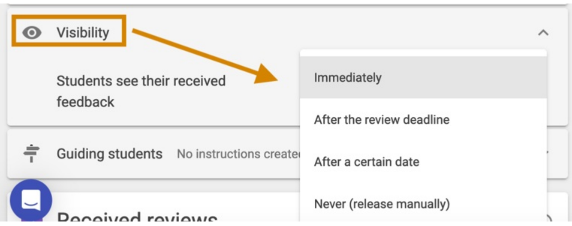
If you are working with a peer review assignment type where students are submitting a deliverable for review, you will also have an option to turn on **Submitter anonymity,** where handed in work is submitted anonymously to peers but instructors can still see the students' names.

Here are some things to remember when you use this function:

- Canvas will assign each student an alias, but only you as the instructor can see both the student's name and their alias. Students and their reviews remain anonymous to the class.
- **Note: Once students have started to make comments, this function cannot be changed or deactivated**.

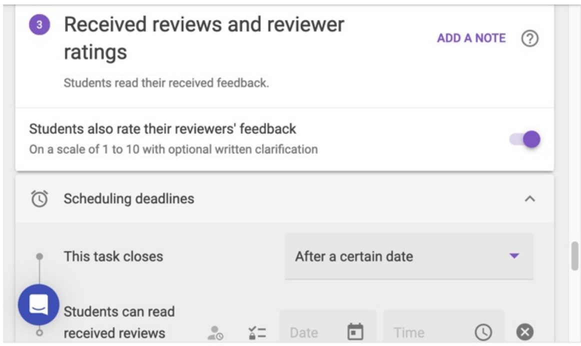
Visibility - When Can They See Feedback

You can control when and if feedback is available and visible to students by opening the **Visibility** option and selecting when you want to make that feedback available.



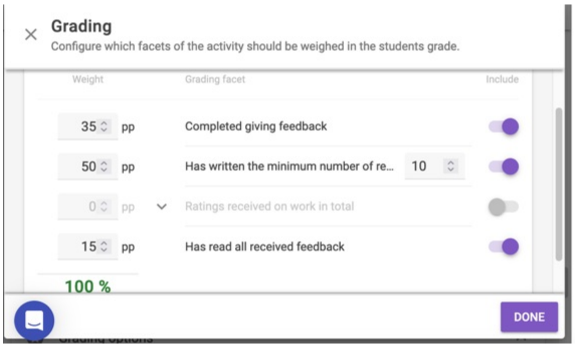
Step 3: Received Reviews and Reviewer Ratings

Students have the opportunity with this option to read the feedback they have received and can, on a scale of 1 to 10, rate their reviewer's feedback. You can schedule this task to close after a certain date and set the length of time students can read the reviews.



Grading

If you would like to assign a grade to your FeedbackFruits assignment, you will need to configure the value for each element of the assignment.



Assigning Individual Point Values

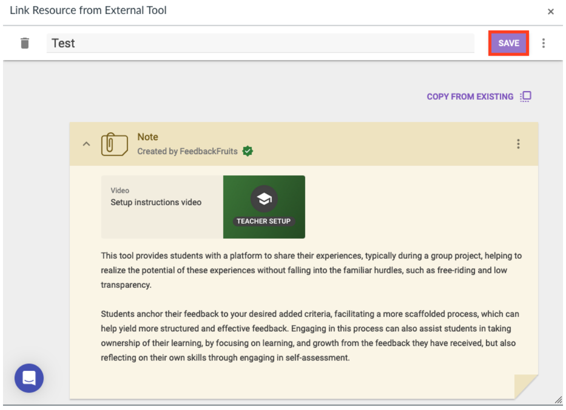
In FeedbackFruits, you can designate any point value you choose. That value will calculate as a percentage that then factors into the Canvas assignment settings. This happens in two distinct parts. For example, if a FeedbackFruits assignment is worth 10 points in the Canvas assignment settings, then if a student earned a 75% within the FeedbackFruits grading module shown here, it would calculate as 7.5 points in the Canvas gradebook. This is because the Canvas Assignment is set for 10 points on a 100-point scale.

Saving & Assigning

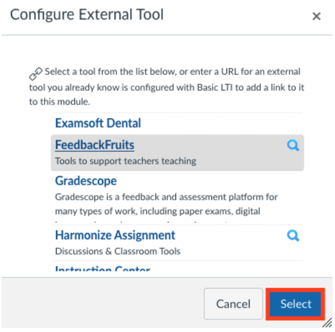
Saving

Once you are finished building out your assignment in FeedbackFruits, there are three different steps to save your work:

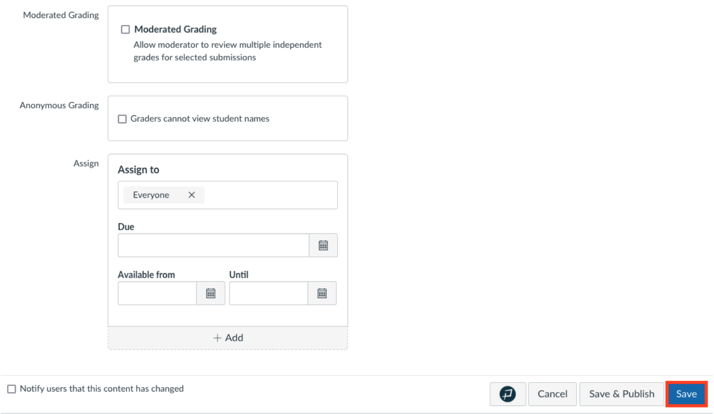
1. Click the purple "Save" button within the FeedbackFruits assignment.



2. You will then be redirected to the Configure External Tool pop-up window. Click to select FeedbackFruits once again.



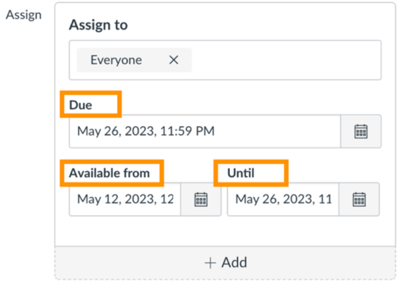
3. The final Save button will be within the Canvas assignment itself. Click the blue "Save" button (or Save & Publish if you are ready for students to access) to finalize your edits:



Assigning

Although this is not required, some faculty prefer to lock assignments until a certain date and time so that students cannot see any of the content within FeedbackFruits. In these cases, establishing an availability window in Canvas (outside of the assignment iFrame) is helpful.

First, if you would like to assign this to specific students or a section of students only, you can assign to specific people rather than "Everyone" as shown in the screenshot below. Next, populate the date and time the assignment is **Due** and the **Available from** and **Until** options by clicking on the calendar icon for each. Finish by clicking the **Save** button on the bottom right of the page.



Questions?

Email: courseware@wharton.upenn.edu

Gradescope

Last Modified on 08/06/2024 1:26 pm EDT

Gradescope is a tool that instructors can use to assist in grading coursework quickly and efficiently. Instructors or students upload PDFs of the completed assignment directly into Gradescope, and the instructor can apply a custom rubric that allows for uniform grading and feedback. Instructors also receive analytics concerning their assignments to better understand areas where students may be struggling.

Getting Access to Gradescope

Gradescope is available for all courses at Penn. To enable Gradscope for your course, click on **Course settings**, then the **Navigation** menu, click **Enable** next to Gradescope, and then click **Save**. This will add it to your Canvas navigation menu.

The first time you click on the Gradescope link, you'll be prompted to set up a new course. Here is where you will add the course name, number of students, and term date.

Adding an Assignment or Exam

There are five different types of assignments you can add in Gradescope:

- Exam/Quiz: use this when students complete work; the instructor uploads the PDF to Gradescope.
- Homework/Problem Set: students upload their own completed work via PDF.
- Bubble Sheets: this is used if your assignment is completely multiple choice.
- Programming Assignment: this is used when students submit coding projects.
- Online Assignment (Beta): not recommended; use Canvas Quizzes instead.

Using Gradescope with Canvas

Gradescope grades are not automatically transferred to the Canvas gradebook but must be linked from Gradescope. To set up grade pass back, you will need to set up a separate Canvas assignment and link it to the assignment in Gradescope.

Setting Up an Outline

Creating an outline is the first step in creating exams, quizzes, or homework/problem set assignments. You can do this by uploading a PDF of your exam and by following the steps listed on the Gradescope help page under Creating an Assignment Outline.

Managing Submissions

For any type of submission, you can choose whether to upload an assignment as either the instructor or the student. If you administer an exam and need to upload a large number of submission, the Gradescope Scanning Tips or Labeled Print Outs option can reduce the workload.

Grading with Gradescope

- To grade student submissions, go to the **Grade Submissions** tab and click on the question you want to grade.

The grading page is broken into three sections: the **student submission area**, the **rubric**, and the **action bar** (located at the bottom of the screen).

Additional Help & Support

For additional help and support, visit the Gradescope help site or email courseware@wharton.upenn.edu.

All About Files and Folders

Last Modified on 08/01/2025 2:18 pm EDT

This article provides an overview of working with Files in Canvas.

On July 19, 2025, the redesigned **Files** tab in Canvas has arrived and includes the following changes:

- To select files or folders individually, use the checkbox next to each file or folder. Bulk action options are available (including a *Select All* checkbox) whenever multiple files and/or folders are checked.
- Column headers can be clicked to sort files and folders.
- To view your files across all courses (and within your account), click the **All My Files** button.
- To return to the previous design of the Files tab, click **Switch to Old Files Page**. We expect the Switch button to remain available for a few months after the change.

Files Basics

There are three ways you can distribute course materials via Canvas:

- **Files**: Use this for class notes, slides, material produced by the instructor, publicly available articles.
- **Study.Net**: Use this for copyrighted materials, such as business cases (see below for more details).
- **Course @ Penn Libraries**: Use this for copyrighted materials already in the Library's databases.

You can use as many of these as you like, but a specific item should be shared by only one means. Example: An article should not be shared both in Files and through Study.Net.

Course files can be viewed and downloaded by everyone in the course, but **only instructors and TAs can add materials**. You can move and reorganize or rename materials in Files, and preview them in the browser window without downloading.

Downloading Files

Files can be downloaded in three ways:

Uploading Files

Press **Upload** to upload one or more files from your computer.

Replacing Files

Be careful with replacing any files that may have been linked to assignments. To replace a file without breaking any links, make sure the replacement document has the same name and is in the same folder. You'll be asked if you want to replace the existing file; if you do not confirm this, existing links will no longer work.

Deleting Files

Be careful with deleting any files that may have been linked to assignments.

Restricting Access to Files and Folders

Unpublish files or restrict files to prevent student access. Scheduling files to become available on a certain date is the best way to hide files for exams, as it does not generate a notification for students who have file notifications enabled.

> **Note:** If you upload a file or create a folder within an unpublished or restricted folder and then move the file or folder to a published folder or main files structure, the file or folder will take on the publishing status of its new location. To prevent this, update the publishing status of each file or folder before moving it.

Linking to Files

You can create a link in a page, assignment, or elsewhere in your course site, to material stored in Files.

Study.Net Materials

Although students access Study.Net materials through Canvas, Study.Net is a separate service that manages the delivery of copyrighted materials. Learn more about using Study.Net.

Questions?

Email: courseware@wharton.upenn.edu

Linking to Articles and Files

Last Modified on 06/18/2024 4:00 pm EDT

This article explains how to link to files from assignments, pages, or other places on your course site.

Linking to Articles on the Web

To link to a publicly available article on the web:

1. Copy the web address of the article.
2. Begin to edit the page or assignment where you want the article link to appear.
3. Create a hyperlink in the Rich Content Editor, then save changes.

Not all publications post their articles on the web in a way that facilitates easy linking; some may use **paywalls** which either allow limited free access (e.g., just one article or a limited number each week or month) or prevent free access.

You may be able to find a link to a licensed web-based copy of the article in Lippincott Library's database. The Lippincott librarians are happy to help you with article links.

Linking to Files (prior or new course uploads)

To link to a document you uploaded to Files:

1. In Canvas, begin to edit the page or assignment in which you want the link to appear.
2. Create a link to a course file, then save your changes to that assignment.
   - Optionally, you may instead upload a new file and create a link at the same time.

Questions?

Email: courseware@wharton.upenn.edu

Using Study.Net

Last Modified on 12/15/2025 2:58 pm EST

This article describes how to use Study.Net to make copyrighted materials available to your students.

Overview

Study.Net is a separate service that manages the delivery of copyrighted materials. Materials provided by Study.Net should not appear in any files section but can be accessed using the "Study.Net Materials" tab in the left navigation bar.

Linking to Study.Net materials

The Current Study.net LTI tool does not offer deep linking in Canvas, and links generated from Study.net can not be posted in Canvas. Instead please advise students to access readings posted in Study.net to the “Study.net Materials” tab in Canvas.

Downloading/Printing Study.Net materials

Students can download readings individually by clicking the reading title or download an e-book of the compiled study.net readings by clicking on the “Download eReader File” button.

Library E-Reserve in Conjunction with Study.Net

A licensed web-based copy of certain articles, book chapters, and cases may already exist in one of theLippincott Library's databases. Lippincott’s E-reserve Team can help distribute the articles via the “Course Materials @ Penn Libraries” tab in Canvas. For more information please reach out to Lippincott Reserves.

Uploading other articles into Files

Redistributing copyrighted materials such as business cases, book chapters, print and web articles, through Canvas, is expressly forbidden. All copyrighted materials must be distributed by either Study.net or the Lippincott E-reserves. Please reserve the Canvas “Files” section for notes, slides, and spreadsheets.

For general advice, consult Penn's Policy on Unauthorized Copying of Copyrighted Media. Additionally, the School of Arts and Sciences hosts a site about copyright and digital media in education.

Questions?

Email: courseware@wharton.upenn.edu

Setting Up aPlus+ Attendance in Canvas (Instructors)

Last Modified on 01/21/2026 9:26 am EST

This article describes aPlus+ Attendance for Wharton faculty use. Students should see Getting started with aPlus+ in Canvas (Students).

If you have used aPlus+ in a previous semester and would like to access the aPlus+ configuration in an older Canvas site(s), please refer to this article here (Option 1) and use upenn.aplusattendance.com as the URL to access the admin portal.

aPlus+ Attendance is a tool built into Canvas that helps teaching teams track student check-ins and attendance. Instructors can either mark attendance manually with custom statuses or let students sign in using a code or QR code within a set time.

If you are new to using aPlus+, please refer to this article for initial setup instructions. The article also covers additional configuration options, including how to sync aPlus+ with the Canvas gradebook. For details on using aPlus+ in Canvas, see Using aPlus+ Attendance in Canvas (Instructors). Other helpful articles include Using aPlus+ in the Classroom (Instructors) and Managing Student Absence Requests with aPlus+ Attendance in Canvas (Instructors).

Before You Start

You will need:

- Access to Canvas
- Instructor role in the Wharton course that will use aPlus+ Attendance

For help with either of these, contact your Wharton Computing representative.

Please Note: aPlus+ Attendance is NOT completely accessible for low-vision students due to the way the numeric code is displayed. If you use this code, we recommend contacting your Wharton Computing representative to discuss alternate solutions.

aPlus+ Attendance Benefits

aPlus+ Attendance provides the following benefits:

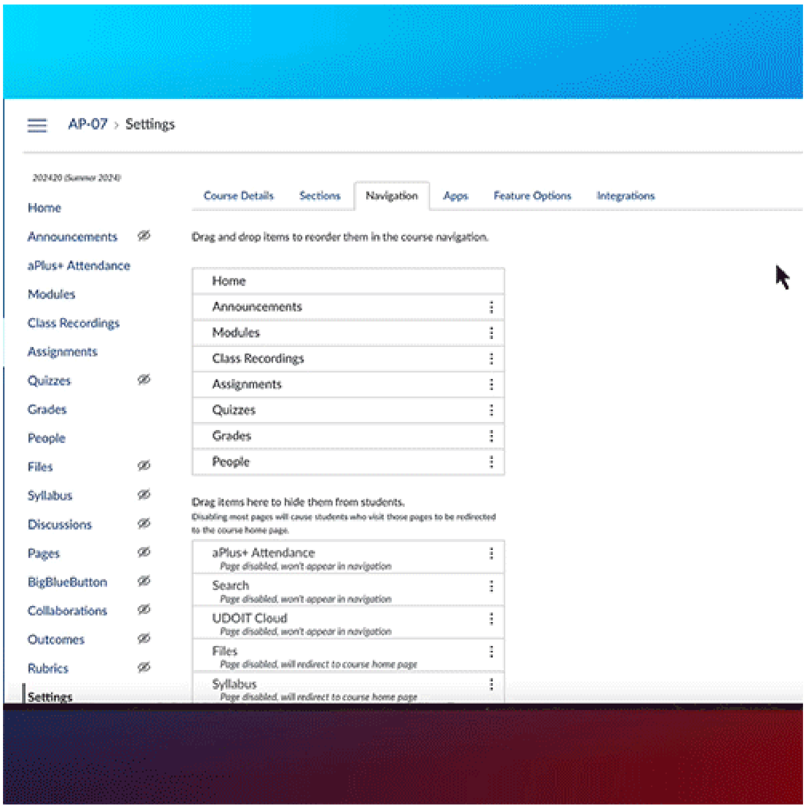
- **Rolling Code Check-in**: Prevents fraudulent check-ins by displaying a unique code in class via Canvas.
- **Direct Attendance Management**: Lets you set schedules (also known as timetables), update records, and access tools in the aPlus+ Attendance tab within your course.

- **Reporting**: View and analyze attendance data in multiple formats (e.g., absences per student, types of absences).
- **Canvas Gradebook Integration**: Automatically includes attendance scores based on your policy.
- **Centralized Absence Records**: Students and faculty can review and update attendance and absence requests in one place negating the need for email correspondence regarding absences.

Configuring aPlus+ Attendance for your Course

Any teaching member with the role of **Teacher** or **TA** can follow these 3 steps to configure aPlus+ Attendance. Please click the "+" sign next to the left of each number to read more about each step.

1. Unhide the aPlus+ Attendance tab



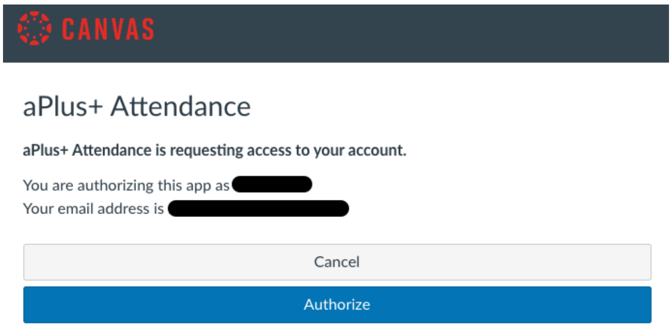
1. Log into Canvas and select the course that will be using the aPlus+ Attendance tab.
2. Select the **Settings tab** from your course sidebar navigation.
3. Click on the **Navigation tab**.
4. Drag **aPlus+ Attendance** from the hidden section to your course navigation.
5. Drop **aPlus+ Attendanc**e in the tab order. The other visible tabs will move out of the way as you place it.
6. Scroll down and click the blue **Save button**.
7. aPlus+ should be on your course navigation sidebar where you placed it. To hide it/move it just repeat the above steps.

2. Authorize Account (First-Time Use Only)

As the instructor, **you must click on the aPlus+ Attendance tab before students first try to access aPlus+**. If students attempt to access it before you take this step to initiate the application, they will receive an error message. Clicking on the tab just once before a new semester will enable student access.

To authorize aPlus+ Attendance:

1. Click on **aPlus+ Attendance** in the course navigation sidebar.
2. The first time you access the tool, you will be prompted to authorize access to your account:

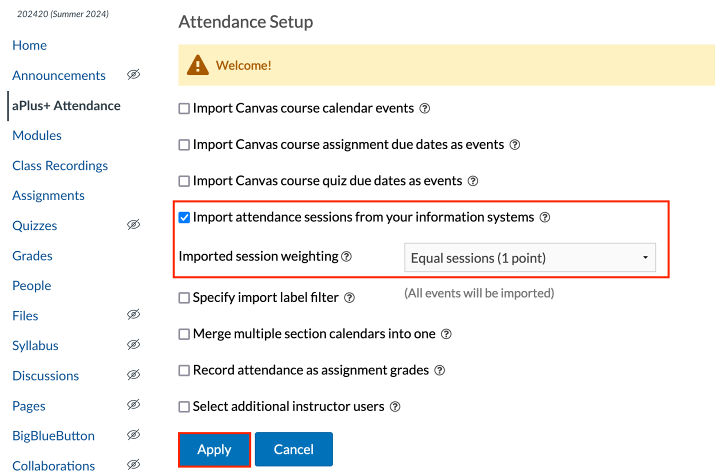


3. Click the blue **Authorize button**.
4. aPlus+ Attendance will load the Attendance Setup landing page (see the next section).

3. Set Up Attendance

After you click the Authorize button, or when you click the aPlus+ tab after authorizing the first time, you arrive at the Attendance Setup landing page. To set up attendance for this class:

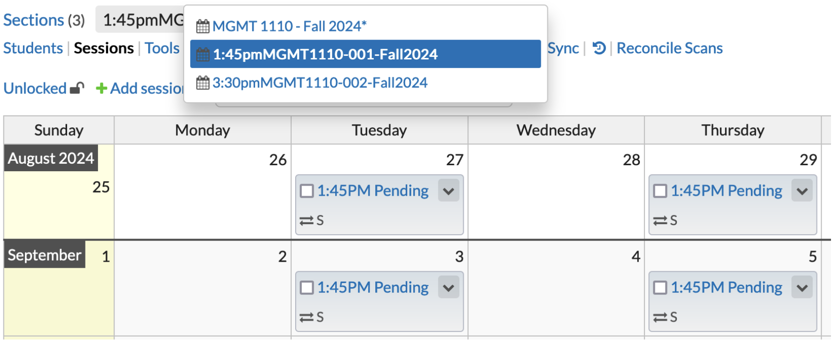
1. Check the **Import attendance sessions from your information systems box** and then choose a session weighting. The recommended weighting is "Equal sessions (1 point)."
2. Click the blue **Apply** button to save your changes.



You will now see the sessions populate on the course timetable, as shown in the screenshot below. This import should add all of your class meetings to your session timetables. The next section discusses some additional import options that you can use to add more/different entries to your timetable associated with other aspects of your course.

Make sure that the **Sessions** tab is selected and you have selected **a section showing your class start time** (e.g. 1:45pmMGMT1110-001-Fall2024) to see the sessions populate on the timetable.

If class start times are not available after you click the Sections drop-down selection menu, please contact a Wharton Computing representative for assistance.

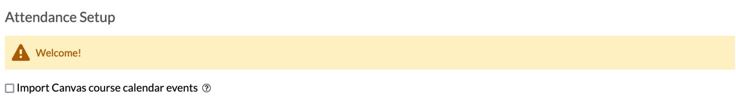


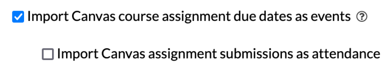
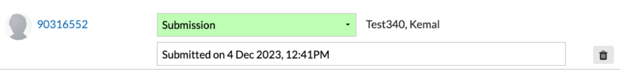
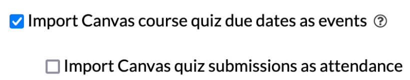
Additional Import Options

Typically, the attendance sessions will be imported from our information systems as detailed above; however, it is possible to import from course-calendar events, assignments, or even quizzes. This section details those options and why you might want to use them.

> If you plan to use aPlus+ Attendance in a Blueprint course, please contact the Courseware Team at courseware@wharton.upenn.edu.

The additional import options are:

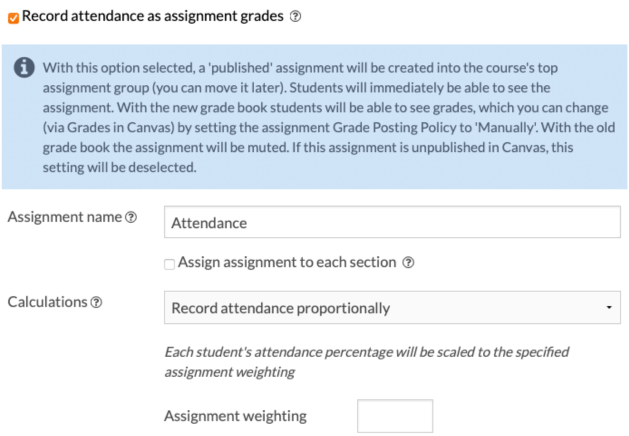
Course Calendar Events	If you want events on your calendar for this course to show on the aPlus+ timetable, check the **Import Canvas calendar events** box on the aPlus+ Attendance setup screen.  Canvas sites are typically configured using assignments rather than populating calendar events, so this may not be necessary for your course.

Canvas Course Assignment Due Dates as Events	Check **Import Canvas course assignment due dates as events** on the aPlus+ setup screen to populate your course assignments as attendance sessions on an aPlus+ timetable. Any assignment that you add to the Canvas course (outside of aPlus+) will sync with the aPlus+ timetable ***as long as a due date is set***. Once you check that box, an additional setting to count the submissions toward attendance for that day appears (Import Canvas assignment submissions as attendance).  With **Import Canvas assignment submissions as attendance** checked, students will be automatically marked as attended for that session when they submit the assignment. Once a student successfully submits, their status will show as a green "Submission" (if they submitted on time): 
Canvas Course Quiz Due Dates as Events	You can also set quizzes (as long as they have due dates) to sync on the aPlus+ timetable. To take this a step further, if you want to create a quiz that only in-person attendees will know about for that day, you can check the box to **Import Canvas quiz submissions as attendance**, which will then mark them with the "Submission" status in aPlus+: 

Recording Attendance as Assignment Grades

Anything that is counted towards attendance on an aPlus+ timetable -- whether a calendar event, quiz, assignment, or just a basic session that's either imported or manually added -- can be synced with the Canvas gradebook. **However, please note that this can only exist as one assignment in Canvas.**

Click the **box next to Record attendance as assignment grades** on the aPlus+ setup screen and some more settings will appear:



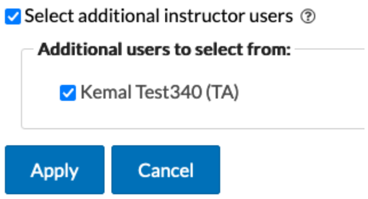
This one assignment (you can give it a name other than Attendance) will calculate as an aggregate attendance score based on the specific calculations you configure via the **Calculations** dropdown menu:

Calculation	Description	Example
Record attendance proportionally	The proportion of sessions attended vs. sessions taught (to date), is applied against a point value for the attendance assignment.	**Example:** If a student misses more than 3 classes, a 5% penalty is applied to their total grade. If the student's total grade was 90%, it would be reduced to 85%.
Penalty Rules - percentage impact on final grade	The instructor defines a set of attendance rules and once these are breached, this triggers a percentage penalty against the student's final grade. The attendance column sent to the gradebook is set to zero, so attendance does not affect students unless they breach an attendance rule.	**Example:** If a student is late more than 5 times, a penalty of 10 points is applied. If the student's total attendance points were 85, it would be reduced to 75.
Penalty Rules - points impact on weighted attendance	The instructor defines a set of attendance rules and once these are breached, this triggers a point penalty against the student. The attendance column sent to the gradebook can be set to any point value, including 0. This gives the instructor the flexibility of giving positive points to a student based on attendance, as well as the option of only applying negative attendance points to the grades when a penalty is involved.	**Example:** If a student is late more than 5 times, a penalty of 10 points is applied. If the student's total attendance points were 85, it would be reduced to 75.
Record attendance as raw points	The instructor can enter the number of sessions and define the point value of attendance overall so that each session attended makes up a proportion of that attendance. The attendance is shown as a proportion of sessions attended vs. all sessions (not just the ones that have passed).	**Example:** If there are 20 total sessions and attendance is worth 100 points, each session is worth 5 points (100/20). If a student attends 15 sessions, they would earn 75 points (15 x 5).

Managing Additional Instructor Users

You can grant aPlus+ access to other Canvas users on the aPlus+ setup screen. You can only grant access to Canvas users that have the Teaching Assistant role (or roles based on it) in your course.

Note that the default is currently set so that all TAs will have access to aPlus+, but you can always uncheck this box for any users with this role if you do not want TAs to have access.



Canvas users with the proper permissions in your course will be listed. **Check the box next to all** that you want to add and click **Apply**.

Accessibility Concerns

Wharton Computing works to ensure that all digital tools available for students meet current accessibility standards. Occasionally, especially when using 3rd party vendors, we may recommend using the tools but include suggestions for workarounds that will benefit those who need these provisions.

As mentioned above, aPlus+ Attendance is NOT completely accessible for low-vision students due to the way the numeric code is displayed. If you use this code, we recommend asking one of the teaching team members to read out the numbers during each class.

Questions?

Troubleshooting tip: If you are using Safari and encounter any access issues, please refer to our Using web browsers with Learning Tools article regarding using Safari with Canvas learning tools. If you have trouble in Chrome, try using a different browser, like Firefox.

Please contact the Courseware Team for support if you need more assistance.

Using aPlus+ Attendance in Canvas (Instructors)

Last Modified on 02/05/2026 1:48 pm EST

aPlus+ Attendance is a tool built into Canvas that helps teaching teams track student check-ins and attendance. Instructors can either mark attendance manually with custom statuses or let students sign in using a code or QR code within a set time.

This article is for faculty; students should see Getting started with aPlus+ in Canvas (Students).

Use this article if you:	**See Setting up aPlus+ Attendance in Canvas (Instructors), if you:**
• have already added the tool.	• are new to aPlus+ or need a refresher on adding the tab in Canvas
• need to display the check-in code during class.	• want to sync attendance sessions with the Canvas Gradebook.

Before You Start

You will need:

- Access to Canvas
- Instructor role in the Wharton course that will use aPlus+ Attendance

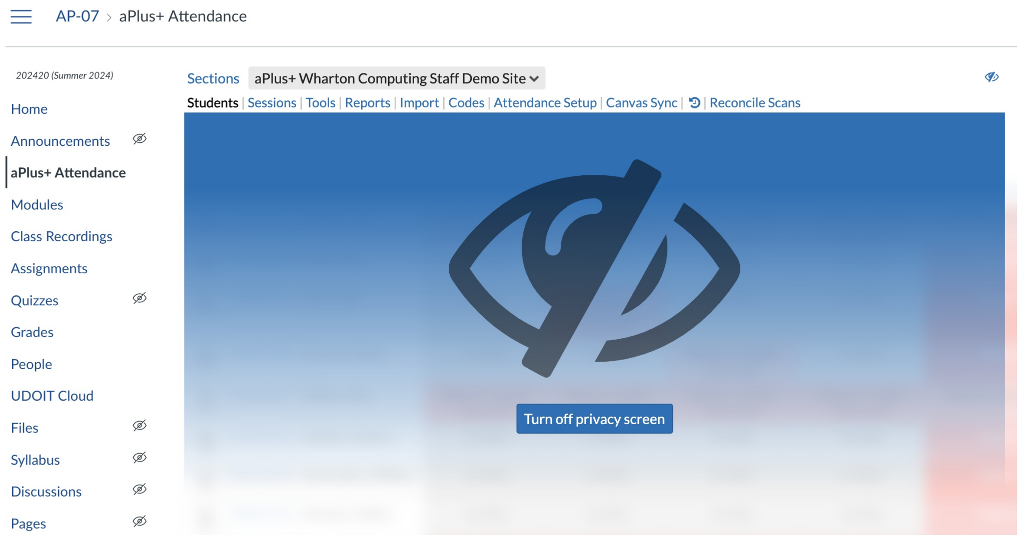
For help with either of these, contact your Wharton Computing representative.

Please Note: aPlus+ Attendance is NOT completely accessible for low-vision students due to the way the numeric code is displayed. If you use this code, we recommend contacting your Wharton Computing representative to discuss alternate solutions.

aPlus+ Attendance Tab

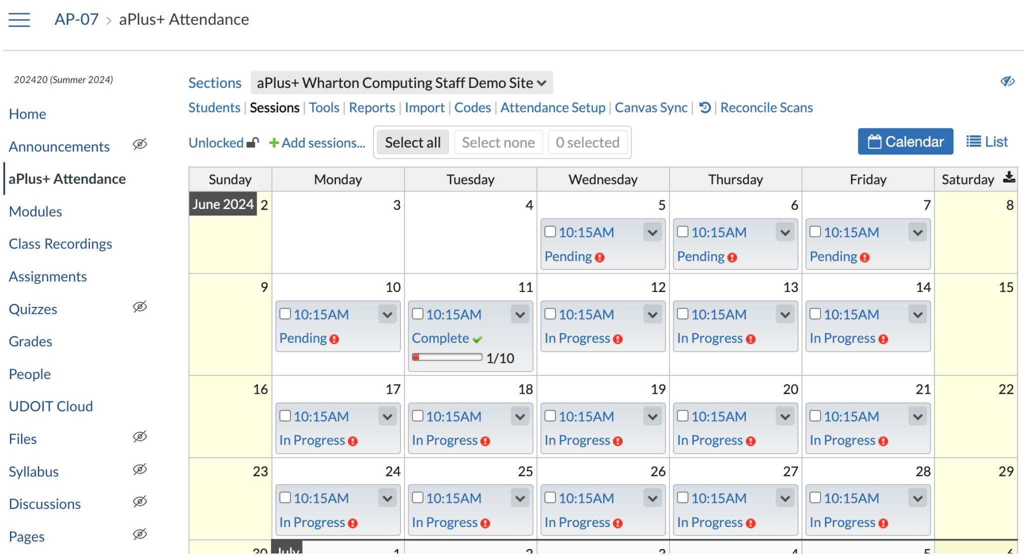
Make sure you start by **choosing a section** (e.g. *1:45pmMGMT1110-001-Fall2024*) which corresponds to your class start time (or, in the WEMBA program, your section number).

When you first click on the tab in your Canvas site (as long as aPlus+ has already been accessed and timetables have been configured), you'll see a privacy screen protecting student data from being projected via the in-class projectors:



To turn off the privacy screen, select the blue **Turn off privacy screen** button shown in the screenshot above.

Once this is turned off, you'll typically be taken to where you left off in the application. In this example, the Sessions tab is open, showing the attendance sessions on the course timetable:



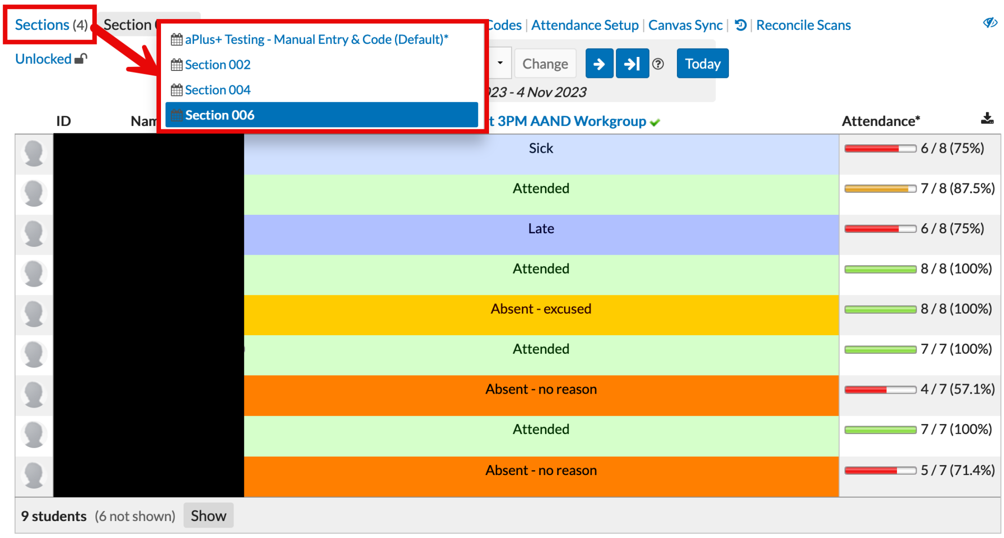
Navigating aPlus+ Attendance

Once the Attendance Setup is complete, you will be brought to the main aPlus+ timetable. You can navigate within a section via the toolbar at the top of the application.

Selecting a Section

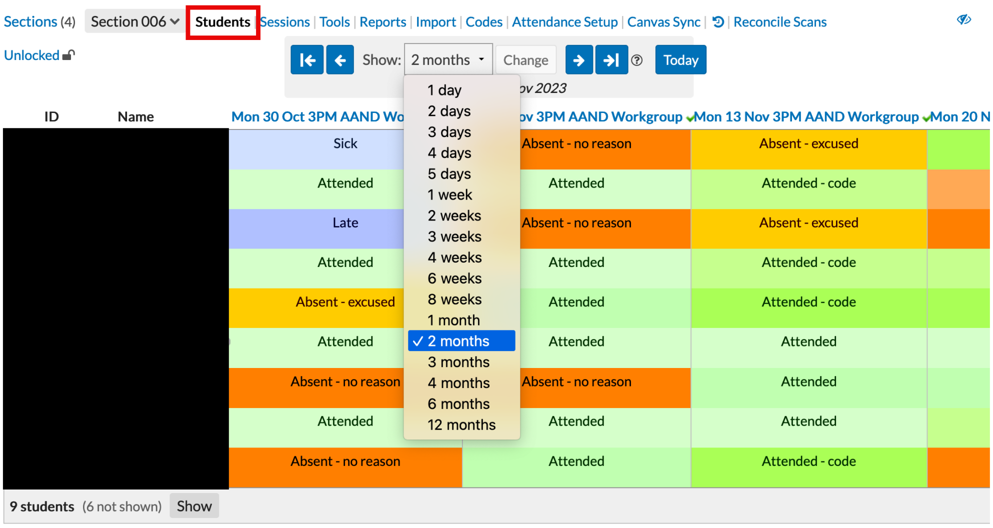
You can toggle among the different course timetables via a dropdown menu.

For example, if a course has multiple sections, there will likely be a different timetable for each section, as shown below:



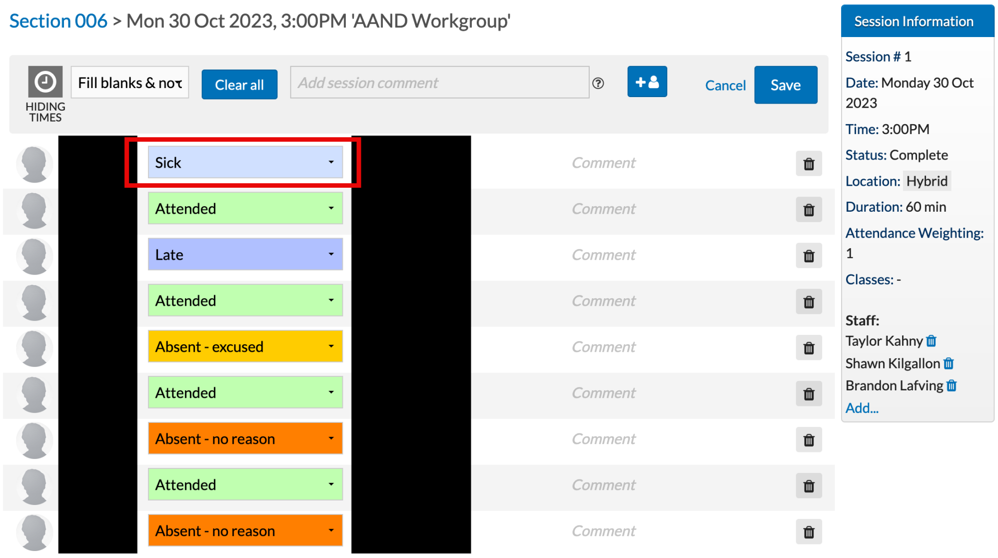
Students Tab

The Students tab is the easiest way to view and manage recent attendance. You can choose a timeframe of up to 12 months and see each session day with the **status** of every student.

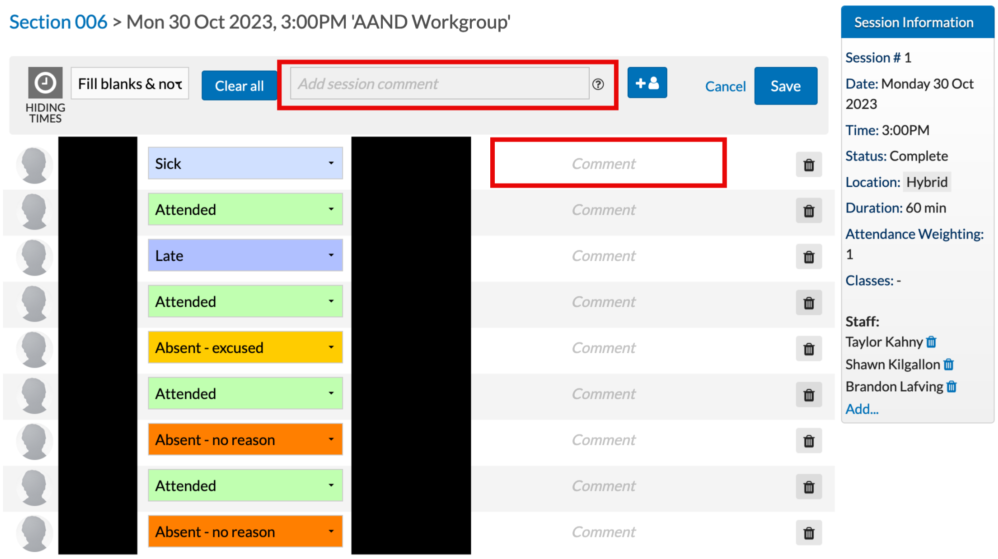


Statuses show a student's attendance state (like Attended or Absent). aPlus+ includes several statuses that you can manually set: **Attended, Late, Absent - excused, Absent - unexcused, Attended different section, and withdrawn.**

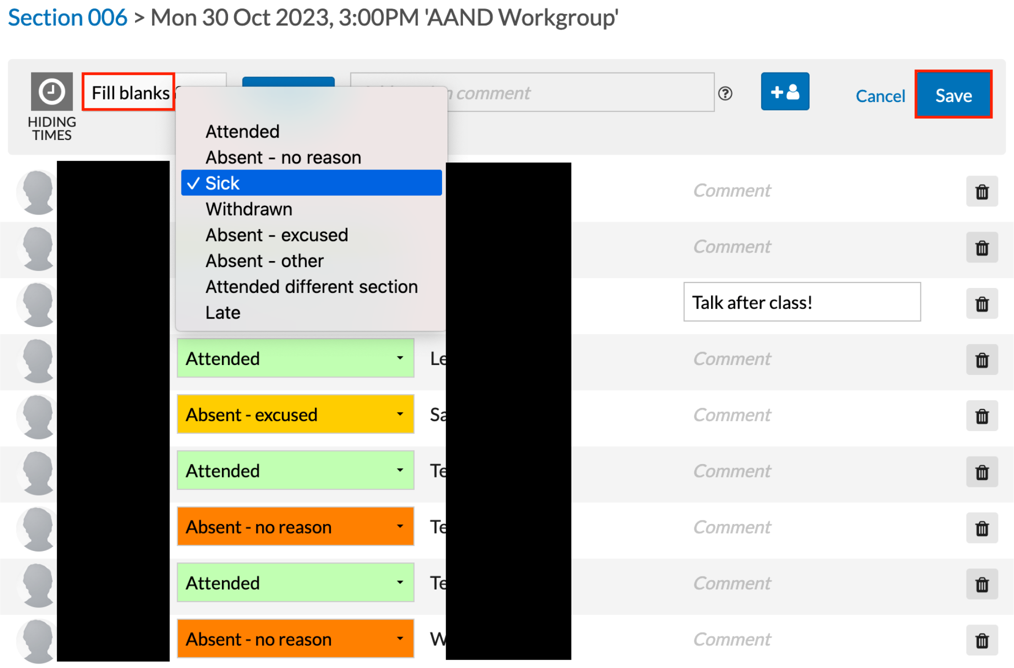
To manually change a student's status, navigate to a section and select the dropdown next to their name.



From here, you can also add comments specific to each student or as a general session. **Note that students do not see these comments, they are only visible to the teaching team.**



You can also bulk apply a status to all students via the dropdown in the top left corner. Don't forget to**Save** any status changes you make by using the blue button in the top right corner.

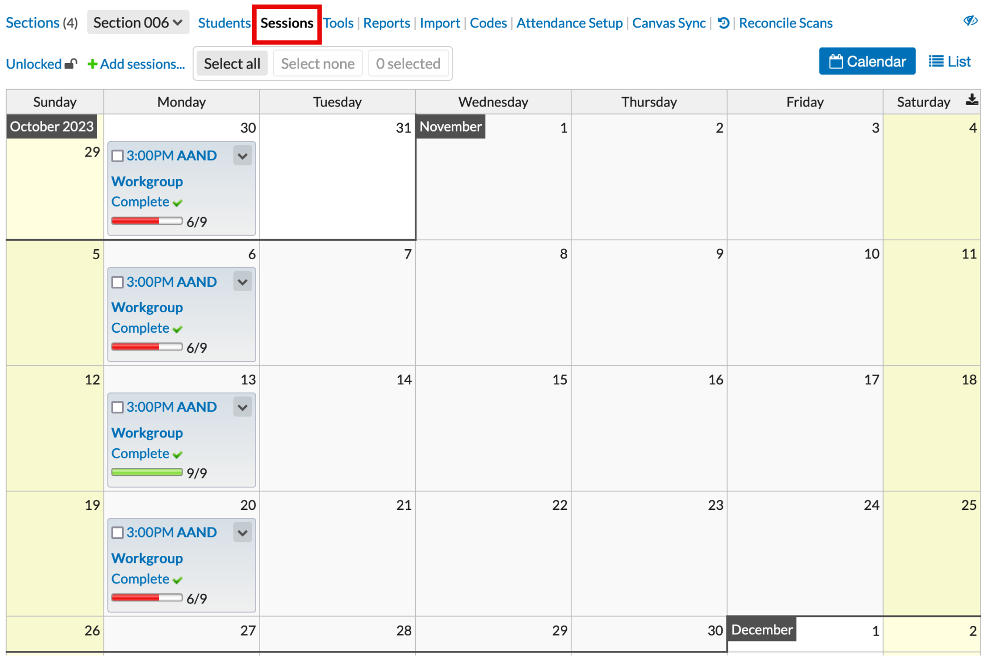


If students are checking in via the Canvas student mobile app (most cases) or some other device (including a computer), once the check-in occurs and it is successful, the student's status will change to **"Attended - code."**

If the check-in window has already passed and a student has failed to check in, once the window is over, the student's status will change to **"Absent - code."** The **"-code"** indication after the status is how you will know whether a check-in period has been initiated by the instructor during that class session.

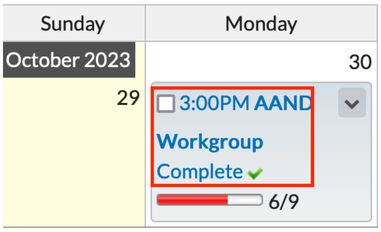
Sessions

You can manage your timetable information in the **"Sessions"** view.

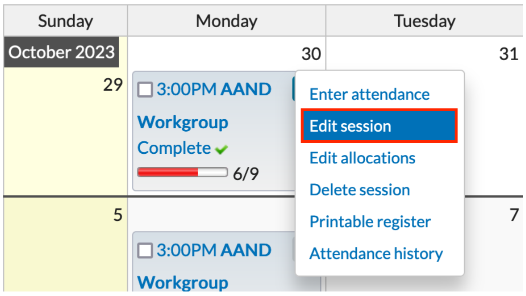


Within each section you can:

- **Enter Attendance:** Click directly on the session to return to the same manual attendance entry screen depicted in the "Statuses" section of this article (above):



- **Edit Session:** Click on the dropdown arrow directly next to the timetable session in order to make any changes to the session date/time, location, duration, label (session name), and attendance weighting:



For details about additional options, please view the aPlus+ Canvas instructor guide's Session View article linked here.

Reports

The 'Reports' tab take you to a summary view of attendance reports for your course.

Reports can be exported to .csv or Excel by clicking the **export icon** at the top right of the data table (scroll all the way to the end of the report).

Sections (4) | Section 001 | Students | Sessions | Tools | **Reports** | Import | Codes | Attendance Setup | Canvas Sync | Reconcile Scans

Attendance Summary | Attendance by Date | Date of Last Attendance | Contact Hours | Attendance by Sequence | Comments | Code Timestamps | Absence Requests-Interactive | Absence Requests - Other Only | Absence Requests by Student | Absence Requests | Late Enrolments with Auto Absents

Report across this timetable

24 Sessions: 17 InProgress, 7 Complete

ID	Name	Attended	Attended - code	Late	Absent - no reason	Sick	Absent - excused	Absent - unexcused	Absent - code	Submission	Atter
90315673	Test300, Zuleikha1		4		2				1	1	
90315654	Test301, Amaya2										
90315655	Test302, Belen3										
90315656	Test303, Conor4	2	1	1					3		
90315657	Test304, Devorah5										
90315658	Test305, Egbert6										
90315659	Test306, Felida7	2	1						4		
90315660	Test307, Geraint8										
90315661	Test308, Janila9										
90315662	Test309, Kenyatta10	2	1						4		
90315663	Test310, Leila11										
90315664	Test311, Mitcham12										
90315665	Test312, Niamh13	1			1		1		4		
90315666	Test313, Osvaldo14										
90315668	Test315, Quenya16										
90315669	Test316, Rhodri17		1			1		1	4		
90315670	Test317, Samira18										
90315671	Test318, Tayyab19										
90315672	Test319, Yemi20			2					4		1

New reports as of late 2025/early 2026: *Absence Requests-Interactive, Absence Requests-Other Only, Absence Requests by Student, and Absence Requests* can be used to reference any absence requests submitted by students.

Code Timestamps specifies the exact time when a student successfully checked in with a personal device.

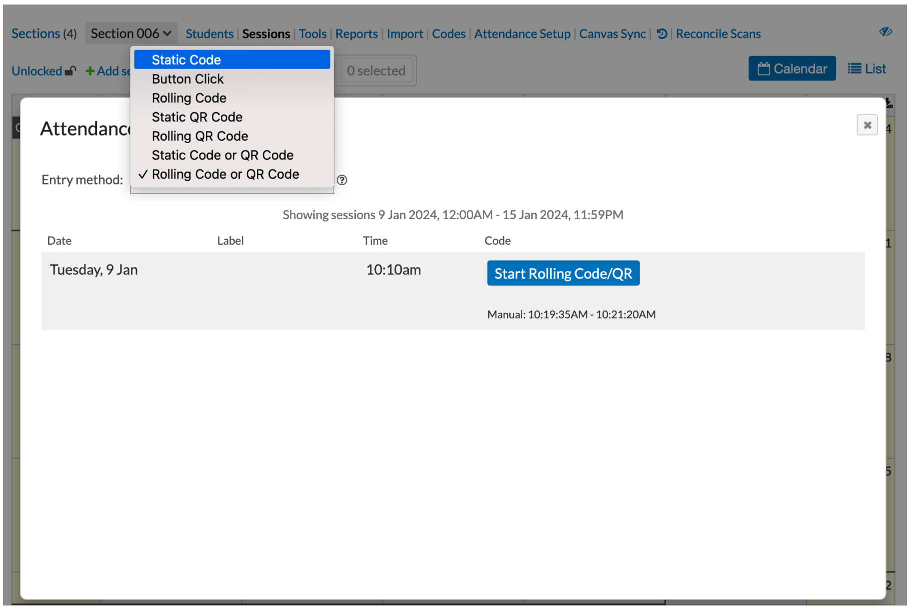
Late Enrollments with Auto Absents can be used to identify any students who have enrolled in the class late and are marked the incorrect status. The report is interactive, making it easy for faculty to change a status to "Absent - excused" in these cases so that a student is not penalized for enrolling late.

For more information about reporting, please read the aPlus+ Canvas instructor guide's Course Attendance Reports article.

Codes

Codes in aPlus+ Attendance allow students to check in to a specific session. Once your sessions are configured and populated on the timetable(s) for any upcoming sessions, you can project either a QR or alphanumerical code that students must scan or enter in the aPlus+ attendance app within a specific time window to check in for class that day.

The available code options are shown below:

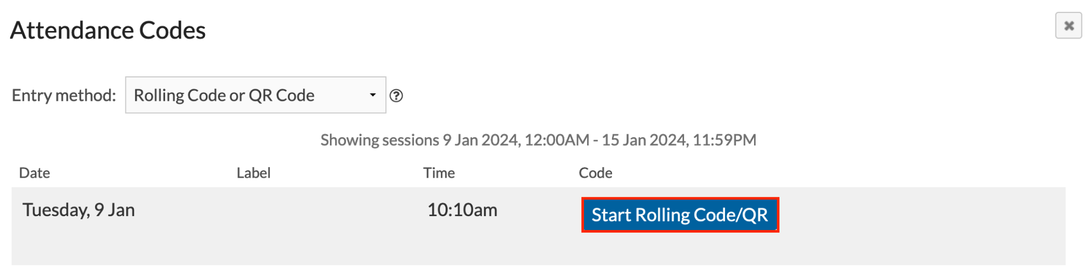


Option	Code Type	Behavior	Notes
Button Click	Button	Students select a submit button in Canvas. There is no code required.	*Not Recommended*
Static Code	Alphanumeric	Students enter a session-specific code.	
Rolling Code	Alphanumeric	Students enter an code within an allowed time window. Code changes every few seconds.	
Static QR Code	Scannable QR Code	Students use their device camera to scan a static QR code	
Rolling QR Code	Scannable QR Code	Students use their device camera to scan a rolling QR code. Code changes every few seconds.	
Static Code or QR Code	Alphanumeric or Scannable QR Code	Students enter the static code or use their device camera to scan the static QR code.	

Option	Code Type	Behavior	Notes
Rolling Code or QR Code	Alphanumeric or Scannable QR Code	Students enter the rolling code or use their device camera to scan the static QR code while the rolling code/QR code is shown.	***Recommended Option***

The most commonly used code option is the Rolling Code or QR Code. This way, students can choose one or the other if they encounter any issues with their device camera.

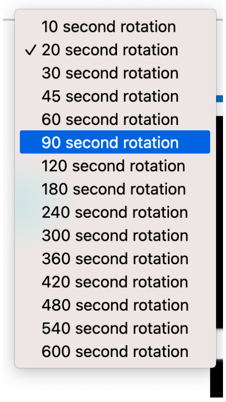
Once the desired code option is chosen, click the blue **Start Rolling Code/QR** button:

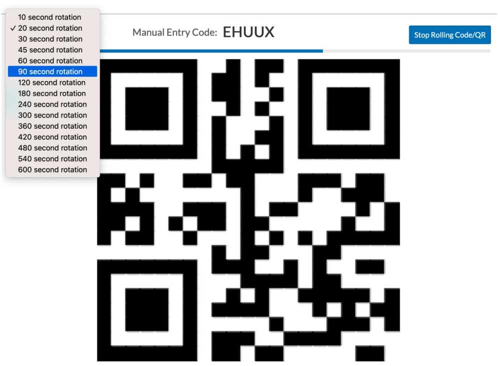


The rolling code is displayed. This page can be projected in the classroom.

> If you think the size of the alphanumeric code is too small, use the plus/minus buttons to resize, and/or maximize your browser window.

You can also select the number of seconds the present code should remain active until it rotates. The default rolling code time is set to 20 seconds, but you can always change this as depicted in the screenshot:





Select the Stop Rolling Code/QR button in the upper right to stop displaying the code.

Projecting the Code

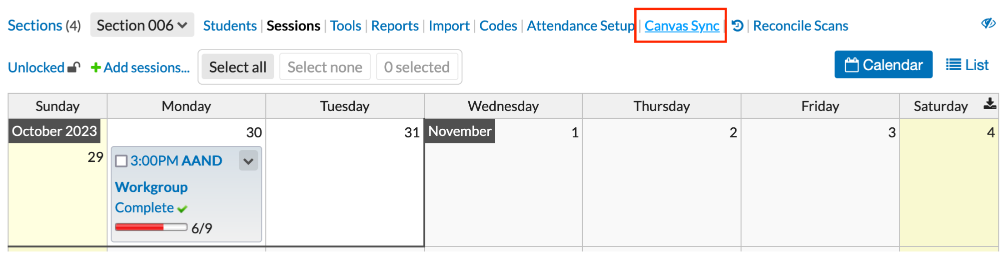
If you would like to allow students to check in for the first few minutes of class, then you will need to project your course content and the aPlus+ codes at the same time.

- Physically touch the classroom desktop screen to see two virtual desktops
- Touch the screen on the right (PC - EXTENDED)
- Set up your aPlus+ Check-in codes on this screen
- Navigate back to PC - MAIN and set up your class content
- Use the Small Screen - Advanced Options
    - Project PC - Extended to your screen of choice
    - Project PC - Main to your screen of choice

For more information about Advanced Projection features, please see Using Technology in the Classrooms.

Canvas Sync & History

If changes are made to the timetable or anywhere else within the aPlus+ application (and also within Canvas, if, for example, grades are configured with the app), these changes can be synced to ensure everything is up to date:



To view the most recent sync history from Canvas and diagnose any issues with the integration, click the icon highlighted in red below:

For any other questions related to aPlus+ Attendance that are not addressed in this article, please view the Canvas instructor guide linked here.

Additional Resources

- Access attendance data from a previous semester.
- Using aPlus+ in the Classroom (Instructors)
- Managing Student Absence Requests with aPlus+ Attendance in Canvas (Instructors).
- Students' guide to checking in: Accessing aPlus+ in Canvas for Students

Questions?

Troubleshooting tip: If you are using Safari and encounter any access issues, please refer to our Using web browsers with Learning Tools article regarding using Safari with Canvas learning tools. If you have trouble in Chrome, try using a different browser, like Firefox.

Please contact the Courseware Team for support if you need more assistance.

Using aPlus+ in the Classroom (Instructors)

Last Modified on 08/26/2025 2:22 pm EDT

This article describes aPlus+ Attendance for Wharton faculty use. Students should see Getting started with aPlus+ in Canvas (Students).

If you have used aPlus+ in a previous semester and would like to access the aPlus+ configuration in an older Canvas site(s), please refer to this article here (Option 1) and use upenn.aplusattendance.com as the URL to access the admin portal.

aPlus+ is an attendance-tracking tool that is integrated with Canvas through a third-party application. It enables teaching teams to set specific attendance sessions on a timetable to manage student check-ins. From an instructor standpoint, the check-ins can be administered manually using custom statuses, or you can allow students to sign in using a specific alphanumeric or QR code, within a timeframe that you specify.

For details on how to set up aPlus+ check-in windows and related classroom needs, please refer to this article. If you have never used aPlus+ before or if you need a refresher on how to add the application to a new site, please see Setting up aPlus+ Attendance in Canvas (Instructors). Other helpful articles include Using aPlus+ Attendance in Canvas (Instructors) and Managing Student Absence Requests with aPlus+ Attendance in Canvas (Instructors).

Before You Start

You will need:

- Access to Canvas
- Instructor-level access to the class that is using aPlus+.
- aPlus+ set up in your Canvas course.

For help with any of these, contact your Wharton Computing representative.

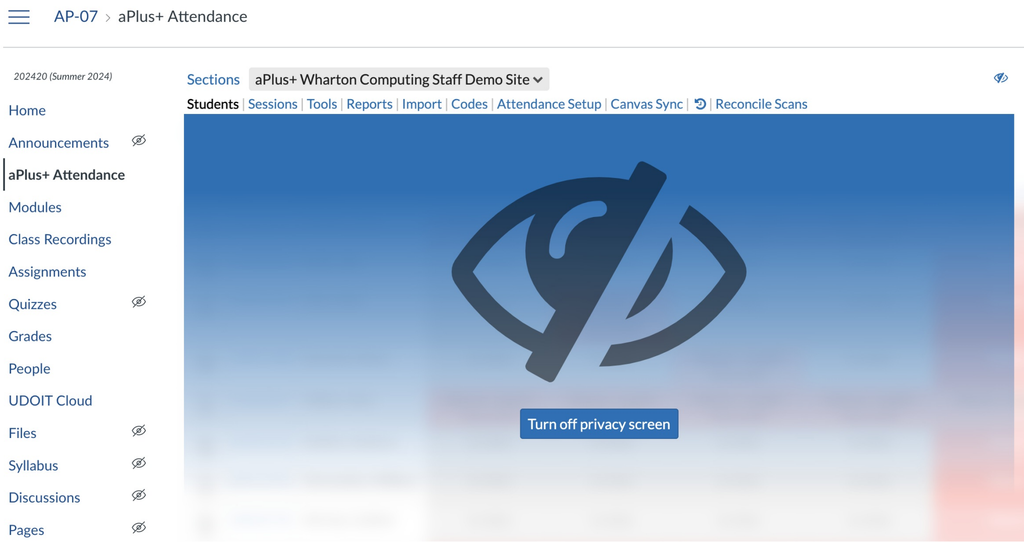
Once your attendance is configured in aPlus+ and ready to go for the in-person check-in process, you'll need to start up the classroom system and log in to the canvas.upenn.edu site with your PennKey username and password.

Please Note: aPlus+ Attendance is NOT completely accessible for low-vision students due to the way the numeric code is displayed. If you use this code, we recommend contacting your Wharton Computing representative to discuss alternate solutions.

aPlus+ Attendance Tab

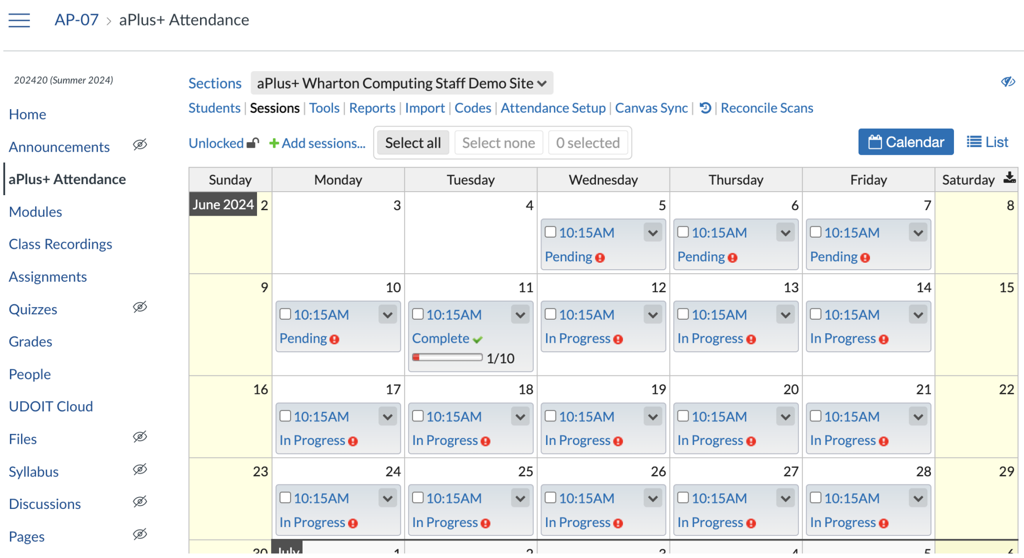
Make sure you start by **choosing a section** (e.g. *1:45pmMGMT1110-001-Fall2024*) which corresponds to your class start time (or, in the WEMBA program, your section number).

When you first click on the tab in your Canvas site (as long as aPlus+ has already been accessed and timetables have been configured), you'll see a privacy screen protecting student data from being projected via the in-class projectors:



To turn off the privacy screen, select the blue **Turn off privacy screen** button shown in the screenshot above.

Once this is turned off, you'll typically be taken to where you left off in the application. In this example, the Sessions tab is open, showing the attendance sessions on the course timetable:



Codes - Activating the check-in process

For any upcoming sessions, you can project either a QR or alphanumerical code that students must scan or enter in the aPlus+ attendance app in order to check in for class that day.

Projecting the Code

If you would like to allow students to check in for the first few minutes of class, then you will need to project your course content and the aPlus+ codes at the same time.

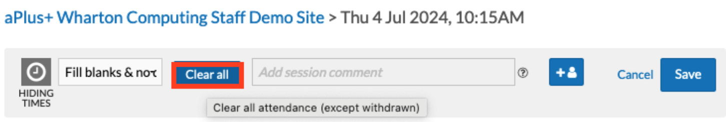
- Physically touch the classroom desktop screen to see two virtual desktops
- Touch the screen on the right (PC - EXTENDED)
- Set up your aPlus+ Check-in codes on this screen
- Navigate back to PC - MAIN and set up your class content
- Use the Small Screen - Advanced Options
    - Project PC - Extended to your screen of choice
    - Project PC - Main to your screen of choice

For more information about Advanced Projection features, please see Using Technology in the Classrooms.

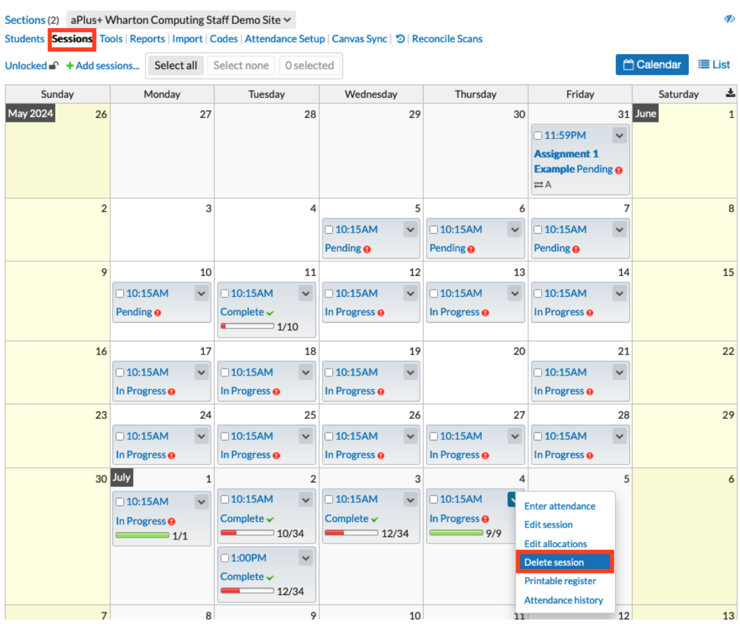
FAQ

Q1: Is there a way to have the QR code visible outside of Canvas, or do I need to have my whole Canvas page up while the attendance check-in session is open?
A1: For the QR code option, since this does require a manual start, you will need to have the Canvas window containing the QR code open. If this is a static QR code that is displayed somewhere on a PowerPoint, the Canvas window can be minimized, but the code does have to be active and running for this to work.

Q2: I want to delete a session, but it contains attendance data. How can I get around this?
A2: In order to delete a session containing data, you will first need to clear the data using the "Clear all" button found within that session:

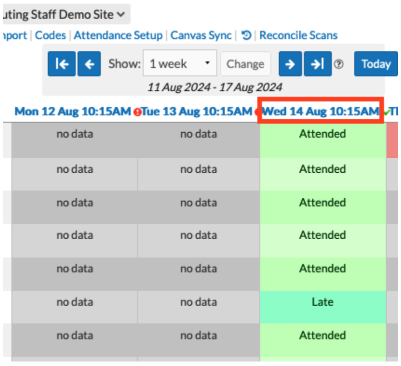


Once you've selected "Clear all," you will need to click the blue "Save" button shown above. Then, return to the Sessions tab, select the dropdown for that day, and "Delete session":

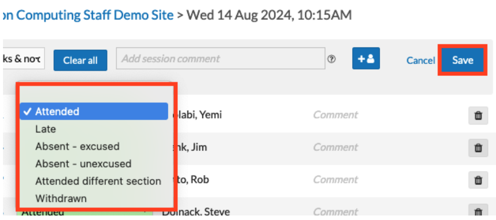


Q3: I'm trying to adjust the attendance records for certain students who were not able to sign in using the code. Where do I go? When I'm in the "Students" tab, none of the names are clickable.
A3: If you click on the date at the top of the column, it will take you to the attendance for that session where you

can adjust the attendance status for your students:



Once you're in the session data, clicking on the attendance status will open a drop-down menu where you can select the appropriate attendance status. Once you have adjusted this for all of the students, please remember to click the Save button at the top of the screen:



For any questions related to aPlus+ Attendance that are not addressed in this article, please view the Canvas instructor guide.

Questions?

Troubleshooting tip: If you are using Safari and encounter any access issues, please refer to our Using web browsers with Learning Tools article covering the use of Safari with Canvas learning tools. If you have trouble in Chrome, try using a different browser, like Firefox.

Please contact the Courseware Team for support if you need more assistance.

Managing Student Absence Requests with aPlus+ Attendance in Canvas (Instructors)

Last Modified on 01/13/2026 1:26 pm EST

This article describes aPlus+ Attendance for Wharton faculty use. Students should see Getting started with aPlus+ in Canvas (Students).

If you have used aPlus+ in a previous semester and would like to access the aPlus+ configuration in an older Canvas site(s), please refer to this article here (Option 1) and use upenn.aplusattendance.com as the URL to access the admin portal.

aPlus+ Attendance is a Canvas-integrated attendance-tracking tool that enables teaching teams to manage student check-ins and track attendance. From an instructor standpoint, the check-ins can be administered manually using custom statuses, or you can allow students to sign in using a specific alphanumeric or QR code within a specified timeframe.

If you would like to utilize the absence request functionality for your students in aPlus+, please refer to this article. If you have never used aPlus+ before or if you need a refresher on how to add the application to a new site, please see Setting up aPlus+ Attendance in Canvas (Instructors). Other helpful articles include Using aPlus+ Attendance in Canvas (Instructors) and Using aPlus+ in the Classroom (Instructors).

Before You Start

You will need:

- Access to Canvas
- Instructor role in the Wharton course that will use aPlus+ Attendance

For help with either of these, contact your Wharton Computing representative.

Please Note: aPlus+ Attendance is NOT completely accessible for low-vision students due to the way the numeric code is displayed. If you use this code, we recommend contacting your Wharton Computing representative to discuss alternate solutions.

Absence Requests

Students can use aPlus+ Attendance to request absences for days they will be unable to attend class. As the instructor, you'll need to ensure that you have your sessions appropriately configured on the timetable so that students can request an absence.

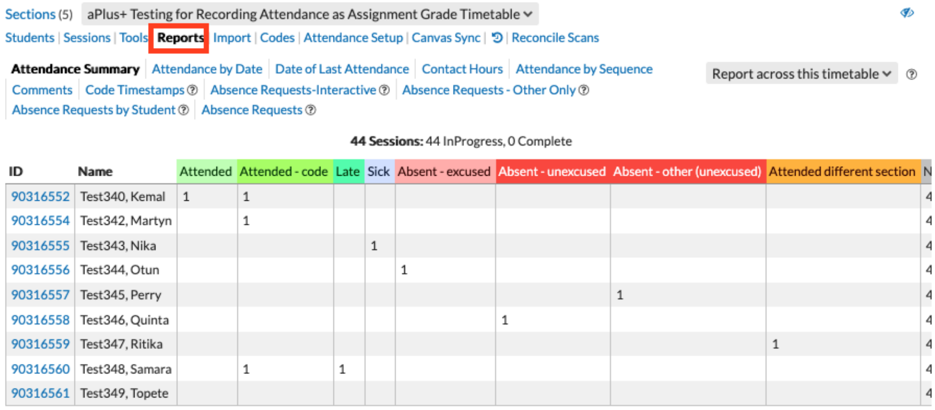
Course Action Notices are separate from aPlus+ Attendance absence requests
Penn undergraduate students, including Wharton undergraduates, may report absences using the University's Course Action Notices (CAN) system. Please be aware that graduate students *cannot* use CAN to report

absences, and that CAN is not an absence request tool. If teaching a cross-listed graduate/undergraduate course, only your undergraduate students should be directed to use CAN.

Time Factors for aPlus+ Attendance Absence Requests
Students can request an absence using aPlus+ Attendance *two weeks before a particular session* and *up until the end of the term*.

The quickest way for an instructor to view a student's absence request is to click on either the Students or Reports tab in aPlus+.

Using the Reports tab as an example, you'll see that clicking on it takes you to Attendance Summary by default:

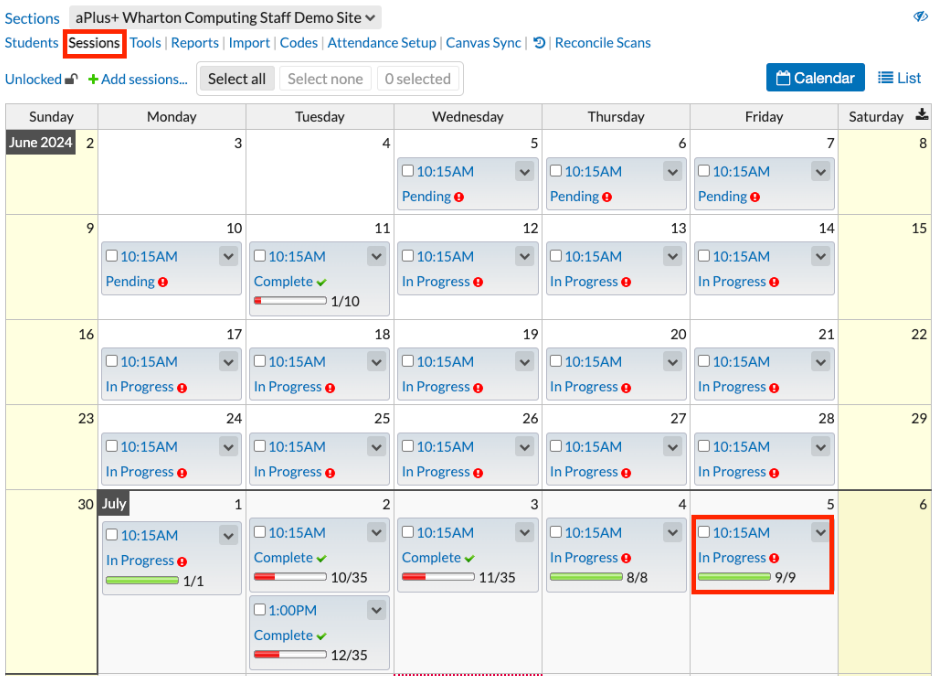


ID	Name	Attended	Attended - code	Late	Sick	Absent - excused	Absent - unexcused	Absent - other (unexcused)	Attended different section	N
90316552	Test340, Kemal	1	1							4
90316554	Test342, Martyn		1							4
90316555	Test343, Nika				1					4
90316556	Test344, Otun					1				4
90316557	Test345, Perry							1		4
90316558	Test346, Quinta						1			4
90316559	Test347, Ritika								1	4
90316560	Test348, Samara		1	1						4
90316561	Test349, Topete									4

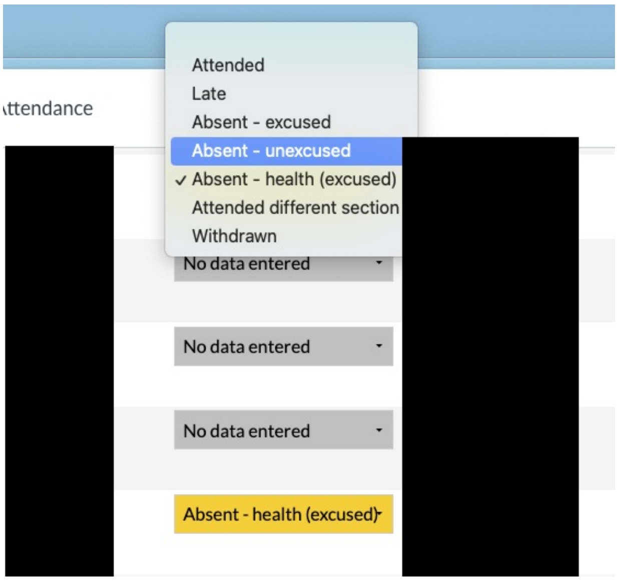
Via the Attendance Summary, you'll see the various statuses resulting from student actions (in the case of absence requests and code-based check-ins) and those you manually assigned to students. Most statuses beginning with the word "Absent" have been submitted by the student.

To alter a status (e.g. changing it from "unexcused" to "excused"), navigate to the **Sessions** tab and select a session by clicking on it.

In the example below, the July 5th session is selected:



Now, in the session view for July 5th, you'll find various students and their accompanying statuses. If you **click on a status** for a student, you'll then see the option to choose a different one:

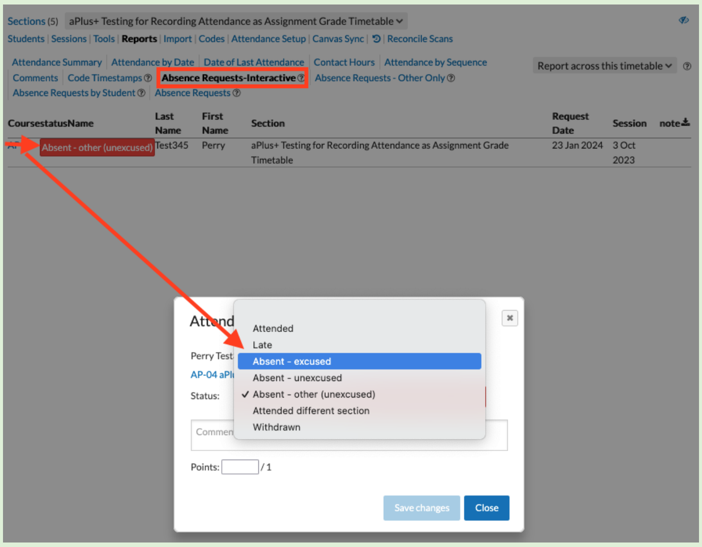


Once you make the status change selection, scroll back up to the top of the page and click the blue **Save** button to confirm:

Note that you do not have to "accept" the absence request and that no action is required on your part once a student submits an absence. These instructions are for instructors who choose to make any needed changes.

New as of Spring 2026:

You can now access an interactive attendance report within the Reports tab in aPlus+. This will allow you to make changes to any student absence requests directly in the report. Follow the red arrows in this example:



For details on the student absence request workflow, please view our Getting started with aPlus+ in Canvas (Students) article.

For any other questions related to aPlus+ Attendance that are not addressed in this article, please view the Canvas instructor guide linked here.

Questions?

Troubleshooting tip: If you are using Safari and encounter any access issues, please refer to our Using web browsers with Learning Tools article regarding using Safari with Canvas learning tools. If you have trouble in Chrome, try using a different browser, like Firefox.

Please contact the Courseware Team for support if you need more assistance.

All about grading

Last Modified on 10/27/2023 9:43 am EDT

The article describes basic Canvas grading capabilities. There are advanced features that may also be of interest.

Before You Start

You will need a Canvas site containing graded assignments.

General Information

There are many features you can use in grading student work.

Using the Gradebook

The Gradebook lets you enter and post assignment scores for your students, and allows you to...

Using SpeedGrader

SpeedGrader is focused on grading and feedback on submissions, allowing you to...

Downloading Assignments

You can download submitted work individually or in a single batch.

Hiding/Revealing Grades

Canvas sites are configured to hide all grades unless they are revealed, or *posted*. (This was formerly known as *muting*.)

Exporting and Importing

You can export and import to the gradebook.

Setting a Late Policy

You can now apply automatic grading rules to missing and late submissions.

Arranging, Sorting, and Filtering

You can arrange, sort, and filter your gradebook in a number of ways.

Grading Offline

You can grade submissions offline and then upload the results to Canvas.

At Wharton, the Canvas Gradebook is where assignment scores can be entered; however, final course grades are submitted through Instruction Center Grade Submission.

Questions?

Email: courseware@wharton.upenn.edu

New gradebook (effective August 2019)

Last Modified on 02/12/2021 4:39 pm EST

This article covers some of the updated features of Canvas'snew gradebook, which became effective August 2019.

Before You Start

You'll need a Canvas course site that contains graded assignments.

The New Gradebook in Canvas gives instructors new capabilities to release grades for a course, set a late policy for a course, arrange and filter elements in new ways, and more. This change is now active across all of the Penn Canvas instances (except for the Law School, which doesn't use the Gradebook).

Posting grades under a Manual policy (grades hidden by default)

In the New Gradebook, normally a course-wide policy is set to *hide* all grades and feedback automatically for later release to students all at once. To release grades or comments, you *post* them. These policies and actions replace, and improve upon, the *Mute Assignment* and *Unmute Assignment* settings in the previous edition of the Canvas gradebook.

Changing to an Automatic posting policy (grades not hidden by default)

If you would prefer that your grades and feedback appear automatically in the New Gradebook, as they did in the old gradebook, you can change the posting policy.

Exporting and importing

The ability to export and import the new gradebook is now found under a new "Actions" menu.

Setting a late policy

You can now apply automatic grading rules to missing and late submissions.

Arranging, sorting, and filtering

You now have the ability to arrange, sort, and filter your gradebook in new ways. Power users will appreciate the new ways to filter rows and columns, such as by team or group.

Questions?

Email: courseware@wharton.upenn.edu

Grading: advanced features

Last Modified on 05/02/2023 3:07 pm EDT

This article covers the fine details of grading in Canvas. For a basic overview of Canvas grading, see All About Grading.

Before You Start

You'll need a Canvas course site that contains graded assignments.

Assignment groups

Assignments are categorized into assignment groups, which are collections of similar tasks like homework, case write-ups, and exams.

Weighted Grades

Assignment groups also allow you to use weighted grades, such as homework = 20%, papers = 30%, exams = 50%. Canvas will apply these weights to the total score of each assignment group and will compute a final course grade, shown in the "Total" column on the far right of the Gradebook. This column is not displayed to students.

Understanding Points and Grade Types (letter, percentage, etc.)

Canvas relies upon the number of points which are possible per assignment. You can choose how the grade is *displayed* in the Gradebook, but Canvas always considers the points the assignment is worth.

Grading Individuals Within a Group

Normally, grades for a group assignment apply to all members of the group. However, you can provide individual grades to students even within a group assignment by using Assign Grades to Each Student Individually. If only a few students will receive individual grades, you can set the group grades first and then turn on this setting to leave those individual grades.

Note that if you want to view comments you leave on individual grades, you must navigate to the student's "Grades" page, where you can view/use Submission Details. (Students can view these comments normally.)

TIP: Hide the grades while you are changing grades so that you can reveal grades all at once.

Questions?

Email: courseware@wharton.upenn.edu

Blueprint Sites in Canvas

Last Modified on 01/30/2026 1:20 pm EST

This article will help you understand what a Canvas Blueprint site is and how to manage your Blueprint parent site and associated sites. This is a high-level overview and does not include all setup and configuration information. If you are using Blueprint for the first time, or would like a refresher, please reach out to the Courseware Team at courseware@wharton.upenn.edu to schedule a consultation.

Before you Start

This is a supplement to the Wharton Knowledge Article, Requesting a Canvas site for a Wharton Course

Overview

Canvas Blueprint sites are a set of sites, consisting of a parent (or template) site and associated (or child) sites, with common content that is controlled by the parent. Blueprint course sites are designed to make it easy to manage content for multiple Canvas sites that run during a similar timeframe (the same semester or quarter).

- For a Canvas Blueprint site set-up, the terms "parent" site and "template" site both refer to the Canvas site which controls the content. For the sake of consistent terminology, this article will use the term "parent site."

If you have multiple course sections with identical or nearly identical content, a Blueprint site provides a central location to share assignments and activities, make updates, and post announcements throughout the semester.

- The Blueprint site configuration consists of a parent site, which controls content and provides a central location for Canvas announcements, and associated (or child) sites, which hold student records and enrollment.
    - The default configuration for Wharton Blueprint sites is to lock content and points for assignments, quizzes, discussions, files, and pages from the parent site, with due dates and availability dates unlocked so they are adjustable in the associated sites.
- Most changes to content in the child sites are made through the parent site but it is possible to customize content in the child site(s). Keep in mind, however, that once you change an element in a child site, you cannot push a change to that specific element in that child site from the parent site. (i.e. if you change the due date for assignment 1 in child site A, then you make a subsequent change to the due date for assignment 1 in the parent site, the due date change will no longer sync to child site A for assignment 1.)

Blueprint Site Setups Take Time. Site setup requires frequent communication and interaction with the Courseware team, which means the task cannot be completed in one request. We recommend you **make your initial request to the Courseware team at least six weeks prior** to the start date of your course, and be aware that the Courseware team will reaching out with any questions. Delays in communication can result in a longer build time for your Blueprint site setup.

General Information

- If you have multiple course sections with identical or nearly identical content, a Blueprint site gives you a single location where you can make updates that should be shared to all associated sites and post announcements throughout the semester.

- Course objects like assignments, files, and pages can be locked in the Blueprint parent site to prevent specific attributes from being changed in the associated sites.
  - Not all attributes of course objects can be locked. For most course sites, the IDEA Courseware Team recommends **locking content and points**, but not due dates or availability dates.
- Unlocked content will remain in sync until changes are made to that object in an associated site. Subsequent changes made to the parent site will not sync to a child site where the unlocked content has been modified.
  - For example, if assignment A's due dates are changed in a child site 1, later changes to assignment A's due dates made in the parent site will not override the changes made into the due date for assignment A in child site 1 on subsequent syncs but will continue to update the assignment A due dates in all associated sections in which the due date has not been changed.
- New content can be created within an associated site; this content is not controlled by the Blueprint parent site.
- Blueprint parent sites cannot have students enrolled in them; students are added to associated (child) sites.
- If you have several child sites and want to use the Canvas Assignment Bulk Editor to adjust the due dates and times, please note that this will only work on assignments and quizzes and will not work with pages.

Blueprint Site Naming Conventions

The IDEA Courseware Team will name your Blueprint parent site and associated sites according to our standardized naming conventions. However, if you have a strong preference regarding names, please let us know. The site name will be shown on the Canvas dashboard and must contain the semester and year.

Things to Consider

- Think about whether course information will be in both the parent site and the child site, and what information will be in each.
  - Will information need to change on any of the Canvas pages or assignments in any of the child sites?
  - If so, consider when you will be pushing updates to the content from the parent site. Once a change is made to an element in the child site (for example, changing the due date or time), changes in the parent site will no longer sync to that element.
- Decide if you will use signup sheets, whether they should remain open and for how long, if there will be group work, and which assignments will be group assignments.
- Please let the IDEA Courseware Team know if you intend to use groups and group assignments, as there are some additional configuration issues required.

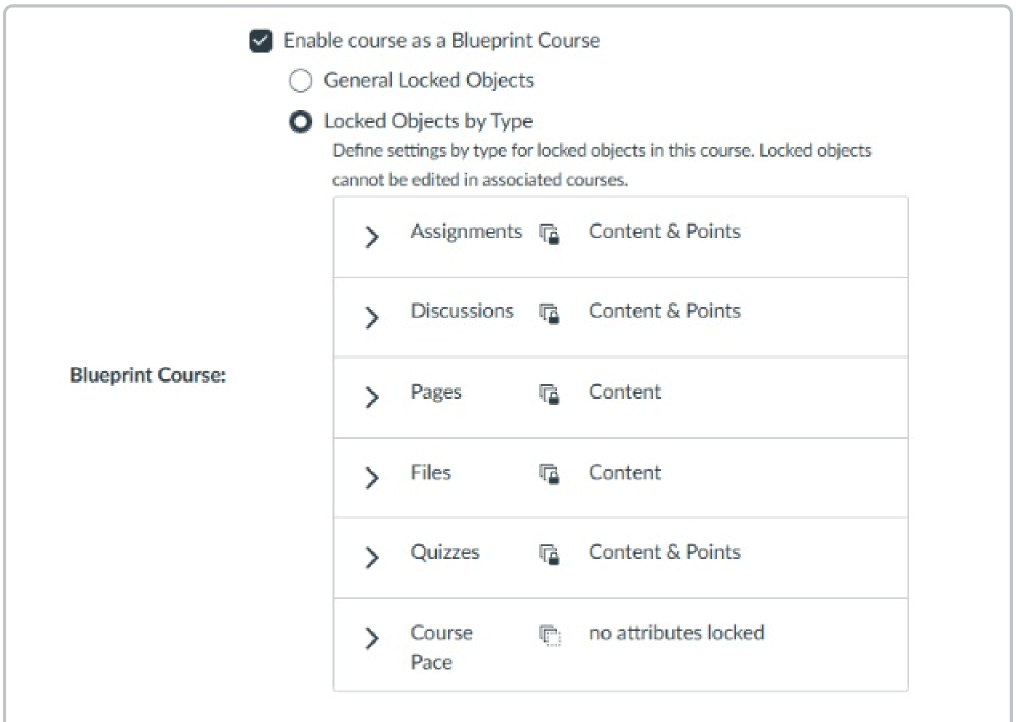
Adding Teaching Assistants

Consider who should have access to the Blueprint parent site. If one or more of your TAs will be adding content or making changes, they should be added to the Blueprint parent site in addition to the appropriate associated site(s). The Courseware team recommendation is to have the minimum number of people you need in the Blueprint parent site.

Locking and Unlocking Items

Locking or unlocking an object (like assignments, files, and pages) controls whether that item can be edited in an associated (child) site. Different types of objects have different lockable attributes (like content, points, due dates, and availability dates). Not all object attributes are lockable (like assignment grade display and group settings). The locked attributes of objects cannot be changed in a child site and must be changed in the parent site. Unlocked attributes can be changed in either site type. If an unlocked attribute is changed in a child site, it will no longer remain synced to the parent site.

When creating the parent site, the IDEA Courseware Team configures settings by object type for locked objects. Our default configuration (illustrated below) specifies locking content and points
only. The IDEA Courseware Team does not typically lock due dates or availability dates because these are often modified in a section-specific child site.

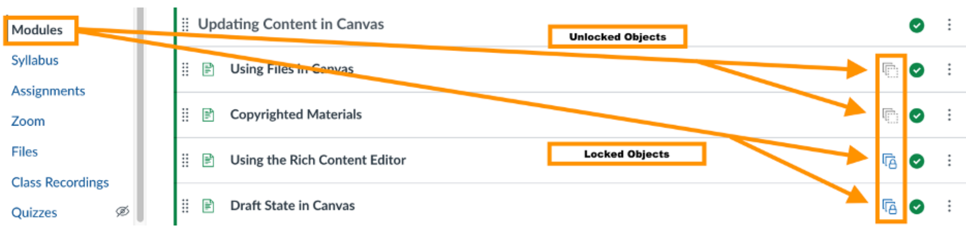


Default configuration for objects by type.

Locking Objects

To lock an object such as an Assignment or a Page:

1. Locate the icon that looks like a stack of papers to the right of the object title next to the Publish icon.
2. Click on this icon to change the state of the object from locked to unlocked or unlocked to locked.



When an object is locked, the icon will show a padlock.

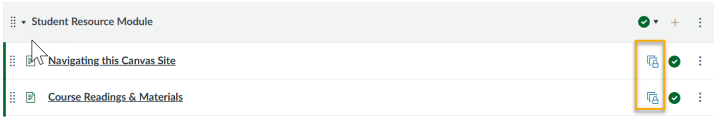
Objects need to be locked or unlocked individually. Courseware recommends all objects are locked unless they need to be edited on the child site level.

Locking or unlocking objects immediately affects the ability to edit the corresponding objects in associated sites. You do not need to sync changes first.

How Locking Affects Object Behavior

Remember, the parent site configurations you choose when you set up the course dictate how elements of locked objects behave. For example:

- Locked attributes determine which aspects of an object can be edited in an associated site. For example, in our default setup, the due dates of a locked Assignment can be edited, but the assignment description cannot be.
- Individual objects are locked or unlocked by clicking on the square icon to the right of the object title.



- Objects that are unlocked then edited in a child site will no longer remain synced to the corresponding object in the parent site. Attempts to push out changes will trigger a sync error for the associated site. This happens regardless of the scope or type of edit made (e.g., adding a space will break the link).

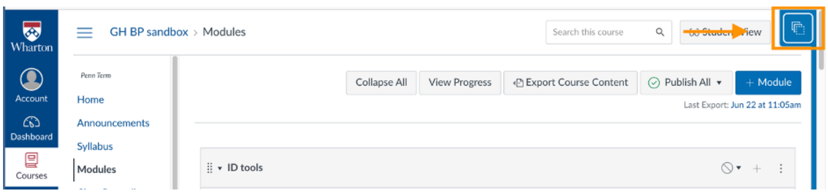
The Courseware team does not typically lock due dates or availability dates because these are often modified at the child site level.

If you would like due dates and availability dates locked at the parent site level, please notify the Courseware team at courseware@wharton.upenn.edu.

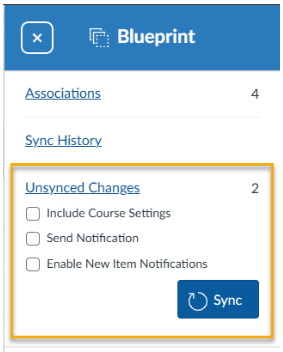
Syncing Changes

Any changes you make to the parent site will need to be synced before they will appear in child sites:

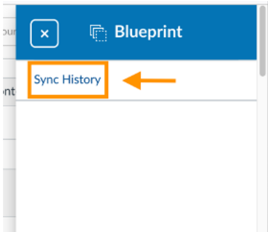
1. Navigate to the blue box in the right-hand corner of the screen.
2. Click on **Sync Changes**. This opens the Blueprint menu.

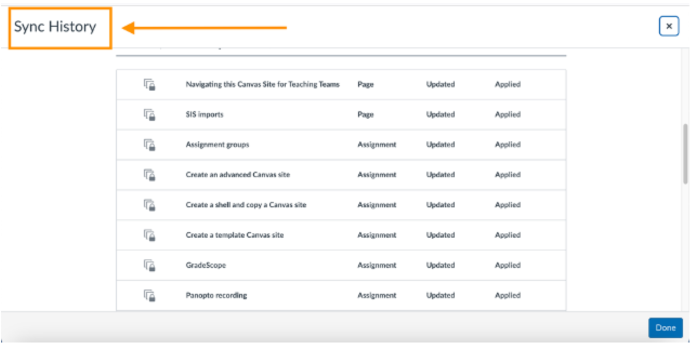


   If any changes have been made since the last time the document was synced, you'll be able to see how many changes were made and review them from there.
3. To push the changes from the parent site to the child sites, click on the **Sync** button.



4. Check all child sites to verify that the changes synced out correctly.
5. You can review recent content syncs in the Sync History. This will show the time stamps of recent syncs along with a list of changes. The list will indicate whether a change was applied, and if not indicate what type of Sync Exception prevented the change.
   Note: If due and/or availability dates have been modified, you may see "due date change exceptions." This is normal behavior.





Syncing changes is an all-or-nothing action. You cannot select specific changes to sync or sync only to specific child sites.

Publishing

As with all Canvas sites, students are not able to see any content or receive notifications from an unpublished Canvas site.

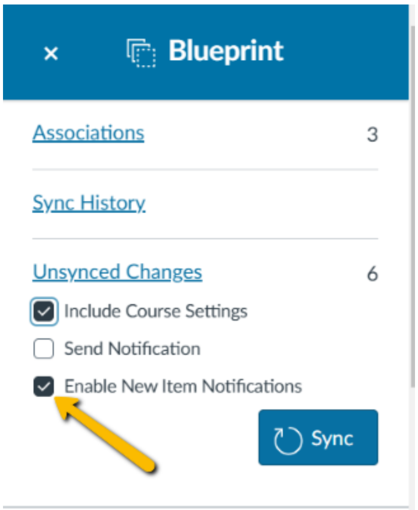
Publishing for Blueprint sites is done on the child site level, and requires someone with a "Teacher" role within the child site to switch the Publish/Unpublish button to Publish. Modules and assignments are published at the parent site level, and then synced to child sites.

You must publish your Canvas site before students may access it. Only Teachers (not TAs or administrators) may publish a site, and the Courseware team will not do so unless asked.

Announcements

Announcements can be sent through either individual child sites or the Blueprint parent site. To send announcements through the parent site:

1. Set up the announcement as you would in any Canvas site.
2. Select the "Enable New Item Notifications" menu item, then **Sync** the announcement to the child sites.



If you do not select the "Enable New Item Notifications" menu item before you sync the announcement, students will be able to see the announcement in the Canvas site but they will not receive a notification.

LTIs

If your site uses any of the LTIs (Canvas-integrated third-party tools) that are supported by the Wharton Courseware team (e.g., FeedbackFruits or Harmonize), please note **they will only sync to child sites once** and should be completely configured and proofread before they are synced. If you will be using an integrated tool with your Blueprint site, please contact courseware@wharton.upenn.edu to request information specific to how the tool interacts with Blueprint Canvas sites.

We recommend setting up LTIs in one sitting to prevent accidentally syncing and the related updating that would cause.

If you do not currently use any of the LTIs but would like to hear how they can enhance your assignments and/or your Canvas site, contact the Courseware team.

Questions?

Contact the Courseware team at courseware@wharton.upenn.edu.

Canvas Student Mobile Apps

Last Modified on 09/24/2025 5:22 pm EDT

Before You Start

You need the following to use the Canvas Student mobile app:

- An active PennKey
- A camera-equipped mobile device running iOS or Android (for the QR code feature)
- Membership in a course site on Penn Canvas

Canvas Apps

The mobile apps provide quick access to most parts of a Canvas course site or group sub-site, including viewing and downloading of Files as well as view-only access (no saving or downloading) for reading Study.Net Materials. They contain much of the same functionality as the full browser version of Canvas.

In August 2025, the Canvas Student app has been renamed to the Canvas by Instructure app.

Canvas Student for **iOS** (Download)	Canvas Student for **Android** (Download)

Mobile Guides for iOS and Android: https://community.canvaslms.com/docs/DOC-4048

If a Canvas feature is not yet available in the mobile version, switch to a mobile browser on your device, preferably Chrome. You might also choose to subscribe to your Calendar Feed with your preferred mobile calendar app.

Authorizing this App for Penn Canvas

You have two options for authorizing this app to work with your account and Penn Canvas user record:

- **Authorization via Login**, OR
- **QR code**

Authorization via Login

This method works anywhere you can access mobile data or Wi-Fi, provided you meet the **Before You Start** requirements above and have already installed the Canvas Student app:

Authorization via QR Code

This quick method doesn't require typing on your mobile device, but it does require having both your camera-equipped mobile device and *another* device -- your laptop or other computer with a display screen showing Penn Canvas in a web browser.

Using more than one Canvas Platform?

Most, but not all, of Penn's students use the same Canvas platform. **JD/MBA students and students taking another school's courses on different Canvas platforms** may want to take advantage of multi-user login capability, which will give you a **Profile** for each Canvas platform you use. Here are instructions for multi-user logins:

- Switch to another account in the Canvas app on an **iOS device**.
- Switch to another account in the Canvas app on an **Android device**.

Questions?

Contact: Wharton Computing Client Support Services

Email: support@wharton.upenn.edu

Phone: (215) 898-8600

Using web browsers with Learning Tools

Last Modified on 09/06/2025 12:31 pm EDT

Privacy and Learning Tools

Learning tools approved at Wharton or Penn for use inside a Canvas site have been reviewed for compliance with the University's privacy guidelines. Each of these tools will never contain advertising and will only track your usage while working with that specific tool.

However, content and privacy settings in Chrome and Apple Safari browsers include features which have begun to regularly treat learning tools as "third-party" content. You may need to either change these settings in order to use Chrome or Safari to access these tools, or use one of the other supported web browsers for Canvas.

To change your settings in either of these browsers, see Canvas' directions on enabling 3rd-party cookies.

Mobile Browsers

While Canvas does not recommend using mobile browsers, preferring their Canvas App, there are times when the app can launch a mobile browser for certain tasks such as starting Zoom or checking into a course using aPlus+ Attendance. For more information, see the Canvas vendor's support documentation for mobile features.

Security Software

Sometimes your computer's security suite or antivirus software may prevent a learning tool from launching or loading. We'll link to workarounds for any commonly-encountered issues of this type in the list below.

- Bitdefender: How to access a safe website blocked by Bitdefender

Questions?

Contact your Wharton Computing Representative with any questions.

Respondus LockDown Browser for Personal Devices (Students)

Last Modified on 10/10/2025 11:07 am EDT

This service is only available for use in proctored classrooms or labs. It's not a solution for quizzes or exams being delivered remotely.

LockDown Browser is compatible with an iPad for exams using Canvas New Quizzes; however, please ask your instructor if you are unsure which format your exam is using or if you do not have a Windows or Mac laptop to use instead. The Courseware team will need to ensure the exam is properly configured for iPad use.

Respondus LockDown Browser is a special web browser that lets you take quizzes in Canvas using your own computer but restricts access to other programs or websites while the quiz is in progress. With Respondus enabled, you will NOT be able to take screenshots, copy, paste, print, or navigate to other websites. Your instructor will let you know when Respondus is required for a particular quiz.

Before You Start

Use Mac or Windows: You will need a Mac or Windows laptop (Linux and Android devices are not supported). Limited functionality is available for Surface Pro tablets. Please check with your instructor if you do not have a Mac or Windows laptop.

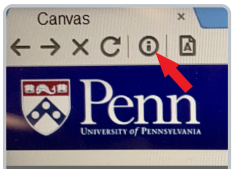
Update your Software: Make sure your operating system, browser, and Respondus Lockdown Brower are all updated to the most recent version.

Installation and Testing

A few days before your first quiz, install and test the LockDown Browser.

1. **Download and install the LockDown Browser** on the computer you will use when taking in-class quizzes. A free download is available at: https://whr.tn/respondus. (Windows and Mac versions only).
    - Note: if you are using an iPad to take the exam, you can download the Respondus LockDown Browser app from the App Store. Only Windows and Mac laptops or Apple iPads are supported at this time.

Note: If you previously downloaded LockDown Browser and get a message saying "**Your browser does not meet the minimum requirements for Canvas** "when you log into Canvas, Click the "i" icon (Windows) or globe icon (Mac) in the LockDown Browser toolbar, then **click the Check for Newer Version** button to update your version of the LockDown Browser.



Windows LockDown Browser toolbar

Mac LockDown Browser toolbar

LockDown Browser versions do change. It is important to make sure the version on your computer matches the version listed on the website (https://whr.tn/respondus). If you have an older version of the app, you may need to uninstall and reinstall to ensure you're running the latest version.

2. **Complete a sample quiz using Respondus LockDown Browser (instructor will initiate this).**

- Using the same computer that you will bring to class for your actual quiz**, open Canvas in any browser if your instructor confirms this is a New Quizzes exam. If a Classic Quiz, you will need to open the LockDown Browser first.**
- If a New Quiz (most cases), navigate to your course, then open the practice quiz. **When you click to "Begin," LockDown Browser will launch automatically.** You may be prompted to close some programs that are running in the background on your computer (eg, messaging programs). **Close these applications to continue.**
- If you are unable to complete these steps, **please contact courseware@wharton.upenn.edu** and indicate which class is requiring the LockDown Browser. Please try to include any screenshots or the text of any error messages you receive.

Troubleshooting

1. Clear your browser history/cache and restart your device. Click the link for your particular web browser for instructions on clearing your cache (it will open in a new tab).
    - Chrome / Firefox / Safari / Edge
2. **If LockDown Browser fails to launch or the quiz won't load,** this can usually be fixed by closing and reopening the browser. Be sure to close other browser tabs, windows, and any chat or screensharing applications before reopening the quiz.
3. You should be accessing Canvas from https://canvas.upenn.edu (NOT upenn.instructure.com).
4. You may have Screencastify unknowingly running as a browser extension in Chrome. You can remove the extension completely in Chrome by going to Settings>More Tools>Extensions. If that doesn't work, follow the additional troubleshooting steps.
5. If you receive a **"Failed to Load" error on a Mac**, it means you need to upgrade your operating system to the latest version.
    - If you cannot upgrade to the latest version of macOS in the App Store, we recommend going to "How to get old versions of macOS" linked here. If an upgrade is not possible, you will need to use a different computer to take exams that require LockDown Browser.

Access to Downloads Folder

- You may receive the message **"LockDown Browser would like to access the files in your Downloads folder."** The prompt to access the Downloads folder is an Apple security requirement so it can download future updates or patches from inside the browser.
- Windows has similar requirements even though it is hidden underneath a more general "User Access Control" prompt. If a student is concerned about security/privacy and does not want to allow access to the Downloads folder, there are a few alternatives:
    - While LockDown Browser for Mac needs to be installed by a user with administrator access, it can be

run by a standard user. After installing LockDown Browser, go to *System Preferences->Users & Groups* to create a new standard user account (without the "Allow user to administer this computer" option).
    - Log out of your current account, restart the Mac, and log in with the new standard user account.
  - Install the macOS on a bootable external drive, boot into the external drive and install only LockDown Browser 2.0.6.02 for Mac.
  - Create a Windows Boot Camp partition, boot into Windows, and install only LockDown Browser 2.0.7.06 for Windows.
  - Locate another computer, Mac or Windows, with LockDown Browser.

Tips for the Day of the Quiz

- Bring the same computer that you used for the sample quiz.
- Arrive with a fully charged battery. Limited electric outlets will be available in the classroom.
- Ensure you have a reliable Internet connection (AirPennNet is preferred).
- **Check with your instructor to ensure you are accessing correctly:** If this is a New Quizzes exam, make sure to open this in a regular browser first (e.g. Chrome, Firefox), not in the LockDown Browser app. In Classic Quizzes, you'll need to open the LockDown Browser first.
- Do not submit the quiz until you are sure that you are finished. Once submitted, you will not be able to re-open the quiz.

Questions?

Contact Wharton Student Computing by phone/chat/Zoom on their website, or email support@wharton.upenn.edu.

Wharton Attendance, Absence, and Video Requests (For Students)

Last Modified on 09/02/2024 12:33 pm EDT

The Wharton Attendance & Video Request app in Canvas allows you to do three things for classes in which the app has been enabled:

- **Check into** your class for attendance.
- **Submit** an absence excuse request for specific dates.
- **Submit** a class video access request for particular dates.

Before You Start

Using the Attendance app requires:

- Being enrolled for more than one business day in a class that is using the Wharton Attendance app. Each feature of the Wharton Attendance app can be enabled separately; check with your professor.
- A working PennKey and password.
- The Canvas Mobile app is not required but recommended (Apple | Android). The app can be accessed at https://canvas.upenn.edu/.

Note: The attendance app is distinct from the University's Course Action Notice (CAN) feature. CAN is a completely separate system for reporting concerns or unusual situations involving an individual student in a course, and should not be used to report absences or request videos in Wharton courses.

Course Check In

Note: This feature may or may not be enabled for your class.

Course Check In allows you to report your attendance by **checking in** to your class.

A few things to keep in mind:

- Check in opens ten minutes before class and closes at the end of class.
- If you fail to check in to a class meeting you will receive an email at the end of the day prompting you to submit an absence request for the appropriate class meeting. You will also receive reminder emails prompting you to submit an absence request on day 5 and 10 after your failed check in.
- Sign into AirPennNet before you check in, as cellular networks can be weak or intermittent in some classrooms.

To Check In to a Class:

For step-by-step instructions,

Absence Requests

You may submit absence requests for class meetings up to 2 weeks in the past as well as future class meetings.

Note: This feature may or may not enabled for your class.

To Submit an Absence Request:

For step-by-step instructions,

Video Requests

Courses may allow restricted access to past class meeting recordings. If enabled, this is a process for you to submit a request for a specific class meeting recording. **You must request access to class recordings within 2 weeks** of the class meeting. The **Attendance & Video Requests** app allows you to request recordings of future classes if you plan on being absent.

Note: This feature may or may not enabled for your class.

To Submit a Video Request:

For step-by-step instructions,

Troubleshooting

When I try to use the Attendance & Video Request app for my class, I get an error saying, "We were unable to determine your Canvas identity. Please reload and try again."

You must be enrolled in a course for more than one business day to check in using the Attendance & Video Request app (or to request videos and absences). If you enrolled in a class the same day you try to use the app, you will receive the above error. Try again on the next business day, and you shouldn't encounter the error.

Questions?

Contact Student Support for help.

Accessing NameCoach in Canvas (Students)

Last Modified on 12/22/2025 5:06 pm EST

NameCoach is a recording tool in Canvas that provides faculty and students with a simple and effective solution to identify pronouns, phonetically pronounce names, and hear how others' names should be pronounced. Once a user updates their NameCoach profile, that profile will be saved in Canvas. It will then be available for listening in any course **after the user clicks on NameCoach in a course's navigation menu.**

Before You Start

This article is for students -- faculty should see the article Accessing NameCoach in Canvas as Faculty.

You will need access to Canvas.

NameCoach was piloted at Penn for a period of two years from Fall 2022 through Summer 2024.

Accessing NameCoach

There are two main ways to access NameCoach in Canvas:

- Through the global navigation Account tab
- Within a specific Canvas course

Account Tab Access

For access outside of a specific Canvas site, you have the option to record your name via the Account tab on your global navigation bar (***Figure A***). Once you click to access the NameCoach Account Profile, you will then see a table containing columns for your name and email address, name recording, and a space to edit your information (***Figure B***).

1. Log into Canvas, and click on the **Account** icon in the left Global Navigation Pane.
2. Select **NameCoach Account Profile**.

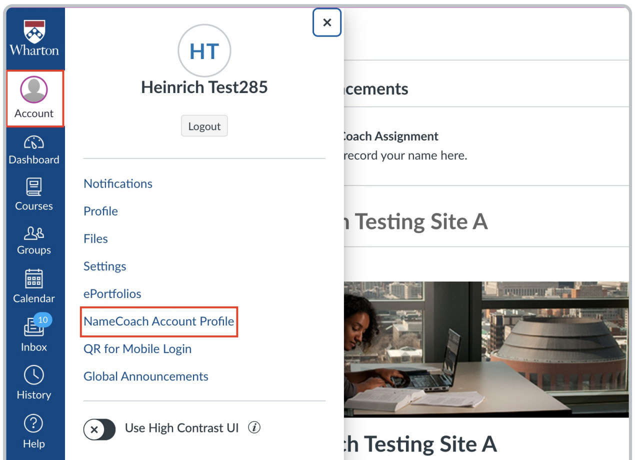


Figure A

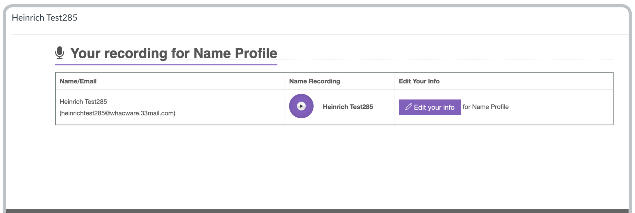


Figure B

Course Access

As an alternative access point, if your instructor is using NameCoach in their course, the NameCoach tab will appear as a sidebar item. This tab enables you to record your name and also specify both your pronouns and the phonetic spelling of your name (***Figure C***). Regardless of where you choose to record for the first time, the recording will save and carry over to any Canvas site utilizing NameCoach as well as your Account profile.

1. Log into Canvas, click on **Courses,** and choose a specific Course.
2. Once you're in the course, select **NameCoach** from the sidebar menu.

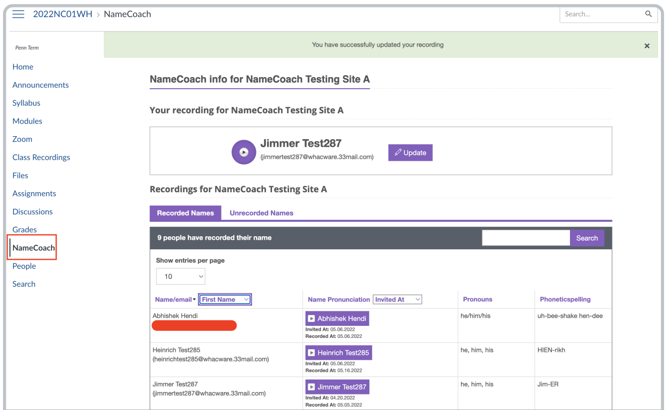
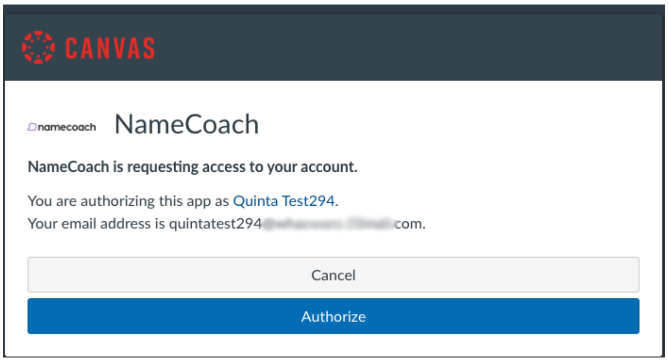


Figure C

Initial Access Confirmation Message

The first time you access NameCoach, you will be prompted to authorize NameCoach to access your account.

> NameCoach uses email to give permission to view the roster and listen to recordings. No other information is gathered when authorizing, and it is only used to grant access to recordings.

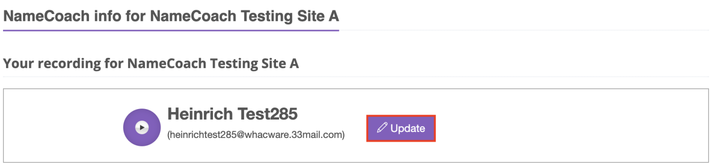


Once you click **Authorize**, this will bring you to the NameCoach page for your course.

Recording a Name

Once you've accessed NameCoach using one of the options listed above, follow these steps to record your name. You can have someone else record your name, if you do not want to use your own voice:

1. Update your information by clicking the purple**Update** button:

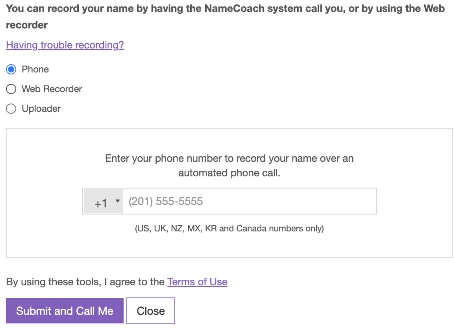


2. Enter your **pronouns** and/or the **phonetic spelling** of your name (optional).

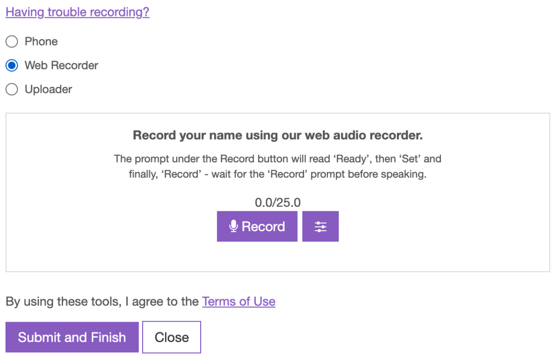
3. **Record your Name.**

   There are three different ways you can record your name. Regardless of which one you choose, the recording will will be saved and available to any Canvas site that is using NameCoach. It will also be available in your Account profile.

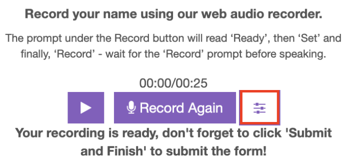
   - **By Phone:**
     Enter your phone number and click the **Submit and Call Me** button. You will get an automated call from NameCoach with instructions. You will be prompted to record. Press the # sign when you are satisfied with the recording.



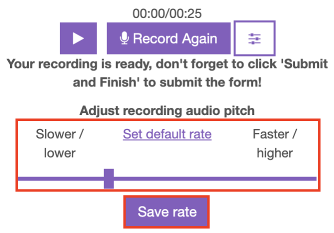
- **Using the Web Audio Recorder:**
  You can use your internal computer microphone or an external headset/mic to record this.
  - Click the **Record** button. The prompt under the "Record" button will read 'Ready', 'Set', and 'Record' - Wait for the 'Record' prompt before speaking.
  - Click **Allow.** Follow the prompt before speaking.
  - Click **Stop** when done recording.
  - Click the **Play** button to hear the recording or **Record Again**.



  - Once you have finished recording, you can play this back to hear how it sounds before officially submitting. If you are not satisfied with the way the recording sounds, you can click **Record Again**, and you can also adjust the pitch if the audio sounds too deep or too high-pitched. To adjust the pitch, click the **pitch icon boxed in red below,** and this will reveal the pitch slider. Set the pitch by dragging the button (left and right) on the slider. You can re-record, play back the recorded name, and set a **default pitch**.



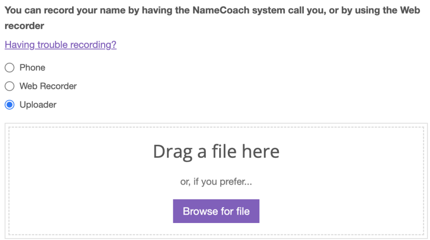
  When adjusting the pitch, after you have dragged the slider to the appropriate point, make sure to select **Save rate** prior to recording so that the new pitch will apply to the new recording. You can return to the default pitch at any time.



- **Using the Uploader:**

Using a tool outside of Canvas, such as Audacity, Camtasia, iMovie, or any other audio recorder, you can record your audio and then drag and drop the file from your computer into the specified space for upload to serve as your recording.

- Click your file and **Drag** it to the box, or use the **Browse for file** button to upload an mp3 file of your recorded name.



4. Click the **Submit and Finish** button to save your NameCoach recording.

Once you have finished updating your information as needed, you can scroll through the list of Recorded and Unrecorded Names within your course. You can listen to their name pronunciations and, for those who have it specified, view their pronouns and phonetic spellings.

Troubleshooting tip: If you are using Safari and encounter any access issues, please refer to the guide linked here regarding using Safari with Canvas learning tools. Having trouble in Chrome, try using a different browser, like Firefox.

Questions?

If you need more assistance, please contact courseware@wharton.upenn.edu for support.

Ed Discussion for Students

Last Modified on 01/30/2026 1:43 pm EST

As of May 2022, Ed Discussion is available to all Penn faculty, staff, and students. A Canvas integration is available for all courses taught through Penn Canvas.

Ed Discussion is an asynchronous discussion tool that provides a platform for students and members of the teaching team to interact through threaded conversation. Students can answer one another's questions, work on and run code together, embed videos, annotate images, and share documents. They can also like one another's posts, post anonymously, and receive instructor feedback all in one place.

In this article, you will learn more about the student experience in Ed Discussion. For information on utilizing Ed Discussion in your course as an instructor, view the guide linked here.

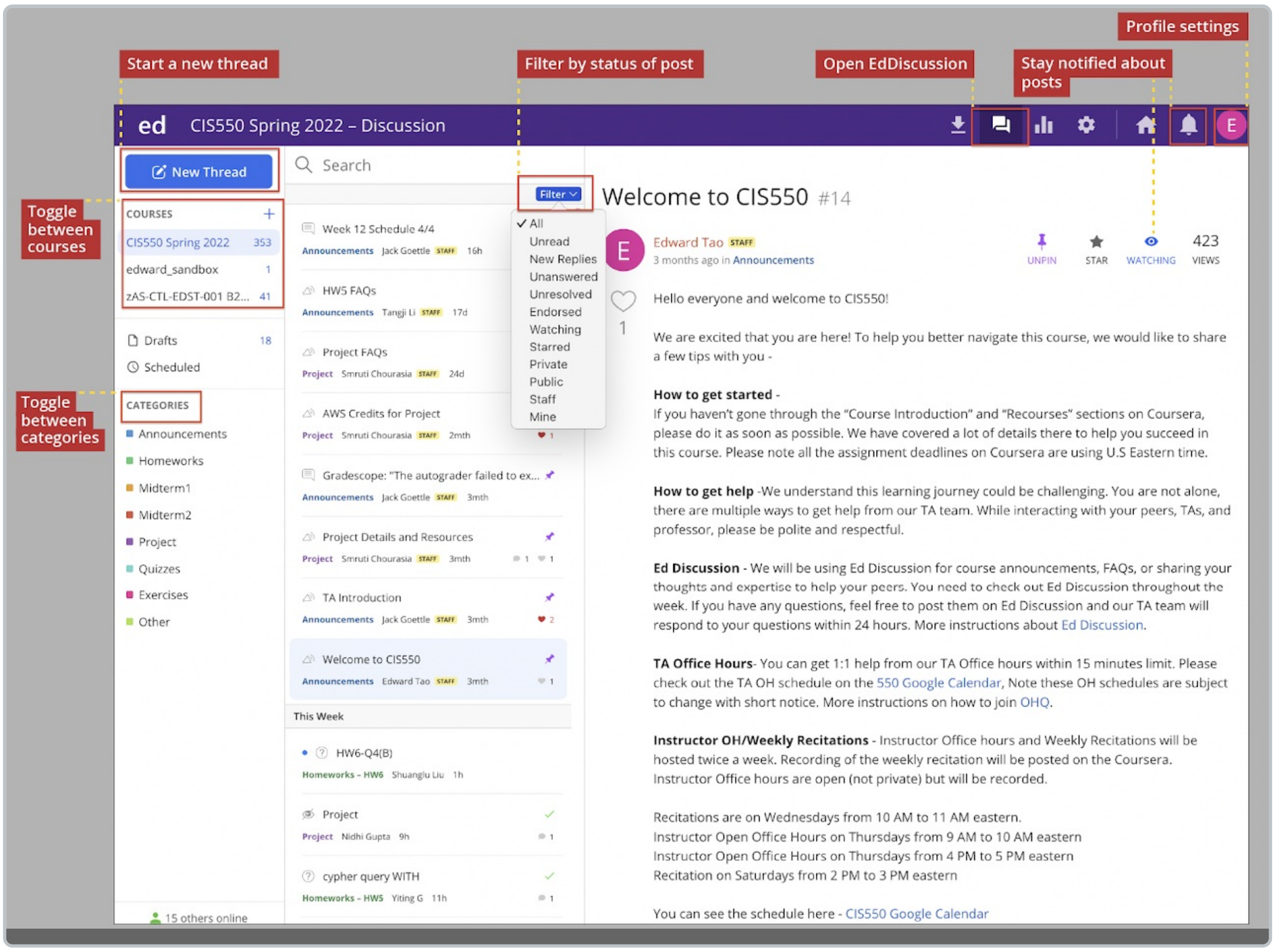
Before You Start

You will need the following before you can complete this task:

- You will need access to Canvas.
- If you are using Ed Discussion in a course that does not use Canvas, you may log in with your Penn email address at edstem.org/us/login.

Navigating Ed

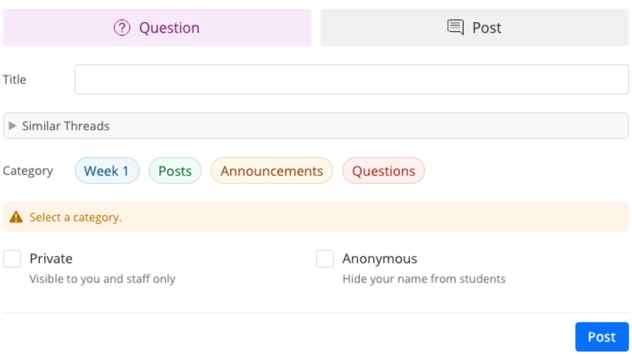
From the student perspective, Ed Discussion has a clear set of color-coded categories, a searchable discussion area, and a big blue button for posting new threads. As with any tool, it is important to consult your professor or other teaching team members to best understand how this will be used in class. Some faculty include a pinned thread containing these instructions, so you can check for this, as well. The categories you see on the lefthand side are customizable and will differ from course to course, so keep this in mind when learning the functionality:



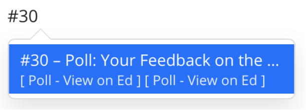
Edward Tao, Penn Engineering, via https://online.seas.upenn.edu/student-knowledge-base/ed-discussion/

 Creating a New Thread

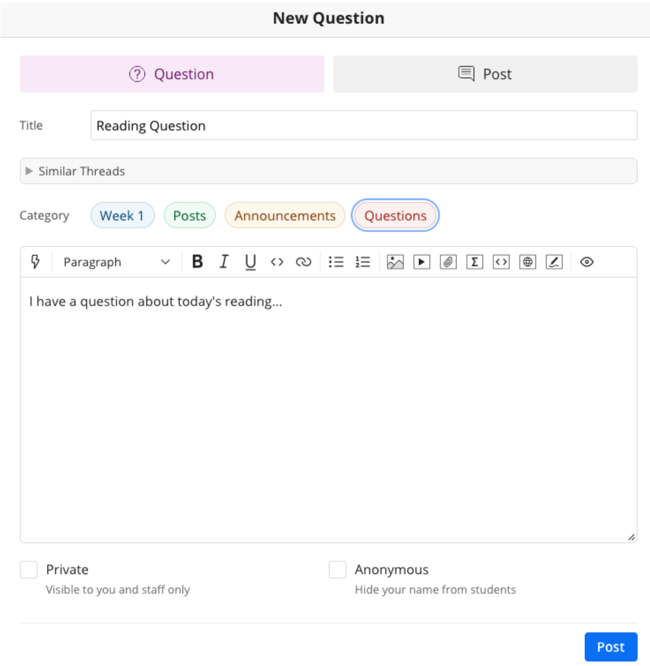
When creating a new thread as a student, you will see the option to pose a question or post. Note that the grayed-out item indicates it is deselected, while the colored item (shown below in pink) indicates a selection. In this example, the student has selected to pose a question:



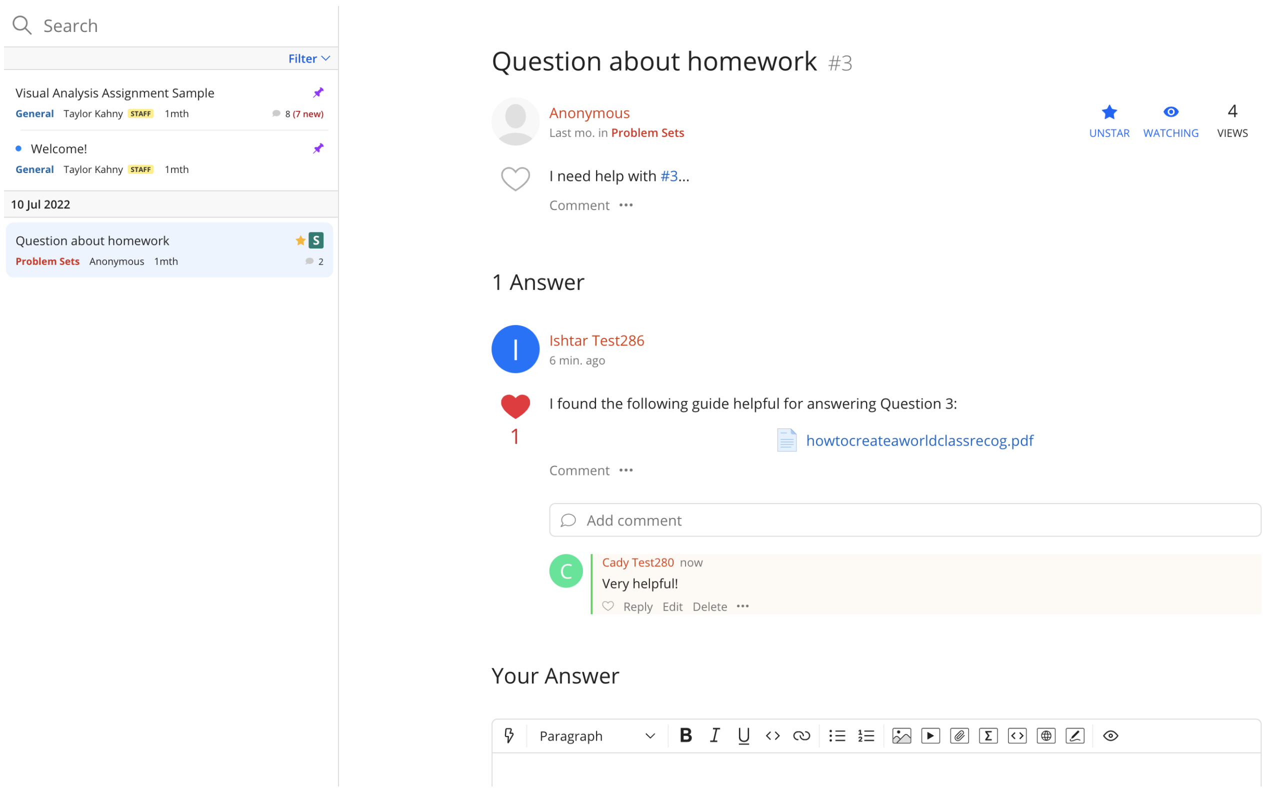
Anything you post will need to include a title, category, and sub-category, if applicable. Once you begin typing your title, you can also see a drop-down for similar threads if you would like to reference an earlier post. To link to an earlier thread within the new post, since all threads are numbered, you can type the hashtag (#) sign followed by the thread's unique numeric value:



In order to start drafting the question or post, you will need to first select a category. Once the selection is made, you will see the tool's rich content editor. The question or post can be private to just you and the teaching team, or you can share with the class while making it anonymous to other students:

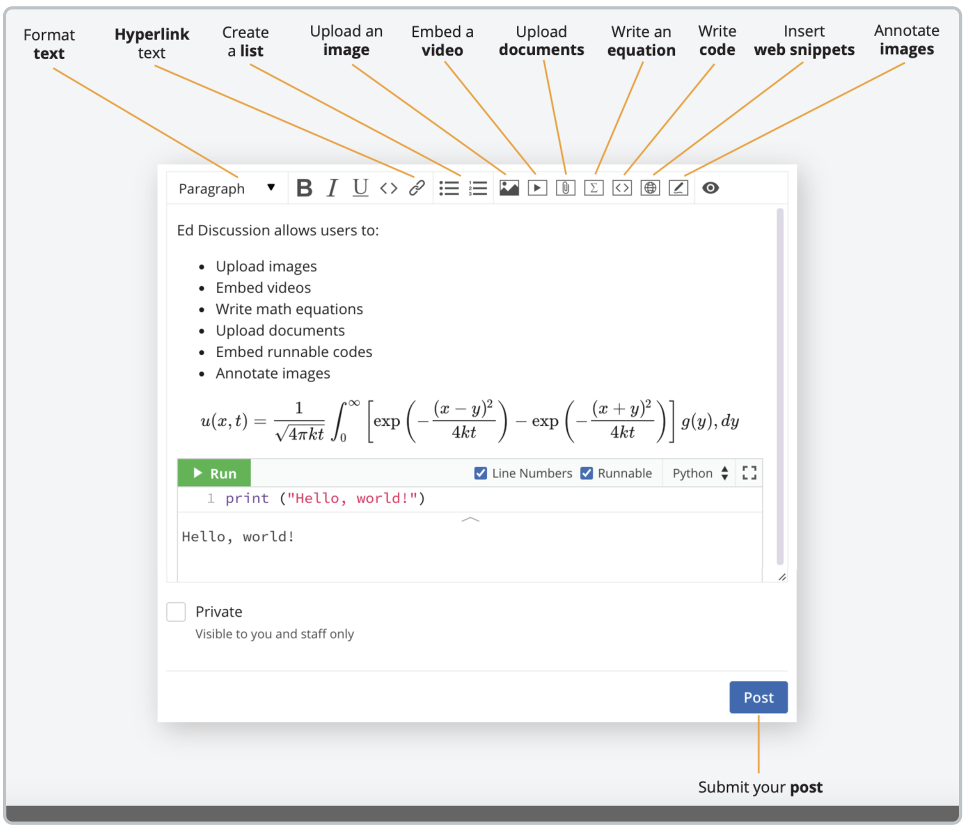


In the example below, an anonymous user posted a question about the homework under the Problem Sets category. In response, Ishtar answered the question by posting a guide which Cady found to be "very helpful." Also visible in the screenshot, students have the ability to "heart" questions, answers, posts, and comments they love, and they can also "star" and "watch" questions or posts, making it easier to filter the content in the discussion area:



Rich Content Editor

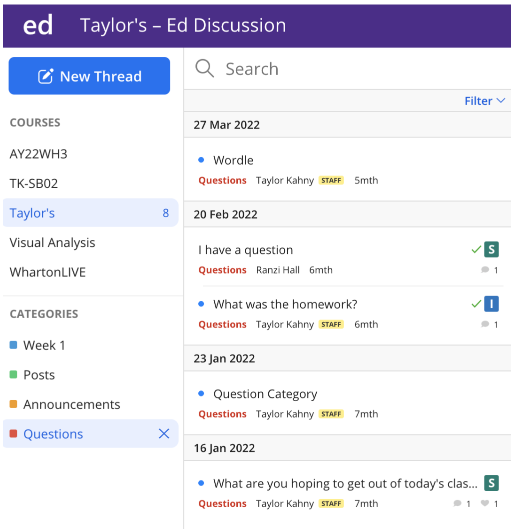
When you draft a new thread or comment on someone else's content, you will edit the post through the rich content editor. The editor provides tools for formatting text, inserting media, LaTex, and other programming language snippets. In addition, you can directly create formatted text and mathematical equations by typing in Markdown and LaTex syntax:



Ed - Quick Start Guide (Version One), via https://edstem.org/quickstart/ed-discussion.pdf

Categories

When toggling among categories within Ed Discussion, the chosen category's threads will appear underneath the search bar within the discussion area as shown below:



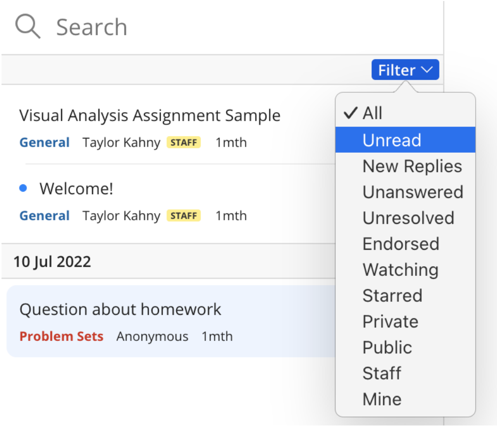
Each thread in the category is organized by date with the category, author, and related icons indicated on each separate post. Your instructors may have as many or as little categories as they choose.

Important Key for Understanding Thread Icons

- Threads with a blue dot are **unread**. These are threads that you have not seen.
- Threads with a green tick are questions that have been **resolved**. This means that the question has already been answered.
- Threads with a purple pin have been **pinned** and will be kept at the top of the discussion list to increase visibility and encourage ongoing discussions. Pinned threads are generally reserved for announcements or important information. Only instructors can choose which threads to pin.
- Threads with a blue ribbon have been **endorsed** by course instructors. This is usually done by instructors to distinguish high-quality content.
- Threads with a heart signify **agreement**. Hearts are private and do not reveal identities.
- Threads with a star are **bookmarked** to refer back to later. Stars are private to the individual.
- Threads with an eye icon selected WATCHING are those in which you are **subscribed** to receive thread activity email notifications.
- Threads with the "S" icon S indicate a **student has answered** a question thread.
- Threads with the "I" icon I indicate an **instructor has answered** a question thread.

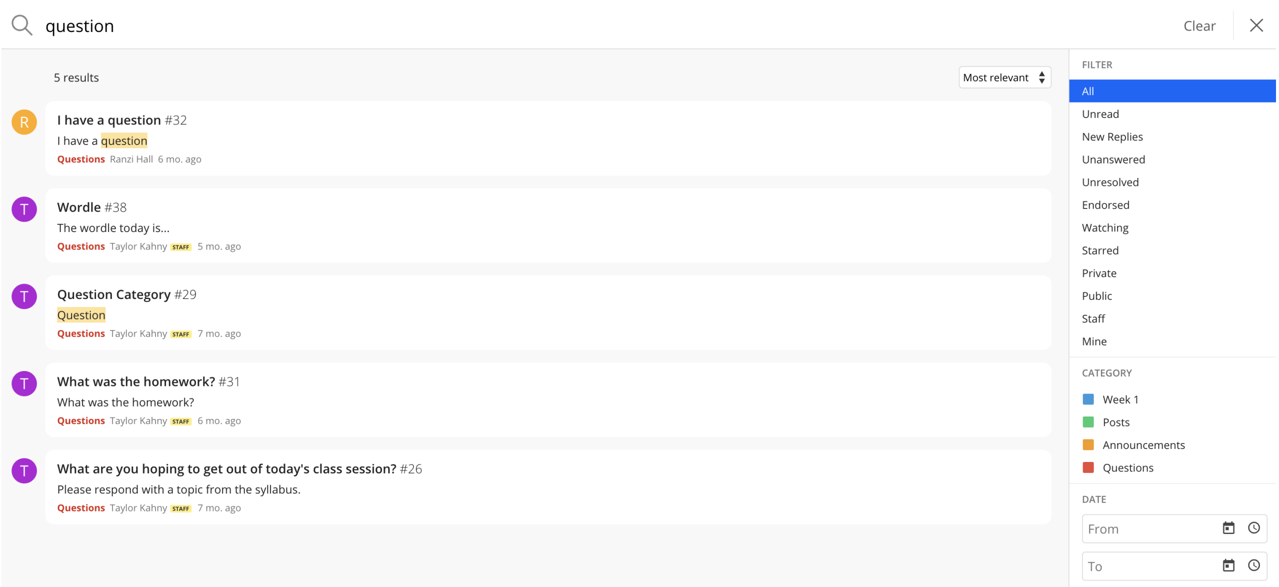
Filtering

In terms of organizing your view as a student, Ed Discussion allows for manyfiltering options. You can filter by unread items; the latest replies; threads that are unanswered (for questions only), unresolved (for questions only), or endorsed; items you have set to watch or have starred; your private content; any public content; posts from the teaching team; and threads only created by you:



Searching

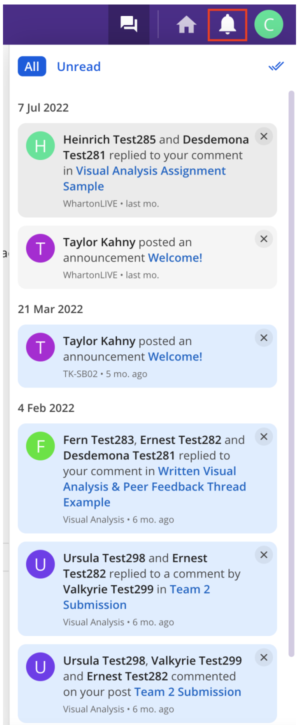
In order to quickly find posts within the discussion area, you can use the search bar to extract key words from threads. In the example below, the word "question" appears in five different posts within this particular course's Ed Discussion site:



To drill down the search even further, you can select one of the filtered options, a specific category, or even a date range.

Notifications

In the upper right corner of your screen, next to the home dashboard, you will see a bell icon indicating notifications. The notifications are organized by date with a section for "All" notifications and "Unread" notifications. There is also an icon enabling you to mark all notifications as "Read." Similar to the color scheme when posting a new thread, any item that is unread appears blue, while the notifications you have already read are grayed out as shown below:

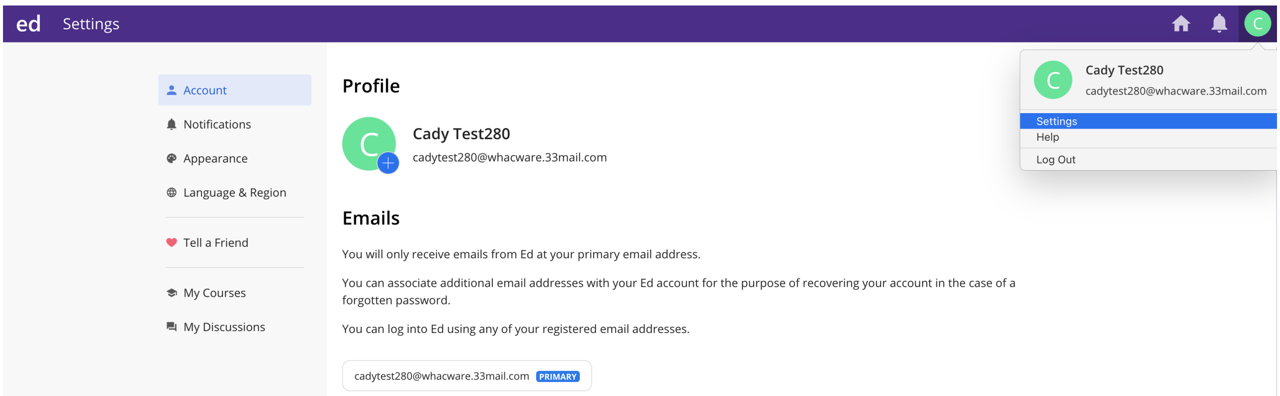


Please note that you will not receive Ed Discussion notifications via Canvas directly, as this is an LTI tool existing as a separate application.

To customize your notification settings, see the **Profile Settings** section below.

Profile Settings

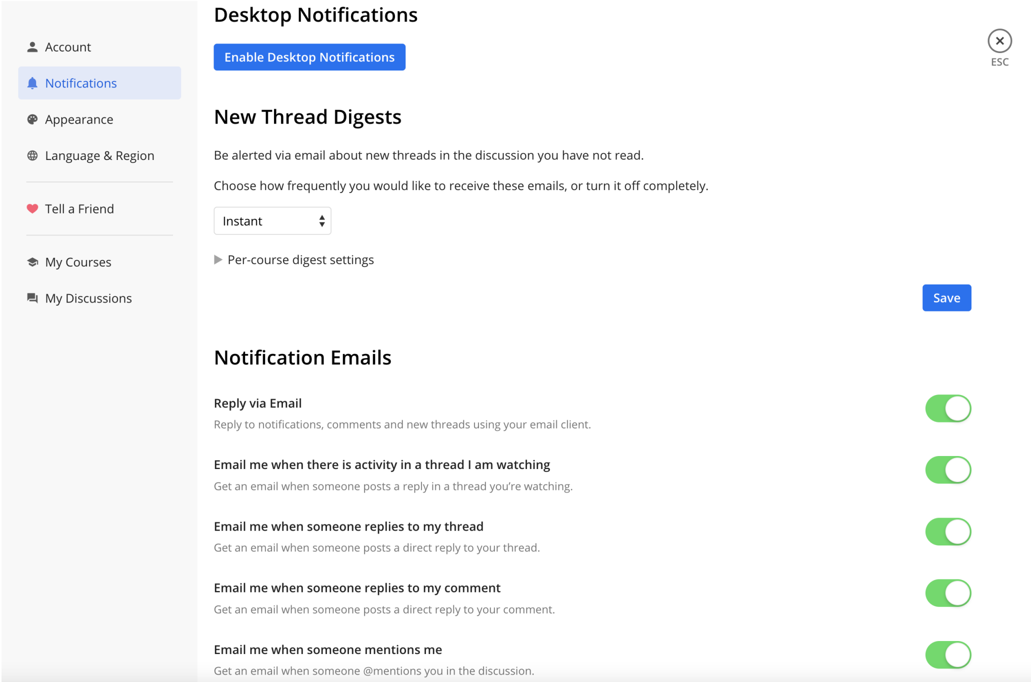
In Ed Discussion, there are ways to further customize your user experience in the **Settings** tab under your account profile:



From the Account section pictured above, check to make sure your primary email address is set to your Penn email address. This way, you will receive all Ed Discussion notification emails at this address.

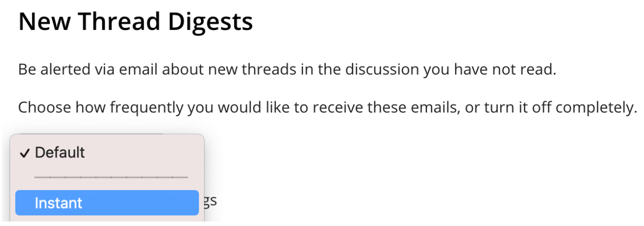
For added security measures, you can also set a password or enable Two-Factor Authentication for your account.

To edit your notification settings, you can toggle to the **Notifications** tab shown below:

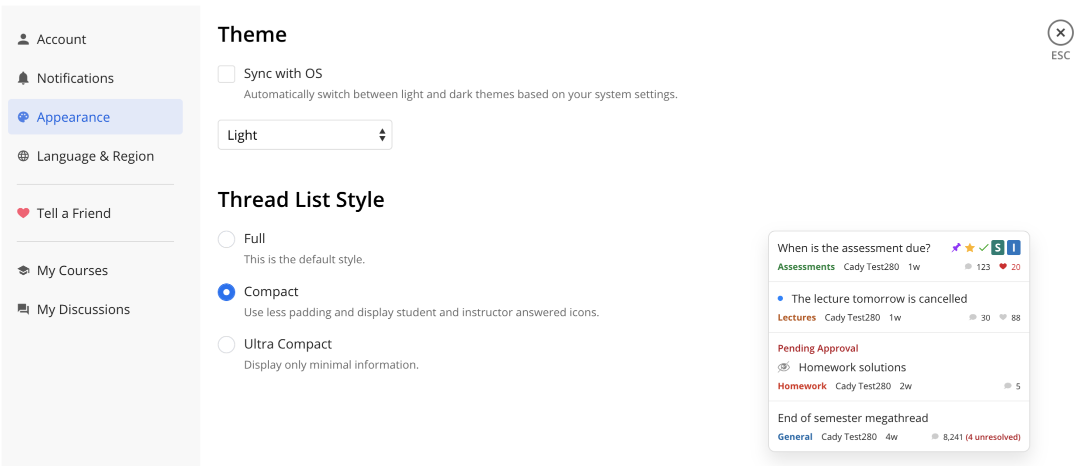


You can enable desktop notifications, choose how frequently you receive emails from Ed Discussion or turn this off entirely, and you can toggle various options for the email notifications you would like to receive.

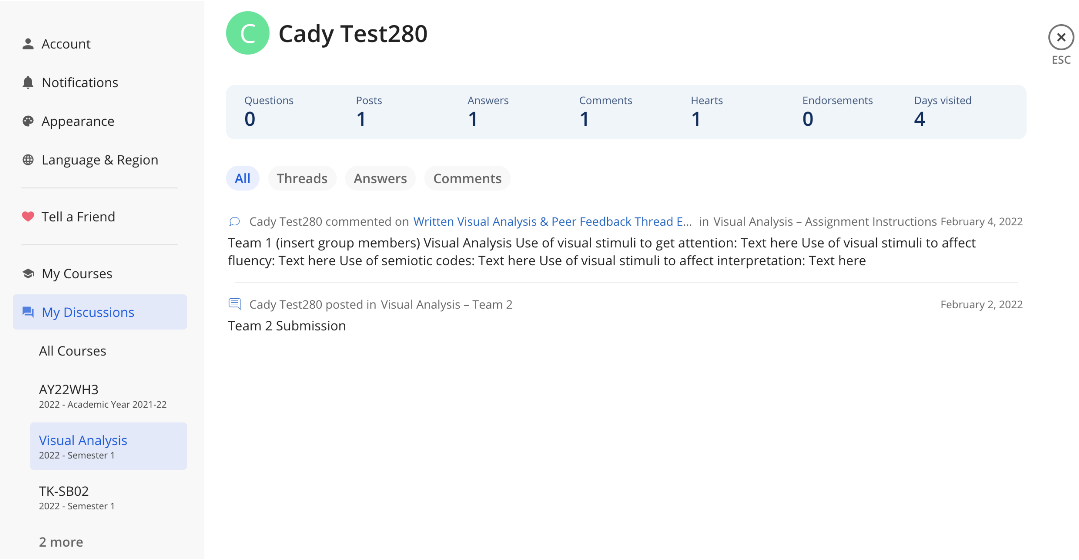
To receive automatic emails from Ed Discussion directly to your @upenn email address, the notifications should be changed to "Instant" rather than the default option:



Under the **Appearance** tab, Ed Discussion enables you to change from Light to Dark mode, even providing an option to sync the particular mode with your operating system's settings. In addition, you can change the threaded list style to full (default), compact, or ultra compact.



The **Language & Region** and **My Courses** tabs enable you to alter the language and time zone and view all courses you are enrolled in that utilize Ed Discussion. Under **My Discussions**, you can drill down to specific threads, answers, and comments you have made on your course discussion boards, making it easy to return to a conversation without having to search through all user threads:



Using Ed on a Mobile Device

For those who wish to post discussions and respond on a mobile device, it is recommended to add Ed to the phone's homescreen for easy access:

For **iOS**, visit edstem.org in Safari and tap **Share>Add to Home Screen**.

For **Android**, visit edstem.org in Chrome, tap the **menu icon** (3 dots in upper right corner), and select **Add to Home Screen.**

Questions?

If you need more assistance, please contact courseware@wharton.upenn.edu for support.

Getting started with aPlus+ Attendance in Canvas (Students)

Last Modified on 02/05/2025 9:39 am EST

aPlus+ is an attendance-tracking tool that is integrated with Canvas through a third-party application. It simplifies attendance processes for teaching teams and helps ensure that students receive due credit for attending class. Students also benefit from an easily viewable attendance record right from Canvas.

Please note that absence requests and video requests are now separate processes.

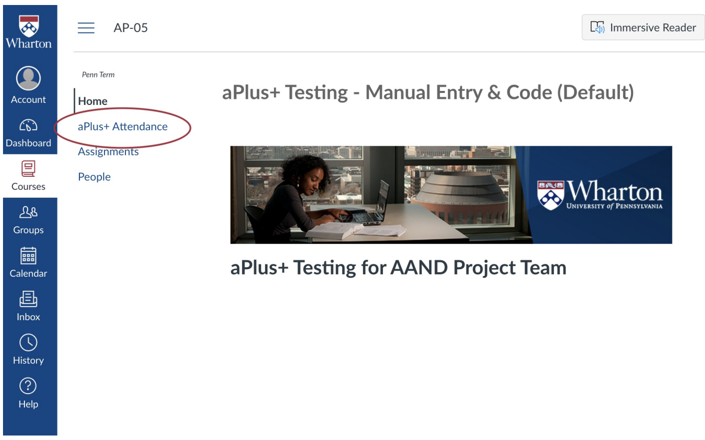
Before You Start

You will need:

- Access to Canvas
- Student enrollment in a course that is using aPlus+

Accessing aPlus+

Click on the **aPlus+ Attendance tab** from your course's navigation sidebar.



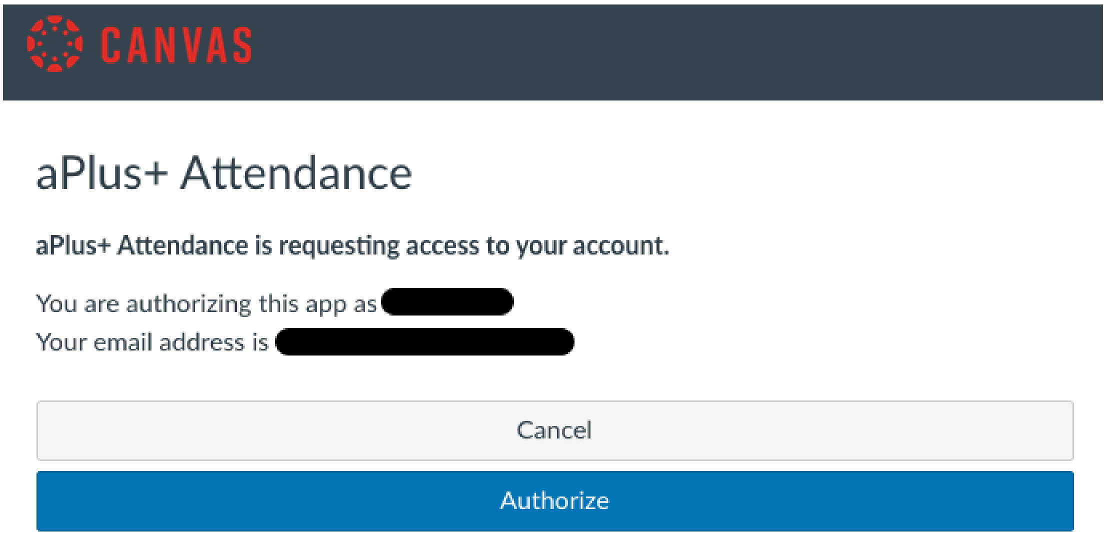
Authorizing aPlus+ Attendance for First-Time Use

Before you can access aPlus+, you must authorize it.

If you receive an error message instead of being prompted to authorize, the aPlus+ Attendance setup has not yet been completed for this class. Try again later.

To authorize aPlus+ Attendance:

1. Log into Canvas and **go to the course** you're interested in authorizing aPlus+ Attendance.
2. Click on **aPlus+ Attendance** in the course navigation sidebar.
3. The first time you access the tool, you will be prompted to authorize access to your account:



4. Click the blue **Authorize button**.
5. aPlus+ Attendance will load.

The aPlus+ Attendance Tab

You can access aPlus+ Attendance using your computer, tablet, or mobile device.

We recommend downloading the Canvas Student app for a smooth check-in process, especially if your class is using the QR code option for check-in.

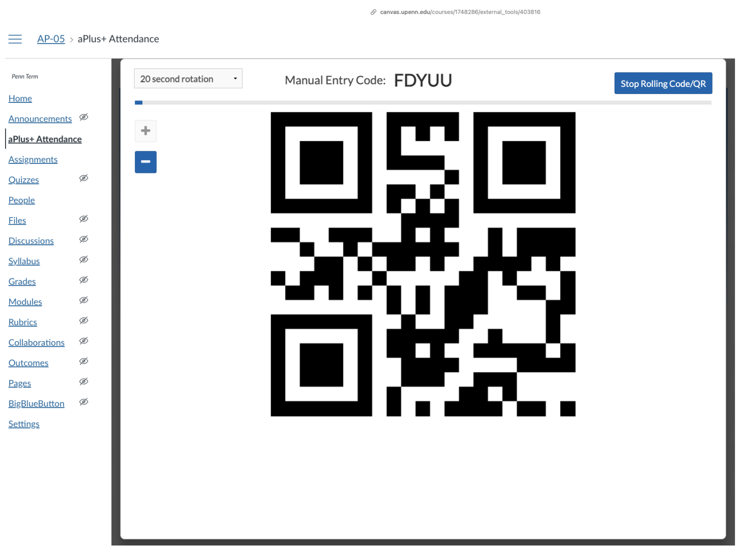
To access aPlus+ via the Canvas Student app:

Where do I click to check in?

You will not be able to check in until your professor initiates the check-in session. **When the check-in session appears as blue, you will be able to click through to the check-in screen**.

Check-in Screen

If your professor is using a rolling QR/alphanumeric code, you will see something similar to the screenshot below projected at the front of your classroom. The image contains both the manual entry code and a scannable QR code:



To check-in to class during the check-in period:

Viewing Your Attendance Record

You can always view your up-to-date attendance record from the aPlus+ Attendance tab. Your check-ins and absence requests will display within seconds of being submitted.

Absence Requests

As a student, you now have the ability to request absences for days that you are unable to attend class. If you don't see this option, it's possible the absence request functionality hasn't been configured in your course.

Course Action Notices are separate from aPlus+ Attendance absence requests
Penn undergraduate students, including Wharton undergraduates, may report absences using the University's Course Action Notices (CAN) system. Please be aware that graduate students *cannot* use CAN to report absences, and that CAN is not an absence request tool.

Time Factors for aPlus+ Attendance Absence Requests
Students can request an absence using aPlus+ Attendance *two weeks before a particular session* and *up until the end of the term*.

Share a Class Recording Snapshot

Some classes are experimenting with a feature that briefly records the student view. If you attended class but were unable to check in, you can use the recording as proof of your attendance.

Your professor will let you know, either on the syllabus or in lecture that they use this process to validate attendance in these cases. However, it is important to keep in mind that this feature is still in pilot, and most classes do not use this feature currently.

To share a specific class session's automatically created snapshot, follow these steps:

Questions?

Troubleshooting tip: If you are using Safari and encounter access issues, please see our Using web browsers with Learning Tools article. If you have trouble in Chrome, try using a different browser, like Firefox.

If you need more assistance, please contact your Wharton Computing Support Team for support.

Canvas Access and Course Sites

Last Modified on 03/13/2025 2:59 pm EDT

This is a quick overview of logging in to Canvas, finding your course sites, and adjusting notifications.

Before You Start

You need the following:

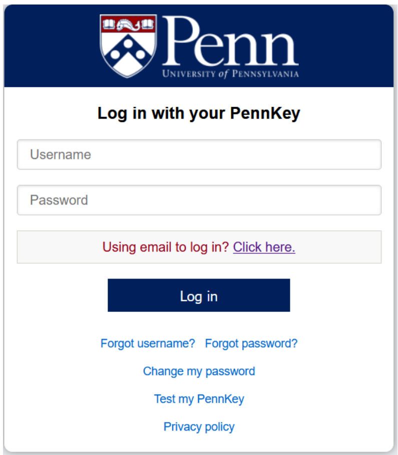
- An active PennKey account (or authorized email address)
- Enrollment in a current course site

Logging In

Log in to Canvas with your PennKey at **https://canvas.upenn.edu**.

Please visit PennKey Support if you encounter difficulty with your PennKey login. If you need to reset your password, you can do so by selecting the "Forgot Password?" option.

If you are a Canvas user without a PennKey, and you have already established a password to use with your email address, find the **Using email to log in?** box and click the provided link to reach an alternate login dialog for invited non-PennKey users.



This method will **not** work for those who have PennKeys, and will **only** work by prior invitation from a course instructor or Wharton academic program.

You can also try to access by going directly to the canvas site url.

Finding active course sites

If your instructor is using Penn Canvas, you can find the course site by viewing your course list.

Note: There is a slight delay between registration and access to Canvas, and you cannot access any course site until the instructor has published it. Not all University of Pennsylvania courses use Penn Canvas.

You can customize your view on the Dashboard by designating current courses as "starred" or favorite courses. After that, they will appear on your dashboard.

If you are unofficially auditing a course, or if you want access to a site before you enroll, you will need instructor permission. Please forward any emails of permission to the Courseware team, who can enable your access to the course site.

Finding concluded course sites

Old course sites remain available, in a read-only state, for up to five years after they began.

To access them, select *Courses* in the left navigation bar, and click **All Courses**. Past course sites will appear beneath *Past Enrollments*. Note that:

- Class recordings are generally not available in Canvas after the end of a semester; instructors determine whether any extensions will be provided, such as for students taking make-up exams. Your instructor may contact class-tech@wharton.upenn.edu to request extended student access for recordings.
- Instructors may also choose to close course sites earlier than five years afterward. Also note that Study.Net readings, library reserves, and other licensed materials typically expire within 1-2 months, even if the Canvas site itself remains available. Therefore, it is wise for students to download desired materials from Canvas as soon as possible.

After you graduate, you will use alumni computing services, many of which will continue to use your PennKey. Be sure to sign up for the PennKey Recovery Service so that you can easily reset your PennKey password after graduation.

Adjusting your notifications

Use **Notification Preferences** to tell Canvas when to notify you – immediately, daily, weekly, or never – about course events.

Notifications will go to your University email address, but you may also receive notifications via other email addresses, text messaging, or other web services.

The following notification settings are recommended.

- **Course Activities → Due Date:** Daily or Immediately
- **Course Activities → Files:** Daily
- **Course Activities → Announcement:** Immediately
- **Conversations** → All Categories: Immediately
- **Scheduling** → All Categories: Immediately

Note: The grading notification preference **Include scores when alerting about grade changes** does work at Penn. Grade information will never be sent through insecure channels like email.

Changing your preferred name in Penn and Wharton platforms

While users cannot directly edit their name in Canvas Account Settings, your preferred name can be changed in a separate University system which will normally update other Penn and Wharton platforms:

1. Vist Path@Penn.
2. Under My Profile, select **Update my personal information.**
3. Select **Edit** and update the **Preferred First Name** field.
4. Select **Update**.

If it has been more than 24 hours since you edited your Preferred First Name in Path@Penn and it has not updated in Canvas, please feel free to report that issue to the email address shown below (under **Questions?**).

Setting a time zone in your user account

Use Account Settings to set your own time zone for your user account and have your local time zone display throughout Canvas.

Additional Resources

Please check the following:

- University Registrar - Holds on Student Records & Accounts
- Penn Student Registration & Financial Services - Update Required Contact Information

Questions?

Email: courseware@wharton.upenn.edu

All about Canvas Groups (Students)

Last Modified on 09/21/2023 3:48 pm EDT

Some instructors require that course work be completed by groups of students working together. Canvas groups can make this easier. This article describes how to join and use Canvas groups.

Before You Start

You must be a member of a course site in which the instructor has chosen to use groups.

Joining or Leaving a Group

To join a group:

1. Go to **People**.
2. Select the **group tab** (at the top of the page).
3. Browse through the list of groups until you find the group you are interested in:
   - Click **Join** to join a group.
   - Leave a group by selecting **Leave**
   - Switch to a different group by selecting **Switch To**.

Note: Some instructors choose to assign students to groups themselves; this decision is made only by instructors and not by the Courseware team.

Group Assignments

Groups are sometimes linked to assignments so that when one student submits the assignment, all group members will be able to see the submission and will receive the same grade and any comments the instructor chooses to make. Some instructors may nevertheless choose to grade submissions individually; these decisions are made only by the instructors and not by the Courseware team.

Group Appointments

Groups are sometimes linked to appointments so that when one student makes an appointment, that appointment applies to every member of the group. The instructor decides which appointments are available to groups.

Group Sub-Sites

Groups have their own "sub-sites" that contain Files, Discussions, Announcements, and a few other Canvas features. This sub-site is accessible only by group members and by the teaching team. Materials meant for all members of a course site should not be placed in one of these sub-sites.

Note: Do not use group "Files" to submit assignments online. Your instructor will not be notified that you have done so, and you may not receive credit.

Group Leaders

Sometimes instructors will designate one member of a group as the group leader. That person can change the group name, add or remove members, and perform other functions.

Questions?

Email: courseware@wharton.upenn.edu

Assignments and Quizzes

Last Modified on 02/28/2024 2:39 pm EST

This article describes how to use assignments and quizzes on Canvas.

Before You Start

You need the following:

- Access to Canvas
- Membership in a Canvas course site where the instructor or teaching team assigns work online

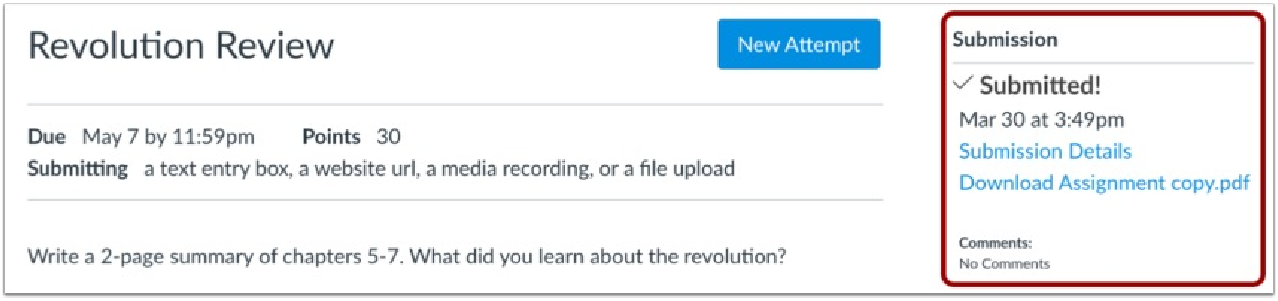
Completing Assignments

Upcoming assignments will appear on the dashboard and in the "Upcoming Assignments" sidebar a week before the assignment is due; a week after, the assignment will appear in "Past Assignments." Canvas can also notify you when an assignment is due.

In Canvas, you will turn in work by submitting a file (.doc, .pdf, etc.) to an assignment. You can re-submit the files if you find something you want to correct; when you upload multiple files, your instructor will see the latest version by default. If you are submitting a video file, please refer to our help article.

You can submit your file from a computer, or via the Canvas app on devices like iOS or Android.

You can confirm that the assignment was successfully submitted by returning to the assignment page and checking the right side of the page (on most laptop screen sizes) or toward the bottom on mobile. A "Submitted!" notation looks like this:



You can confirm the contents of your submission by clicking **Submission Details**, and either previewing the file (**View Feedback**), or downloading it (click the file name).

Completing Quizzes (and Surveys)

As with assignments, upcoming quizzes will appear on the dashboard and in the "Upcoming Assignments" sidebar a week before the assignment is due; a week after, the assignment will appear in "Past Assignments." Canvas can also notify you when an assignment is due.

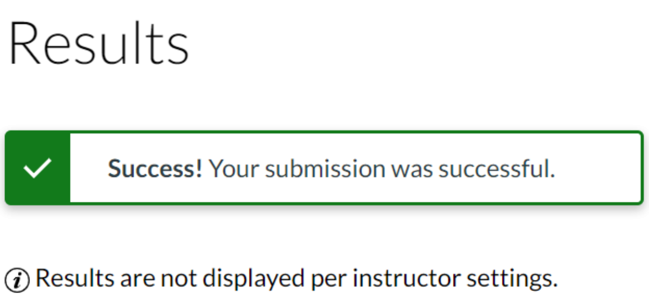
Confirming Time Accommodations: If you have already received an approved extra-time accommodation request through the Weingarten Center or your graduate program's SDS Liaison for an exam, test, or quiz, you'll be able to confirm that before you begin a quiz.

The adjusted total **Time Limit** approved for you will appear on the quiz page either above or below the instructions. Note that the instructions themselves may refer to the standard time limit; the number near the **Time Limit** heading applies to you regardless of what the instructions show.

Please contact Wharton Computing Student Support if your approved extra time is not shown as indicated above. While that team doesn't implement accommodations, they will route any questions or concerns in accordance with the University's process.

To check the status of your quiz, return to the quiz and check the right side of the page.

- If you haven't started the quiz, there will be no information about attempts; depending on the quiz tool used, either a **Begin** or **Take the Quiz** button will be shown.
- If you're in the middle of taking a quiz, you will see a "Resume" button (shown as **Resume** or **Resume Quiz**).
- If you've submitted the quiz, scroll to the bottom of the exam page and click View Results. The confirmation message will show that your submission was successful:



- In some cases, you may see a "Submission Details" link instead (If you are allowed more than one attempt at the quiz, you will see "Last Attempt Details", showing information about your last submission). Click on "Submission Details" to view the submission confirmation message.

You can also use your dashboard to check a quiz status. A green check-mark under "Recent Feedback" will confirm a completed quiz, but if your instructor is still grading, or if the quiz is "muted", you won't see anything. To check whether a quiz is muted, return to the quiz page and look for "Your quiz has been muted".

Note: Do not use "Take the Quiz" or "Resume Quiz" to check on the status of your submission.

Questions?

Email: courseware@wharton.upenn.edu

Calendar and Appointment Sign-ups

Last Modified on 02/05/2026 3:26 pm EST

This article describes the Canvas calendar, and how to use appointment sign-ups.

Before You Start

You need the following:

- For appointments: Membership in a course site that has appointment signups and a **web browser.**
    - *NOTE:* Currently, students cannot use the Canvas app to reserve an appointment.
- For group/team-based appointments: An existing group signup or membership (usually found under **People** in the course site)

Using the Calendar

The Canvas calendar (not to be confused with MyWharton) displays all your assignments and other course events. You can filter your calendar by course, subscribe from Outlook or other apps.

You can subscribe to your Canvas calendar feed in Outlook, Google calendar, or any application that reads iCal feeds. Canvas also makes a downloadable .ics file available for import, but this will not enable you to receive updates.

Here is some documentation you may find helpful.

- **iOS Devices**: Subscribe to the Canvas calendar feed using the Canvas for iOS app on an iOS device.
- **Google Calendar:** Use Google Calendar to subscribe by calendar address (**choose *Add using a link*** - the link to use is the **Calendar Feed URL in the Canvas Calendar**).
- **Microsoft365 - Outlook:** Subscribe to the Calendar in Microsoft 365 Outlook.

Note: At this time, it's not possible to subscribe only to specific courses in the Calendar Feed.

There are so many calendar applications and platforms available that we can't provide instructions for them all. If you are having trouble subscribing to your Canvas calendar, please feel free to write to us and let us know what application, device, and operating system you're using!

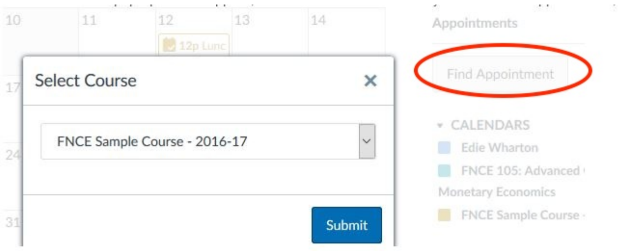
Using Appointment Sign-ups

Note: At this time, it's not possible to find or reserve an appointment using the Canvas app. Instead, use a web browser to log into Canvas and then perform the steps listed below.

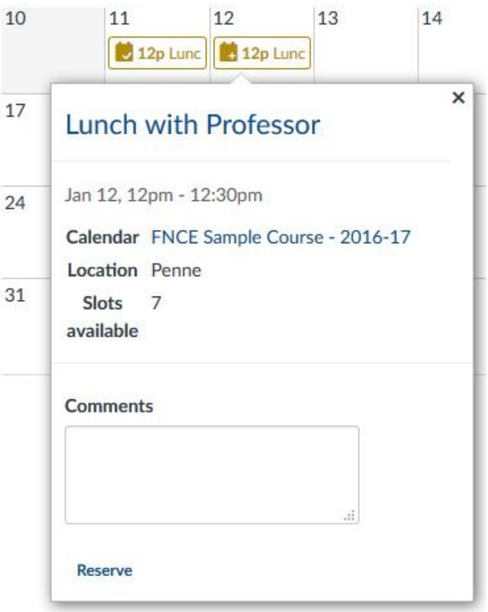
You may receive a notification about the appointment with a link which will skip steps 1-4 below. Otherwise, you can locate available sign-ups yourself using these steps (easier on laptop/desktop):

1. Click **Calendar** in the global navigation bar.
2. IMPORTANT: Click the **Find Appointment** button, usually shown toward the right side (you may need to scroll down the page).

3. If a **Select Course** pop-up box, choose one of your courses offering appointments, then press **Submit**.
   NOTE: Courses not offering appointment sign-ups will not be listed.



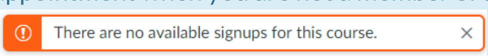
4. Available time slots will be shown with a calendar icon containing a **+**. Click your preferred time slot, then click **Reserve**.



The time slot you reserved will change its **+** icon to a checkbox, indicating a successful reservation. The appointment will then appear on your calendar (and, closer to the date, in the **Coming Up** list on your Dashboard).

Notes:

- The *Agenda* view of your Calendar will show the word "Available" next to time slots when doing step 4 above. (The calendar icon filled with a **+** shows up in any view - *Week*, *Month*, or *Agenda*.)
- If all available appointments have been reserved in your section, or if you are trying to sign up for a group appointment when you are not a member of a group, you'll see this message:

- After reserving, in case the appointment still doesn't appear for you, the course with your reserved appointment may be turned off (clear rather than shaded square) in the CALENDARS filter. Click the square to reveal calendar details for that course.

Canceling or Changing an Appointment

For appointments where you are allowed only one sign-up, you'll be asked if you'd like to cancel your old reservation in favor of the new one. For all others, click the time slot on your Calendar to make its reservation form appear, then **click Un-reserve** and give a reason for the deletion. You can then choose a new time slot.

Group Sign-ups

Certain appointments are intended for group signup, and you cannot see or reserve a slot unless you are already a member of a group. A reservation by any member of the group is a reservation for the entire group, so be sure to check with your group before reserving or canceling a reservation.

Questions?

Email: courseware@wharton.upenn.edu

Class Recordings

Last Modified on 08/27/2025 5:51 pm EDT

The term "class recordings" refers to recorded course sessions, most commonly those recorded automatically in Wharton School classrooms. The University runs the Panopto video content management platform to manage these recordings.

While Panopto videos can be posted to most websites at Penn, members of the Wharton community usually access them using a Penn Canvas course site. If there are videos available in a course, the Canvas site will show a **Class Recordings** tab in the course navigation menu.

Access to Videos: Faculty members and course instructors may choose whether any Panopto recordings -- class recordings, as well as video course content and video conference recordings -- will be made available to students. Faculty should see Class Recording Permissions (For Faculty) for setting recording availability.

Before You Start:

- You will need membership in a Canvas site in which an instructor has recorded synchronous classes or provided other videos.
- While all members of the Wharton community have access to Panopto, not everyone has access to specific areas or videos. Make sure you have logged in once, and then if you still don't see what you're looking for, contact your Wharton Computing representative.

Access to Class Recordings

To view recordings and other videos on a Canvas site, click the **Class Recordings** tab in the course navigation bar. The first time you use this service through Canvas, you'll be asked to choose **Remember my authorization for this service**.

If Class Recordings does not load, make sure your web browser does not block cookies. Users of theApple Safari browser may need to make further adjustments.

Notes:

- Availability of recordings may be limited by either an academic program office and/or an instructor's own policy decision.
- In certain courses, students may request specific recordings. For details on that possibility, please read Class Recording Permissions (For Students).
- Class Recordings are only available while the course is in session. To review class recordings from previous terms, ask your instructor to contact class-tech@wharton.upenn.edu to make arrangements.

If you are unable to view videos even after logging in, send an issue report or question to:

- Wharton Computing Client Support Services (if you are a student, phone and chat help is available)
- Wharton IDEA Classroom Support (formerly CTS Public Technology; best choice for instructors needing Panopto or recordings help)

Class Recordings are provided at the sole discretion of the instructor and can be taken down at any time. Please verify with the instructor that the recording is still available and that you have been given permission to view it before contacting support.

Working with the Panopto Viewer

Step-by-step instructions for all video viewer features can be accessed at:

- Learn About the Features of the Video Viewer (vendor support article)

General Video Recording Policies

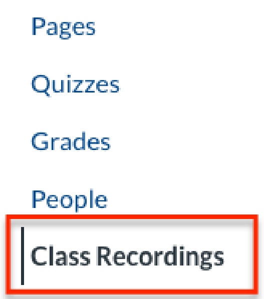
- Most videos expire after the end of the semester.
- You will not be able to download most videos. In the rare exceptions when that is permitted, you will see a down arrow in the top right of the video page. If you have a technical or a "how to" question about downloading videos contact your IT support team (don't contact your professor for these questions).
- The choice to record/distribute class sessions lies with the instructor.
- Students in the MBA Program for Executives may contact their WEMBA class manager for information about sample class recordings during the drop/add (also see your class group in MyWharton). To ask about access to a recording related to an excused absence from a non-remote-instruction meeting for WEMBA, contact your class manager.

Viewing Class Recordings in Canvas

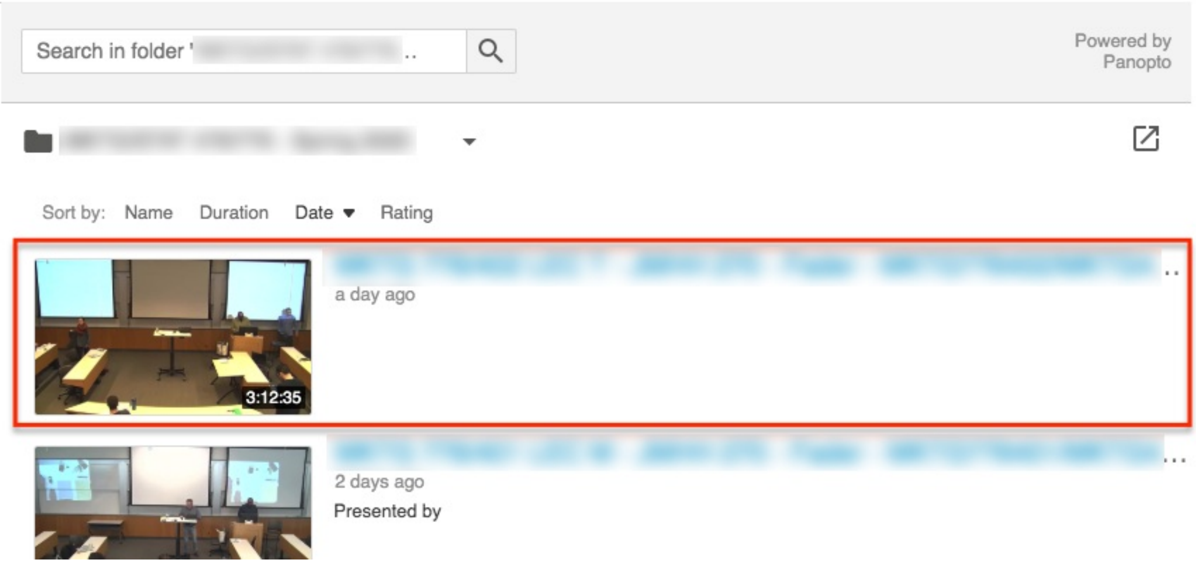
You must be enrolled in a Canvas course site that is set up to distribute class recordings.

To view class recordings

1. Log into Canvas and open the course you're interested in.
2. Click on **Class Recordings** in the course navigation. Recordings are not available for this class if you don't see the Class Recordings tab.

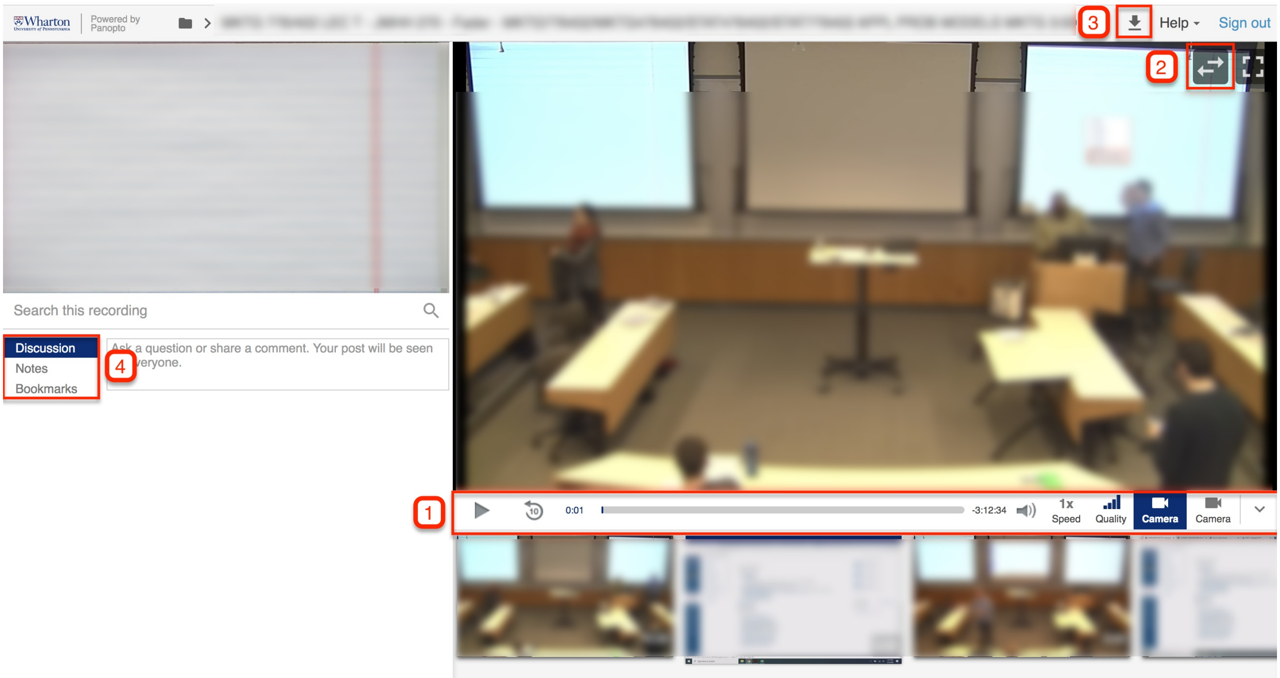


3. Click the **recording** you'd like to view. You can sort recordings by name, duration, date, and rating.



Controlling playback

There are four ways in which you can interact with the playback of the recording; each is labeled and explained below:



1. **Player controls.** Change things like the quality and speed of the playback shown in the viewing panes.
2. **Switch viewing panes.** Switch back and forth between which video is being shown in the large and small viewing panes.
3. **Download the recording.**
4. **Make Discussion comments, Notes, or Bookmarks in the recording.**

All of these features may not be enabled for the recording you're viewing.

Troubleshooting Class Recordings

Class Recordings doesn't give you access to a page with videos.

It's possible that your login has timed out. Try logging out of Canvas, logging back in, and then selecting **Class Recordings**.

The recording you want is not visible.

Wait a little while. With occasional exceptions, recordings are usually available one hour after class. If the recording is not available after 24 hours, the teaching team may not have enabled your access.

Playback is not streaming well.

Try lowering the quality of the playback. If that doesn't work, move to a location with a more stable, faster network connection.

More resources

- Panopto Support
- Canvas At Penn > Panopto
- Video Requests for Absences
- Wharton Student Computing

Questions?

For support with Panopto, email: class-tech@wharton.upenn.edu

For support with Canvas, email: support@wharton.upenn.edu

For questions about permission/requesting access to a video: contact your instructor or teaching team to confirm the course allows access and the instructor has approved access.

Files, folders and Study.Net materials

Last Modified on 08/01/2025 2:18 pm EDT

This article provides an overview of working with files in Canvas. Some materials are available only through Study.Net Materials or course reserves; such materials cannot be found in the Files tab of a Canvas site.

On July 19, 2025, the redesigned **Files** tab in Canvas has arrived and includes the following changes:

- To select files or folders individually, use the checkbox next to each file or folder. Bulk action options are available (including a *Select All* checkbox) whenever multiple files and/or folders are checked.
- Column headers can be clicked to sort files and folders.
- To view your files across all courses (and within your account), click the **All My Files** button.
- To return to the previous design of the Files tab, click **Switch to Old Files Page**. We expect the Switch button to remain available for a few months after the change.

File Locations

Files can be found in three areas:

Course Site Files: Each Canvas site has a dedicated files section which contains materials you can view and download. You can find this area by visiting the course site and selecting **Files** from the left navigation bar. Only instructors and TAs can upload files to this area.

Personal Files: You have personal Files, you can find by choosing **Account** in the left navigation bar. Most students will have an **unfiled** folder, which may contain submitted individual and group assignments. **Do not delete anything in this folder.**

Group Files: All student groups created in Canvas have a sub-site for private discussions, announcements, which contains a Files area. You can upload files here for access by all group members, but this is NOT the same as turning in an assignment. If you have an assignment that must be turned in online, follow the instructions in the assignment.

Note: Unless specifically instructed by your teaching team, do not upload assignments to your personal Files or group Files in Canvas; always submit online assignments through the Assignment, Discussion, or Quiz. Your instructor will not be notified of submissions made to personal or group Files areas, which means you might not receive credit for an unsubmitted assignment.

Downloading Files

You can download files in three ways:

1. **In preview mode:** Preview a file by clicking on the file name and then use **Download** in the upper right.
2. **Without previewing: Click on the 3 dot icon** at the far right **or** Select the file by checking the checkbox on the left and **choose Download.**

3. **Multiple files or folders:** Select your files and folders by using the checkboxes on the left. Use **Ctrl-click** (Windows) or **Command-click** (Mac) to select multiple files or folders. You can also select all files by using **Ctrl-A** (**Command-A**). Then **click the grey Download button** near the top. Multiple files/folders will be downloaded as a .ZIP file.

You can download files directly to your backup devices or services.

Uploading Files

Press Upload to upload one or more files from your computer. **Only instructors and TAs can upload files to a course site Files tab.**

- If uploading a .ZIP, Canvas will ask whether to extract the files individually or to simply upload the .ZIP by itself.
- You can also drag and drop to upload files; Canvas will prompt you to **drop** the files while hovering over the right panel of Files.

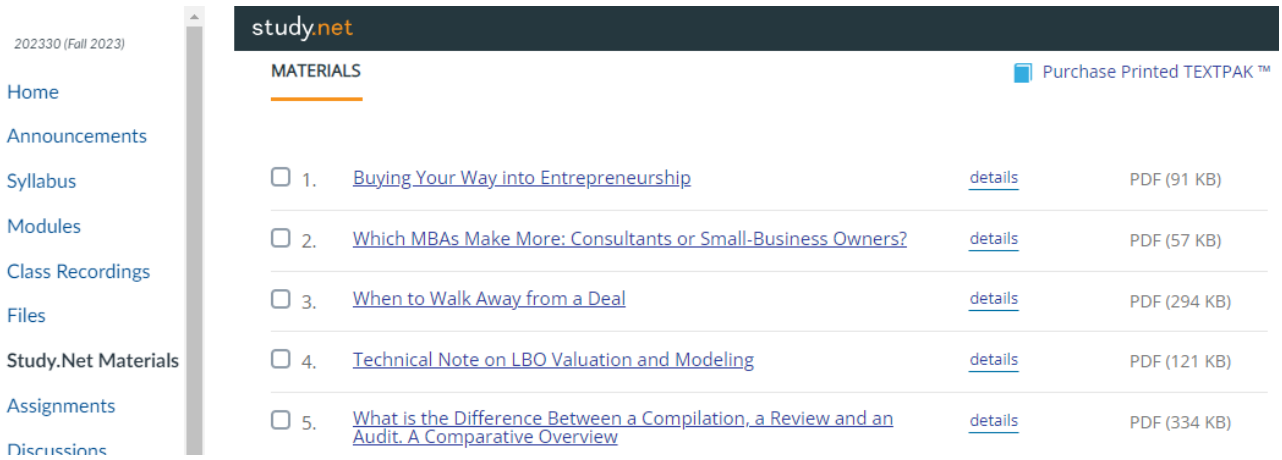
Note: Unless specifically instructed by your teaching team, do not upload assignments to your personal Files or group Files in Canvas; always submit online assignments through the Assignment, Discussion, or Quiz. Your instructor will not be notified of submissions made to personal or group Files areas, which means you might not receive credit for an unsubmitted assignment.

Study.Net Materials

Study.Net is the the Wharton School's electronic delivery partner for many types of licensed course readings. Materials provided by Study.Net will not be found in the Files tab of a Canvas site; instead, after instructors request copyrighted readings distributed by this partner, readings can be accessed using the **Study.Net Materials** tab link in the left navigation bar of a Canvas site.

Licensed readings access for teaching assistants must be requested by the professor employing the TA; see Study.Net Materials: Faculty Requests.

Students taking a Wharton course normally will not need to purchase materials. If it's been more than a business day since you enrolled, and you are an enrolled student being prompted to pay in a course you are taking for credit, please contact the customer service address shown next to the Study.Net logo. Enrolled Penn students should not need to use the provided **Purchase Course** link in order to begin seeing a list of readings similar to the one illustrated below. (Please contact us at courseware@wharton.upenn.edu if you are persistently shown the **Purchase Course link**.)



Study.Net materials are available for 30-90 days after the course has ended, so it's best to download anything you think you might later need. Please note that it is illegal to share downloaded Study.Net materials with other students.

Downloading and Printing Study.Net Materials

You can download readings individually by clicking the reading title. You will receive a PDF file of all of the readings, which you may feel free to print using your own printer (or on-campus printing) as well as annotate (using PDF editing software or annotation/note-taking apps).

Alternatively, you may order a printed version of these materials by selecting **Click here to purchase a printed Hard Copy.** Hard Copy orders will be assembled by Campus Copy Center with shipping to the address specified in your order. Feel free to contact campuscopyphilly@gmail.com with questions regarding printed Hard Copy orders; unfortunately Wharton Computing will have no information about Hard Copy order status.

Some courses will include an additional tab of journal articles, book chapters, and other reserve readings from the Penn Libraries' databases and collections. If reserve readings were requested by your instructor, a Canvas course navigation tab labeled **Course Materials @ Penn Libraries**, will be available, usually adjacent either to **Files** or to **Study.Net Materials**.

- Penn Libraries provides advice on troubleshooting electronic reserves.

Questions?

Email: courseware@wharton.upenn.edu

Submitting Videos on Canvas

Last Modified on 06/16/2023 10:42 am EDT

This article contains instructions and best practices for submitting video recordings to Canvas.

Before You Start

You will need:

- Access to Canvas
- Video File or URL Link to the Video
- A supported browser

Recording Your Video

If you've never used your iOS device to make videos, we recommend consulting Apple Support and running a few tests first. For example, iPads and iPhones will take a video in portrait mode if the device is held vertically, and videos generally look better filmed in a landscape orientation.

Recommended File Types:

Audio: .mp3

Video: .mp4

File Size: 500 MB or less

Note: We do not recommend recording videos inside Canvas itself. If your wireless connection ends Canvas may lose your recording, and the Courseware team will not be able to recover it.

Submitting Your Video

You can submit your video from a computer, or via the Canvas app on devices like iOS or Android.

Upload your video file as you would a Word document, or .pdf, by submitting the file to an assignment. If your video is long, upload it with a wired connection (ie, not WiFi), which will make for a faster upload and a lower likelihood of an interrupted transmission.

As with most assignments, you can re-submit the video if you see something you want to correct, and your instructor will see the latest upload by default.

Questions?

Email: courseware@wharton.upenn.edu

Viewing Class Recordings in Canvas

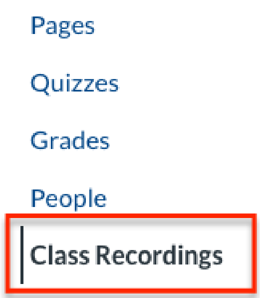
Last Modified on 09/26/2025 3:52 pm EDT

Before you start

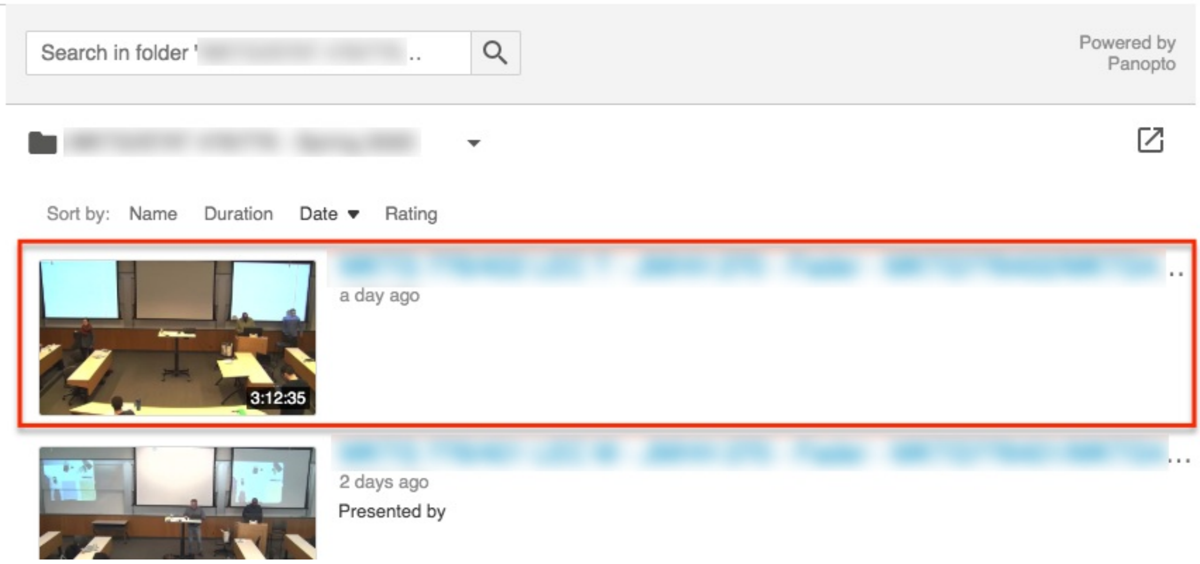
- You must be enrolled in a Canvas course site that is set up to distribute class recordings.

To view class recordings

1. Log into Canvas and open the course you're interested in.
2. Click on **Class Recordings** in the course navigation. No recordings are available for this class if the Class Recordings tab is not visible.

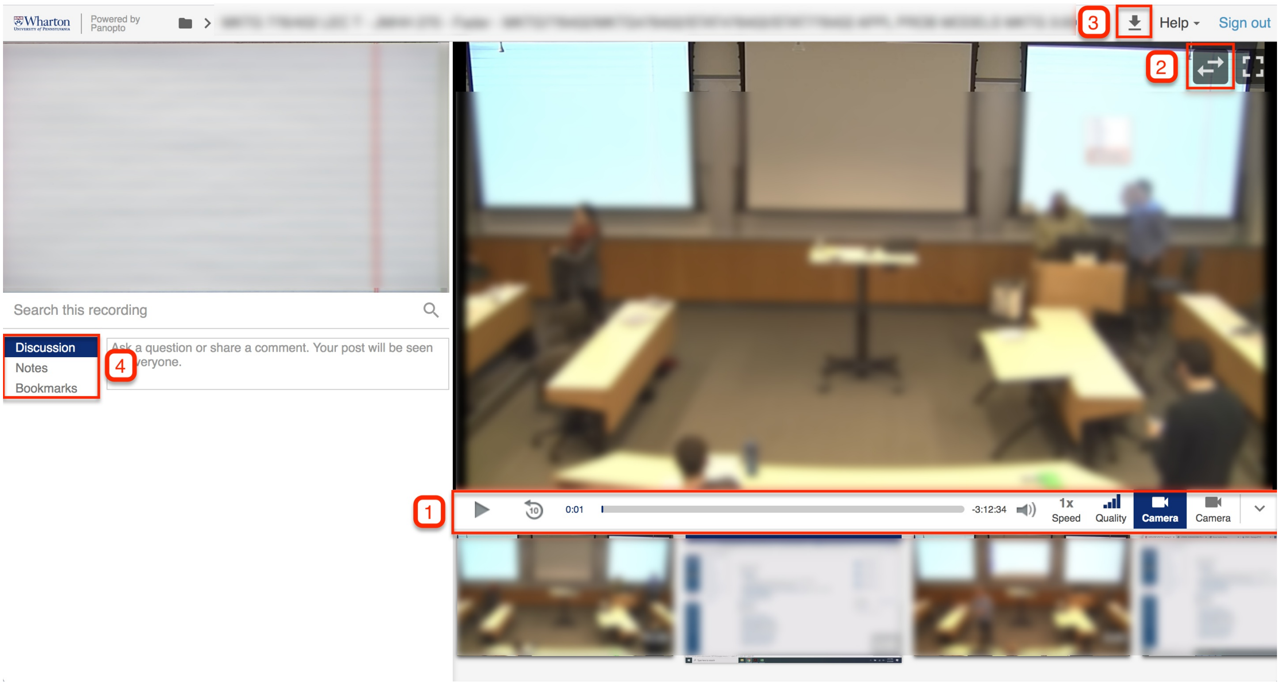


3. Click the **recording** you'd like to view. You can sort recordings by name, duration, date, and rating.



Controlling playback

There are four ways in which you can control the playback of the recording, each is labeled and explained below:



1. **Player controls**. Change things like the quality and speed of the playback shown in the viewing panes.
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Troubleshooting

Class Recordings doesn't give you access to a page with videos.

It's possible that your login has timed out. Try logging out of Canvas, logging back in, and then selecting **Class Recordings**.

Recording you want is not visible.

Wait a little while. With occasional exceptions, recordings are usually available one hour after class. If the recording is not available after 24 hours, the teaching team may not have enabled your access.

Playback is not streaming well.

Try lowering the quality of the playback. If that doesn't work, move to a location with a more stable, faster network connection.

More resources

- Panopto Support
- Canvas At Penn > Panopto
- Video Requests for Absences
- Wharton Student Computing

Questions?

Email: support@wharton.upenn.edu

Managing notifications in Canvas (Students)

Last Modified on 10/21/2025 3:19 pm EDT

Customize your global Canvas notification settings or course level notification preferences.

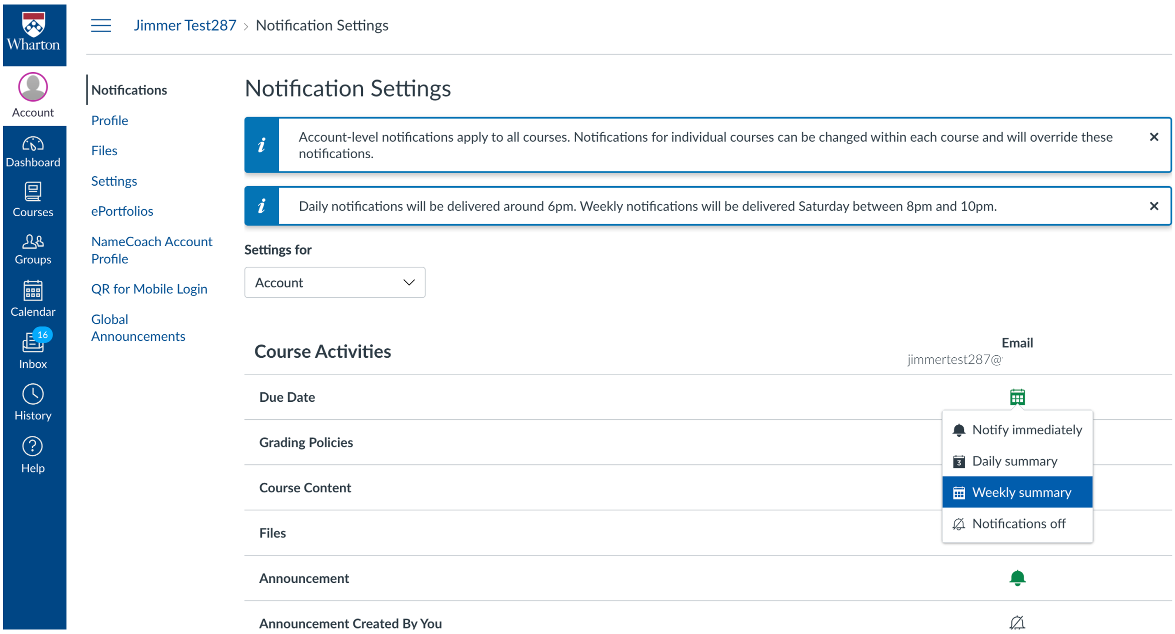
Before You Start

You need the following:

- An active PennKey account (or authorized email address)
- Enrollment in a current course site

Canvas Global Notification Preferences & Recommendations

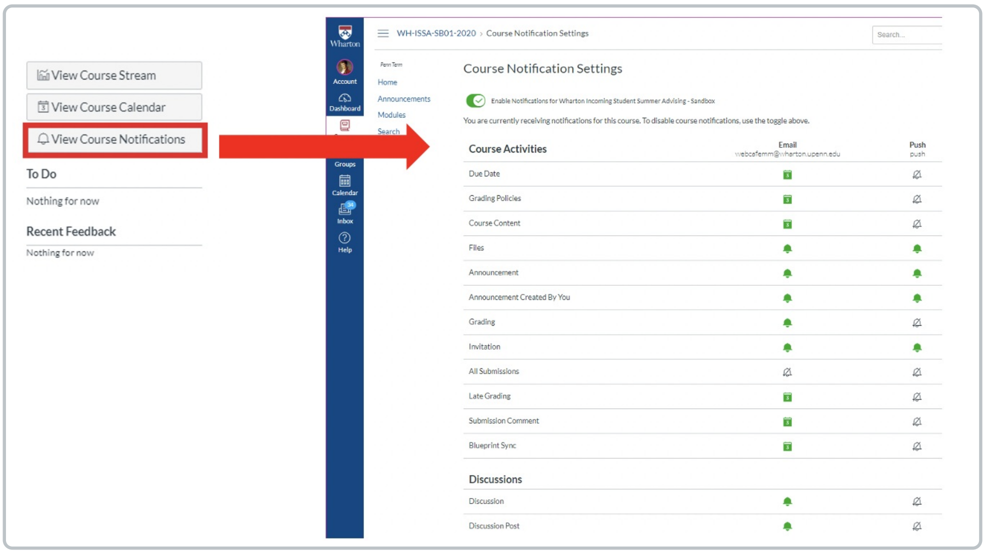
- Canvas allows you to control how you are notified, when, and the frequency of notifications. Instructions for updating these settings can be found below:
    - Web Browser: Penn Canvas > **Account > Notifications**
    - **iOS or Android :** Canvas Student app top left menu > **Settings**
- Each channel of communication (for instance, email and push notifications on mobile devices) can be set independently:
    - To add or manage emails where your notifications are sent, go to **Account > Settings** and use the Ways to Contact. Text messaging (SMS) notifications for announcements may also be enabled there.
    - For best results with learning tools included in Canvas, set your default (starred) email in Canvas to be the same as your primary email address in Penn Directory.
    - Frequency options are notify immediately, daily summary, weekly summary, or notifications off. These options pertain to all current courses.
    - The specific score or grade you earn will not be included in a Canvas notification; however, availability to review a posted grade will be communicated.
    - Push notifications must first be enabled in your Canvas Student app. If you do not see Push Notifications as an option under Settings, make sure you have enabled Notifications under your phone's General Settings, then close and open the app. Select **Push Notifications** and choose the fields you would like on your Push schedule. Once Push is enabled, further settings can be done either via web browser or in the app.
- **We recommend that you set announcement, grading, invitation, files, submission comments, and appointment availability to "notify immediately".**



Course Level Notification Preferences

You can set notification preferences by individual course, too:

- To do this, open a specific course and click the **View Course Notifications** button on the course home page.
- To override the global notification settings, set them on this page.
- To disable notification for a course, deselect the **Enable Notifications for [course name]** under Course Notification Settings.



Questions?

Contact: courseware@wharton.upenn.edu

Preparing to Take an Online Exam

Last Modified on 10/24/2024 12:41 pm EDT

Taking an online exam can be convenient and can make answering certain types of questions easier, but it adds some preparation work. We've compiled some recommendations for you to make sure technology doesn't get in the way!

It may feel overwhelming, but we are here to help, so if any of these steps are unclear, please contact Wharton Computing Client Support Services.

We suggest you save a copy of this article to your computer or print one out to have on hand during an exam. Click here to save an offline copy.

Preparation Steps

- **Computer/Device:**
  - Use a device that meets Canvas's basic computer specifications. Always make sure to use the most up-to-date versions of your operating system.
  - Approximately 24 hours before your exam, check your computer for any critical updates. Install any that are necessary and restart—you don't want to get prompted to install them during your exam!
  - If you are taking an in-class exam on your own computer, ensure it is fully charged on the day of the exam, as limited power outlets may be available in the classroom.
- **Browser:**
  - Use one of Canvas's supported web browsers. We recommend the most up-to-date versions of Chrome or Firefox for the best performance.
  - Some browser extensions and security settings may interfere with taking an online exam. If possible, temporarily disable browser extensions and allow 3rd-party tools before starting your exam.
  - Clear your browser history/cache and cookies, then restart your computer the day of or the day before your exam.
    - Click the link for your particular web browser for instructions on clearing your cache (it will open in a new tab)
      - Chrome / Firefox / Safari / Edge
  - ***Open the exam in only one browser window***. Using multiple windows might make you overwrite your answers.
- **Internet:** Be sure your computer is connected to AirPennNet (not the guest network). If you're taking a timed Canvas exam and lose your connection, the timer will continue to run.
- **PennKey**: Some exams and computer labs may require you to sign in with your PennKey and password. Make sure you know your PennKey password and have your phone with you for two-factor authentication. Use the Test My PennKey app if you want to confirm your password.
- **Laptop v. Mobile:** Use a laptop or desktop computer. Taking exams on small tablets or phones provides a limited experience. While you can submit many assignments and quizzes on the Canvas Student mobile app, not all quick features are supported.
- **Notifications (and other Distractions):** Close or disable notifications, pop-up blockers, and other applications. Certain exam tools, such as Respondus LockDown Browser, will require you to close all messaging and screen recording apps before you can start taking the exam.

- **Respondus LockDown Browser:** Your professor will let you know if Respondus LockDown Browser is required for an exam. Please contact Client Support Services if you have trouble downloading it and provide the name of the course that is using LockDown Browser for exams.

- **Timed Exams:**
    - **Only begin a timed exam when you're ready to complete the exam**. The timer continues to count down regardless of whether you are actively taking the exam or not.
    - Remember to click **Submit** before the time expires.
    - **If you have an accommodation for exams, confirm that your time limit and exam availability window are correct before starting.**
        - Contact your professor immediately if you notice a problem with the exam timing, and do not start the exam until it is fixed.

- **Untimed Exams:**
    - For exams without a time limit, **close the browser window when you aren't actively working on it.** This will prevent you from losing any responses if Canvas automatically logs you out after a period of inactivity. You can always reopen the exam and resume where you left off.
    - **Submit your exam before the due date.** If you don't, you could get locked out of the exam and need to contact your professor for help.

- **File Uploads:** If your exam requires you to upload a document (e.g., Word or PDF file), save your work frequently and save the final version to your computer. Remember where you saved the file, so it is easy to find and upload to Canvas. Give yourself at least 5 minutes to select and upload your file in Canvas, as uploads can sometimes take a few minutes.

- **Check before Submitting:** Only click Submit when you have finished the exam. **You cannot reopen submitted exams.**

Dealing with Internet Connection Issues

If your internet disconnects while taking an exam, here are some steps that should help.

1. **Take a deep breath** - things will be ok!
2. **Take a screenshot** or other copy of your work for reference. If your exam uses Respondus LockDown Browser, let your proctor know you are having trouble and ask if you can use your phone to capture screenshots.
3. **Take note of any error messages.** Share these with your Professor and Client Support Services.
4. **Toggle wifi off/on** and try to connect to AirPennNet (or your home network).
5. **Try switching internet browsers.**
6. **Restart your computer.**
7. If you still have trouble connecting, contact student support by phone at (215) 898-8600.

If you encounter any technical issues while taking an exam, contact Client Support Services.

- Phone: (215) 898-8600
- Email: support@wharton.upenn.edu

How To Customize Your Canvas Dashboard (For Students)

Last Modified on 11/12/2025 5:25 pm EST

The Canvas dashboard shows your active courses for the current term and/or academic year. The beginning of a new term is a good time to review and customize your dashboard to fit your preferences for how you view your course information.

Before You Start

You will need the following things to customize your Canvas dashboard:

- An active PennKey
- Membership in a course site on Penn Canvas

Change the Dashboard View

The **Dashboard** is your landing page in Canvas. Depending on your institution, your dashboard may default to one of three views: **Card View**, **List View**, or **Recent Activity View**. (Recent Activity View is described in detail later.)

View Course Card Details

The Course Card is the individual card in Card View that holds information about the course.

Add a Course Card Nickname

Since course nicknames appear in the dashboard, course navigation menu, course breadcrumbs, and notification emails, we recommend creating a nickname for courses that have long and/or potentially confusing names. This is particularly helpful for courses that might be mistaken for other courses with similar names. Course nicknames do not affect the course name at the account or course level; they only change the name of the course for the individual user who created the nickname.

To add a course nickname:

You can find additional information on how to customize a Canvas dashboard using the student guide. If you have any questions, contact courseware@wharton.upenn.edu.

Customize Your Course List

If you are enrolled in more than one course, you can customize which active courses you'll see first by designating them as a **Favorited Course.** You can make any published course that appears in the **My Courses** section a favorite.

Here are the steps to select a course as a favorite:

You can change your dashboard view by selecting the dashboard icon on the navigation bar and by organizing the

Course Cards by nickname or with a custom image or color. Card View tiles are drag-and-drop, so you can move and arrange Card View to suit your preferences.

View Recent Course Activity

Recent course activity can be found on the **Recent Activity** dashboard.

Questions?

Contact the Courseware team: courseware@wharton.upenn.edu

Completing a FeedbackFruits Peer Evaluation

Last Modified on 06/14/2023 1:47 pm EDT

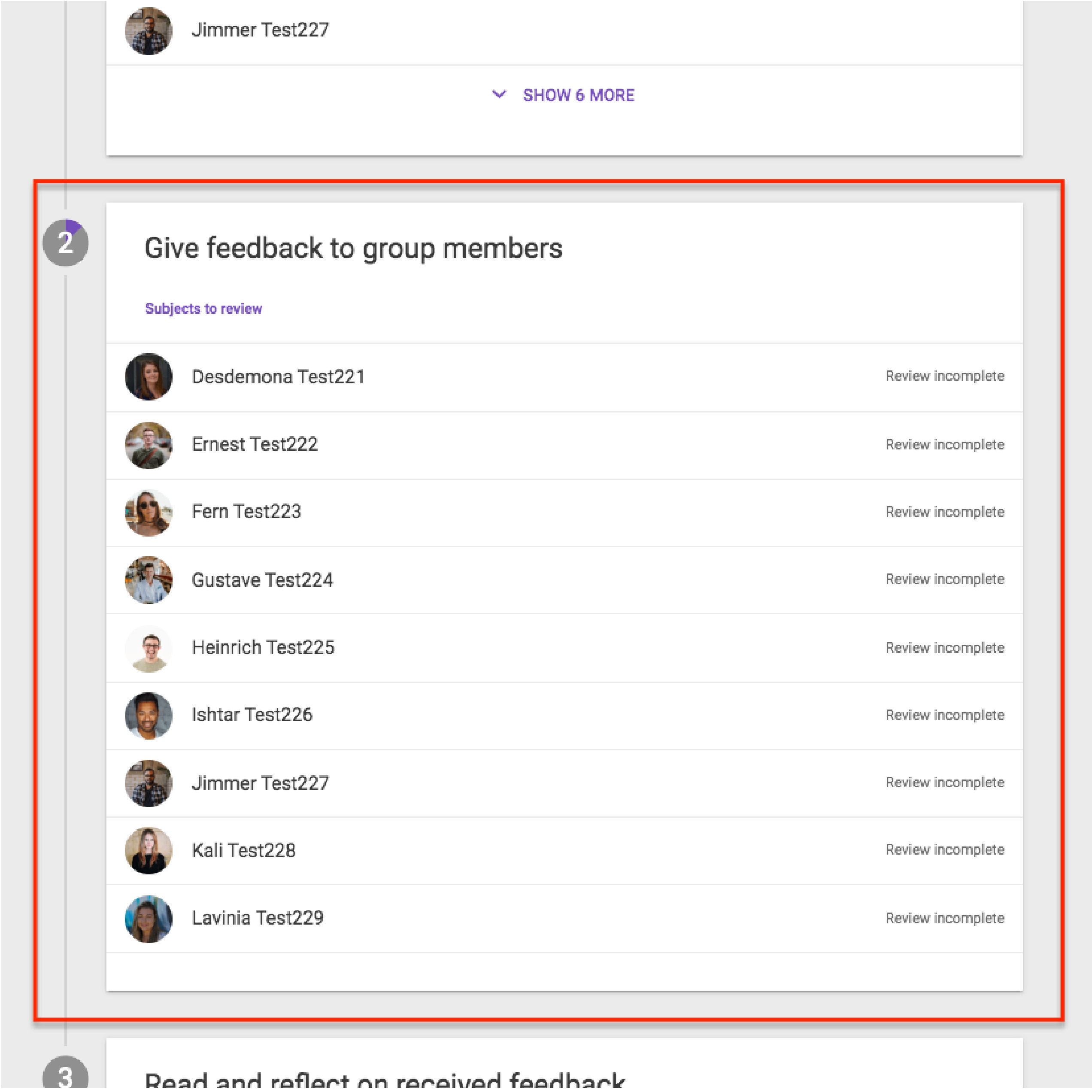
Before You Start

- You must be enrolled as a student in a Canvas course site that contains a FeedbackFruits Peer Evaluation.
- You must belong to a group or course section that has been assigned a peer evaluation.
- Please use a device that meets Canvas's basic computer specifications, especially one of Canvas's supported web browser versions.

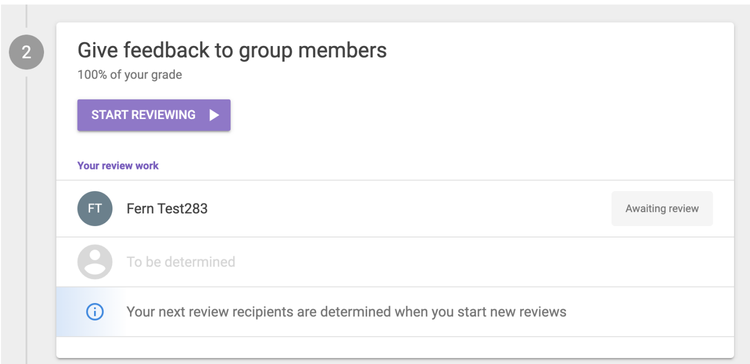
Evaluating a Group Member

When evaluating your peers in FeedbackFruits, please note that the criteria components differ among assignments. For example, your instructor could require feedback in the form of just comments, a scale rating with a certain point range, a rubric, or a combination of all three. The example below depicts both comment and scale criteria.

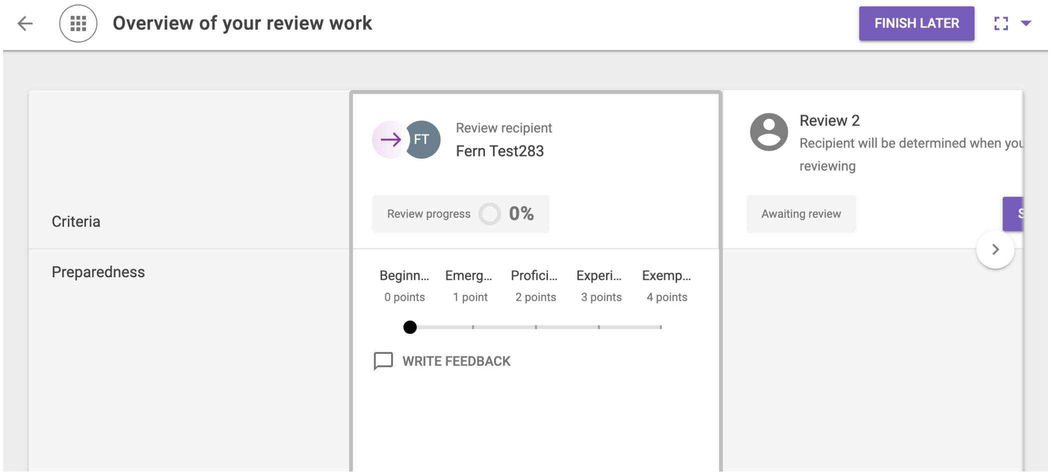
1. **Scroll to Give feedback to group members:**

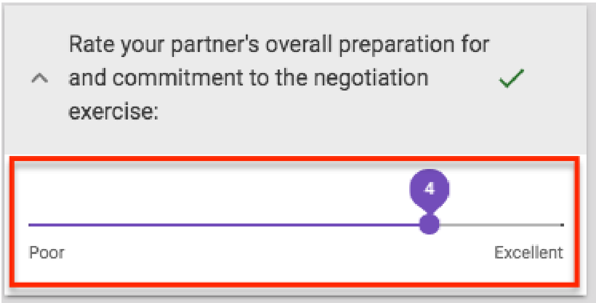


2. **Click on the name of the person** you will evaluate, or **click Start Reviewing**:



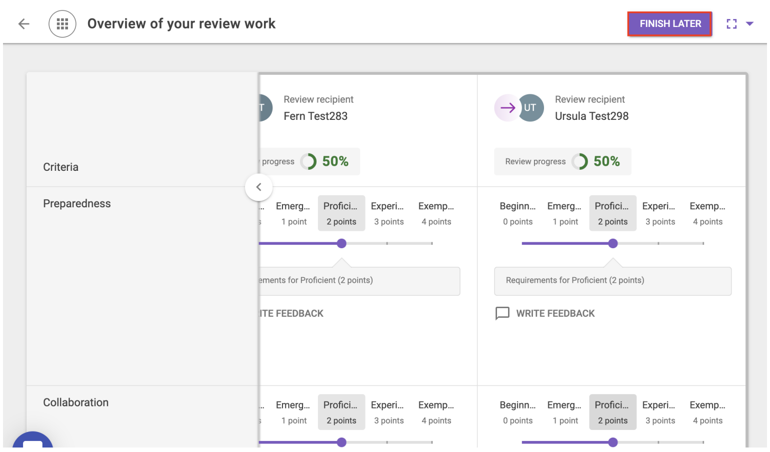
3. If the assignment requires feedback in the form of comments, you can select**Write feedback**. If there is a scale rating criterion requirement, you can drag the slider shown below to rate the review recipient on a certain point scale:



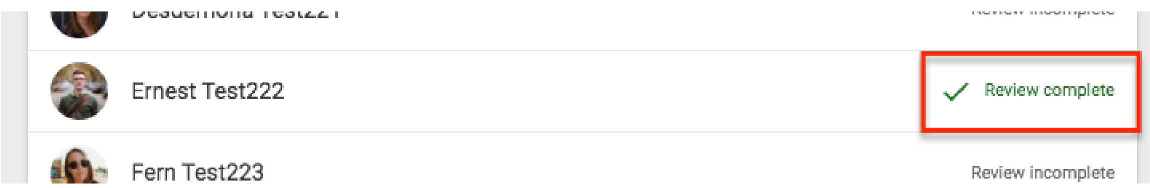


The review work depicted above may differ depending on the assignment setup.

4. You can return to your work at any time by selecting **Finish Later**:



5. When finished, you'll see ✓ **Review Complete** next to the group member you evaluated.



To evaluate another group member, simply repeat steps 2-5.

Questions?

Contact: Wharton Computing IDEA Courseware Team

Email: courseware@wharton.upenn.edu

Viewing Feedback in a FeedbackFruits Peer Evaluation

Last Modified on 12/21/2023 4:37 pm EST

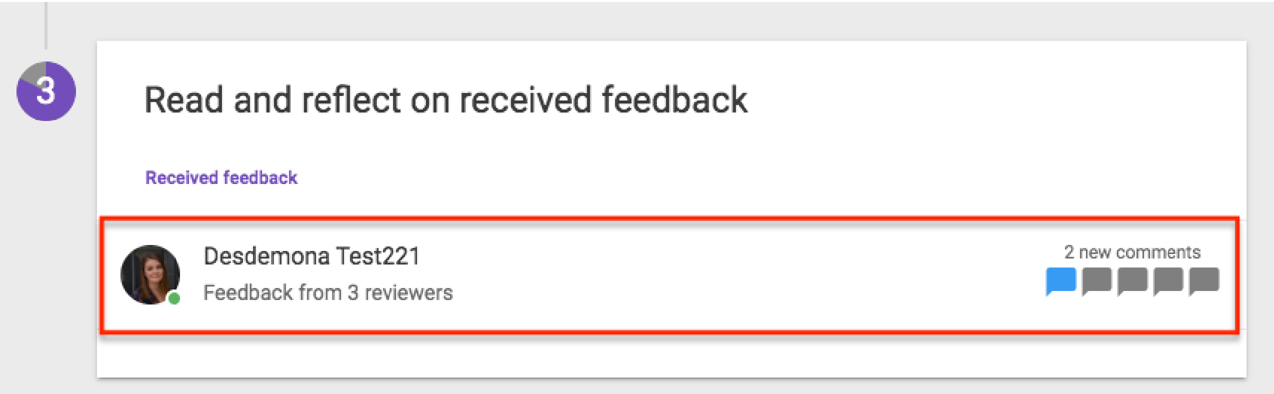
Before You Start

- You must be enrolled as a student in a Canvas course site containing a FeedbackFruits peer evaluation assigned to your course section or group.
- Your instructor must have released feedback for students to view.
- Please use a device that meets Canvas's basic computer specifications, especially one of Canvas's supported web browser versions.

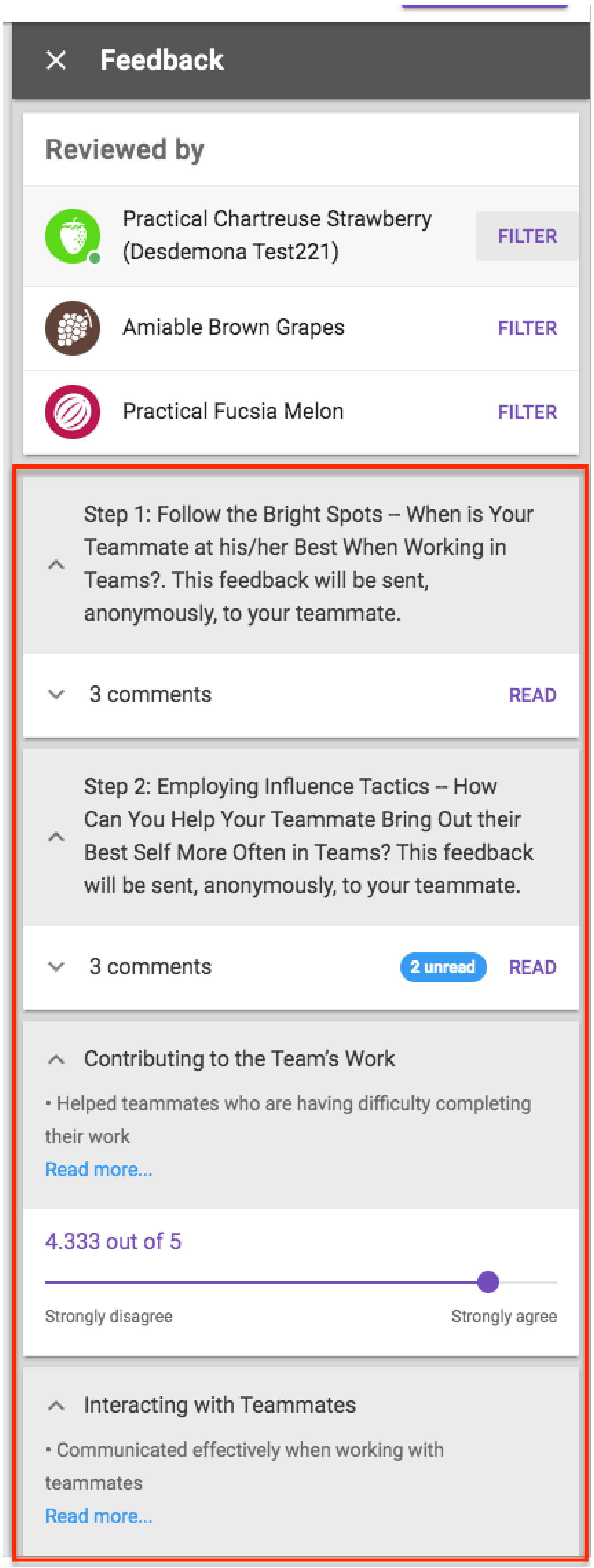
Viewing feedback

When viewing feedback from your peers in FeedbackFruits, please note that the criteria components differ among assignments. For example, your instructor could require feedback in the form of just comments, a scale rating with a certain point range, a rubric, or a combination of all three. The example below depicts both comment and scale criteria.

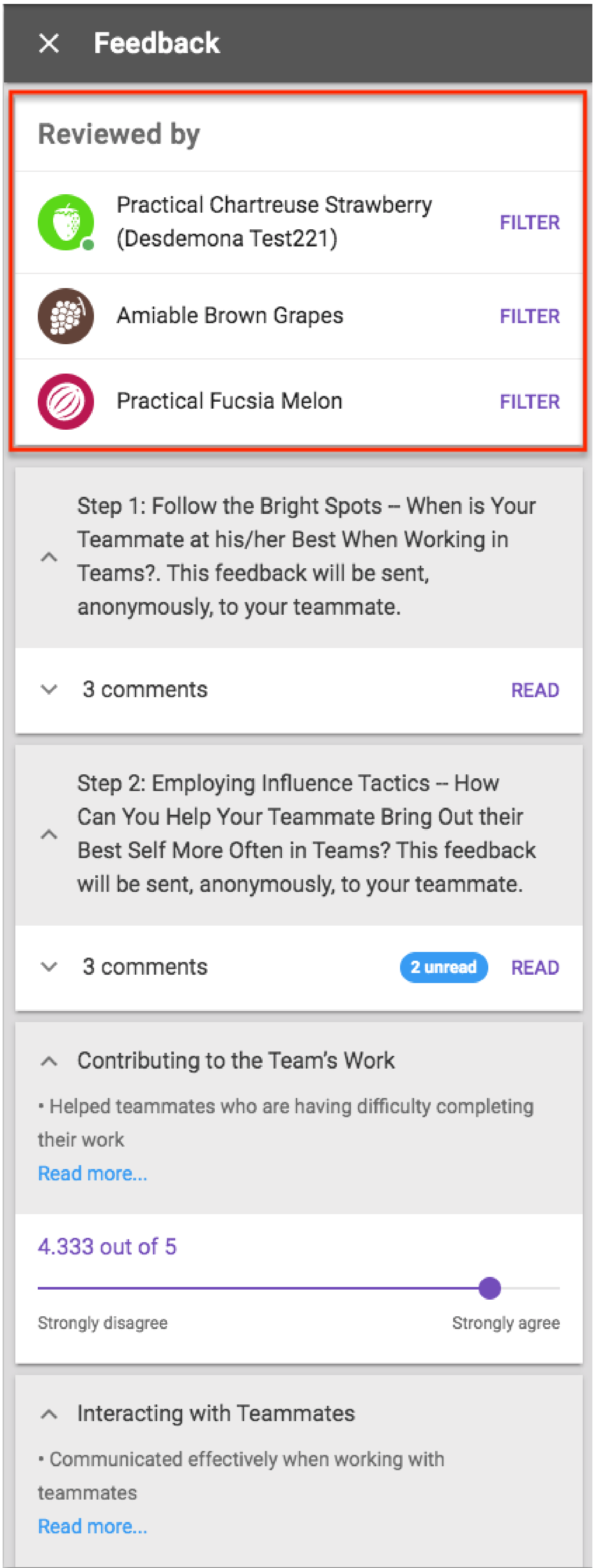
1. Go to Section 3, "Read and reflect on received feedback," and click **on the received feedback**:



2. To see all comments from your team members click **READ** under each criteria. You can also see the average ratings you received for any criteria with scales.



3. To see individual team member's responses, click **FILTER** next to their name.


Feedback
Reviewed by
Practical Chartreuse Strawberry (Desdemona Test221)
FILTER
Amiable Brown Grapes
FILTER
Practical Fucsia Melon
FILTER
Step 1: Follow the Bright Spots -- When is Your Teammate at his/her Best When Working in Teams?. This feedback will be sent, anonymously, to your teammate.
3 comments
READ
Step 2: Employing Influence Tactics -- How Can You Help Your Teammate Bring Out their Best Self More Often in Teams? This feedback will be sent, anonymously, to your teammate.
3 comments
2 unread
READ
Contributing to the Team's Work
• Helped teammates who are having difficulty completing their work
Read more...
4.333 out of 5
Strongly disagree
Strongly agree
Interacting with Teammates
• Communicated effectively when working with teammates
Read more...

Questions?

Contact: Wharton Computing Courseware Team

Email: courseware@wharton.upenn.edu

Backtester: How to Access

Last Modified on 01/17/2023 9:04 am EST

Backtester is a simulation commonly used in FNCE 7200. If you are a student using this simulation in class, you can use this page for steps on how to access the simulation.

Before You Start

You will need the following:

- Access to the Canvas site for your course that's using Backtester.
- One of these browsers: Chrome, Firefox, or Safari. **Other browsers, including Internet Explorer, are NOT supported.**

Note, there is **no password needed to access Backtester.** See steps for how to access the Backtester simulation below.

Step-by-step guide

1. Login to the Canvas site for your course.
2. Go to the **Modules** tab in the left-hand navigation menu and **click Backtester**.
3. Click **Load Backtester in a New Window.**

Questions?

Contact the Learning Lab at learninglab@wharton.upenn.edu with your class, section, and question.

More information on the Backtester simulation is on our Learning Lab website.

Change Management Simulation: Access the Next Scenario

Last Modified on 01/11/2023 1:52 pm EST

Change Management is a Harvard Business Publishing (HBP) simulation played in some Wharton MGMT classes. If you have been assigned to play the Change Management simulation and are having trouble completing a scenario, continue reading for troubleshooting steps.

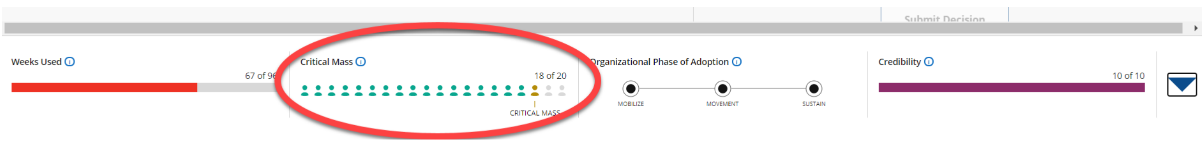
Before You Start

- **Turn off ad-blockers in your browser if you have them enabled**
- Log into your Harvard Business Publishing student account
- Locate the correct Coursepack where Change Management has been assigned
- Open the Change Management Simulation

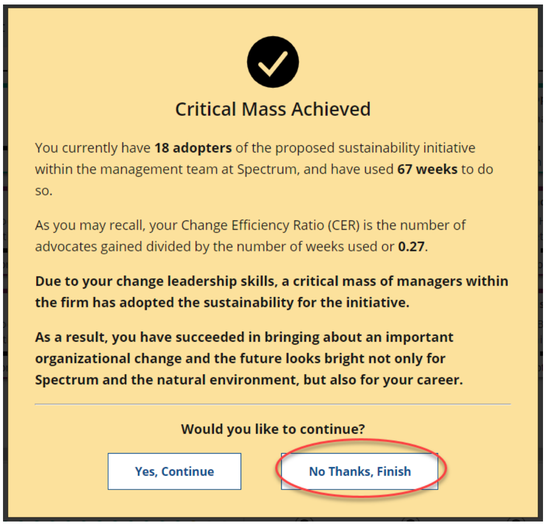
Moving on to the Next Scenario

Depending on the configuration your professor has selected, you may need to finish a scenario before moving on to the next scenario.

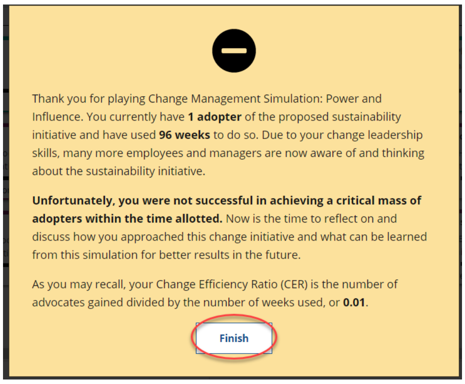
1. **Make sure you have ad-blockers turned off for the Change Management simulation pages.** It could be blocking your **complete scenario** pop up window. To turn off ad blockers, use the Help function in your browser or browser extension for specific directions. Make sure to refresh your browser and log out of the simulation and back in again to try and re-trigger the pop up window.
2. Make sure you have reached **Critical Mass** in the scenario you are in. If you have not, you need to keep playing until you either achieve Critical Mass or run out of weeks.



3. If you have reached Critical Mass or run out of weeks, you will see a yellow pop-up window to move on.
   - The pop up window is yellow and will appear if you've achieved critical mass, or run out of weeks. **Click No Thanks, Finish** to move on to the next scenario right away.



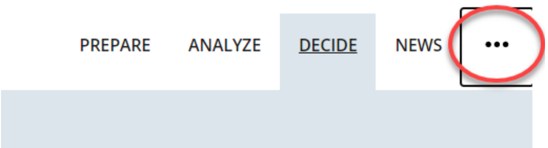
- If you did NOT achieve Critical Mass, you can **click Finish** to end the scenario.



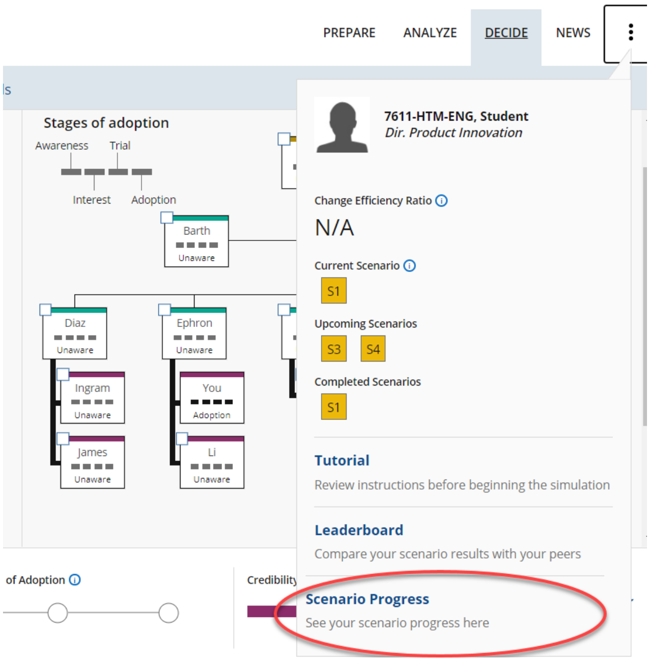
Accessing Your Scenario Dashboard

A list of all the Completed, In Progress, and Not Yet Started scenarios is accessible anytime from within the simulation. Depending on the configuration your professor has selected, you may need to finish a scenario before moving on to the next scenario. You also may only have one chance to play through a scenario or you may be able to play it multiple times. Confirm with your professor if you need clarification before proceeding with the following steps.

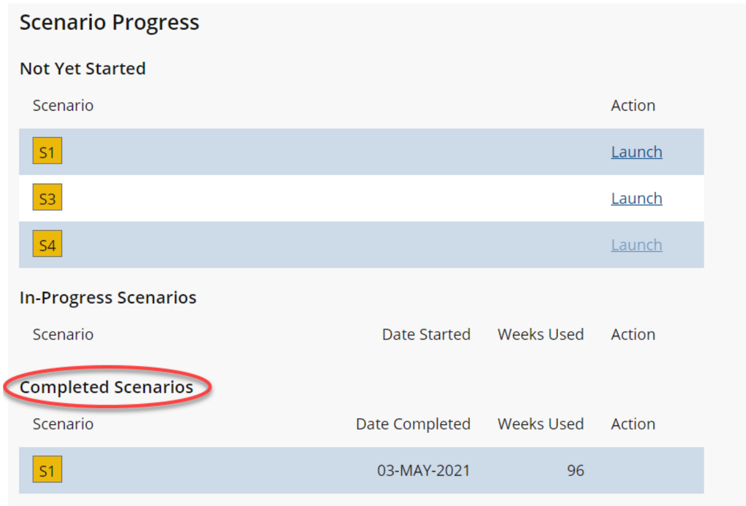
1. Click the **horizontal dots button** at the top right of the simulation screen (last button on the right).



2. Scroll down the resulting menu and **click Scenario Progress.**



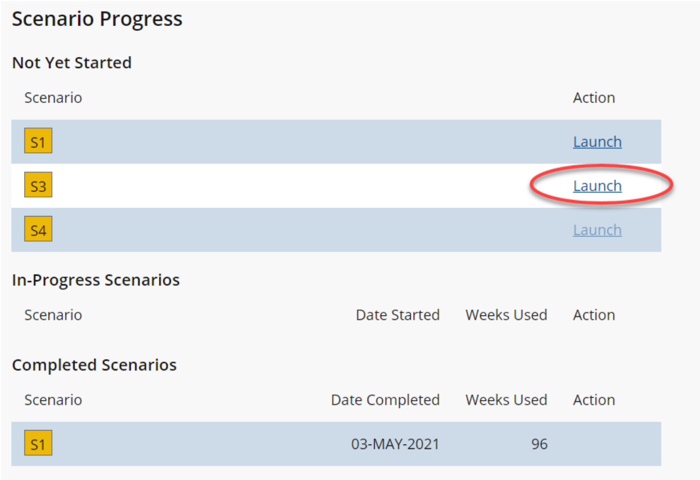
3. On the Scenario Progress screen, you will see a list of your Not Yet Completed, In Progress, and Completed scenarios. You will most likely only need to focus on the **Completed** section.
   - If your current scenario is in this list but you're still playing after reaching Critical Mass, you are technically complete.



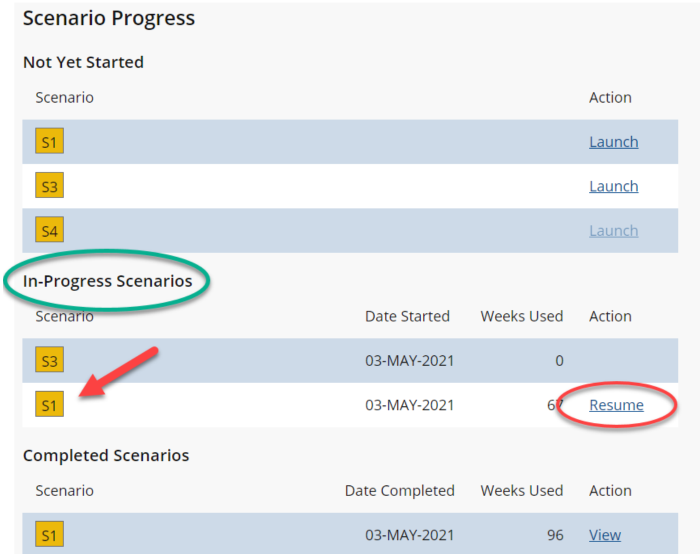
Replaying a Scenario

Depending on your professor's configuration, you might be able to replay a completed scenario.

1. To replay a scenario, **click Launch** under the **Not Yet Started Section**.



- You will see a second listing of that scenario under In-Progress Scenarios once you begin the replay. You can move between the In-Progress scenarios at any time by **clicking Resume** for the run you'd like to play.



Questions?

Contact the Learning Lab at learninglab@wharton.upenn.edu with your class, section, and question.

More information on the Change Management simulation is on HBP's website.

Customer Centricity: How to Access

Last Modified on 01/17/2023 8:48 am EST

Customer Centricity is a simulation used in MKTG classes. See below for how to access the Customer Centricity simulation.

Before You Start

You will need the following:

- Email containing your Customer Centricity login credentials (search your inbox for **Customer Centricity** as it may have gone to Junk/SPAM/Clutter folders)
- Log in to the Canvas course using Customer Centricity
- Chrome browser. Other browsers, including Internet Explorer, are NOT supported.

Step-by-step guide

1. Launch Chrome.
2. Go to the URL included in your login email.
3. Use the login credentials that were included in your login email.
4. Check your Canvas course for any additional information you may need on Customer Centricity, including a FAQ page.

Questions?

Contact the Learning Lab at learninglab@wharton.upenn.edu with your class, section, and question.

More information on the Customer Centricity simulation is on our Learning Lab website.

FutureView: Accessing the Simulation

Last Modified on 02/29/2024 3:05 pm EST

FutureView is a simulation that is used in some sections of MKTG 6120. If you are a student using this simulation in class, you can use this page for steps on how to access the simulation.

Before You Start

You need the following:

- Email: Invitation to Register for FutureView

You may need to search your Inbox for **FutureView** or check your spam folder.

Step-by-Step Guide

1. Follow the instructions in the email you received to register for FutureView .

Reset Your Password

If you've already registered but forgot your password:

1. Go to http://futureview-wharton.deckspire.com/
2. Click the **Forgot your password?** link to reset your password.

Questions?

Contact the Learning Lab at learninglab@wharton.upenn.edu with your class, section, and question.

More information on the FutureView simulation is on our Learning Lab website.

GIST: How to Access

Last Modified on 01/17/2023 10:16 am EST

GIST, or Geopolitical Influence & Strategy Tool, is a simulation used in some Wharton MGMT classes such as MGMT 2090 and MGMT 7200.

Before You Start

You will need the following before you can complete this task:

- Email containing your GIST login credentials

Note: You may need to search your inbox for **GIST** or check Clutter/SPAM/Junk folders.

Step-by-step guide

1. You were sent an email containing your GIST login credentials. Check your SPAM/Junk/Clutter folders if needed.
2. Go to https://gist.wharton.upenn.edu/
3. Fill in your username and password (from the email) to log in.

Questions?

Contact the Learning Lab at learninglab@wharton.upenn.edu with your class, section, and question.

More information on the GIST simulation is on our Learning Lab website.

IEMAV: How to Access

Last Modified on 01/17/2023 10:20 am EST

IEMAV is a simulation used in some Wharton FNCE classes such as FNCE 2080 and FNCE 7310.

Before You Start

You will need the following before you can complete this task:

- Email containing your IEMAV login credentials

Step-by-Step Guide

1. You should have been sent an email containing your IEMAV login credentials. Check your SPAM/Junk/Clutter folders if needed.
2. Go to https://apps.wharton.upenn.edu/iemav/
3. Fill in your username and password (from the email) to log in.

Questions?

Contact the Learning Lab at learninglab@wharton.upenn.edu with your class, section, and question.

More information on the IEMAV simulation is on our Learning Lab website.

Intermap: How to Access

Last Modified on 01/17/2023 10:25 am EST

Intermap is a simulation that is used in MGMT department courses. If you are a student using this simulation in class, you can use this page for steps on how to access the simulation.

Before You Start

You will need to do the following:

- Access to the Canvas site for your course that's using Intermap.

Step-by-Step Guide

1. Log in to the Canvas site for your course.
2. Click **Modules** in the left-hand navigation menu.
3. Click **Intermap**.

Questions?

Contact the Learning Lab at learninglab@wharton.upenn.edu with your class, section, and question.

More information on the Intermap simulation is on our Learning Lab website.

MacroSim Practice: How to Access

Last Modified on 01/17/2023 10:26 am EST

MacroSim is a simulation that is used in FNCE 6130 and other Finance classes.

This article lists the steps for logging into the **MacrSim Practice** simulation for individual practice. **Macrosim Tournament** is played in class in teams and you do not need to access ahead of class.

Before You Start

You need the following:

- The login instructions and credentials for MacroSim Practice that were emailed to you. You may need to search for **MacroSim** in your inbox, and/or check your spam folder.
- Chrome browser -- MacroSim Practice is NOT supported on other browsers.

Step-by-step guide

1. Launch Chrome
2. Go to MacroSim Practice https://games.wharton.upenn.edu/macrosim-practice.
3. Log in with the credentials sent to you.

Questions?

Contact the Learning Lab at learninglab@wharton.upenn.edu with your class, section, and question.

More information on the MacroSim simulation is on our Learning Lab website.

Marketspace: How to Access

Last Modified on 01/17/2023 10:17 am EST

MarketSpace is a simulation used in some sections of MKTG 6120. If you are a student using this simulation in class, you can use this page for steps on how to access the simulation.

Before You Start

You will need the following before you can complete this task:

- The email containing your Marketspace login credentials.

Note: You may need to search for **Marketspace** in your Inbox or check your spam folder.

Step-by-step guide

1. Go to https://play.wharton.upenn.edu/marketspace
2. Log in using the username and password in the email that was sent to you.
   - If you did not receive login credentials, please contact the Learning Lab

Questions?

Contact the Learning Lab at learninglab@wharton.upenn.edu with your class, section, and question.

More information on the MarketSpace simulation is on our Learning Lab website.

Rules of Engagement (ROE): How to Access

Last Modified on 01/17/2023 8:54 am EST

Rules of Engagement (ROE) is a simulation that is used in MKTG department courses. If you are a student using this simulation in class, you can use this page for steps on how to access the simulation.

Before You Start

You will need the following before you can complete this task:

- Access to the Canvas site for your course that's using ROE.
- Chrome is the preferred browser. **ROE does NOT run in Internet Explorer.**

Step-by-step guide

1. Log into the Canvas site for the course using ROE.
2. Click on the **Modules** tab in the left-hand navigation.
3. Click on **ROE**.

Questions?

Contact the Learning Lab at learninglab@wharton.upenn.edu with your class, section, and question.

More information on the ROE simulation is on our Learning Lab website.

Rules of Engagement (ROE): Troubleshooting Issues

Last Modified on 01/17/2023 10:23 am EST

Rules of Engagement (ROE) is a simulation that is used in MKTG department courses. If the ROE simulation screen doesn't behave as expected, follow these steps to troubleshoot.

Before You Start

You will need the following before you can complete this task:

- Access to the Canvas Course using ROE
- Launch ROE using the steps located on this KnowledgeOwl page.

Troubleshooting Steps

1. Chrome is the preferred browser. Switch to Chrome if you're using a different browser.
2. Refresh your browser.
3. Completely exit out of your browser, and relaunch ROE from the **Modules** tab of the Canvas course.
4. If ROE seems slow, close your other windows or tabs. (Web apps generally work better if there are no other browser windows or tabs opened.)

Still Having Trouble?

Contact the Learning Lab at learninglab@wharton.upenn.edu with your class, section, and question.

More information on the ROE simulation is on our Learning Lab website.

SABRE: Accessing the Simulation

Last Modified on 02/29/2024 3:06 pm EST

SABRE is a simulation that is used in some sections of MKTG 6130. If you are a student using this simulation in class, you can use this page for steps on how to access the simulation.

Before You Start

You will need the following before you can complete this task:

- Email containing your credentials for the **SABRE Practice game**
  Or
- Email containing your Team Code and instructions on how to register for the **SABRE Class game**

You may need to search your inbox for **SABRE** or **check your spam folder.**

Step-by-Step Guide

1. Make sure you are following the instructions in the correct email to register in SABRE for either the **practice** game or the **main class** game.
2. Log in to the correct simulation URL.
3. For more information on getting started with SABRE, you can access the SABRE student guide through the Study.Net tab in your Canvas course.

Trouble Accessing the Simulation

If you're not able to access the simulation, please attempt the following (in this order):

1. Ensure that there are no other windows or tabs of that browser active with SABRE.
   - Beware: MacOS tends to hide other windows when one app has two windows open, so Cmd-Tab won't show you that other window. The best option is to use Cmd-Q to quit all instances of that browser and launch it.
2. Make sure you are using the correct URL.
   - The URL for the practice game and the class game are different. Refer to your email for the correct URL.
3. Disable any ad-blockers in your browser in case they are preventing you from logging in.
4. Try to log in using another browser
   - Firefox, Chrome, and Safari can all be used with SABRE.

Questions?

Contact the Learning Lab at learninglab@wharton.upenn.edu with your class, section, and question.

More information on the SABRE simulation is on our Learning Lab website.

Startup Game: How to Access

Last Modified on 01/17/2023 8:51 am EST

The Startup Game is used in MGMT 8010 and MGMT2300. If you are a student using this simulation in class, you can use this page for steps on how to access the simulation.

Need help logging into the Startup Game on your iPhone? See this article.

Before You Start

You will need the following:

- The login credentials that were emailed to you for Startup Game.

Note: You may need to search your Inbox for **Welcome to Wharton's Startup Game** or check your spam folder.

Step-by-step guide

1. Go to: http://games.wharton.upenn.edu/startup
2. Be sure that you're inputting the username and password correctly.
    - Rather than typing in that information, it's best to copy and paste from the email you received.
    - Make sure to copy all the characters/symbols and NOT copy any extra spaces at the beginning or end of the password.

Questions?

Contact the Learning Lab at learninglab@wharton.upenn.edu with your class, section, and question.

More information on the Startup simulation is on our Learning Lab website.

Startup Game: I Can't Log In to Startup Game on my iPhone

Last Modified on 01/17/2023 10:21 am EST

The Startup Game is used in MGMT 8010 and MGMT2300. If you are having trouble logging into Startup Game on your iPhone, follow the steps below.

Before You Start

You will need the following:

- The login credentials that were emailed to you.

Note: You may need to search your inbox for **Welcome to Wharton's Startup Game** or check your spam folder.

Troubleshooting steps

1. Try using a different mobile browser. For example, if you're using Safari, try Chrome.
2. Be sure that you're inputting the username and password correctly.
    - Rather than typing in that information, it's best to copy and paste from the email you received.
    - Make sure to copy all the characters/symbols and NOT copy any extra spaces at the beginning or end of the password.
3. In some cases, the game may work better in private browsing mode. Here's information about how to turn on private browsing: https://support.apple.com/en-us/HT203036

Questions?

Contact the Learning Lab at learninglab@wharton.upenn.edu with your class, section, and question.

More information on the Startup simulation is on our Learning Lab website.

Best Practices for Switching to Remote Instruction

Last Modified on 07/31/2020 2:50 pm EDT

These best practices were authored by Prof. Ethan Mollick and Lilach Mollick based on practice, theory, and research done for Wharton Interactive. This article focuses on helping faculty move to online learning, which is more involved than remote instruction.

Students will adapt to an online environment quickly, as long as they have clear guidelines.

Set expectations. Once an announcement of a shutdown is made, send students an email that details how you will run your class during a shut down. *You should prepare this email ahead of time so that it's ready to go.* Students will want to hear from you right away and you can squash uncertainty quickly.

- Explain to students that they will still have class but that classes will be held in BlueJeans and/or via discussion boards. Ahead of any BlueJeans classes, send students the meeting information and reminders about class times and expectations. You can send BlueJeans invitations directly through Canvas.
- Post a weekly Canvas announcement ahead of any classes to give students an overview of the coming class – this serves as a reminder to students that they still have class and assignments due, despite the shut down.
- Consider sending an introductory video to make a connection to students.

Provide structure. Decide whether you would like your classes to be **synchronous** (everyone meets on BlueJeans at scheduled class time), **asynchronous**, or a blend of **both**.

- **In a synchronous class**, the class meets at a specified time (your usual class schedule). Modes of synchronous classes are discussed later in this document.
- **In an asynchronous class**, you can post video lectures and/or readings and a discussion question in Canvas with specific instructions about how students should respond to the question. Remember to include the assessment/grading rubric for any assignment. Typically, students are asked to answer a question and comment on two peer responses in the discussion board.
- **Establish class norms**. Just as you would in a physical classroom, establish norms of behavior. Norms that you have already established in your class will likely carry over, but if not, remind students of your expectations.
- **Hold online office hours**. Send out a schedule for office hours and have students sign up for a BlueJeans meeting with you.
- **Clear up any timing/assignment misconceptions right away**. You can either email students instead of responding to individual students or post a video on Canvas if there are misconceptions or any questions about a particular assignment.

Asynchronous or Blended Teaching

Using a discussion board (whether Canvas or another solution) provides a place for classes to interact and is generally highly recommended – it is where students will have questions answered and where much of your interaction will take place. It's important that you maintain a presence on the discussion board, particularly if your classes are asynchronous. Students will be looking for contact with you; they are used to seeing you in class. To run a successful discussion board, consider the following:

- **Set discussion norms**. Tell students how you will run discussions. Additionally, it's a good idea to have students mute themselves when it's not their turn to speak, particularly with a large class.

- **Use punchy questions**. Students will pay attention when the question itself is engaging. Prepare your questions in advance. Good question types encourage discussion, so provocative or polarizing questions can be helpful. You can also ask students to role-play as a part of an asynchronous case discussion.
- **Monitor community health.** If students are not as engaged as you would like with questions, you can intervene, sending another message redirecting responses.
- **Reward students publicly**. Students look for public rewards; if a particular discussion board is very active, send students a message letting them know how well they are doing, noting any particularly useful individual contributions
- **Encourage collaboration**. When student responses are connected, point that out. Responses that make similar arguments, particularly ones that help clarify a key point, can be called out. Likewise, responses that build on one another should be recognized, encouraging students to actively interact with one another's ideas.
- **Be aware of response visibility on Canvas**. When you post questions on Canvas, *consider whether or not you want students seeing peer responses prior to posting*. In almost all cases, students should not view peer responses before they have responded, ensuring that they do their own thinking, and are not influenced by the substance and tone of peer responses.

Synchronous Teaching

It may be necessary to change your approach to teaching to take advantage of the online environment. Here are some approaches to consider:

- **Lecture-Based Teaching.** It can be hard to get a sense of how a lecture is going online, and whether students are engaged, so you can use Poll Everywhere and other audience response tools to keep students attention (and also grade on participation). The discussion and chat functions of BlueJeans can also be used to collect questions and encourage interactions during your talk. You may also want to assign groups of students to present during part of the synchronous class, splitting it between a mix of lecture and presentation. If you have low-levels of interactions in your lectures, you may want to use pre-recorded short lectures, and use your synchronous time to react to discussion board questions or comments.
- **Flipped Classrooms**. For classes based around project work or problem sets, you can record lectures and have students view them asynchronously. BlueJeans has a record video feature. Make sure the video is no more than 15 minutes long. Use your in-class time to have students present using screen sharing. They can show the latest aspects of their projects that align with the lecture topic, or show the answers to a problem set. You can then offer direct guidance after each presentation, or feedback after each problem set.
- **Active Learning**. You can also assign group work during the synchronous parts of the class, posing a question based on the reading or asking teams to solve a problem. You can also hold break out sessions in BlueJeans in which teams work in separate BlueJeans online rooms and then reconvene to report out. You can then ask teams to present this work via BlueJeans. You can assign multiple opportunities for active learning over the course of a single class.
- **Case-Based Teaching**. Case based teaching can work online, but requires extra preparation. Cold calls will need to be worked out in advance, and you may need to require a pre-class reaction paper to ensure everyone is up-to-date on the facts of the case. You may also want to use live polls to ask people about the choices they would make, which will allow you to more precisely identify who to call on. You will also need to figure out how much you will want to use a live board (screensharing from a tablet can work on BlueJeans), and how much to do with pre-prepared slides. The HBS document, "Teaching with Cases Online" can be helpful in preparation.

General tips

- If you aren't sure about your online class plans, run them by a colleague and see if your class/plan makes sense to them.
- Try something new. If you don't generally use discussion boards, try a new exercise e.g. have students create memes of a concept learned in class, or have students draw a concept map and post that picture – both exercises can prompt a rich discussion during your online class.
- If you have guest lecturers scheduled, send that lecturer a BlueJeans link; they can join the class remotely. If this isn't possible, interview the lecturer and record the interview and show it in class.
- When you share a screen in BlueJeans so you can show your presentation or prepared debrief, use lots of visuals.

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Video Conferences for Instruction

Last Modified on 01/30/2026 1:40 pm EST

We are aware that Zoom is rolling out changes to its interface that may affect some of our directions. We are working on updating these pages, but in the meantime you can visit Zoom's Release Announcement. Please reach out to Wharton Computing if you have any questions.

Penn offers Zoom as a video conferencing tool for instruction. All Wharton students, faculty, and staff have access to the service.

If you are a student looking for information regarding video conferences, please take a look at the Video Conferences article.

Before You Start
You will need the following before you can complete this task:

- An active PennKey account
- **IMPORTANT:** A prior successful log in with your PennKey at upenn.zoom.us to establish your PennZoom account. If you are unable to log into upenn.zoom.us with your PennKey, please reach out to Wharton Computing for assistance.
- Faculty and Staff: If you do not have Zoom on your computer, please contact your IT Support Team to have Zoom installed on your computer.
- A wired/Ethernet connection, if possible (recommended for the instructor).
- Robust internet speed: if you are connecting from off campus, go to speedtest.net and look at internet speed. If it doesn't meet the minimums required by Zoom, consider upgrading your Internet speed or contact your IT Support Team.

The recommended way to schedule a meeting depends on whether you are creating a meeting for a consultation with a few individuals (schedule outside of Canvas) or a class session or office hours open to anyone enrolled in your class (schedule in Zoom through Canvas).

Scheduling a Meeting Through Canvas (Recommended for Instruction and Classes)

Creating your meetings through Canvas will take care of scheduling for the class, providing the link to all class participants, directing a recording to the correct Class Recordings folder, and preserving the privacy of your personal meeting account.

Important Notes:

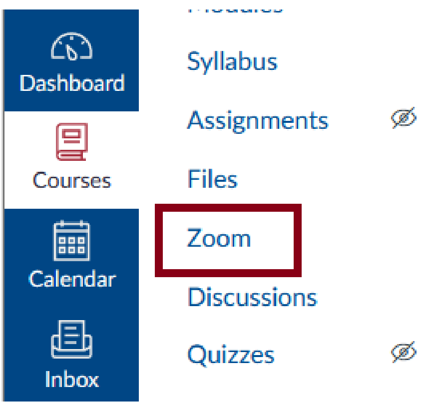
- We recommend that instructors – not TAs – create each class meeting (or sequence of recurring meetings) within Canvas.
- If the Zoom tab is not visible in your Canvas site, you may need to enable the tool in the Course Settings > Navigation menu.
- If changes or cancellations must be made after creating a meeting intended for all enrolled students to join for a class meeting, **please change or cancel within your Canvas course**, not through your video conferencing app or account.

- TAs, co-instructors, or administrative staff can be added as alternate hosts if they need to be able to start a meeting (see screen shot below).

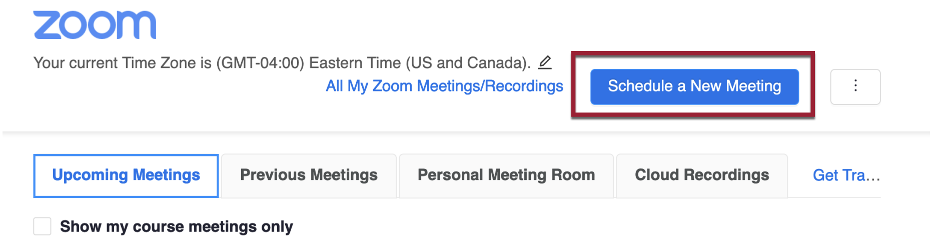
Zoom

For step-by-step instructions on how to schedule a Zoom meeting through Canvas:

1. Launch your classroom in Canvas (go to **canvas.upenn.edu**).
2. Select **Zoom** in the left sidebar.

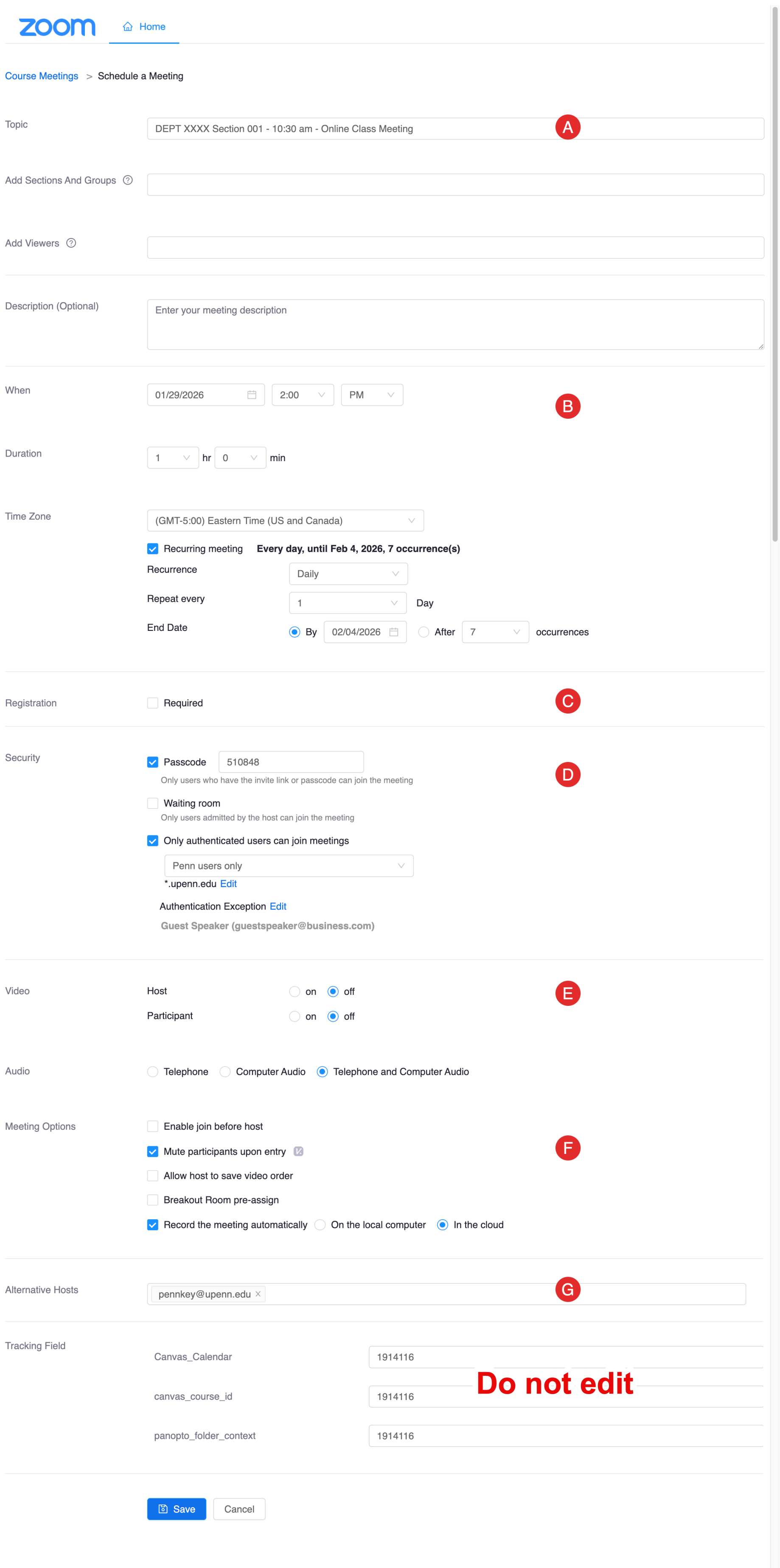


3. Click the **Schedule a New Meeting** button on the upper right side of the screen.



Note: The first time you access Zoom through Canvas it will request access to your account. Click **Authorize**. You may need to log in, with your PennKey, to authorize Zoom.

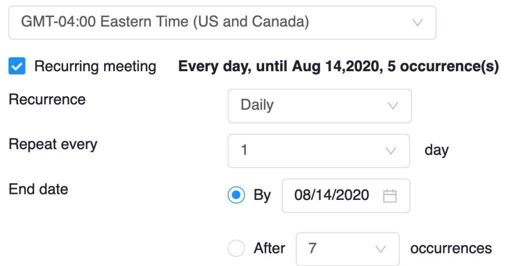
4. Fill in the details of the class. **Include all the details about your class in the Meeting title** – if your class has multiple sections in the same Canvas room, all students will be able to access all sessions, so students should be told to join only the section for which they are registered.



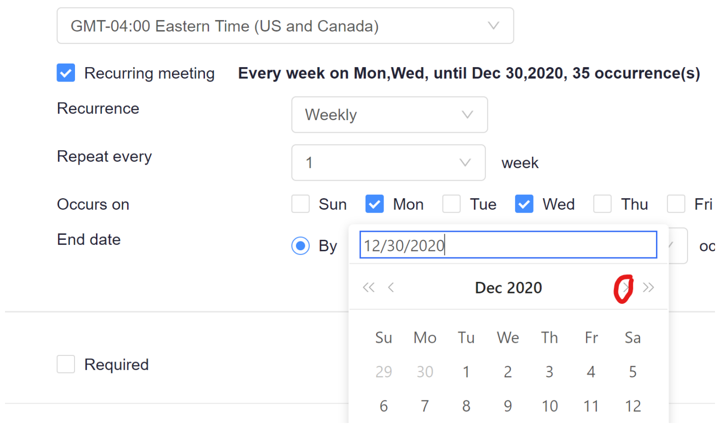
a. **Topic**: Enter the **class**, **section number**, **time**, and **meaningful title** (e.g. **MKTG XXX Section 001 - 10:30 am - Online Class Meeting**). Identify your meeting clearly so students can easily pick it out from their other meetings (e.g., **Lecture** won't identify it as their Marketing Class). This title will be visible to students on the Canvas Syllabus page, the student's To Do list, and the student's Canvas Calendar. You can also enter a **Description** if you like, but this is optional.

b. **When**: Set the start time, duration, and Time Zone. Be aware of your time zone and the time zone for your course.

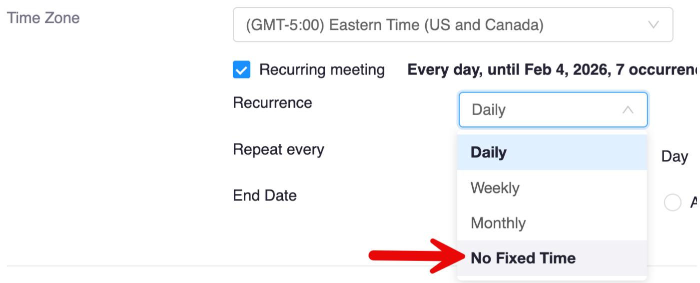
   Recurring meetings can be checked or unchecked. Be sure to fill in the proper class start and end dates. For meetings with no fixed time (for example, office hours), toggle the Recurrence to No Fixed Time:



   Use the **single arrow** to page through the **months** and the double arrow to page through the years.



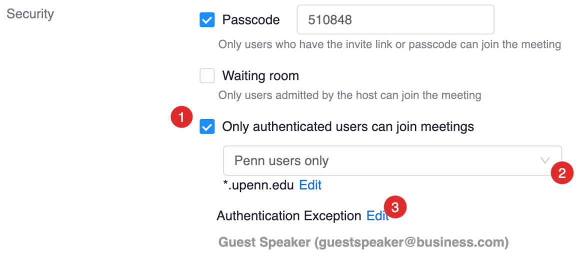
   Meeting with No Fixed Time:



c. **Registration**: Since all of your students will have Penn Zoom accounts, we recommend you leave Registration unchecked. If you check it, your Zoom meeting will require people to register ahead of time. More details about this can be found here.

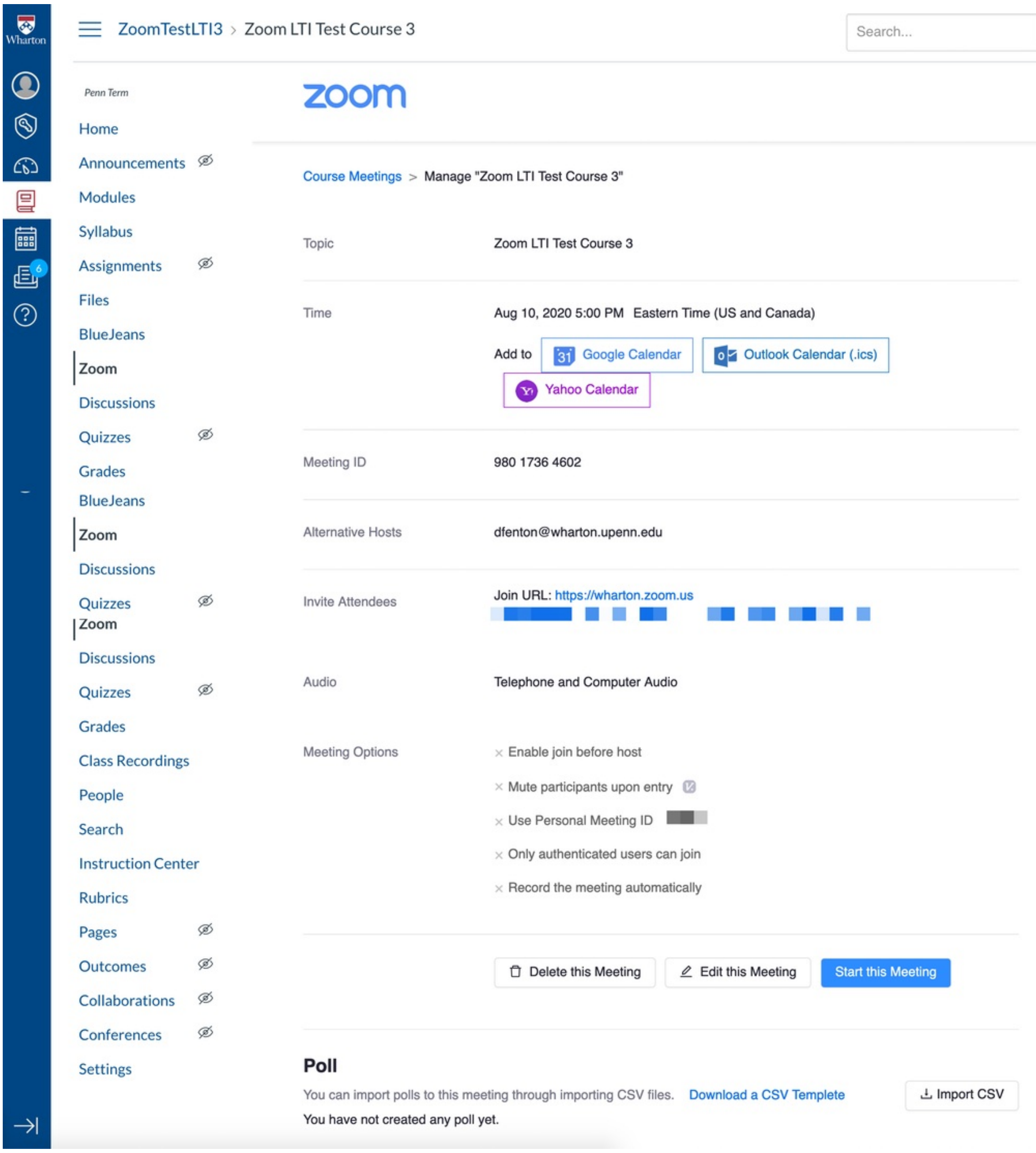
d. **Security**:
   - **Passcode** - We recommend that you require a Passcode for your meetings. Most attendees won't need to manually enter the code as it will be part of the URL included in the meeting invite.
   - **Waiting Room** - The Zoom Waiting Room gives you the ability to preview the attendees before they enter the meeting. This will make your meeting more secure, but it does require someone to admit each student (either one by one or in bulk).
   - **Require authentication to join** - We recommend requiring authentication to join and limiting

participants to Penn Zoom users. Authentication exceptions (for guest speakers, for instance) can be entered as needed.

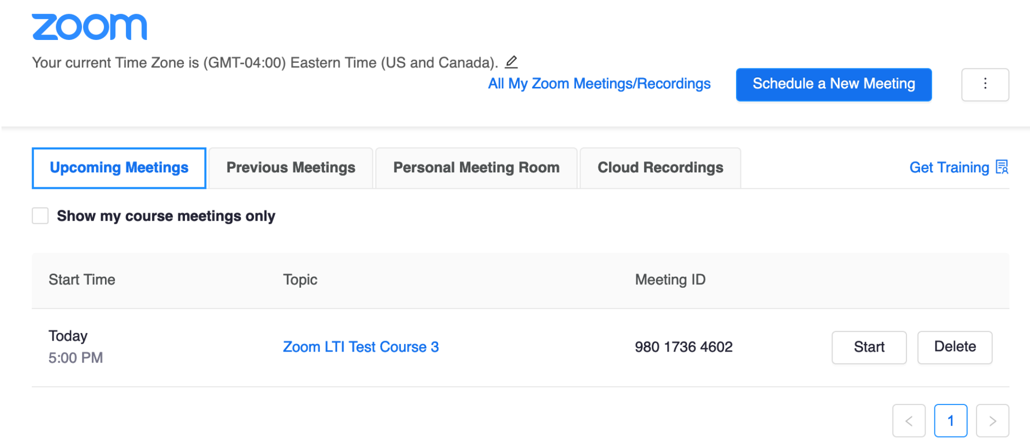


e. **Video**: This setting determines if the Host's and participants' cameras are on or off when they enter the meeting. **Off** is the default, but if you have changed your Penn Zoom account default, you will see the change in Canvas.
f. **Meeting Options**: You have a few options that you can set up for your meeting. Here's what each does and our recommendations around them:
   - **Enable join before host** - Consider whether you want to have this option available.
     - **Unchecked:** Many people join meetings ahead of time to test settings, and leaving this unchecked ensures the meeting won't start until you want it to.
     - **Checked:** Your Zoom meeting (and the recording, if the meeting is set to auto-record) will start the moment anyone joins the meeting. This can be useful if you may be running late or if you would like the flexibility of asking someone to start the class.
   - **Mute participants upon entry**: When checked, the video and audio of participants will be muted automatically when they enter. We recommend you leave this unchecked, though if you prefer to have more control over the initial moments of your class, you should check it.
   - **Use Personal Meeting ID**: This option **SHOULD NOT** be checked. If it is checked, Canvas will associate all the meetings you have with your Personal ID with this Canvas site. You don't want that.
   - **Record the meeting automatically**: Check this box to ensure your Zoom session is recorded. The Zoom meeting record will start the moment one person joins the meeting; each participant is notified that the meeting is being recorded upon entry. **In the cloud** is the default destination for your recording, and we recommend you keep this set as is.
g. **Alternative Hosts**: You can manually add additional alternative hosts here. Note that alternate hosts need to be added in the format: *pennkey*@upenn.edu (**NOT** ***pennkey@school.***upenn.edu).

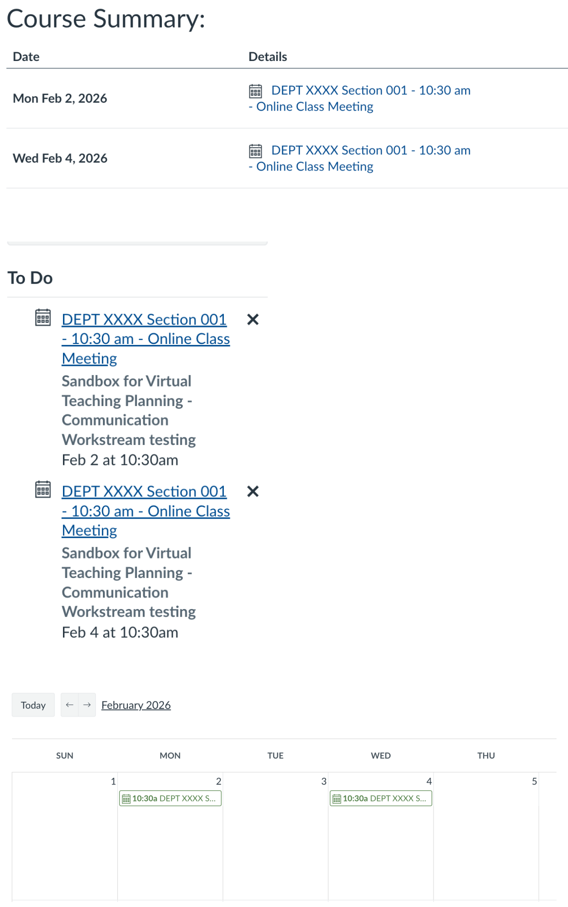
5. Click **Save,** and your Zoom meeting is scheduled. The details are displayed for you:



The scheduled Zoom meetings will be listed on the Zoom tab for you and your students:



The Zoom meeting will be visible to students on the Canvas Syllabus page, the student's To Do list, and the student's Canvas Calendar.

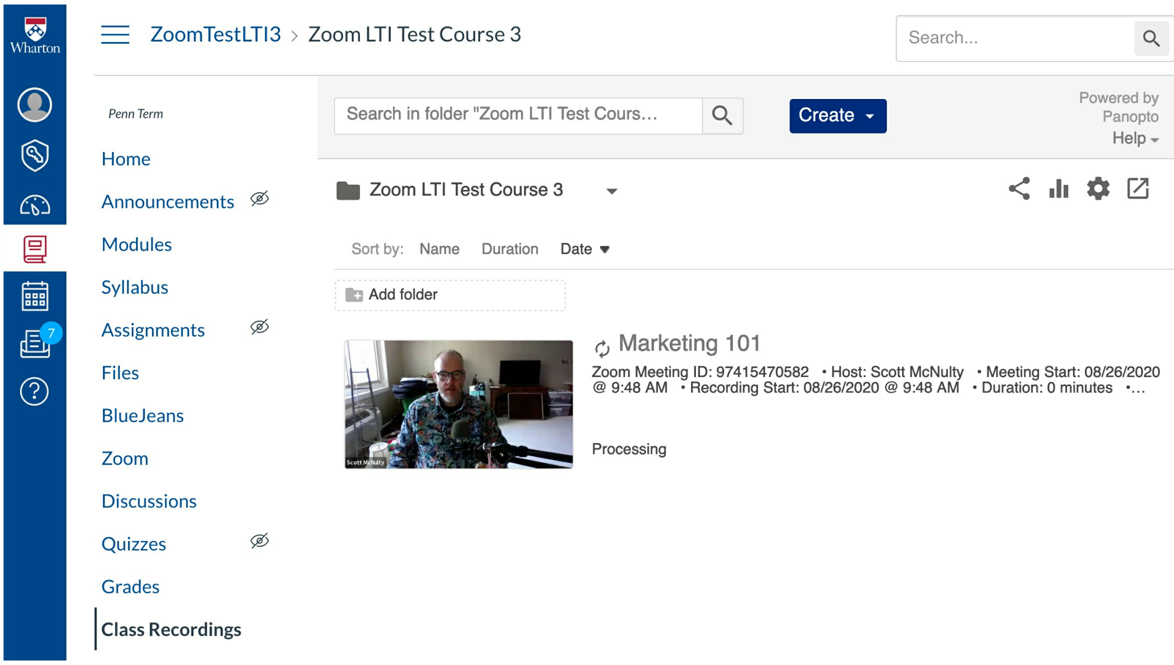


Note: Now that your meeting is scheduled, you may want to **add pre-assigned breakout room assignments** to your meetings. See our article Video Conference Breakout Rooms to learn more about pre-assigning breakout rooms.

Recordings

Any Zoom meetings scheduled through Canvas (see the above instructions) and set to record will have their recording automatically posted to **Class Recordings** in the Canvas site shortly after the meeting ends. The meeting title will be used as the recording title. Depending on how long the recording is, there may be a delay as the video recording is processed.

Recurring meetings will all have the same title but are differentiated by the dates included in the recording description.



You can edit videos in Panopto. More details about how to do this can be found in our Editing Videos in Panopto article.

Class Recording Permissions

By default, Zoom recordings will be provisioned with the permissions configured in the Class Recording Permissions app.

Scheduling a Meeting with a Guest Speaker

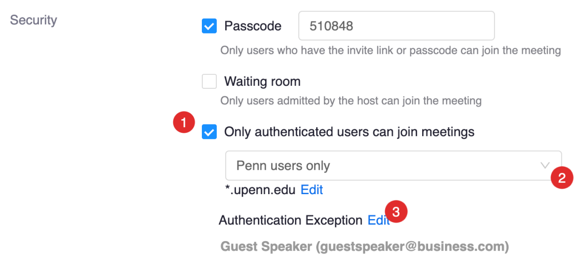
For bringing a guest speaker into your classroom using Zoom, there are a few considerations:

We recommend choosing one of the following two options to schedule your Zoom call for a guest speaker appearance:

1. Scheduling guest speaker meetings via the Zoom tab in Canvas when students have the option to attend virtually rather than in person.
2. Scheduling guest speaker meetings via https://upenn.zoom.us when the intention is for students to attend only physically in class. Once scheduled, a private meeting invitation can be shared with each guest speaker.

(The best practice is **not** to use Personal Meeting Room for either option (1) or (2) noted above.)

If your guest speaker does not have a Penn Zoom account, you will need to configure an authentication exception to allow them to join the meeting.



1. Select the option Only authenticated users can join meetings
2. Toggle to Penn users only
3. Select Edit and enter the guest speakers name and email address they will be using to login to the meeting.

- If students are expected to be in the physical classroom, consider whether you want the guest speaker meeting to be listed in Canvas for students to join:
    - *Unlisted for students*: please use the general Zoom instructions for setting up a meeting without using Canvas.
    - *Listed on Canvas and OK for students to join the Zoom meeting directly*: instructions on this page will work.
- If you are not comfortable getting your Zoom meeting to appear via the projector, be sure to contact CTS Classroom Support 3 or more business days in advance to arrange for in-classroom assistance.

Reminder: If you plan to have a guest speaker join your meeting, be sure to confirm the comfort level of your speaker being recorded, as some guests have requested not to be recorded as a condition of their appearance. To arrange for classroom recordings showing a projected guest speaker not to be recorded, please contact CTS Classroom Support 3 or more business days in advance.

Questions?

For additional help and support:

- See our Zoom FAQ
- Contact your academic support representative
- Check out the Knowledge Bases for Zoom

Upload Virtual Meeting Recordings

Last Modified on 03/04/2025 6:20 pm EST

Some instructors may want to upload the recordings of their Zoom meetings separately from the automatic posting of scheduled class meetings in Canvas. You'll need to first download the recording from the Zoom interface and then upload that file to Class Recordings using Panopto.

The instructions in the **Uploading the Recording to Panopto** section can be used to upload any video, not just recorded Zoom meetings, to the Class Recordings page ("tab") of a Canvas site. In case your course recording policy is "no access" or "student request access," contact Classroom Support for help with making a specific recording available to all students.

Accessing the Recording in Zoom

Zoom meetings scheduled via Canvas and recorded are automatically uploaded to the Class Recordings tab (Panopto) in Canvas. These recordings are *not* stored on Zoom and are only accessible via the Class Recordings tab.

You may expect that a Zoom recording would consist of one file, however, a Zoom recording will often have many files for you to pick from:

- There are several Recording layout files (Shared screen with speaker view is probably the best choice for uploading to Canvas).
- Audio only.
- Audio transcript.

The instructions below will show you have to download all the available recordings for a meeting at once, or pick and choose. **Click Read More** to see the instructions:

Uploading the Recording to Panopto

Zoom class meetings scheduled via Canvas and recorded are automatically uploaded to the Class Recordings tab (Panopto) in Canvas.

Now that you've downloaded your recorded meeting, you can upload it to Class Recordings using Panopto by following these steps:

Questions?

- For more assistance, contact your Academic Support Representative
- Request help with using the Panopto Recorder app or student recording permissions by emailing class-tech@wharton.upenn.edu

Asynchronous Teaching Using Canvas and Panopto

Last Modified on 10/06/2022 11:10 am EDT

Asynchronous teaching leverages pre-recorded lectures published in a place where students enrolled in the course can easily access them to **flip the classroom**. Panopto, Wharton's recording tool, allows instructors to seamlessly capture, edit, and upload video to Canvas.

Before You Start

You will need the following before you can complete this task:

- Admin access to your device (to install the app) or Panopto Recorder App
- A published Canvas site
- Classroom Recording tab (in Canvas) visible to students

Before You Record

Recording a lecture is a very different experience from delivering a lecture in the classroom. Even if you've given the same lecture dozens of times before, it behooves you to do some planning before you hit **Record**.

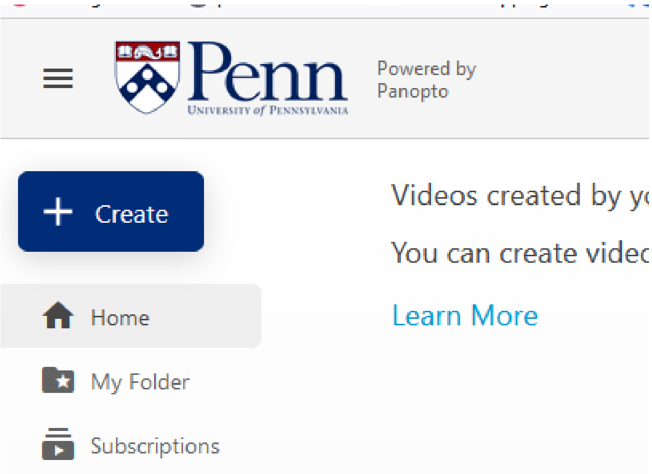
Suggestions and Recommendations

- Keep recordings 6-15 minutes in length to keep students engaged and allow for adequate breaks.
- Script ahead of time, or at least create an outline to best organize your thoughts.
- Consider different means of collaboration and participation, such as discussion posts.
- Initiate a test recording to become comfortable with the application's features. Place the test recording in your personal folder so students don't have access to it.
- Plan how you will handle any mistakes you make during the recording. You can:
  - Acknowledge the mistake and move on, as you would in class
  - Edit out the error prior to making it available to students
  - Discard the recording and start all over again

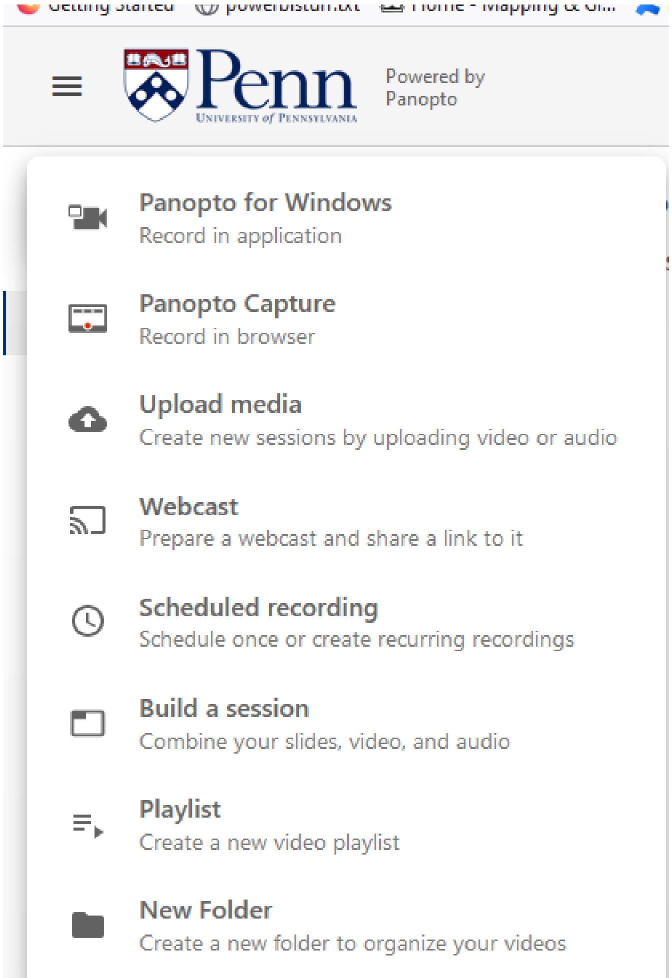
Download the Panopto Recorder

1. Verify that the Panopto Recorder isn't already installed on your machine by checking your applications folder/Start Menu or using your operating system's search function.

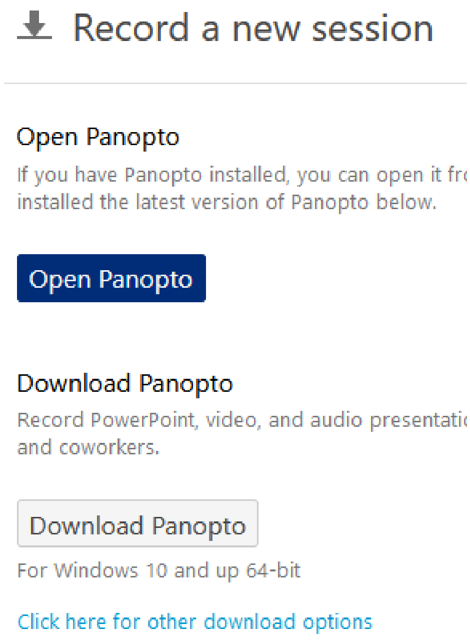
If it isn't installed on your machine, download the app by clicking on this link, and then click on the blue Create button.



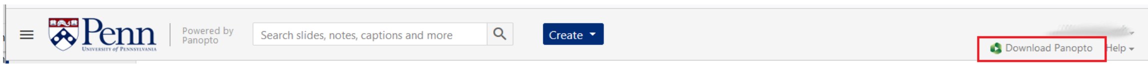
Panopto should recognize your Operating System.



If the system is yours, click on your Operating System and then choose Download Panopto.

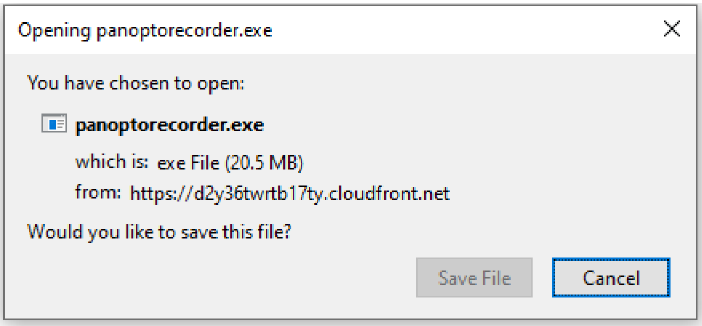


1. If it isn't installed on your machine, download the app using this link.
    1. Click on the Download Panopto link to the far right



2. Panopto should recognize your Operating System. If the system is yours, click Download Panopto.
   If your operating system is not listed below the Download Panopto button, choose **Click here for other download options** and select your operating system from the options listed.

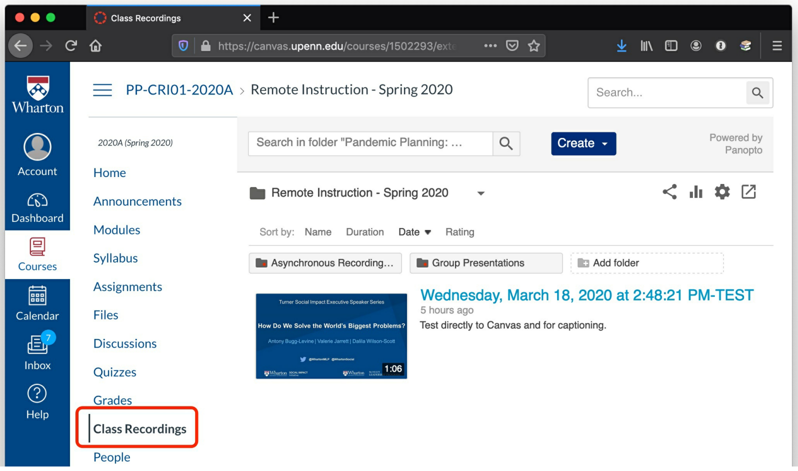
   If your operating system is not listed below the Download Panopto button, choose **Click here for other download options** and select your operating system from the options listed.
3. Click the Download Panopto button, and save the install file.



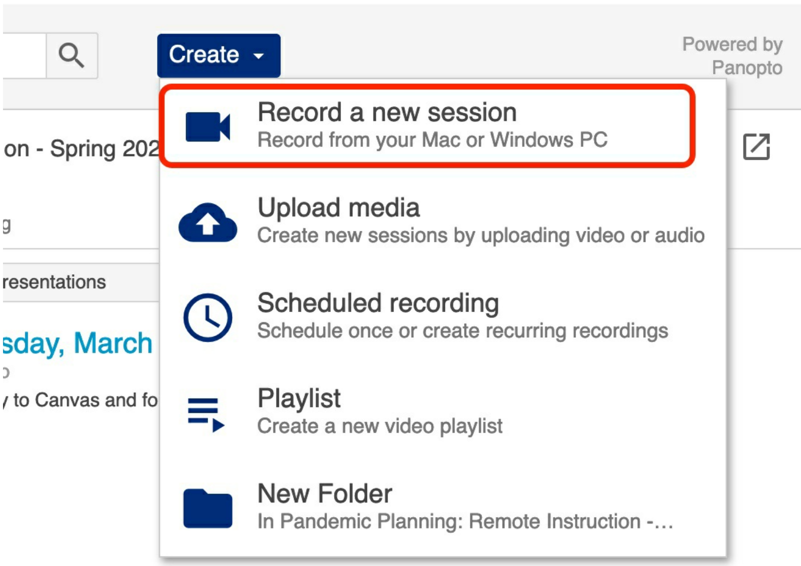
4. Run the executable install file from your browser download folder.

Starting a Recording

1. Log into the Canvas site where you'd like this video to live.
2. Click **Class Recordings** on the Courses menu:



3. Click the blue **Create** button in the upper right corner.
4. Click **Record a new session:**



The Panopto application will launch. Follow the instructions below for your operating system to record and upload a video.

Mac Instructions

Windows Instructions

Recording Best Practices

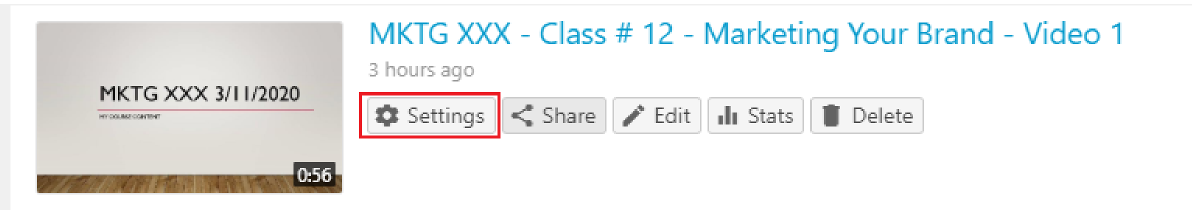
- Use a reliable headset with a microphone. It will improve the audio capture, which is a critical component of recording capture.
- Close any applications you don't want to share with your class.
- Verify your background conditions using your camera:
  - Avoid bright background lights
  - Check that the image isn't too dark to see you.
  - Remove distracting items from the background.
- Open all applications you want captured before you begin the recording to avoid having to pause the recording to find them.
- Name recordings uniquely and be as consistent with the naming convention as possible. Consider: **Course - Section - Class or Week # - Lesson Title - Video #**. The video number should reflect which video it is in the lesson series.
  - Example: **MKTG 101 - Section 001 - Virtual Class 1 - Developing Your Marketing Strategy - Video 1**

Managing Your Recordings

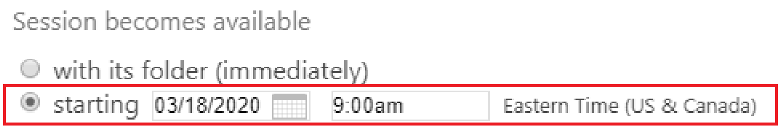
Recording Availability

After a recording has been uploaded to Canvas, you'll be able to adjust the beginning and end dates of its visibility to students.

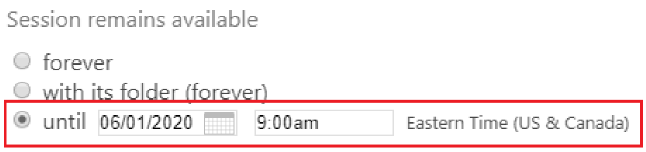
1. Hover over the newly uploaded recording.
2. Click the **Settings** button.



3. On the Overview tab, scroll to the Availability section at the bottom.
4. Adjust the availability start date by selecting the radio button of the option with the customizable date field and update the date and time fields accordingly.



5. Adjust the availability end date by selecting the radio button of the option with the customizable date field and update the date.



Copying a Recording

1. Click **Manage** > **Copy**
2. While the copy is processing, go to its Overview and edit the Folder name, choosing or typing the name of the desired target Canvas course site.
3. Click **Save**, which moves the newly created copy to that other course's Class Recordings.
    1. You may need to first click **Class Recordings** again in that target Canvas course to see the moved video.
    2. For semester-long viewing dates, choose **With its folder** for start and end.

Questions?

- For assistance with downloading the app, contact your academic support representative
- Request help with using the Panopto Recorder app by emailing class-tech@wharton.upenn.edu

Exams for Remote Instruction - Faculty

Last Modified on 05/17/2023 4:09 pm EDT

This is a guide for faculty who plan to administer exams remotely.

Overview

As you plan to administer exams remotely, consider if an exam is necessary, or if alternatives would better allow you to evaluate what your students have learned. For example, is a project-based assessment or a series of lower-stakes assessments appropriate?

For most courses, the best option for delivering an exam is via a Canvas quiz, which supports both quantitative and qualitative exam formats. You can specify the amount of time a student has to take an exam and mix-and-match questions from among the following types:

- **Automatically graded questions:** Numeric, multiple choice, multiple answers, true/false, dropdown, matching, categorization, fill-in-the-blank, hot spot
- **Manually graded questions:** Short answer/essay, file upload

Since there is currently no option for remote proctoring, develop exams with the assumption that they are open note. Allowing students to use course materials during an exam eliminates unenforceable restrictive policies.

Respondus LockDown Browser **CANNOT** be used for at-home exams. It is designed for use only during in-class proctored settings. We do not currently support Respondus Monitor or the use of video conferencing tools (e.g. Zoom) for remote proctoring.

Best Practices

- **Reinforce academic integrity** by beginning with a 0-point question asking students to abide by the University's **honor code**.
- **Consider what course content is available to students** given their location. Don't assume all students have access to the same materials unless they are available online.
- **Consider what, if any, content should be visible after students complete an exam.** Make sure to restrict the student result view of exam questions, responses, feedback, and correct/incorrect answers until after all students have completed the exam.
- **Set extended time** for students needing accommodations.

Maximizing Exam Security

The strongest approach to exam integrity is to design an exam experience that delivers variations of the exam to each student. You can:

- **Shuffle question order** so that students see the exam questions in a different order.
- **Shuffle answer option order** so that answers and distractors appear in a different order, and optionally lock **all of the above**-type options.
- **Create a larger pool of exam questions** and draw from an **item bank**; questions drawn from an item bank will be presented in random order.

- **Create multiple versions of questions** placed in an **item bank.**

Other approaches to enhance exam security include:

- **Time limits,** which minimize the amount of time students have to look up answers or consult with their peers.
- **Multiple versions of an exam,** when questions are linked or depend on each other and cannot be drawn from an item bank.
- **Open-ended, complex questions,** which require manual grading.
- **Requiring that students show written work,** by taking photos of their work, creating work digitally in Excel or a document, then uploading the files to Canvas.
- **Show one question at a time** and, optionally, lock questions after answering to prevent students from returning to earlier questions.

Exam Timing

Although reducing the amount of time that students have to take an exam increases exam security, it also increases the chances that students will encounter technical difficulties that hinder their ability to complete the exam. Multiple factors should be weighed when considering time constraints on your exam:

- **If you have an uncomplicated, easy-to-complete exam,** you can simply estimate how long a prepared student would take to complete the exam and give your class that amount of time to complete it.

- **If you have students in multiple time zones**, we suggest giving a wide window of time in which students can complete the exam to accommodate everyone. Based on your level of comfort, that window can be anywhere from 8-24 hours. Note that this window can still be used in conjunction with a timed exam so that students can take the exam anytime within the window of availability, but still only receive a finite number of minutes to complete it.

- **If you have a very complex exam** that involves students using multiple technology platforms, uploading files, or answering different types of questions, we recommend granting up to 50% more time than you would in an in-person setting. This provides time for students to resolve technical issues before their time runs out, without requiring support from others.

- **If you'd like students to upload an image** that shows their work, consider having students submit this to a separate assignment that accepts file uploads, instead of to the quiz. This avoids problems encountered when attempting to upload work during the timed exam.

Regardless of what type of exam you're administering, always remember to set a final due date so that the exam appears on students' Canvas calendars, To-Do Lists, and other prominent places in Canvas.

Introducing New Quizzes

Beginning Spring 2020, the Courseware team recommends that most courses use Canvas's **New Quizzes** (rather than the legacy Classic Quizzes). New Quizzes has been in use in select courses at Wharton since Spring 2019, and it will eventually be the only quiz option available in Canvas. New Quizzes offers many benefits for remote exams, including an easy-to-use quiz building environment.

- **New Quizzes** offers:
  - A more intuitive question-writing environment for you and TAs, as well as a friendlier test-taking experience for your students
  - Simpler procedures for extra-time accommodations

  - Onscreen calculator options (basic or scientific) which you can make available selectively
  - Regrading of most automatically graded question types, including numeric questions
  - Specialized question types including categorization, ordering, and image "hot spots"
  - Association of adjacent questions with a "stimulus" (a problem description, optionally with figures or graphs)
  - Configurable essay questions, including spell check, rich text formatting, word count/limit, and notes for graders
  - Selective shuffling of answer options per question, as well as flexible random question selection from item banks
- **Classic Quizzes** currently provides options that are not yet available in New Quizzes, but is more limited in terms of regrading. This quiz engine is appropriate if you:
  - Rely on a downloadable Excel file of student responses
  - Prefer to bulk-download all student submissions to file-upload questions
  - Need to allow students to record audio or video in their responses
  - Link to files as part of the instructions
  - Want to revise quizzes in multiple Canvas sites controlled by a Blueprint Courses template

Questions?

If you need more assistance, please contact courseware@wharton.upenn.edu for support.

Exams for Remote Instruction - Students

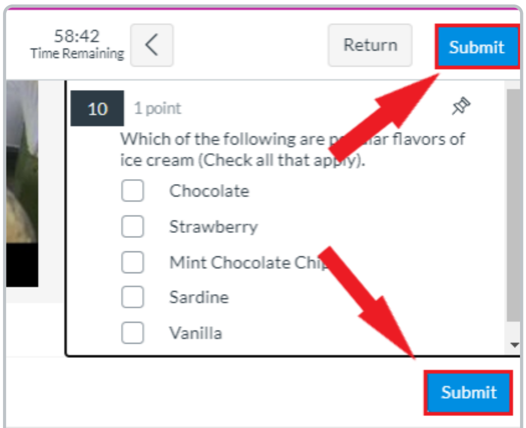
Last Modified on 04/28/2023 3:59 pm EDT

Preparing to Take an Exam on Canvas

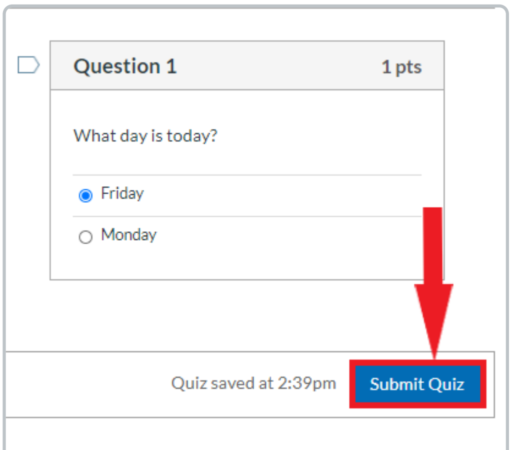
- **Computer/Device.** Use a device that meets Canvas's basic computer specifications. Always make sure to use the most up-to-date versions of your operating system.
- **Browser.** Use one of Canvas's supported web browsers. For best performance, we recommend the most up-to-date versions of Chrome or Firefox.
- **Internet.** Use a hard-wired ethernet connection or a WiFi network with a very strong signal. If you're taking a timed Canvas exam and lose your connection, the timer will continue to run.
- **Laptop vs. Mobile.** Use a laptop or desktop computer. Taking exams on small tablets or phones can only provide a limited experience.
- **Notifications (and other Distractions).** Close or disable notifications, pop-up blockers, and other applications. These may be a source of distraction and can interfere with the exam.

Taking an Exam on Canvas

- **Gather Materials.** Make sure you have all the materials your professor has specified before starting the exam.
- **Timed Exams:**
  - **Only begin a timed exam when you're ready to complete the exam.** The timer continues to count down regardless of whether you are actively taking the exam or not.
  - Remember to click **Submit** before the time expires.
- **Untimed Exams:**
  - For exams without a time limit, **close the browser window when you aren't working on it.** This will prevent you from losing any responses if Canvas automatically logs you out after a period of inactivity. You can always re-open the exam and pick up where you left off.
  - **Submit your exam before the due date.** If you don't, you could get locked out of the exam and need to contact your professor for help.
- **Browser Windows.** Open the exam in only one browser window. Using multiple windows might overwrite your answers.
- **Check before Submitting.** Only click Submit when you have finished the exam. **You cannot reopen submitted exams.**



Your exam will most likely display a "Submit" button at the top and bottom right of the screen. Click either one to submit your exam.



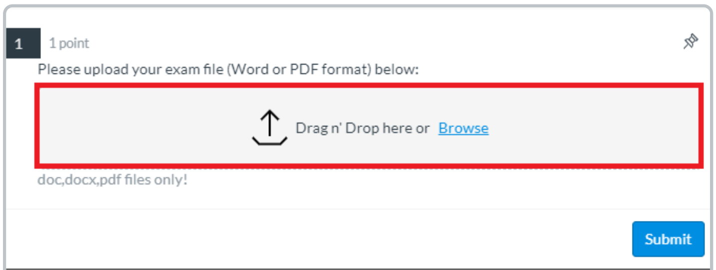
Alternatively, your exam may display a single "Submit Quiz" button at the bottom right of the screen.

Taking an Exam that Requires a Scanned PDF

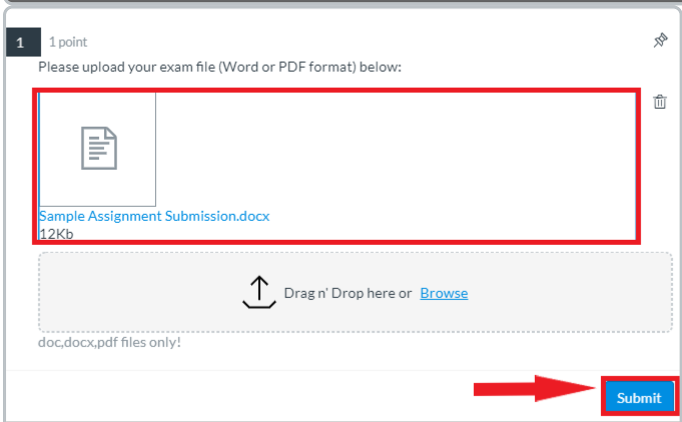
If your exam requires you to scan handwritten responses, you can use your phone or tablet to create a PDF if you don't have a scanner. You can use an app like Genius Scan, the native Notes app for iOS, or another app of your choosing. Once you have your app, follow this general process:

1. **Write your exam answers clearly** using dark lettering. If you are using a blank piece of paper to write responses, clearly label your answers with the question numbers.
2. Be sure that you have the app set to **scan multiple pages** and to output to a **PDF**.
3. Scan your pages on a **flat, well-lit surface**. Steady your hands as much as possible to avoid blurred scans.
4. **Review your scans** to make sure that they're clear, all in one document, and in the order you intended. If not, re-scan them.
5. **Email the PDF to yourself**, download the file on your computer, and **upload it to the Canvas exam**.

In newer versions of Canvas exams, the file upload question will appear as follows:

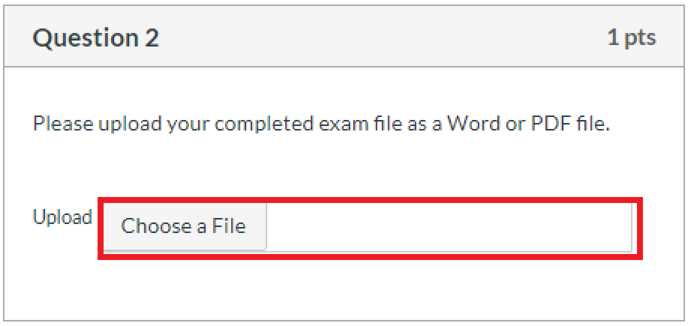


To upload your exam file, drag and drop the file from your desktop into the box or click the Browse link to select a file saved to your computer.

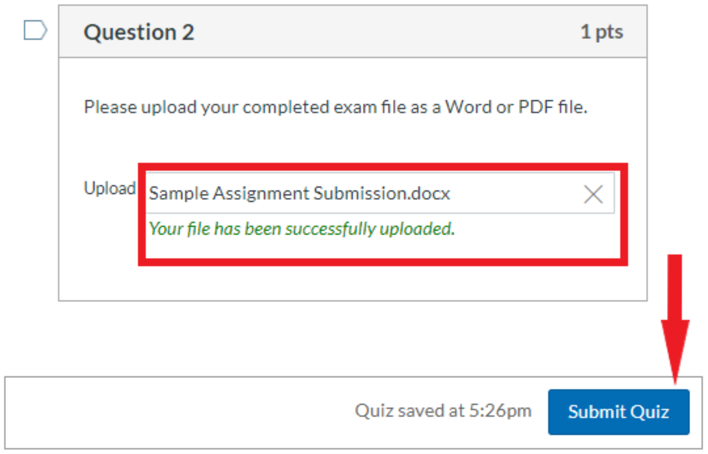


A successfully uploaded file will display a file icon and the name/size of the file beneath it. Be sure to click "Submit" when you are finished uploading your work and finished taking the exam.

In older versions of Canvas exams, the file upload question will look slightly different:



In older versions of exams, click "Choose a File," then select the file from your computer.



After uploading your file, you will see the name of the file and a message that says "*Your file has been successfully uploaded*." Be sure to click "Submit Quiz" when you are finished uploading your file and taking the exam.

Leave Extra Time. We suggest that you give yourself **15 minutes** to complete this process.

Losing Connection during an Exam

If your computer loses its connection to the Canvas server during the exam or if your browser remains on a loading screen with seemingly no progress, please remain in the browser window/tab until the server reconnects. In an attempt to reconnect manually, also try toggling your WiFi on and off or even rebooting the router.

If you are able to reestablish connection, you can try refreshing the browser again to ensure the exam updates are being logged. If you do not maintain a stable connection in a timely manner, prior to contacting support@wharton.upenn.edu as mentioned in the **Getting Help** section below, we strongly advise taking screenshots of your work and/or jotting your answers down on pencil and paper. If any error messages appear within the Canvas quiz screen, we advise taking screenshots of these, as well, to share with your instructor and Wharton Computing support teams.

Getting Help

If you encounter any technical issues while taking an exam, contact Wharton Computing Student Support.

- Phone: (215) 898-8600
- Email: support@wharton.upenn.edu

Online Presentations - Faculty

Last Modified on 06/27/2022 10:14 pm EDT

Information for faculty on online presentation and sharing options for students.

Presentation Options

There are several ways to manage student presentations via Zoom. First you'll need to decide whether:

- Presentations should be delivered live (during the class' synchronous sessions) OR
- Presentations should be recorded outside of the class (asynchronous session) and submitted only to you or made available to the entire class for discussion.

Feel free to share these student focused instructions for giving an online presentation with your students.

Material-Sharing Options

You should also decide how you want students to **post** their presentation recordings or slide decks (**either feature can be used for grading and/or peer review**):

- **Assignment:** Create an Assignment (individual or group assignment) if it should be accessible only to the teaching team AND/OR
- **Discussion:** Create a Discussion if the materials should be accessible to all students.

Synchronous (live) Presentations Sharing

- To share presentations during a live class over Zoom, individuals or groups should share their screens.
- You may need to set host mode or change the meeting settings. This will mean that your screen is no longer being shared.
- Make sure to keep recording the session for post-class review of presentations.
- Students should also post their slide decks on the appropriate Assignments/Discussions page.

Asynchronous Presentations Sharing

- Students should use Zoom to create a personal or group meeting and record their presentation. Then they should download the recording and upload to Canvas, as one of the following options:
    - An **assignment**, where only the teaching team may retrieve it.
        - Ideally, students should submit a link to the recording.
        - Students may also submit a link to the video shared in Penn+Box--the link should lead directly to the video and not to a folder.
        - Please remind students to adjust the recording's settings so that you may view it.
        - Students may also record the video inside the assignment, or they may upload a video.
        - We strongly recommend recording and then uploading, as it is more reliable.
    - A **discussion**, which the entire class may view.
        - Students may submit a link to the recording.
        - Students may also submit a link to the video shared in Penn+Box--the link should lead directly to the video and not to a folder.

- Please remind students to adjust the recording's settings so that you may view it.
- Students may also record the video inside the discussion, or they may upload a video.

Group Presentations

To ensure online student collaboration runs smoothly, we recommend:

- Setting up student groups in advance.
- Making sure assignment for grading is configured as a group assignment.
- Setting up a Discussions page for groups to share presentation materials with other students.
- Reminding students of Canvas tools available e.g. **group collaboration spaces**, personalized video conferences, etc.

Questions?

For more assistance, please contact courseware@wharton.upenn.edu for support.

Online Presentations - Students

Last Modified on 04/17/2023 1:26 pm EDT

Sharing a presentation while attending class remotely has several steps you'll need to consider. Your professor will decide whether the presentation should be presented during a live class session (synchronous) or pre-recorded (asynchronous). Either option can be accomplished using a video conference.

Synchronous (live) Presentations

To share presentations during a live class over Zoom, individuals or groups should share one person's screen, and should unmute audio and video. You should also post your slide decks **either in the Assignments or the Discussions sections** in Canvas, depending on what your professor tells you to do.

Tips:

- Practice your presentation in Zoom before delivering your presentation in class.
- For group presentations, one group member should share their screen during the presentation. Other group members should give verbal cues to advance the slide.

Asynchronous Presentations

You will use Zoom to create a video conference with your group and record the presentation. Make sure to **PRACTICE** in Zoom before recording the session for submission.

Once the recording is complete, it will be accessible for the meeting organizer to either download or retrieve the link to upload to Canvas. There are two ways to do this:

- Submit as an **Assignment**
- Submit in **Discussions**

The Assignment/Discussion distinction is based on faculty preference. Please clarify with your professor where you should upload your presentation.

Submit as an Assignment

There are four ways to submit your recording to the Assignments section of Canvas.

1. **(Recommended Method)** Submit the link to the recording following the instructions below.

2. Submit a link to the video shared in Penn+Box (the video, not the folder) by following the directions below.

3. Record/upload media (Online submission > Media Recording).

4. Upload a video as a file .

Submit in Discussions

There are three ways to upload your recording to the Discussions section of Canvas:

1. **(Recommended Method)** Record/upload media (paste link via Media Recording tool).

2. **Submit the link** to the recording following the instructions below.

3. Submit a link to the video shared in Penn+Box (the video, not the folder) by following the directions below.

Group Projects

Your group should review Canvas tools such as a **group collaboration space** to work and share files. You should also consider personalized video conferences at https://upenn.zoom.us to optimize remote collaboration.

Questions?

For more assistance, please contact Wharton Computing Student Support for support.

All about New Quizzes

Last Modified on 09/18/2023 5:40 pm EDT

As of August 30, 2024, the place for entering due and availability dates while editing assignments or quizzes has returned to its original location in Canvas.

It's also possible to set due or availability dates*without* editing the quiz. Use the **Assign To** button which currently appears to the left of the **Edit** button on any assignment or quiz page:

A similar **Assign To** choice appears in the options (three dots) drop-down menu for each quiz listed on the Quizzes tab.

Canvas's New Quizzes offers benefits, such as printing and one-time accommodation entry per course, which improve upon the original feature set for Classic Quizzes.

Before You Start

You will need a Canvas site.

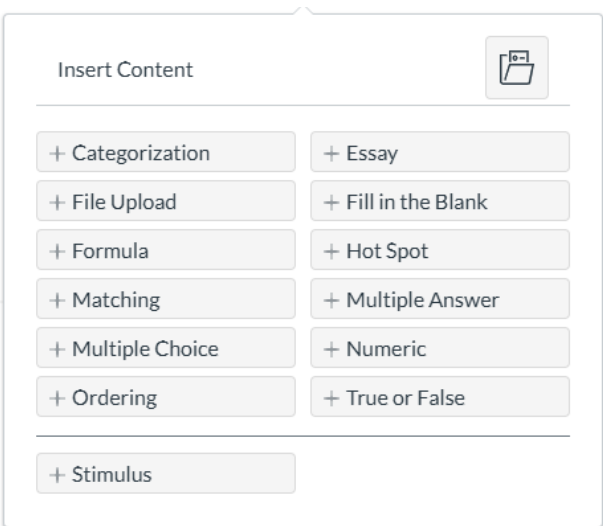
Do NOT use New Quizzes if you:

- Rely on a downloadable Excel file of student responses
- Prefer to bulk-download all student submissions to file-upload questions

Please use the legacy Classic Quizzes tool instead if you need either of these features.

Creating a Quiz

To create a new quiz...



Question Types

Your quiz can include a mix of automatically and manually graded questions.

Item Banks

Use Item Banks to pull all questions or a specific number of questions randomly from a pool. This is a good way to add variety to the exam and/or keep similar questions together.

Exams with File Downloads

Use Classic Quizzes if you need to share a link to an exam file that students can access only during the exam. If you need to use New Quizzes instead, you can create a link to the exam file by using the following instructions.

Publish the Quiz

Before you publish the quiz, be sure to:

- **Add availability dates** so students cannot access the quiz until the start time.
- **Review the quiz settings** to ensure that **Restrict Student Result View** is enabled and that other exam settings are correct.
- **Preview the quiz** to view it as students will.
- **Permit additional time** by choosing **Moderate** to the right of the student's name. Under **Time adjustments,** select **Give additional time,** enter the extended time, and close the tab.

Viewing and Grading Online Quizzes

- Use **Moderate** to view student submissions, add more time or attempts for individual students, and to reopen a completed quiz.
- Add a score for any manually graded questions in **SpeedGrader**. (Final quiz scores cannot be directly edited in the Gradebook.)

Regrading Questions

You can regrade any automatically graded question, but this should be done only *after* all students have finished taking the quiz. When you regrade a question for one student, **the change will be applied to all** students who received that question.

Releasing Scores

When you are ready for students to see their submissions and the correct answers, you should:

Enabling Additional Attempts for Students

Occasionally you may want to give a student another attempt at a quiz. Here's how:

Questions?

Email: courseware@wharton.upenn.edu

Creating peer evaluations using FeedbackFruits

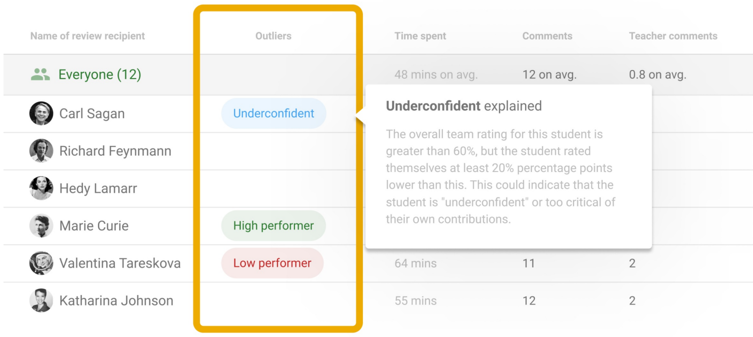
Last Modified on 04/18/2025 6:26 pm EDT

This article describes one way the FeedbackFruits learning toolkit can be used to establish a Canvas-based assignment in which students evaluate the performance of peers and optionally themselves.

Before You Start
We recommend that faculty new to FeedbackFruits request a consultation with Courseware before using this tool for the first time.

In FeedbackFruits, a peer evaluation assignment is called a *Group Member Evaluation*. These can be:

- Evaluations of every student in the section - or, more commonly, evaluations within groups in that course (such as each project team).
- Submitted anonymously by students, if desired.
- Configured to ethically detect outlier situations.



Here's how to set up a Group Member Evaluation in your Canvas course site.

These evaluations take time to configure, so please feel free to ask Courseware for assistance in creating yours.

Questions?

Email: courseware@wharton.upenn.edu

Study.Net Materials: Faculty Requests

Last Modified on 10/18/2024 3:15 pm EDT

Study.Net Materials in Canvas is where we distribute "course packs" of externally-copyrighted licensed content from key suppliers, such as Harvard Business Publishing, requested by faculty. When specific readings are also available through Penn Libraries e-reserves, we can arrange for a related learning tool, **Course Materials @ Penn Libraries**, which is part of Lippincott Library's services for Wharton courses.

Before You Start

Wharton instructors may now make requests for Study.Net copyrighted readings through Wharton's Courseware Request Form. This new form is one of several teaching-needs forms and surveys now made available to faculty at Wharton Instruction Center (under the "Tech Surveys" menu choice).

When preparing to submit either a Courseware Request Form or an emailed service request to courseware@wharton.upenn.edu, you'll want to gather the following information:

1. The course and section number(s) for any Wharton course.
2. The PennKey username for any other instructors or TAs who need access.
3. A finalized or near-final syllabus or reading list.

To request a site for a non-Wharton course, see Canvas at Penn.

Requesting a Study.Net Course Pack

Study.Net provides course readings distribution and copyright clearance services to Wharton and other Penn schools. This article explains how faculty can request a Study.Net course pack delivered as a learning tool in Canvas, along with information on costs and distribution.

All Study.Net course pack requests are handled by Wharton Computing's IDEA Courseware Team. Submit requests through the Courseware Request Form (or, if preferred, by emailing courseware@wharton.upenn.edu - please don't email individual staff members).

As part of your Study.Net request, we ask for the following information:

- A finalized syllabus and/or reading list (including citations).
- The name and University email address of any TAs or teaching colleagues who will need subsidized access to the readings, if known. (These can be requested later, as well.)
- Optionally, a list of any third-party simulations (other than Learning Lab simulations) or game-related content, such as negotiation exercises.
- Any other related instructions or information.

Study.Net requests **typically take between 5 and 10 business days** after a request has been received, not including proof approval time (explained below). During the setup process, our team's content experts will place the requested readings into a Study.net "course pack" and run them through the copyright-clearance process, as required by the University's digital licensing and distribution agreements with the publishers.

Notes:

- Because our working methods incorporate the University's web accessibility guidelines, we cannot work with "images-only" scanned PDFs.
- Certain journal articles and book chapters are best sourced free-of-charge through Lippincott Library's electronic reserves, rather than through Study.Net. When that's a possibility, we'll inform you as well as work with the Lippincott team. (Readings sourced through Lippincott will be delivered in a separate learning tool, **Course Materials @ Penn Libraries**.)
- For further information on copyright and cost, see this FAQ on Wharton Computing's web site.
- If any of your requested readings are unavailable within our supplier libraries, we will ask you to provide a PDF copy. Not all PDFs will have a legal source that is current, even if they did in the past; rights change all the time.
- Please note, we cannot order textbooks or cover textbook costs for students. Instructors, departments, and programs may arrange for textbooks through Penn Business Services.

A Courseware Team content expert will send a PDF proof of the course pack to you once it has been assembled. This proof is for **your use only**, for the purpose of reviewing the materials and confirming that everything has been included in the proper order. After reviewing, please email courseware@wharton.upenn.edu to:

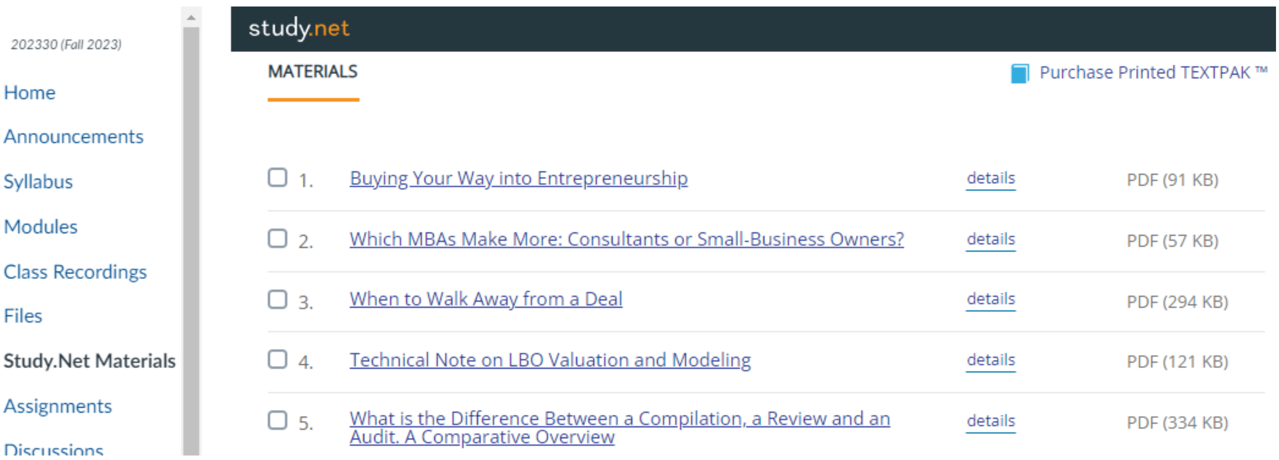
- Approve the PDF proof for online distribution;
- Or to request a change.

While we await proof approval, your course pack request is considered "on hold", which may add to the aforementioned 5-10 day normal fulfillment time.

Distribution through **Study.Net Materials** (learning tool in Canvas)

Once all the readings have been cleared by the publishers and the proof has been approved in writing, a member of the Courseware Team will add the Study.Net Materials tool to the corresponding course's Canvas site, normally within three business days after the proof has been approved.

We also configure a subsidy data feed (for the course), updating Study.Net's purchase records, prior to activating the learning tool. Here's an illustration of how the learning tool will appear as a course navigation tab in Canvas, usually directly under the **Files** tab:



Important notes on configuration and distribution:

- **The learning tool integration (LTI) must be performed by the Courseware Team.**

- Instructors, teaching assistants, or department administrators no longer need to build a "course" on the supplier's website, handle any part of the Canvas integration process, or import a past "external tool" placement. All of that is Wharton Computing's responsibility to configure.
- The University no longer uses the vendor's website www.study.net for materials distribution, as was true from 2008-2013. Please remove any such links from syllabi.
- Distribution via Study.Net's mobile apps was deemphasized in 2017. Instead, the **Study.Net Materials** learning tool works within Canvas mobile apps, as well as via web.

Subsidized Student and TA Access

As of Fall 2023, costs for non-textbook readings from Harvard Business Publishing, Study.Net, and selected simulation suppliers are covered for everyone taking or teaching a Wharton course, as follows:

Wharton and Non-Wharton Students

Reading materials obtained through Study.Net are **subsidized** - meaning prepaid by allocation - for students in Wharton undergraduate, MBA, EMBA, and doctoral degree programs, as well as all non-Wharton students taking a Wharton course. Similarly, materials are purchased on behalf of Wharton Executive Education participants for seminars which use Study.Net.

- Depending on the student's degree program, it's possible for Canvas access to begin before the Study.Net subsidy data is transmitted for a new enrollment (either in a course selection "add" or a switch of section of the same course).
- Feel free to refer Wharton students to the Courseware Team who report any subsidy access difficulties, such as seeing a "Purchase Course" prompt in **Study.Net Materials** for more than a business day after enrolling. (Other than very recent course enrollment adds/switches, a common reason for a student encountering the "Purchase Course" paywall is when they use a different default email in Canvas than what they set in the Penn Directory as their primary University email address.)

Teaching Assistants / Faculty Colleagues

If your teaching assistants or faculty colleagues were not listed in your original Study.Net course pack setup request, please send the Courseware Team the name and email address of each teaching team member. Based on faculty authorization, we can provide access for TAs and other teaching team members, allowing them to bypass the "Purchase Course" paywall.

You may order hard copies of Study.Net readings by using the **Click here to purchase a printed Hard Copy** link shown toward the bottom of the **Study.Net Materials** tab/listing within your Canvas site. Payment for printed copies is through PayPal; the hard-copy order is assembled by Campus Copy Center with shipping to the address specified in your order.

Please contact campuscopyphilly@gmail.com with questions regarding hard copies. After Wharton Printing's 2018 closure, Wharton Computing staff (including the Courseware Team) no longer have any direct involvement with print orders placed by teaching teams or departments; we have no visibility into Campus Copy orders.

Questions?

For more help, please email courseware@wharton.upenn.edu.

Instruction Center

Last Modified on 10/03/2025 5:34 pm EDT

Instruction Center is Wharton's application for faculty management of courses and their overall classroom experience. It includes a range of tools to assist with instruction, which are described in greater detail below.

Before You Start

You will need the following before you can use Instruction Center:

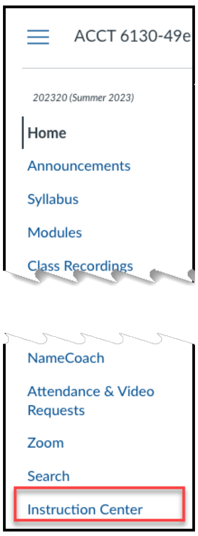
- A Valid PennKey
- Access to Instruction Center
  - **Faculty teaching courses within Wharton:** automatically available for each of your sections per term.
  - **TAs and staff supporting faculty:** access automatically granted through Canvas (see below), or on an as-needed basis; contact courseware@wharton.upenn.edu cc:ing the professor.

Instruction Center contains the following tools, accessible from the left navigation bar:

- **Home Screen:** Summary view displays current courses, sections, and the number of enrolled students for the current term.
- **Course Resources**: Provides basic information and links for any courses that you are managing.
- **Classlists**: Displays an active roster of your section's current students, including student details.
- **Seating**: Manage seat assignments, class participation, and more.
- **Participation**: Manage participation and related notes for students for each section.
- **Grading**: Submit and change course final grades. (Separate from Canvas' assignment grading functions.)
- **Reports**: Access various reports. (Courses, enrollment, grading, etc.)
- **Tech Surveys**: Provide Wharton Computing with information on your needs for each teaching semester.

There are two ways to access the Instruction Center:

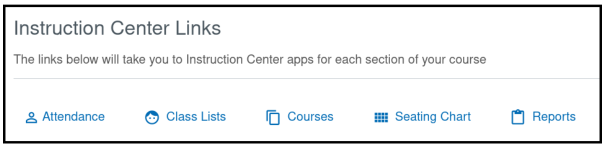
- Use the direct web address: apps.wharton.upenn.edu/instruction
- Linked in Canvas, use the sidebar on any of your Canvas sites:



Accessing Instruction Center through Canvas is a separate service. Upon clicking the link in the Canvas sidebar, faculty teaching courses within Wharton will see links to all available permissions for their section in Instruction

Center.

For users with the TA role in a Canvas site, users are automatically granted access to the section in Instruction Center upon clicking the sidebar, and will see their permissions reflected in Canvas:



Home Screen

Instruction Center is intuitive, responsive, and works on desktops/laptops, smartphones, or tablets. (*Some features and functionality may not be fully available in the mobile-only experience.)*

For an overview of the home screen,

Course Resources

The Course Resources tool contains important information and links for any courses you are managing.

For details on Course Resources,

Classlists

The Classlists tool displays an active roster of your section's current students and includes a variety of details.

Seating

The Seating Chart allows you to place students in designated seats for a specific classroom layout. This helps you assign seats, track class participation, and more. Generally, an empty seating chart is automatically created for each course in advance.

Participation

The Participation section of Instruction Center allows faculty to assign participation points and related notes for each student within their sections.

Grading

The Grading tool allows faculty to manually submit final overall grades in a course, either individually for each student or via bulk upload, and to submit grade changes.

This grading tool in Instruction Center is completely separate from the grading functions within Canvas -- final grades must be uploaded via Instruction Center. For more information on the grading options in Canvas, see our Canvas grading capabilities article.

Additional questions about grading? Contact: onlinegrading@wharton.upenn.edu

Reports

The Reports screen contains links to relevant reports for you and your respective section(s).

Tech Surveys

The Tech Surveys section is used by Wharton Computing to gather information on faculty needs for each teaching semester. It also displays links to other relevant surveys involving faculty access to teaching resources.

Questions?

For additional questions about Instruction Center, please contact: instructioncenter@wharton.upenn.edu

Poll Everywhere on the Web: Best Practices

Last Modified on 12/05/2024 1:28 pm EST

Presenting a Poll Everywhere activity on the web, using Present mode, is a good substitute for using the Poll Everywhere PowerPoint plugin when presenting in Wharton Classrooms, or other locations where the extension has not been installed. However, there are some best practices you should keep in mind.

After 12/20/24, the Poll Everywhere PowerPoint plugin will no longer be available on Wharton classroom computers due to stability issues it introduces in PowerPoint.

Before You Start

You will need the following before you can complete this task:

- You must be a **faculty/staff member.**
- You must have a **PennKey username and password.**

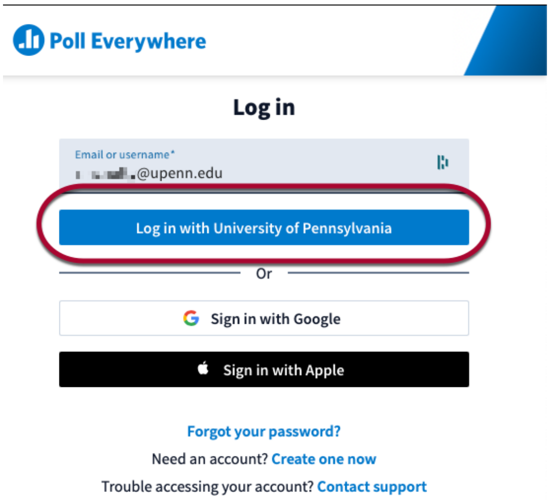
Best Practices

Poll Everywhere on the web offers all the same functionality as the PowerPoint plugin, but there are some differences and best practices to be aware of before using it in a class.

Log in before launching a poll

You must log into Poll Everywhere on the web on the classroom computer before you launch a presentation that includes a poll.

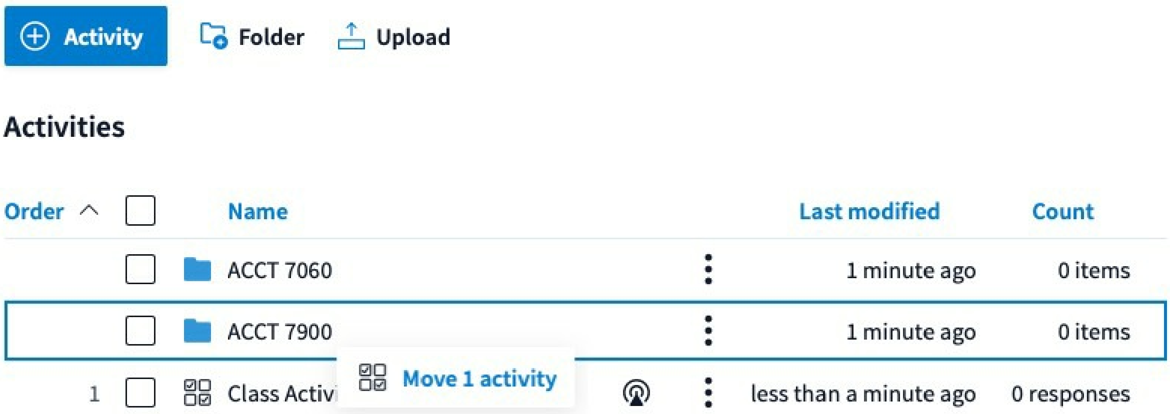
1. Log in by going to Poll Everywhere .
2. Enter your Penn email address in the format **yourPennKey@upenn.edu** *(removing any school affiliation)*, and click **Next**.
3. Click **Log in with University of Pennsylvania**.



Organize your polls

Use folders to help quickly locate the right polls for each class.

1. Go to your **Activities** page and click the **+Folder** button.
2. Give your new folder a name, and then drag and drop the desired polls into that folder. (You can also select multiple polls and choose the **Move** option to add them to a folder.)
   We recommend choosing a method of ordering the polls in the folder, for example using a prefix number order or other indicator.



Polls for Attendance

If you are using participation in a poll as a proxy for attendance in a class, tell your students to be sure that they enter their names when responding to the poll.

This is a best practice for any polling activity.

Enlarge the QR code

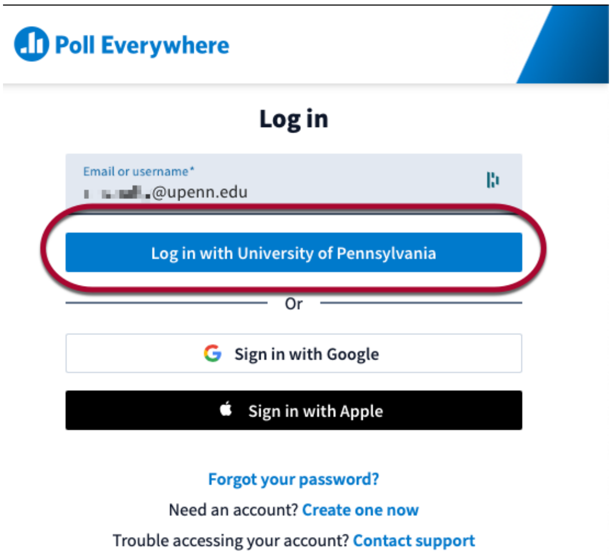
A QR code is displayed at the top of a Poll Everywhere activity in present mode, but by default, the code is small, making it difficult for students to scan depending on where they are in the classroom.

To enlarge the code, hover your cursor over the QR code and click the **expand icon** that appears in the middle of the QR code.

Logging In

To access Poll Everywhere on the web:

1. Go to Poll Everywhere.
2. Enter your Penn email address in the format **yourPennKey@upenn.edu**.
3. Click **Next**.
4. Click **Log in with University of Pennsylvania**.



Resources

Poll Everywhere has a wealth of documentation on its website, or particular note is the following articles:

- Presenting from the web - This article covers how to present a Poll Everywhere activity on the web.
- Presenting Poll Everywhere activities - This section of the website gathers all the articles about presenting in one place.

Questions?

For more information, contact your Wharton Computing representative.

Using Web Browsers with Learning Tools

Last Modified on 01/23/2025 2:01 pm EST

Privacy and Learning Tools

Learning tools approved at Wharton or Penn for use inside a Canvas site have been reviewed for compliance with the University's privacy guidelines. Each of these tools will never contain advertising and will only track your usage while working with that specific tool.

However, content and privacy settings in Chrome and Apple Safari browsers include features which have begun to regularly treat learning tools as "third-party" content. You may need to either change these settings in order to use Chrome or Safari to access these tools, or use one of the other supported web browsers for Canvas.

To change your settings in either of these browsers, see Canvas' directions on enabling 3rd-party cookies.

Mobile Browsers

Canvas does not recommend using mobile browsers -- instead use the Canvas App. For more information on this see their support documentation for Mobile Features.

Security Software

Sometimes your computer's security suite or antivirus software may prevent a learning tool from launching or loading. We'll link to workarounds for any commonly-encountered issues of this type in the list below.

- Bitdefender: How to access a safe website blocked by Bitdefender

Questions?

Contact your Wharton Computing Representative with any questions.

Ed Discussion for Faculty

Last Modified on 01/30/2026 1:40 pm EST

As of May 2022, Ed Discussion is available to all Penn faculty, staff, and students. A Canvas integration is available for all courses taught through Penn Canvas; in 2023, a chat feature has been introduced and can be added to a course already using Ed Discussion.

Ed Discussion is an asynchronous discussion tool that provides a platform for students and members of the teaching team to interact through threaded conversation. Students can answer one another's questions, work on and run code together, embed videos, annotate images, and share documents. They can also like one another's posts, post anonymously, and receive instructor feedback all in one place.

In this article, you will learn more about the instructor experience in Ed Discussion. For information on utilizing Ed Discussion in your course as a student, view the guide linked here.

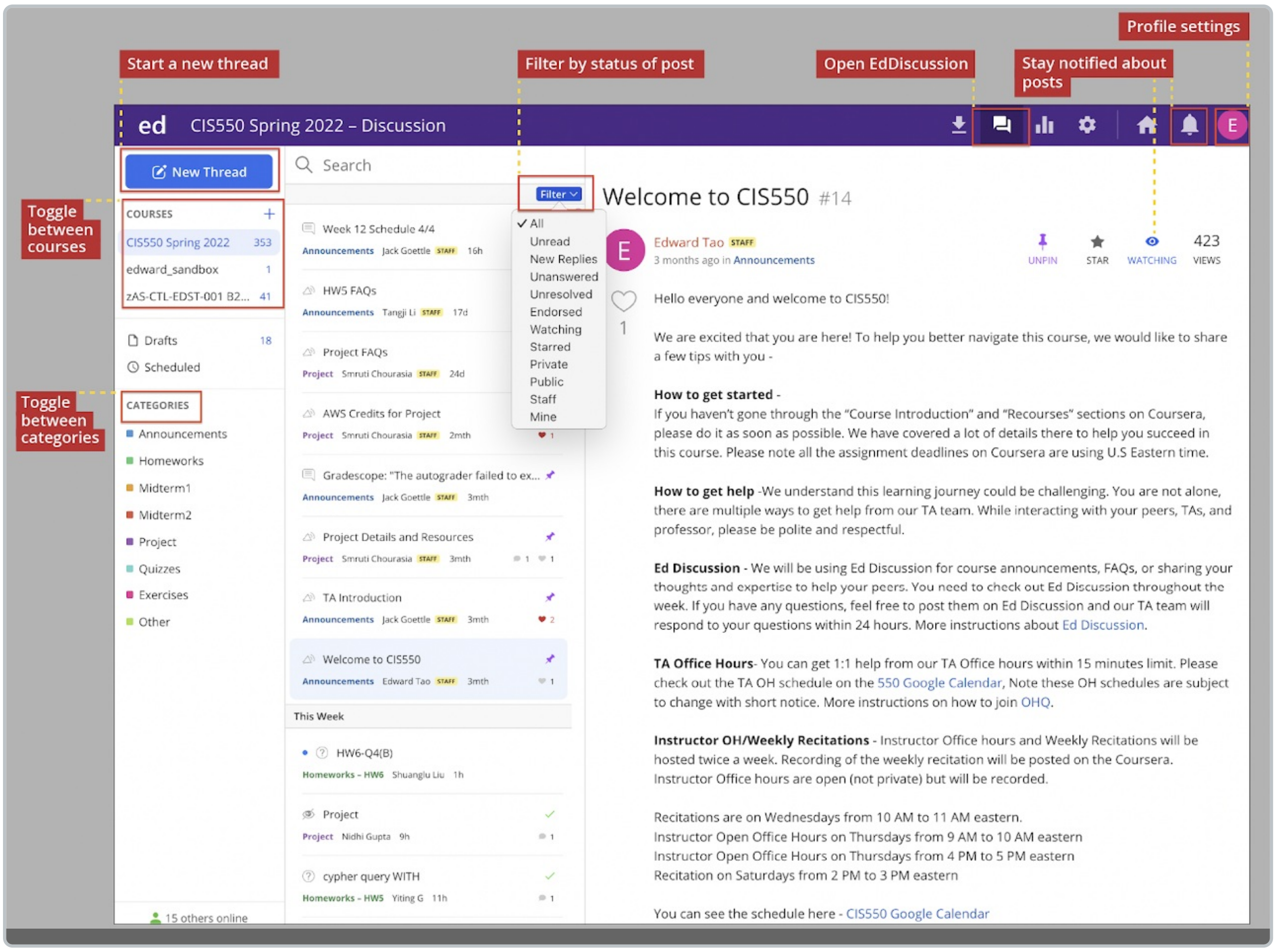
Before You Start

You will need the following before you can complete this task:

- You will need access to Canvas.
- If you are using Ed Discussion in a course that does not use Canvas, you may log in with your Penn email address at edstem.org/us/login.

Navigating Ed

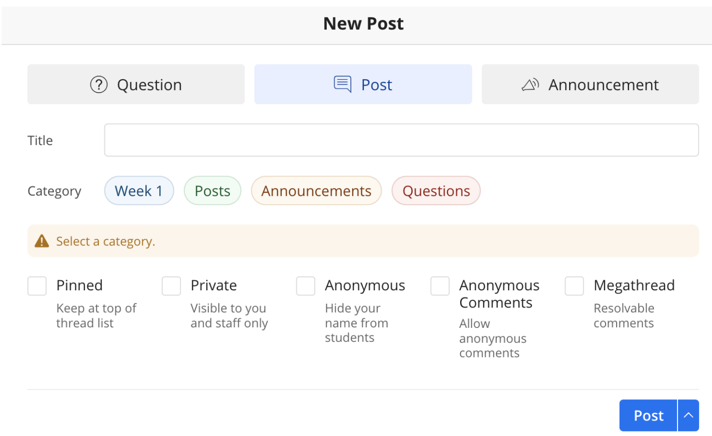
From the faculty perspective, Ed Discussion has a clear set of color-coded categories, a searchable discussion area, and a big blue button for posting new threads. It is recommended to include a pinned thread containing instructions for how the tool will be utilized in class, as students will likely have questions about discussion etiquette and overall setup. The categories you see on the lefthand side are customizable and will differ from course to course, so you can add, edit, and delete categories to best fit your teaching needs:



Edward Tao, Penn Engineering, via https://online.seas.upenn.edu/student-knowledge-base/ed-discussion/

 Creating a New Thread

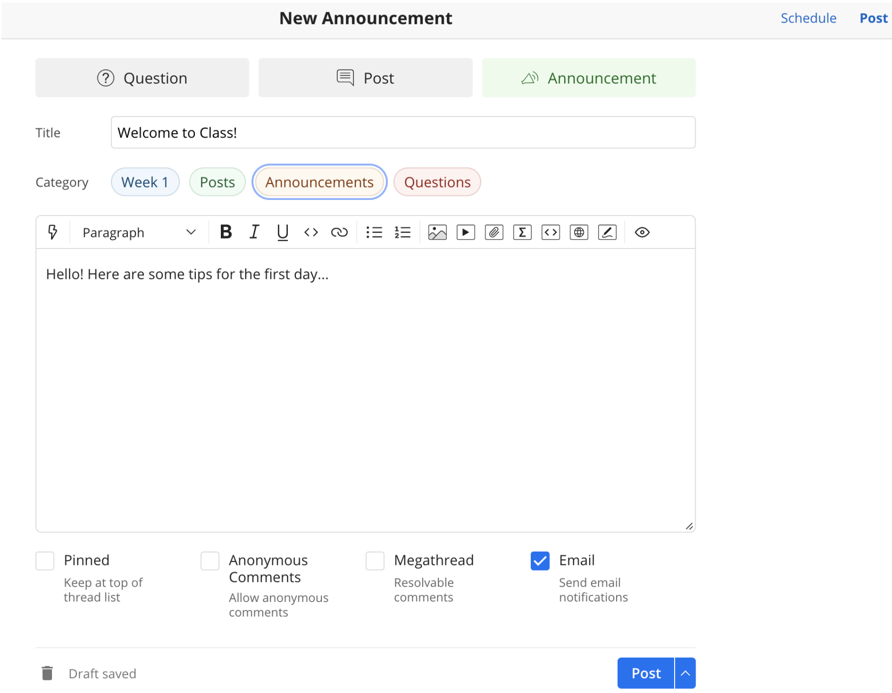
When creating a new thread as an instructor, you will see the option to pose a question, post, or announcement. Students will have the ability to draft only a question or post, so they will not see the Announcement option. Note that the grayed-out items indicate they are deselected, while the colored item (shown below in blue) indicates a selection. In this example, the instructor has selected to pose a post:



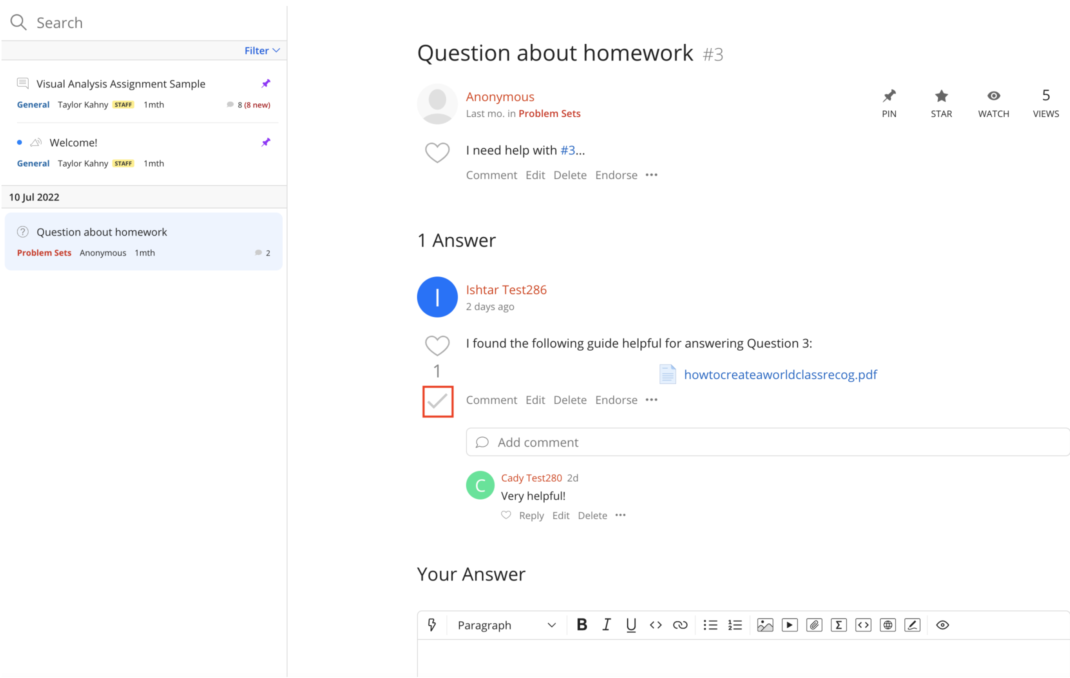
Anything you post will need to include a title, category, and sub-category, if applicable.

In order to start drafting the thread, you will need to first select a category. Once the selection is made, you will see the tool's rich content editor. The question, post, or announcement can be pinned at the top of the discussion thread list, private to just you and your teaching team members, anonymous, or set as a megathread, meaning you can collate all questions on a specific topic into a single thread. As the instructor, you also can enable anonymous comments.

Specific to Announcements, you can check the box to send out email notifications as shown below. Note that as the instructor, you also can schedule a post if you would like to send it out at a specific time:

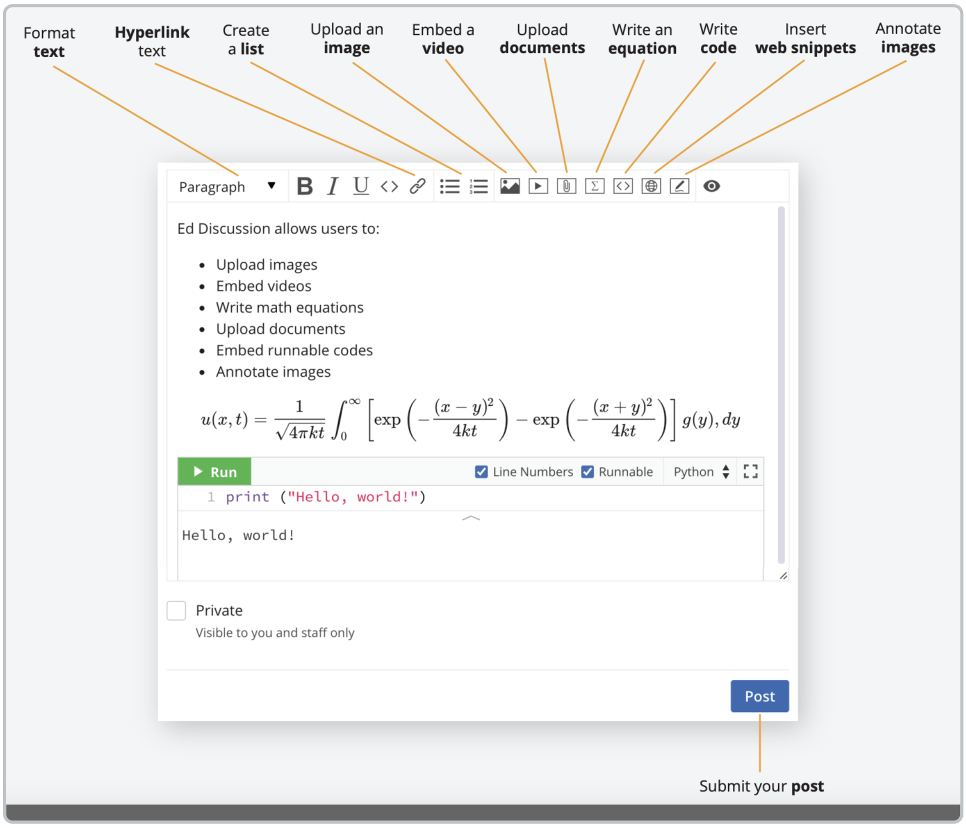


In the example below, an anonymous user posted a question about the homework under the Problem Sets category. In response, Ishtar answered the question by posting a guide which Cady found to be "very helpful." Also visible in the screenshot, students have the ability to "heart" questions, answers, posts, and comments they love, and they can also "star" and "watch" questions or posts, making it easier to filter the content in the discussion area. You as the instructor can pin posts to the top (as depicted by the purple pin icon), mark an answer as "accepted" by clicking the grayed out check mark boxed below, and "endorse" an item to distinguish high-quality content:



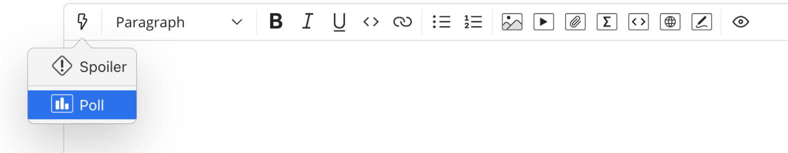
Rich Content Editor

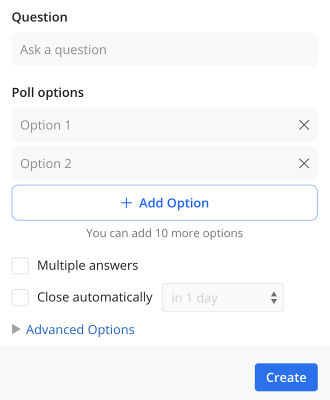
When you draft a new thread or comment on someone else's content, you will edit the post through the rich content editor. The editor provides tools for formatting text, inserting media, LaTex, and other programming language snippets. In addition, you can directly create formatted text and mathematical equations by typing in Markdown and LaTex syntax:



Ed - Quick Start Guide (Version One), via https://edstem.org/quickstart/ed-discussion.pdf

As an instructor, you also have the option to create a poll. To create a poll, click on the lightning bolt from your content editor, and then establish suitable question and answer types. There are currently two question types: multiple-choice and multiple-answer:

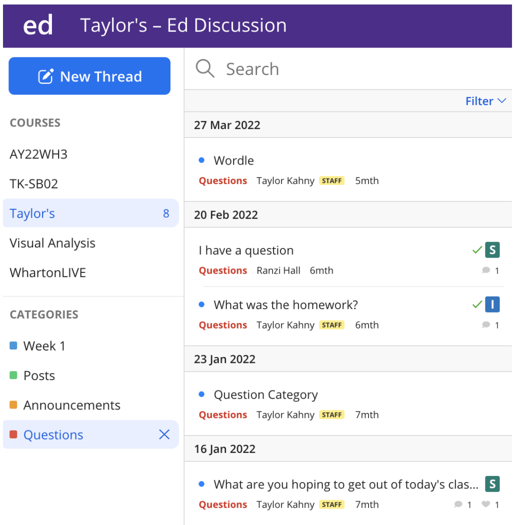




Poll results are displayed in realtime and do not require the page to be refreshed to get the most current data.

Categories

When toggling among categories within Ed Discussion, the chosen category's threads will appear underneath the search bar within the discussion area as shown below:



Each thread in the category is organized by date with the category, author, and related icons indicated on each separate post. As the instructor, you may have as many or as little categories as you choose.

Important Key for Understanding Thread Icons

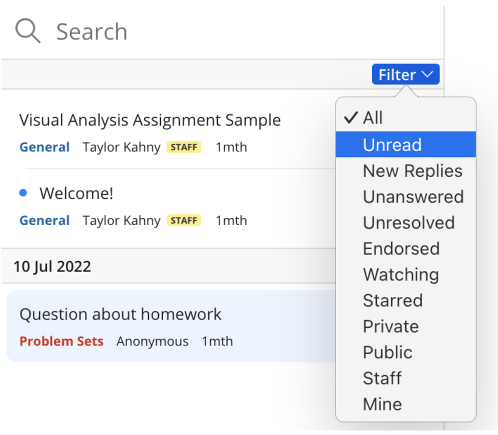
- Threads with a blue dot are **unread**. These are threads that you have not seen.
- Threads with a green tick are questions that have been **resolved**. This means that the question has already been answered.
- Threads with a purple pin have been **pinned** and will be kept at the top of the discussion list to increase

visibility and encourage ongoing discussions. Pinned threads are generally reserved for announcements or important information. Only instructors can choose which threads to pin.

- Threads with a blue ribbon have been **endorsed** by course instructors. This is usually done by instructors to distinguish high-quality content.
- Threads with a heart signify **agreement**. Hearts are private and do not reveal identities.
- Threads with a star are **bookmarked** to refer back to later. Stars are private to the individual.
- Threads with an eye icon selected WATCHING are those in which you are **subscribed** to receive thread activity email notifications.
- Threads with the "S" icon S indicate a **student has answered** a question thread.
- Threads with the "I" icon I indicate an **instructor has answered** a question thread.

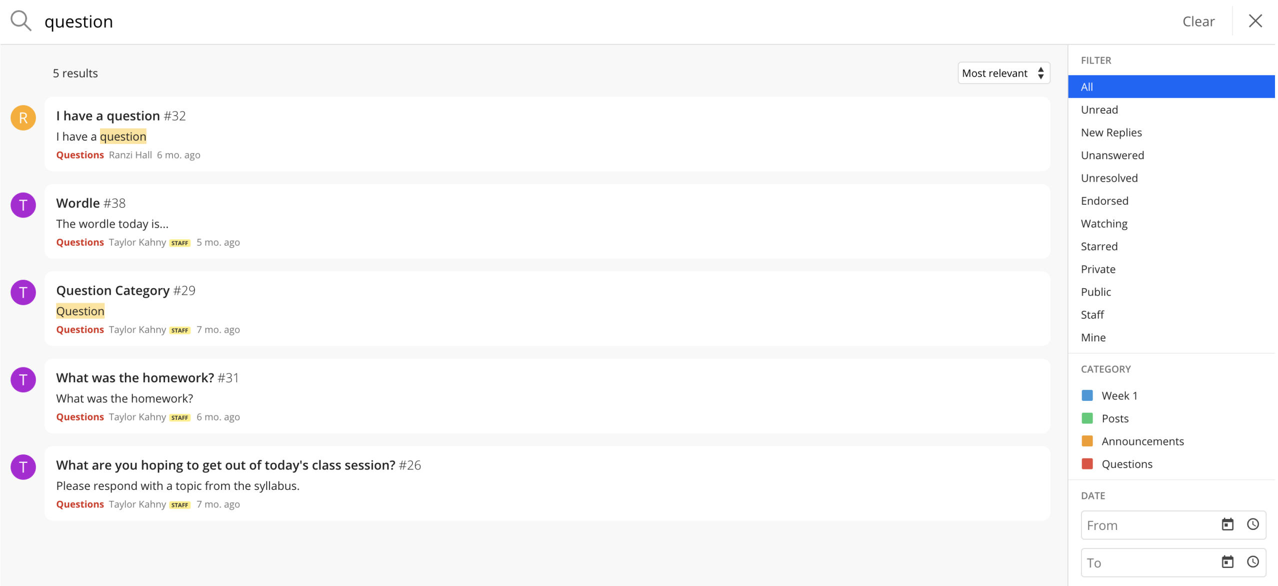
Filtering

In terms of organizing your view as an instructor, Ed Discussion allows for manyfiltering options. You can filter by unread items; the latest replies; threads that are unanswered (for questions only), unresolved (for questions only), or endorsed; items you have set to watch or have starred; your private content; any public content; posts from the teaching team; and threads only created by you:



Searching

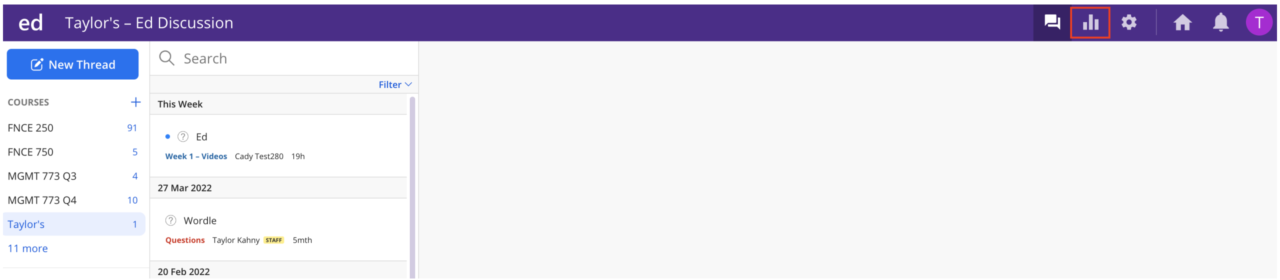
In order to quickly find posts within the discussion area, you can use the search bar to extract key words from threads. In the example below, the word "question" appears in five different posts within this particular course's Ed Discussion site:



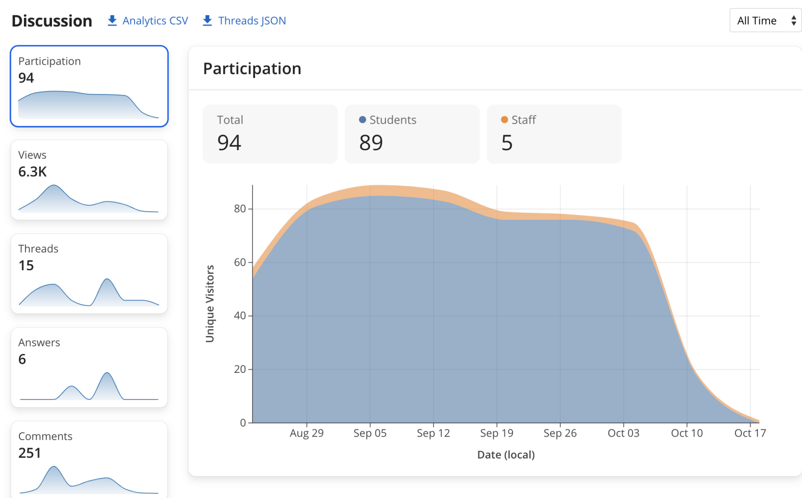
To drill down the search even further, you can select one of the filtered options, a specific category, or even a date range.

Analytics

As an instructor, you can view and download analytics depicting participation stats, such as views, threads, and answers, for a certain point in time. Access your Course Analytics by clicking the tab boxed in red below:

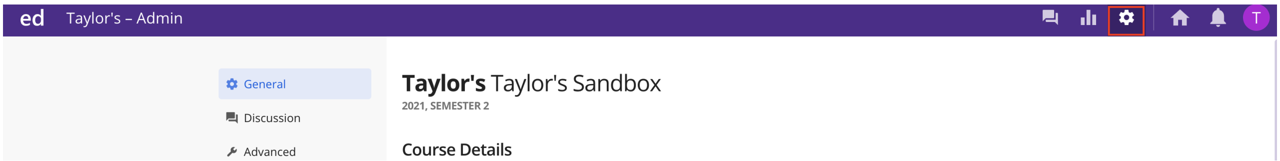


You can also view details on top contributors in the class. These stats can then be downloaded and viewed in .csv format for further drill-down capabilities such as user email addresses, roles, and specific activity metrics. The image below shows how these metrics appear from your Analytics tab:



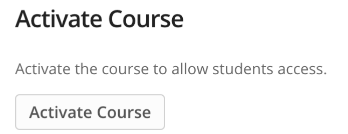
Admin

Another feature specific to a teaching team member role is the Admin tab. You can access this by clicking the gear icon boxed in red below:

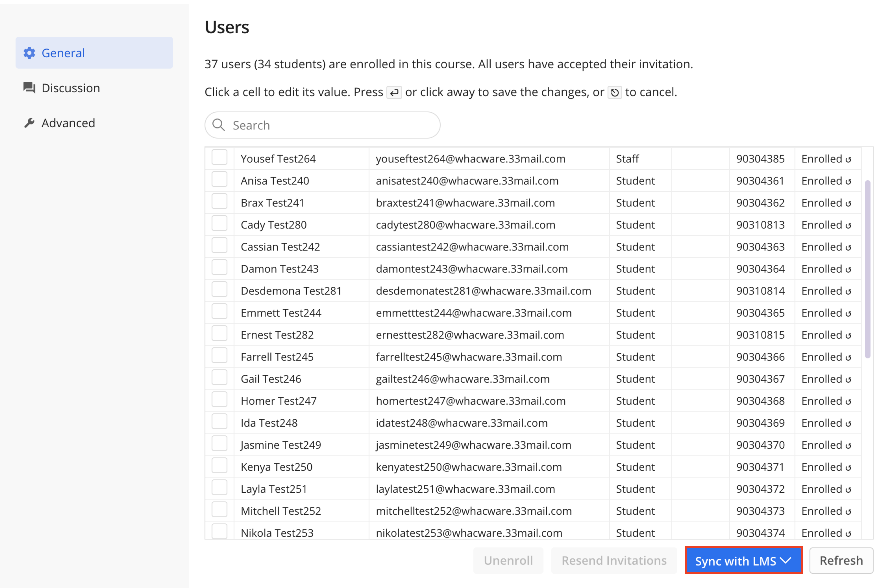


When working with the admin controls, you will see three different sections: General, Discussion, and Advanced.

In the **General section**, it is not recommended to further edit your Course Details or send out a Join Link, as this syncing happens through Canvas. However, you will need to activate your course for each new semester once you are ready to make Ed Discussion available to students:

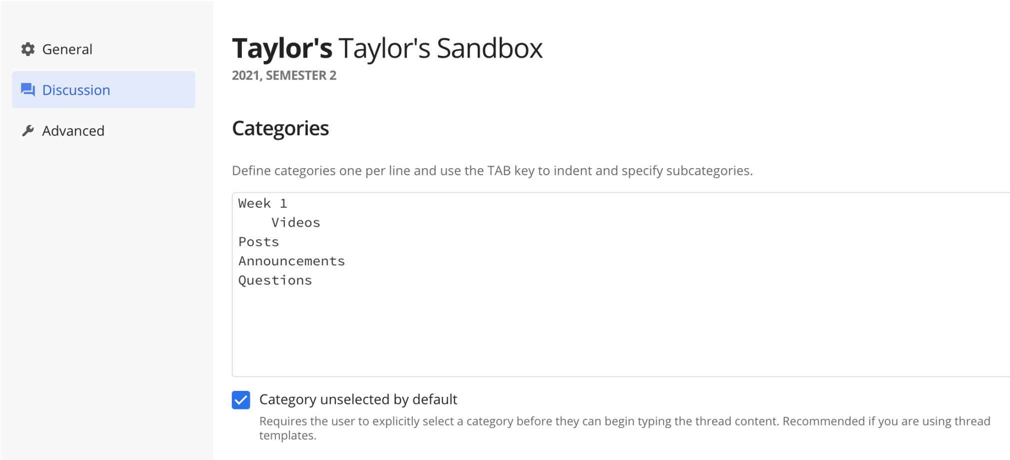


Then, under "Users," please check to make sure all members of your Canvas course are appropriately synced by clicking the blue "Sync With LMS" button show below:

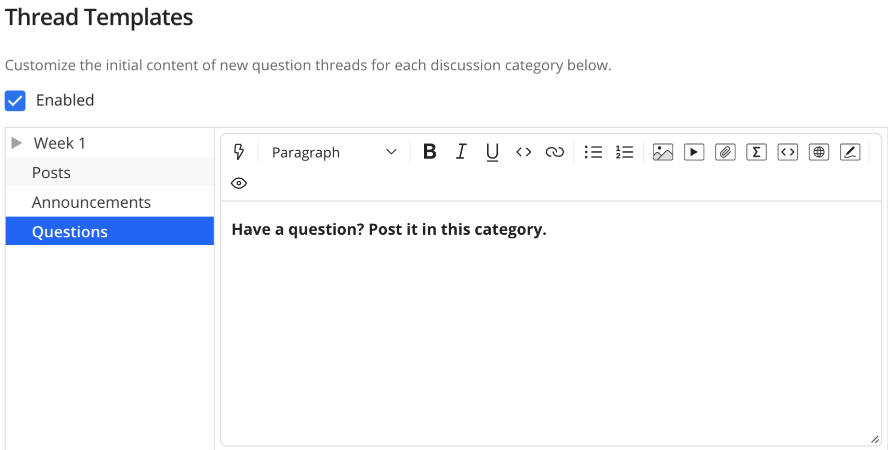


During the add/drop period, you may need to return here to ensure all users are appropriately synced and Ed Discussion is pulling the most current data from Canvas.

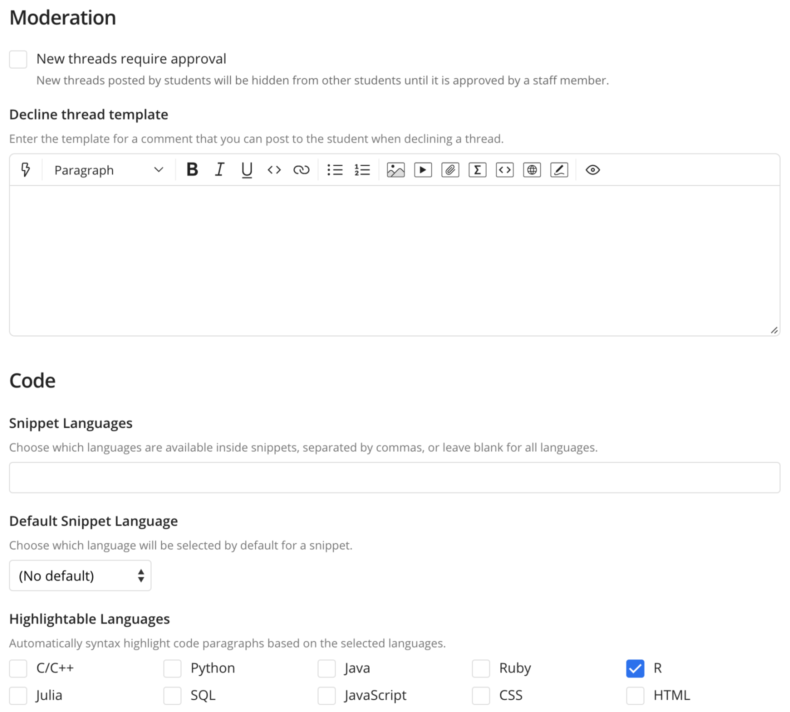
In the **Discussion section**, you can customize your categories by editing the text field shown below. Each category should be entered on its own line, and you can use the TAB key on your computer to specify subcategories. In the example below, Week 1, Posts, Announcements, and Questions are the course categories, while "Videos" is a subcategory. Also, the "Category unselected by default" option is checked, which is useful for organizational purposes, as students will need to consider where they are posting their new thread before drafting the content:



The **Discussion section** also allows you to configure more advanced discussion features, such as enabling anonymous threads, private threads, and anonymous comments for the entire course. You can also create Threaded Templates, allowing you to populate new text for a specific category with initial content to help guide users in their posts. In the example below, the text, "Have a question? Post it in this category." will automatically populate when a student chooses to add a new thread to the Questions category. The student can then erase that text and begin drafting their question:



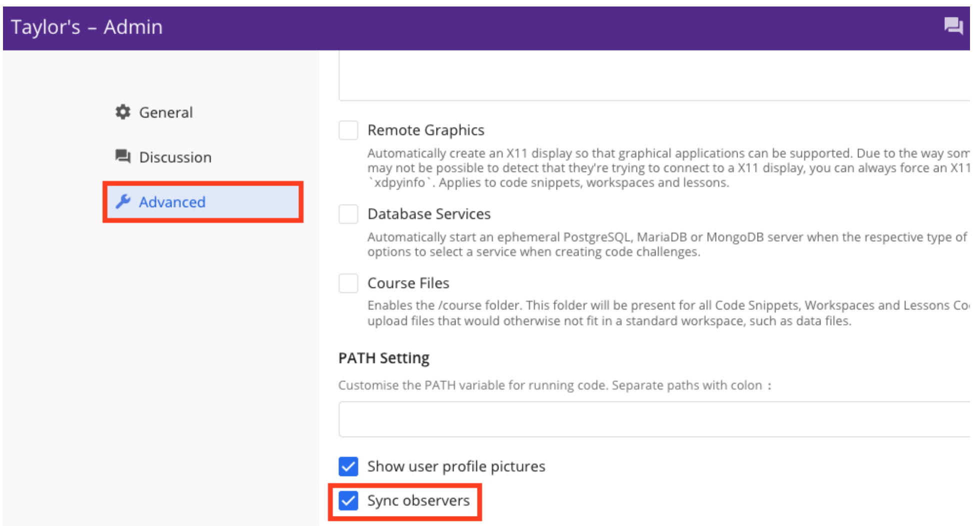
As a final note about the **Discussion section**, faculty can choose to require any new threads to receive approval by someone on the teaching team before it can be made public to the class. You can also enter a templated message for any posts that are declined by an instructor. Underneath the Moderation settings, you will also see a Code section where you can choose snippet languages, set a default language, and automatically syntax highlight code paragraphs based on your selected languages:



The Observer role (part of the Advanced section)

In some courses at Wharton, students may be added as informal auditors, taking on the "Observer" role in Canvas. In order to sync this user type with the Ed Discussion board, you will need to take the following action.

Navigate to ***Admin-> Advanced*** and then scroll down to the "Sync observers" check box:

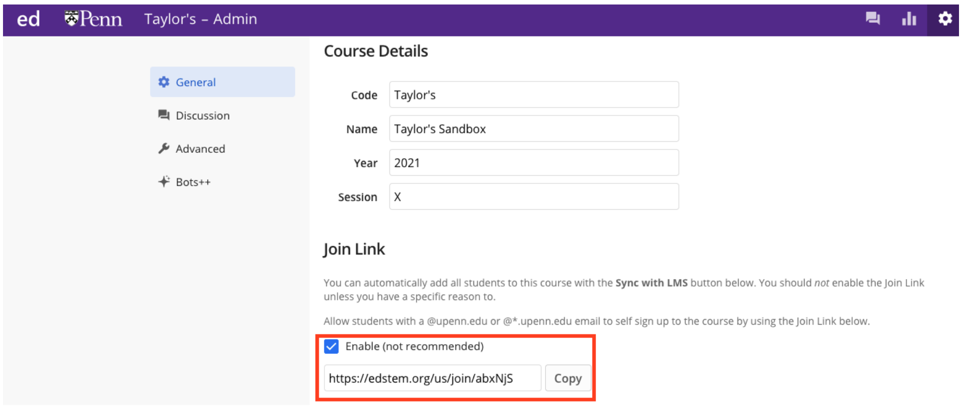


This setting will enable observers in Canvas to sync with Ed Discussion when the "Sync with LMS" button is selected (see first screenshot in Admin section of this article). Note that you will have to complete this action for each individual course's Ed Discussion board.

Other Admin

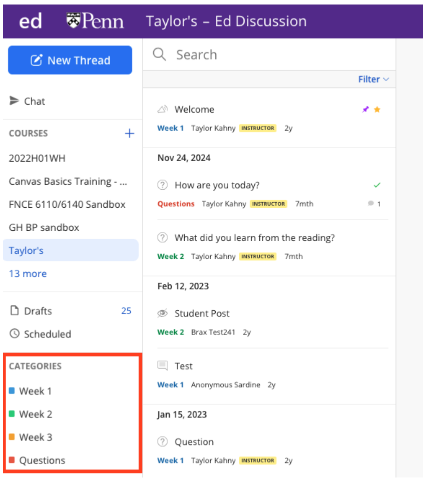
Although multiple Canvas sites cannot link to the same Ed Discussion board (in the case of a course containing multiple sections, each with a distinct Canvas site), you can use the "Join Link" option for this functionality.

For example, if ACCT 1010 has two course sections (003 and 004) and there is one site for 003 and a separate site for 004, it is possible to enable the "Join Link" and display that link on the Canvas course home page of each site (or a similar page for easy access):



This will allow students with a ***@upenn.edu*** or ***@wharton.upenn.edu*** email to self sign up to the course. In this case, students will not access from the "Ed Discussion" course navigation bar item.

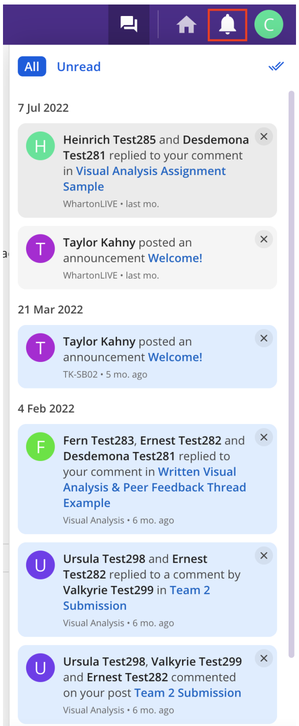
On the other hand, if multiple sections are in the same Canvas site and the professor would like separate "boards" for each section, this can be accomplished through separate Categories for each section.



How to create new categories is mentioned earlier in this **Admin section**.

Notifications

In the upper right corner of your screen, next to the home dashboard, you will see a bell icon indicating notifications. The notifications are organized by date with a section for "All" notifications and "Unread" notifications. There is also an icon enabling you to mark all notifications as "Read." Similar to the color scheme when posting a new thread, any item that is unread appears blue, while the notifications you have already read are grayed out as shown below:

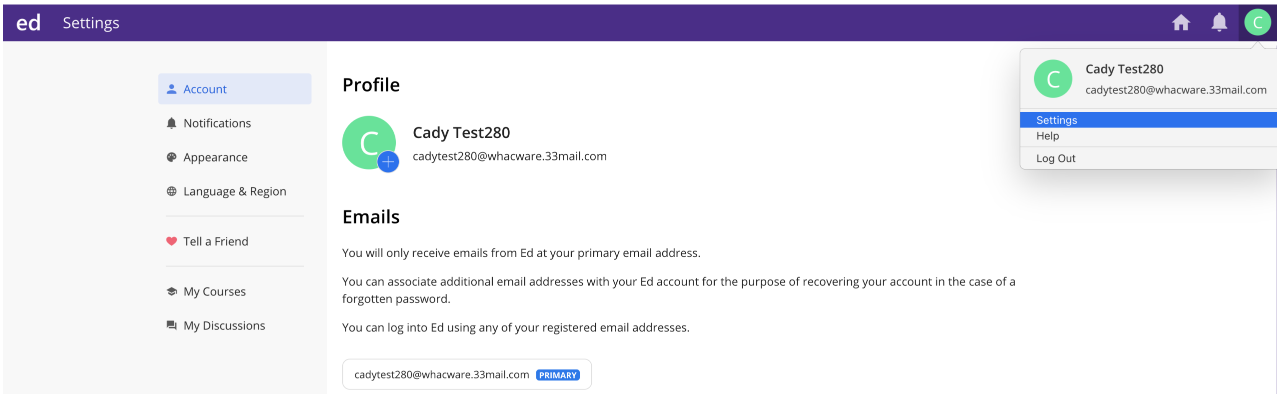


Please note that you will not receive Ed Discussion notifications via Canvas directly, as this is an LTI tool existing as a separate application.

To customize your notification settings, see the **Profile Settings** section below.

Profile Settings

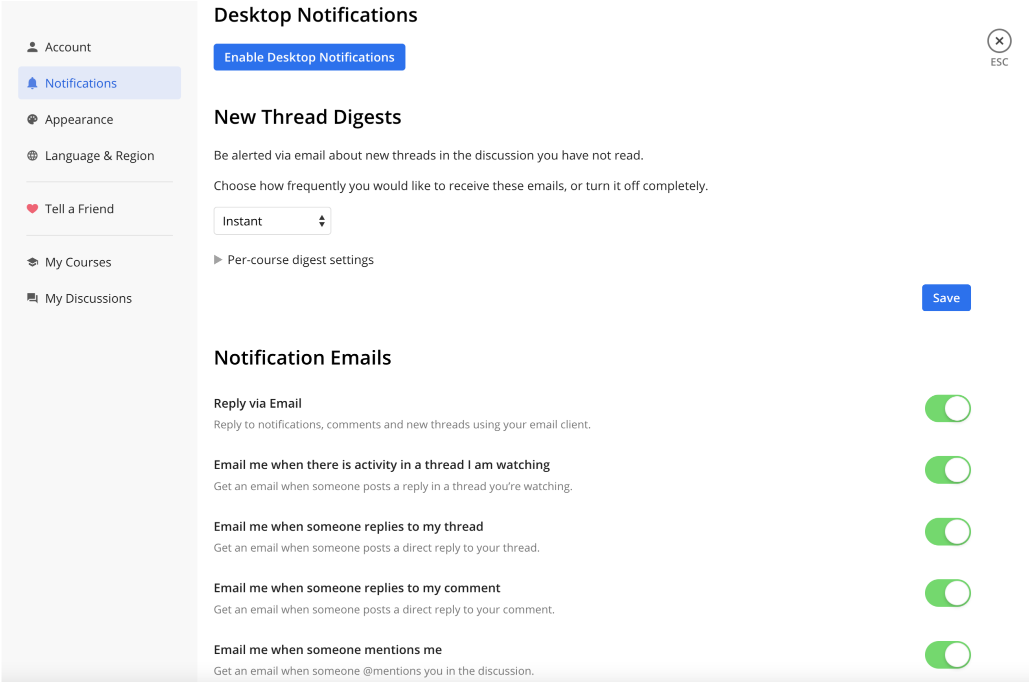
In Ed Discussion, there are ways to further customize your user experience in the **Settings** tab under your account profile:



From the Account section pictured above, check to make sure your primary email address is set to your Penn email address. This way, you will receive all Ed Discussion notification emails at this address.

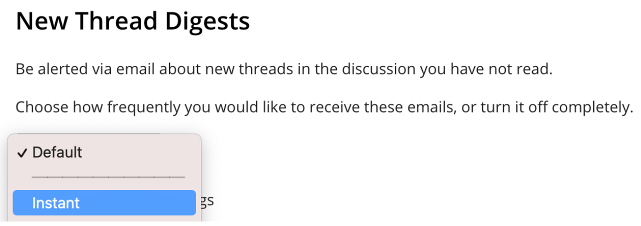
For added security measures, you can also set a password or enable Two-Factor Authentication for your account.

To edit your notification settings, you can toggle to the **Notifications** tab shown below:

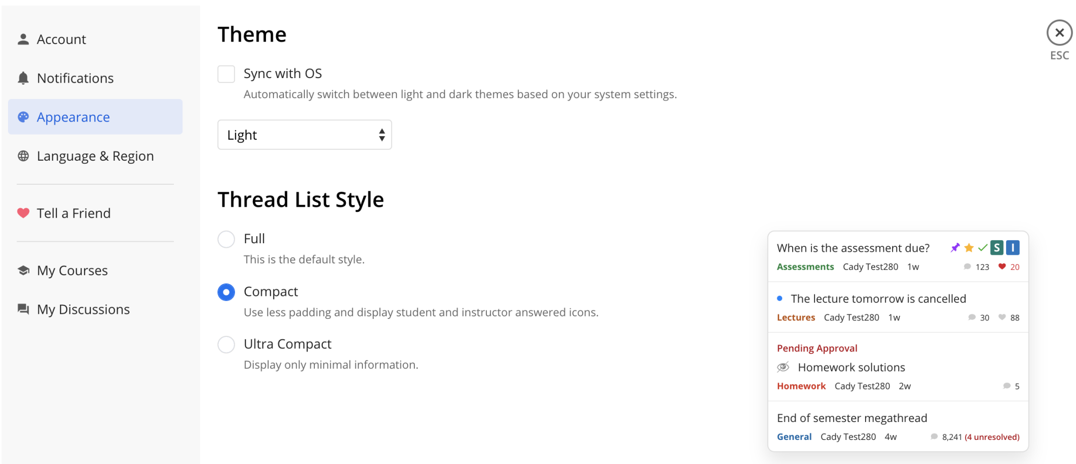


You can enable desktop notifications, choose how frequently you receive emails from Ed Discussion or turn this off entirely, and you can toggle various options for the email notifications you would like to receive.

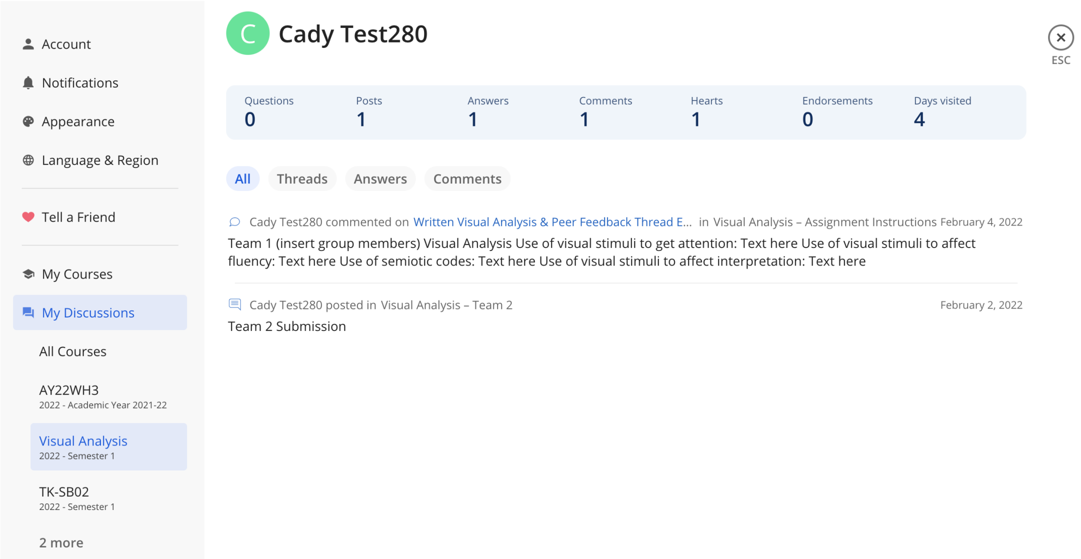
To receive automatic emails from Ed Discussion directly to your @upenn email address, the notifications should be changed to "Instant" rather than the default option:



Under the **Appearance** tab, Ed Discussion enables you to change from Light to Dark mode, even providing an option to sync the particular mode with your operating system's settings. In addition, you can change the threaded list style to full (default), compact, or ultra compact.



The **Language & Region** and **My Courses** tabs enable you to alter the language and time zone and view all courses you are teaching that utilize Ed Discussion. Under **My Discussions**, you can drill down to specific threads, answers, and comments you have made on your course discussion boards, making it easy to return to a conversation without having to search through all user threads:



Using Ed on a Mobile Device

For those who wish to post discussions and respond on a mobile device, it is recommended to add Ed to the phone's homescreen for easy access:

For **iOS**, visit edstem.org in Safari and tap **Share>Add to Home Screen**.

For **Android**, visit edstem.org in Chrome, tap the **menu icon** (3 dots in upper right corner), and select **Add to Home Screen.**

Questions?

If you need more assistance, please contact courseware@wharton.upenn.edu for support.

Harmonize Discussions for Instructors

Last Modified on 01/30/2026 1:46 pm EST

Harmonize Discussions for Instructors

This article describes one way the Harmonize learning toolkit can be used to establish a Canvas-based assignment in which students engage in graded or ungraded multimedia discussions.

> Before you start, decide whether you would like to request a consultation with a Courseware team member to discuss Harmonize assignments.

In Harmonize discussions, students can use a variety of media to engage in robust class discussions. Discussions can be set to various levels of interaction, with options pulled from Canvas site integration:

- Visible to Everyone (entire Canvas site roster)
- Students in Same Sections
- Students in Same Groups
- Private Between Student and Instructors

You will see the option to specify visibility within "Post Settings" as mentioned subsequently in this article.

Here's how to set up a Harmonize Discussion in your Canvas course site.

If you would like to check out on-demand webinars with ideas on how to use Harmonize to enhance your class, visit the Harmonize Events Archive.

If you need more assistance, please contact courseware@wharton.upenn.edu for support.

Wharton Attendance, Absence, and Video Requests (For Instructors)

Last Modified on 01/23/2025 2:46 pm EST

This app is discontinued beginning Fall 2024.

Please see:

- Getting Started with aPlus+ in Canvas (Instructors)
- Using aPlus+ in the Classroom (Instructors)
- Class Recording Permissions (For Faculty)

For instructors these tools were be used to track and report on attendance, manage absence requests, and manage video requests. Each feature can be enabled or disabled for your classes on a per-section basis.

The Wharton Attendance and Video Requests app is no longer available for instructors through Instruction Center. For more information, please contact Academic Computing Support.

Course Check-In

Course Check-In allows students to check in to class, so you don't have to take attendance manually. They can check in using either the Canvas Student app (IOS/Android) or the Canvas website.

Key things to keep in mind about Check-In are:

- Check-In opens ten minutes before class and closes at the end of the class.
- Students who fail to check in to a particular class meeting will be marked absent and prompted to submit an absence request for that class meeting. (See Absence Requests for more information on absences.)

For step by step instructions,

Absence Requests

Students are able to submit an absence request when they cannot attend class or if they fail to check in. If enabled, students can submit their absence requests through the Attendance & Video Requests app linked in their Canvas site, and the instructor can manage the absence requests through Instruction Center. Students will receive an email at the end of the day with a report of any updates to their absence requests.

Key things to keep in mind about Absence Requests are:

- Students only have two weeks past the class meeting date to submit absence requests.
- Students can submit absence requests in advance if they know they are going to miss a class (or a number of classes).
- When submitting an absence request students must provide a reason. Absence Requests for the reasons (Personal Health, Personal/Family Emergency, Religious Observance, and I Forgot to Check-In) are automatically excused. The other options (Personal, Recruiting, Technology, and Other) are by default **unexcused** and up to the instructor to excuse if appropriate.

- Instructors and/or TA's will get a daily notification summarizing any absence requests that were submitted.

For details on this feature,

Video Requests

This feature allows students to use Canvas to submit video access requests for classes they have or will miss. The instructor can approve or deny that access using Instruction Center.

Key things to keep in mind about Video Requests are:

- Students are only able to submit requests for the past 2 weeks of class meetings.
- Students are able to submit requests for future class dates if they know they are going to miss a class or a period of classes.
- Video Requests are not approved automatically. Instructors will need to approve them.
- Instructors and/or TA's will get a summary email at the end of each day with a listing of all video requests that have been submitted and their current status.
- If a video request is approved for a particular class meeting, the student will be notified of your approval of their request. Note that in most cases the recording does not become available for the student to view instantly upon approval; instead, that will happen on the following timeframe:
  - **up to 48 hours after the end of that specific class;**
  - **AND up to 6 hours after your approval.**

For details on this feature,

Reporting

Reports are available in Instruction Center for reporting on attendance data.

For details on this feature,

Student View in Canvas

Students can manage their attendance and video requests from within Canvas course sites.

There are two resources for students that you may want to share with them as appropriate:

- Knowledge Base Article: Wharton Attendance, Absence, and Video Requests (For Students)
- Presentation Slides: Student_Attendance_instructions.pptx

Questions?

Faculty

If your question is about:

- **The Wharton Attendance & Video Requests tool itself**: Email Academic Computing Support
- **Providing access to specific class recordings**: Email Wharton Computing Classroom Support Team

Students

Contact Wharton Student Computing for questions or support.

Should I Use a Blueprint?

Last Modified on 01/28/2026 1:10 pm EST

Blueprint for Canvas is useful when a course has multiple sections which run in approximately the same part of a single semester, and which have the same, or mostly the same, content but it's not for every course. Read on to determine whether a Blueprint Site is right for your course.

Before You Start

You will need the following before you can complete this task:

- Canvas Access

Things to consider

Usability Learning Curve

Blueprint Canvas sites function differently in many aspects from a single Canvas site. It is important to be aware that there are differences, and that there is often a learning curve when first using or returning to a Blueprint Canvas site. The Courseware Team encourages faculty or TAs using Blueprint Canvas sites to ask questions.

Do you aggregate data across child sites?

Blueprint does not support aggregating data across child sites. If you need to aggregate data across sections, you would need to export the data or grades from each section and aggregate them outside of the Canvas environment. If any data needs to be entered back into Canvas, this will also need to be done separately for each section.

If you would like to export assignment or quiz submissions, this will need to be done separately in each assignment for each section.

Do courses run in the same part of the semester?

Blueprint is designed to facilitate running courses simultaneously. If your courses run in different parts of the semester, we do not typically recommend using a Blueprint Canvas site.

Do you anticipate sending announcements to all sections?

A Blueprint Canvas site configuration will allow you to send announcements to all sections from the template site, or to individual sections from the associated section sites.

Do you want to keep your students and/or recordings separate?

Blueprint is designed to facilitate this. If your objective is to keep students and recordings in the same Canvas site, we recommend considering having all sections in a single Canvas site.

Do you anticipate sharing most or all content between Canvas sites?

Blueprint Canvas sites are great for courses that have identical or mostly identical course content. After the content is synced to the associated Canvas sites from the template, adjustments to content can be made within individual Canvas sites if desired.

Do you work with Wharton Learning Lab to run simulations in your courses?

If you work with the Learning Lab to run simulations in your courses, please check in with the Learning Lab team or the Courseware team. The configuration of your Canvas site can impact how smoothly a simulation runs.

Blueprint Feature Summary

Below is a quick reference for the capabilities of Blueprint. It is not exhaustive, but should help you determine whether Blueprint is right for you. For information on how these features work,

Feature	Shared via Blueprint?
Share course content (modules, assignments, pages, quizzes etc.)	✅
Course Settings (navigation menu, assignment group order, module order)	✅
Announcements	✅
Curriculum Video Content	✅
Appointment Groups	✅
Student Enrollments	❌
Submissions, grades, discussions	❌
Class Recordings (Zoom, Panopto etc.)	❌

Example Blueprint use cases at Wharton

This is not an exhaustive list. If you would like to discuss whether a Blueprint Canvas site configuration is right for your courses, we would be happy to schedule an Instructional Design consultation.

1. Courses with 5 or more sections with identical or almost identical content, lead by a course head, but taught or led by various faculty or TAs.
2. Courses with 2-4 sections taught in the same part of the semester that have identical or almost identical content and are taught by the same or multiple instructors.
3. Courses that have a combination of 1-3 Lecture section(s) and multiple Recitation sections will often have a single Canvas site for the Lecture section(s) and a Blueprint set up for the recitation sections.
4. Courses that have 12 sections taught by three instructors and the content is mostly identical
    - This use case will often have the faculty starting from a single template site where they create/revise the shared content. Once they have finalized the shared content, they request that we copy the shared content into a separate blueprint template for each faculty member

How to request a Blueprint Canvas Site

Blueprint Canvas sites are requested using the Courseware Request Form. If you are requesting a Blueprint Canvas site configuration for the first time at Wharton, we highly recommend that you also request an Instructional Design consultation for training on Blueprint Canvas site best practices.

Please submit your request for a Blueprint Canvas site **at least 6 weeks** before the date you desire to publish your Canvas sites.

Blueprint sites that have **four or more** associated Canvas sites require a higher level of communication with the Instructional Designer(s) building your sites. If you are requesting a Blueprint Canvas site configuration for a course that has more than three sections, **a consultation with the courseware team is required** so we can discuss your support needs and expectations.

If any of the associated Canvas sites will be administered primarily by individuals who should not be making content decisions (such as a TA), please communicate that in your initial request.

What to expect when requesting a Blueprint Canvas site

Once you have submitted your request for a Blueprint Canvas site configuration, we will build the Blueprint template and notify you when it is ready for your review and edits. After you have finished your edits, you will then need to notify us that the site is ready for us to create and associate the section sites. You can do this by responding to the email notification about the Blueprint template, or by emailing courseware@wharton.upenn.edu.

Questions?

Contact the courseware team

Working with Canvas Blueprint Sites

Last Modified on 01/30/2026 1:23 pm EST

We are aware that Zoom is rolling out changes to its interface that may affect some of our directions. We are working on updating these pages, but in the meantime you can visit Zoom's Release Announcement. Please reach out to Wharton Computing if you have any questions.

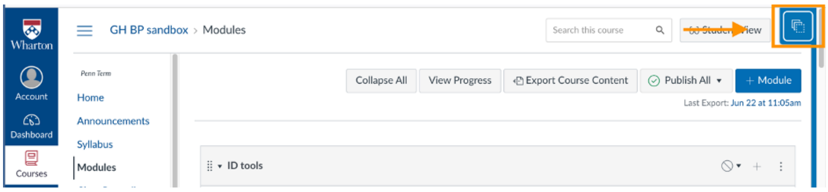
This article will help you understand what a Canvas Blueprint site is and how to manage your Blueprint parent site and associated sites. This is a high-level overview and does not include all setup and configuration information. If you are using Blueprint for the first time, or would like a refresher, please reach out to the Courseware Team at courseware@wharton.upenn.edu to schedule a consultation.

Before you Start
This is a supplement to the Wharton Knowledge Article, Requesting a Canvas site for a Wharton Course

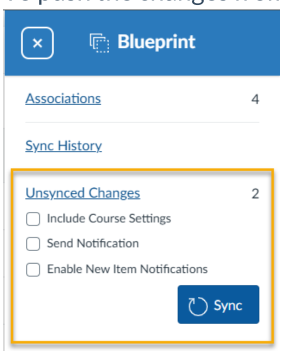
Syncing Content to Child Sites

Any changes you make to the parent site will need to be synced before they will appear in child sites:

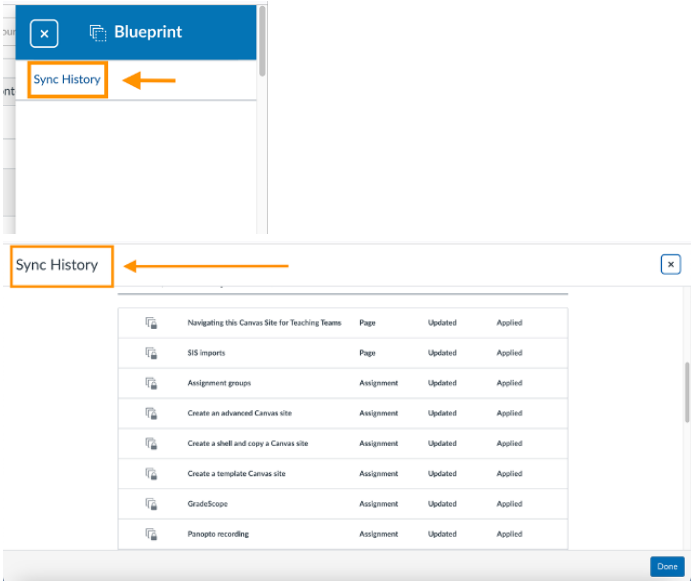
1. Navigate to the blue box in the right-hand corner of the screen.
2. Click on **Sync Changes**. This opens the Blueprint menu.



   If any changes have been made since the last time the document was synced, you'll be able to see how many changes were made and review them from there.
3. To push the changes from the parent site to the child sites, click on the **Sync** button.



4. Check all child sites to verify that the changes synced out correctly.
5. You can review recent content syncs in the Sync History. This will show the time stamps of recent syncs along with a list of changes. The list will indicate whether a change was applied, and if not indicate what type of Sync Exception prevented the change.
   Note: If due and/or availability dates have been modified, you may see "due date change exceptions." This is normal behavior.



Syncing changes is an all-or-nothing action. You cannot select specific changes to sync or sync only to specific child sites.

Using Sync History

You can review recent content syncs in the Sync History.

After content is synced to the associated section sites from the Blueprint template, there is a Sync History option in the Blueprint menu. The Sync History list will show the time stamps of recent syncs along with a list of changes. The list will indicate whether a change was successful. If the change was unsuccessful, it will indicate the type of Sync Exception which prevented the change.

Note: The person who initiates the sync is not always the person who made the edits

Sync Exceptions

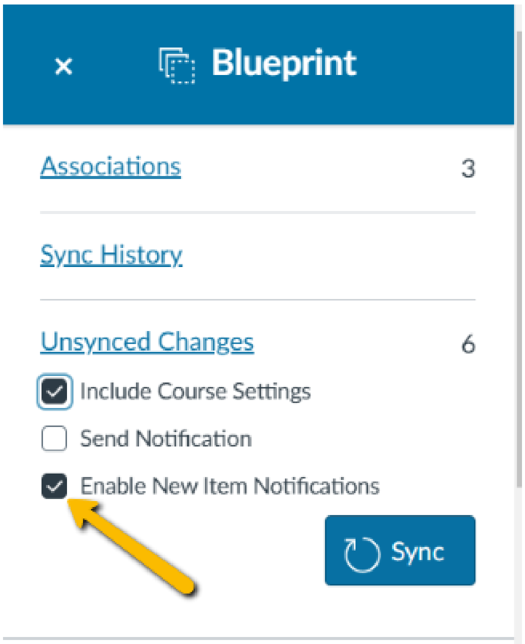
A sync exception occurs when a portion of the content fails to sync from the template to the associated sites. This occurs when changes to an attribute are made in an associated site, and should only impact that element in that associated site. The most common sync exception seen at Wharton is a due date change exception. This is because we often adjust the due dates to match the meeting times or days of the associated section. If you see a sync exception you are not expecting, please contact Courseware.

For an extensive overview of Blueprint Settings which do and do not sync, see Blueprint Sync Functionalities.

Sending Announcements through the Blueprint Template

Announcements can be sent through either individual child sites or the Blueprint parent site. To send announcements through the parent site:

1. Set up the announcement as you would in any Canvas site.
2. Select the "Enable New Item Notifications" menu item, then **Sync** the announcement to the child sites.



If you do not select the "Enable New Item Notifications" menu item before you sync the announcement, students will be able to see the announcement in the Canvas site, but they will not receive a notification.

Appointment Groups

To create student sign-ups (for office hours or the Faculty/Student lunch program) available to students across multiple sections, you'll need to select all desired sections in the Calendars field of an Appointment Group //[link to All About Appointments article]

Calendar Events

To create calendar events (for office hours) available to students across multiple sections, create them in the template site, then sync them to the associated sites. Canvas does not allow users to select multiple calendars, but will populate the calendar events in the associated sites in the next sync. If calendar events are created both in the template and associated sites for the same time slot, the associated site calendar will show both calendar events.

LTIs

If your site uses any of the LTIs (Canvas-integrated third-party tools) that are supported by the Wharton Courseware team (e.g., FeedbackFruits or Harmonize), please note **they will only sync to child sites once** and should be completely configured and proofread before they are synced. If you will be using an integrated tool with your Blueprint site, please contact courseware@wharton.upenn.edu to request information specific to how the tool interacts with Blueprint Canvas sites.

We recommend setting up LTIs in one sitting to prevent accidentally syncing and the related updating that would cause.

Zoom and Zoom Recordings

To create a single zoom meeting for all sections of a course associated to a Blueprint Canvas site, you can do so by creating it in the template site and then syncing it to the child sites. When a Canvas Zoom LTI meeting is synced to the associated Canvas sites, a Canvas calendar event is created. Students will find the Zoom meeting information on their Canvas site calendar, the syllabus page, and their Canvas To Do list. They will not see the meeting in the associated Canvas site Zoom menu item, nor will they see it in MyWharton.

Any Zoom meetings created using the Canvas Zoom integration with the default recommended meeting settings and are then recorded will automatically be routed to the Class Recordings folder of the Canvas site associated with the Canvas Zoom integration. For example, if the meeting is created in the Blueprint template, thensynced to the associated Canvas sites, the recording will be accessible in the Blueprint template Class Recordings folder.

The Class Recordings folder does not sync to the associated sites. [**link to curriculum videos below].** If you would like to share the recording with the associated sites, you can either copy the video in Panopto or you can adjust the visibility settings of the recording or the Panopto folder, then embed the recording in a Canvas announcement, assignment, or page and sync it out.

> The visibility settings should either have the associated site viewer groups added or be adjusted to be available to anyone with a link

If you do not currently use any of the LTIs but would like to hear how they can enhance your assignments and/or your Canvas site, contact the Courseware team.

Turnitin

Respondus LockDown Browser

To request Respondus LockDown Browser be added to your Canvas site(s) for an in-class exam or quiz, please email courseware@wharton.upenn.edu
After Respondus LockDown Browser has been added to your Canvas sites, you can enable it for any unlocked quiz in each of the associated section sites using the instructions in the Respondus Lockdown Browser article. Please note that once you have done so, Respondus LockDown Browser will change the content of the quiz by adding "Requires Respondus LockDown Browser" to the quiz title. If changes are made to the quiz after this point, you will see a sync exception for content for each section in which the quiz title has been changed.

We highly recommend waiting until you have finalized and synced all edits to the quiz content before enabling Respondus LockDown Browser in the associated section sites.

Curriculum Video Content

If you have videos that you share via Canvas as part of your curriculum (i.e. not the Class Lecture recordings), you should create a folder in the Class Recordings area of the Canvas template site, adjust the visibility to "Available to anyone with the link," then upload the videos you would like to use into the folder you just created. Once the video is uploaded, you can embed the video in a Canvas Rich Content Editor (such as an assignment or a page), publish the item, then sync it to the child sites.

Trouble-shooting Common Issues

What to do when students switch sections after submitting assignments?

If any of your students change sections after submitting assignments, please contact courseware@wharton.upenn.edu. We will work with you to schedule a brief meeting via Zoom during which we will very briefly add the student back to their original Canvas site. While we are still in the meeting, you will be able to access the work the student submitted prior to changing sections so you can transfer the work and/or the grades and feedback to the new section. We will then remove the student from their previous section's Canvas site. We complete this process while in a meeting with the teaching team because it is important that we minimize the time that the student is re-enrolled in the old Canvas site.

What to do if content doesn’t sync like expected

If you notice that content is not syncing like expected after you follow the steps in the section on syncing above, please contact the courseware team to let us know, and include as much detail as possible about what happened and when. It is very helpful if you also include a link to the item and screenshots of any errors.

Replacing Files

To replace a file through the template site:

1. lock the file, then sync.

2. delete the file, then sync.

3. add the new file, then sync

Changing File Names

content needed

Regrading Quizzes

If you are using New Quizzes and discover you need to regrade a question, this will need to be done separately in each associated section site.

Cloning groups in Associated Sites

If you clone a group set that is associated with a group assignment and want to use the cloned group set for the assignment, you will need to manually update the associated group set for each assignment.

If you have questions regarding whether it would be better to update the current group set or clone it, please contact the courseware team.

Zombie Project Groups

content needed

Questions?

Contact the Courseware team at courseware@wharton.upenn.edu.

Syncing Blueprint Sites

Last Modified on 11/11/2025 10:44 am EST

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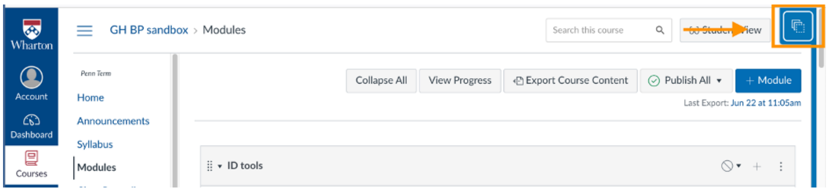

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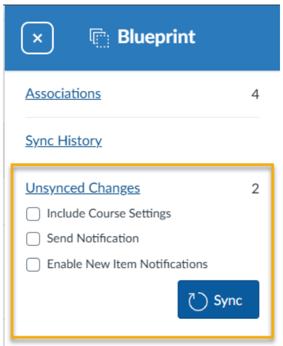

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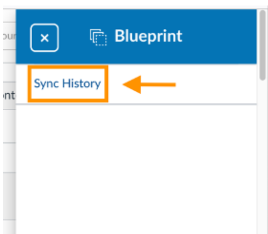

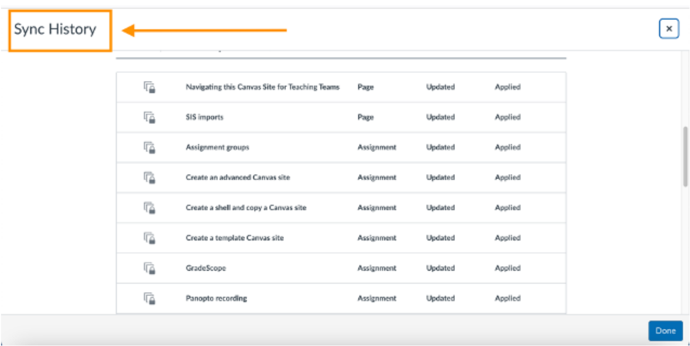

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For an extensive overview of Blueprint Settings which do and do not sync, see Blueprint Sync Functionalities.

think-cell Software

Last Modified on 10/03/2025 11:39 am EDT

think-cell is a presentation software that integrates with PowerPoint and Excel seamlessly to help you visualize complex data using charts. The software is available for free to Wharton students, staff and faculty members, using any of Wharton's public workstations, or by downloading and installing it on your personal computer.

How to Download think-cell

think-cell is available on the computers in Wharton's labs, GSRs, and classrooms. It is also available for download to your PC or Mac personal computer.

think-cell licenses are renewed annually on July 1.

To access the downloadable version, or to renew an existing license, please email think-cell@wharton.upenn.edu or visit: https://server.think-cell.com/portal/en/downloads.srf

Create Professional-Looking Presentations For Your Classes Fast Using think-cell

think-cell might save you a significant amount of working time and enable you to create professional looking presentations for your coursework. Knowing think-cell could also be a valuable skill as you enter the workplace since many employers use the software.

think-cell is free to Wharton students, faculty, and staff. It takes just minutes to learn watching the short video tutorials available for each chart type. See below for helpful training resources.

Why Should You Consider Using think-cell?

- Create 40+ chart types, including waterfall, Gantt, and Mekko charts in just 2-3 minutes
- Automate changes to your charts with think-cell
- Become proficient with the charting software used by top consulting and investment firms
- Improve your class presentations and impress your audience

How to Learn More

To find personalized think-cell help, a searchable user manual, and targeted video tutorials, visit https://www.think-cell.com/support

- Watch this think-cell overview video
- Watch this 3 minute video to learn how to create your first chart
- See all of think-cell's 40+ chart types and features here
- Learn how to link an Excel file to your think-cell Power Point chart and automate data updates here

Questions?

Students: Wharton Computing Student Support

Staff: admin-support@wharton.upenn.edu

Faculty: Departmental IT Rep

Canvas Student Apps

Last Modified on 12/22/2022 3:59 pm EST

Before You Start

You need the following to use the Canvas Student mobile app:

- An active PennKey
- A camera-equipped mobile device running iOS or Android (for the QR code feature)
- Membership in a course site on Penn Canvas

Canvas Apps

The mobile apps provide quick access to most parts of a Canvas course site or group sub-site, including viewing and downloading of Files as well as view-only access (no saving or downloading) for reading Study.Net Materials. They contain much of the same functionality as the full browser version of Canvas.

Canvas Student for **iOS** (Download)	Canvas Student for **Android** (Download)

Mobile Guides for iOS and Android: https://community.canvaslms.com/docs/DOC-4048

If a Canvas feature is not yet available in the mobile version, switch to a mobile browser on your device, preferably Chrome. You might also choose to subscribe to your Calendar Feed with your preferred mobile calendar app.

Authorizing this App for Penn Canvas

Choose between two alternatives to authorize this app to work with your account and Penn Canvas user record: **Authorization via Login** or **QR code**.

Authorization via Login

This method works anywhere you can access mobile data or Wi-Fi, provided you meet the **Before You Start** requirements above and have already installed the Canvas Student app:

Authorization via QR Code

This quick method doesn't require typing on your mobile device, but it does require having both your camera-equipped mobile device and *another* device -- your laptop or other computer with a display screen showing Penn Canvas in a web browser.

Using more than one Canvas Platform?

Most, but not all, of Penn's students use the same Canvas platform. **JD/MBA students and students taking another school's courses on different Canvas platforms** may want to take advantage of multi-user login capability, which will give you a **Profile** for each Canvas platform you use. Here are instructions for multi-user logins:

- Switch to another account in the Canvas app on an **iOS device**.
- Switch to another account in the Canvas app on an **Android device**.

Questions?

Contact: Wharton Student Computing

Email: support@wharton.upenn.edu

Phone: (215) 898-8600

JMP Access and Troubleshooting Guide

Last Modified on 08/28/2025 10:42 am EDT

JMP Student Edition is available to both students and faculty for any Wharton class that requires the use of JMP. This article provides basic instructions on how to access JMP.

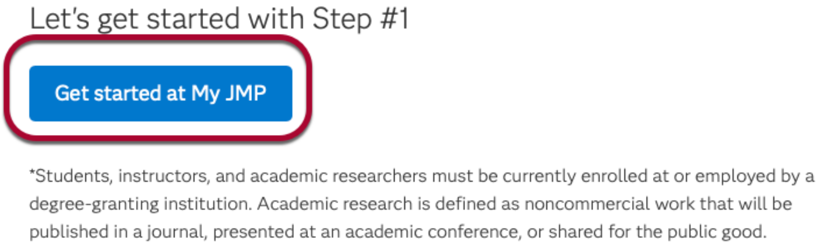
When you launch JMP Student Edition for the first time you'll need to verify that you have a license (which are free for students and faculty). Enter your email address and a verification code will be sent to that address. Enter the code and you're all set.

A MyJMP account is required to obtain and verify a JMP license. See the directions below.

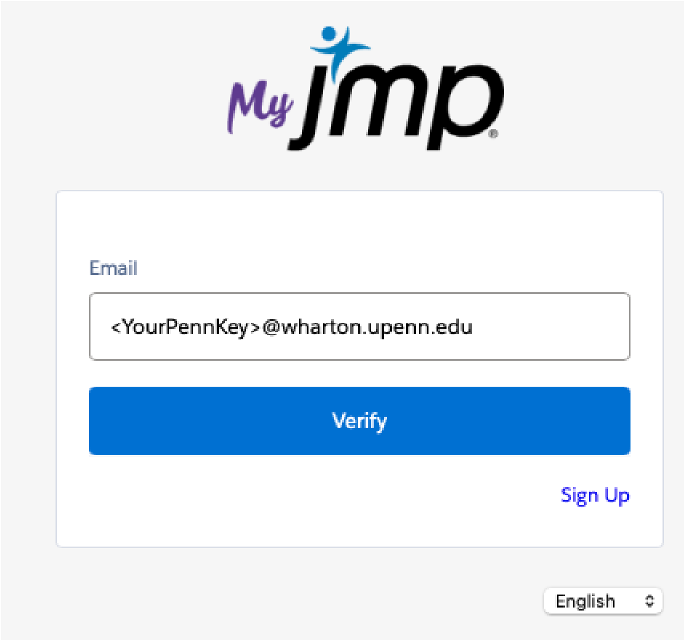
Obtaining a JMP License

1. Navigate to jmp.com/student.
2. Click the **Get JMP for free!** button.

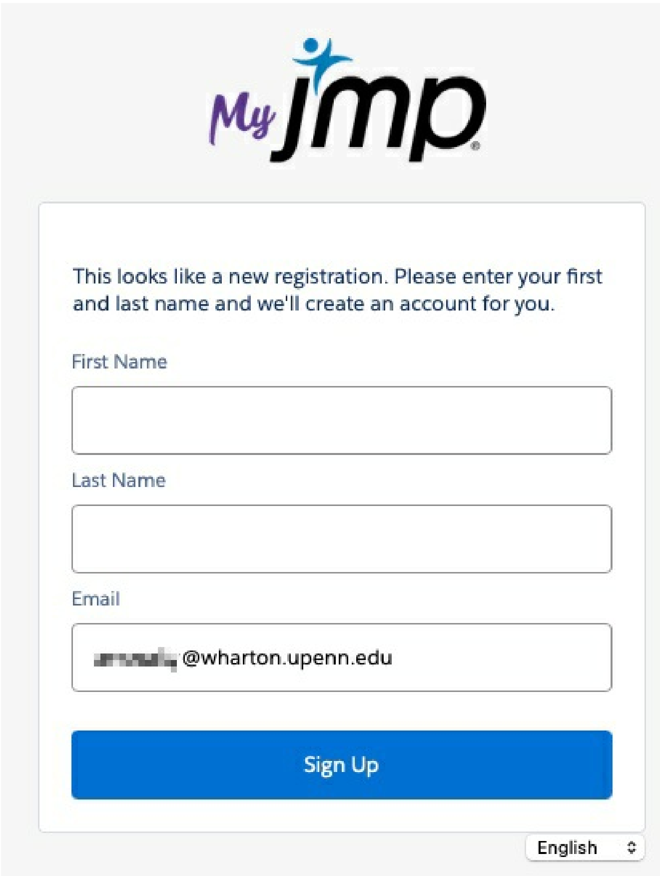
3. Click the **Get started at My JMP** button.



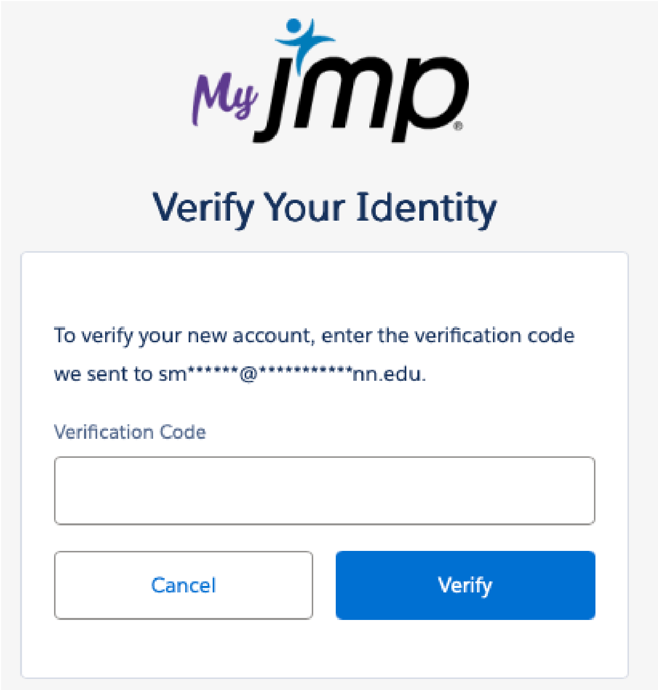
4. Enter your Wharton email address (<YourPennKey@wharton.upenn.edu>) and click the blue **Verify** button.



5. If you don't have a myJMP account you'll need to enter your First and Last name and click the blue **Sign Up** button. Otherwise, skip to step 6.

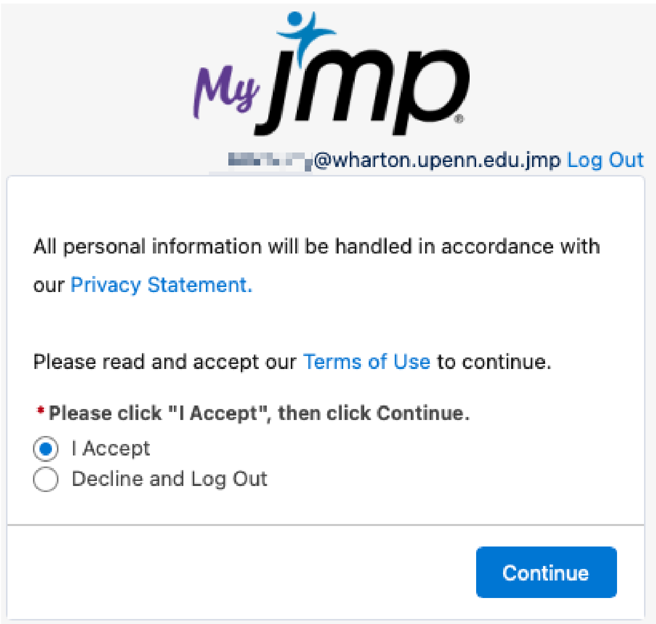


6. A verification code will be emailed to the email address you entered (for new and existing accounts a like). Find the code and enter it in the **Verification Code** field then click **Verify**.

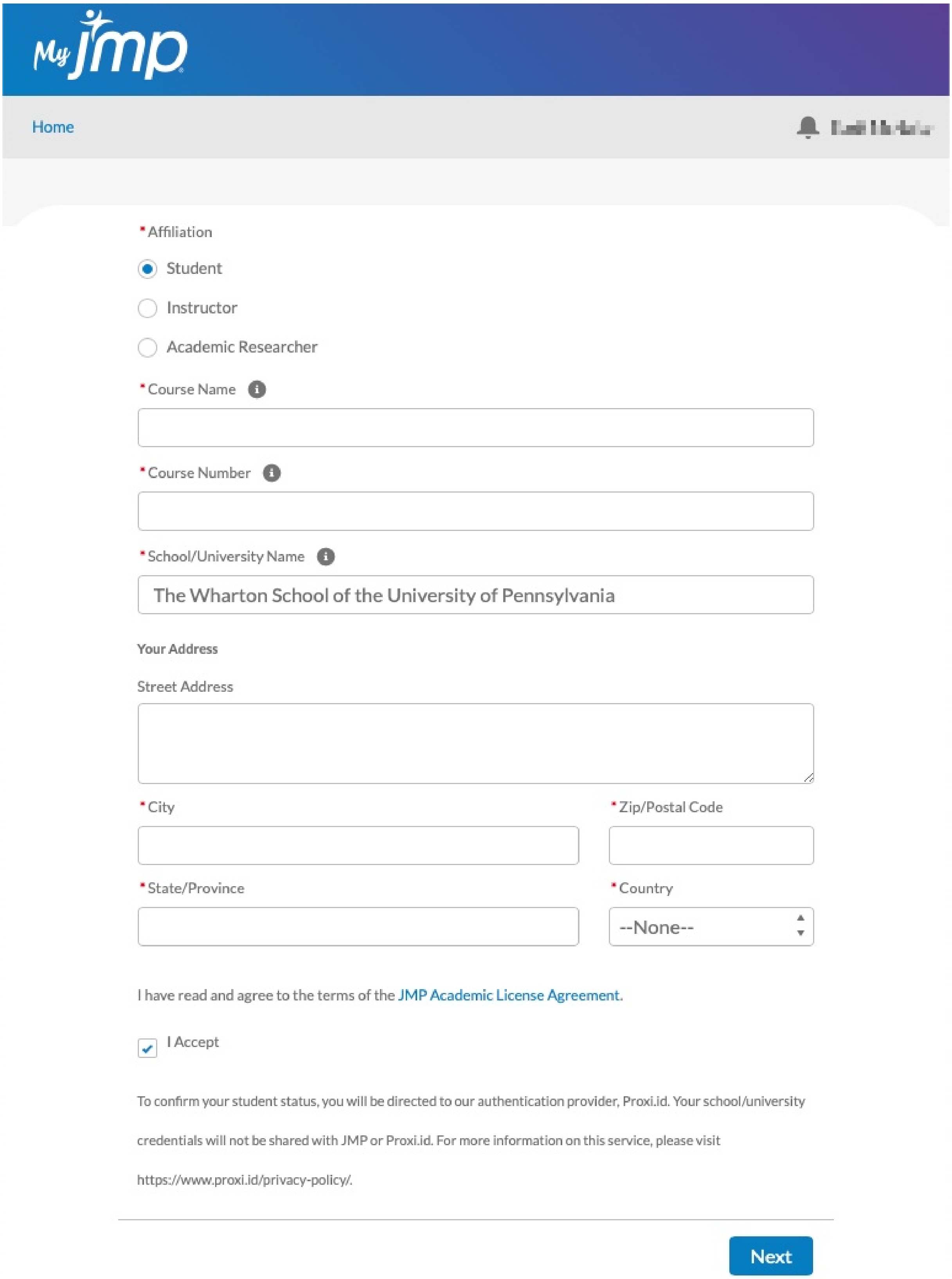


If you have an existing account you'll be taken to your available JMP downloads (see step #).

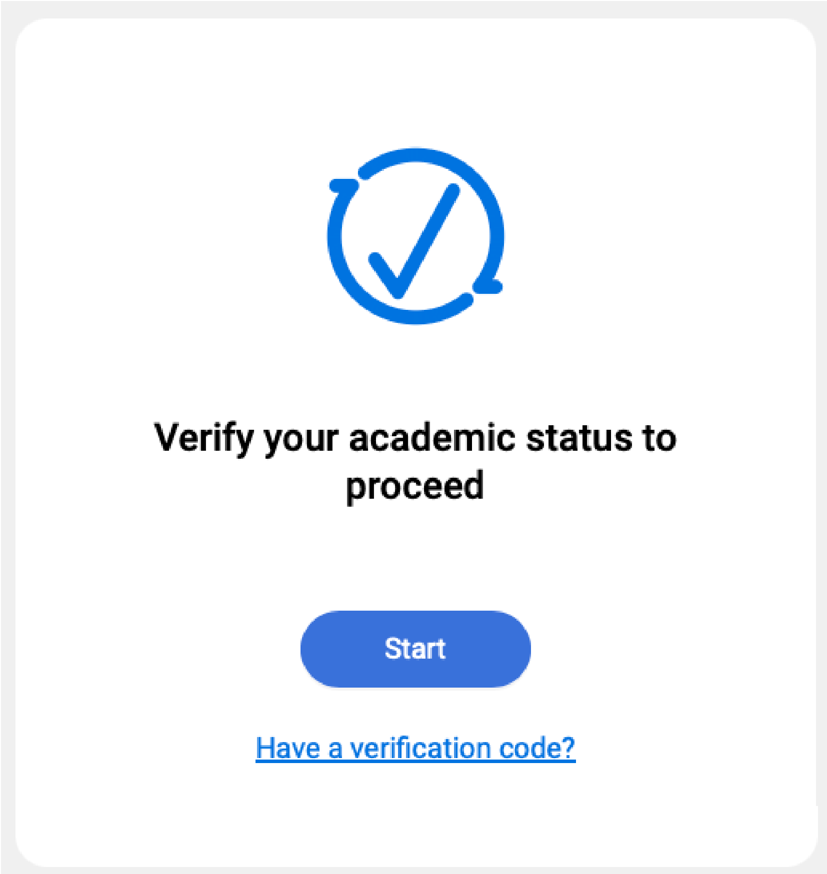
7. Click the **I Accept** radio button and then **Continue**.



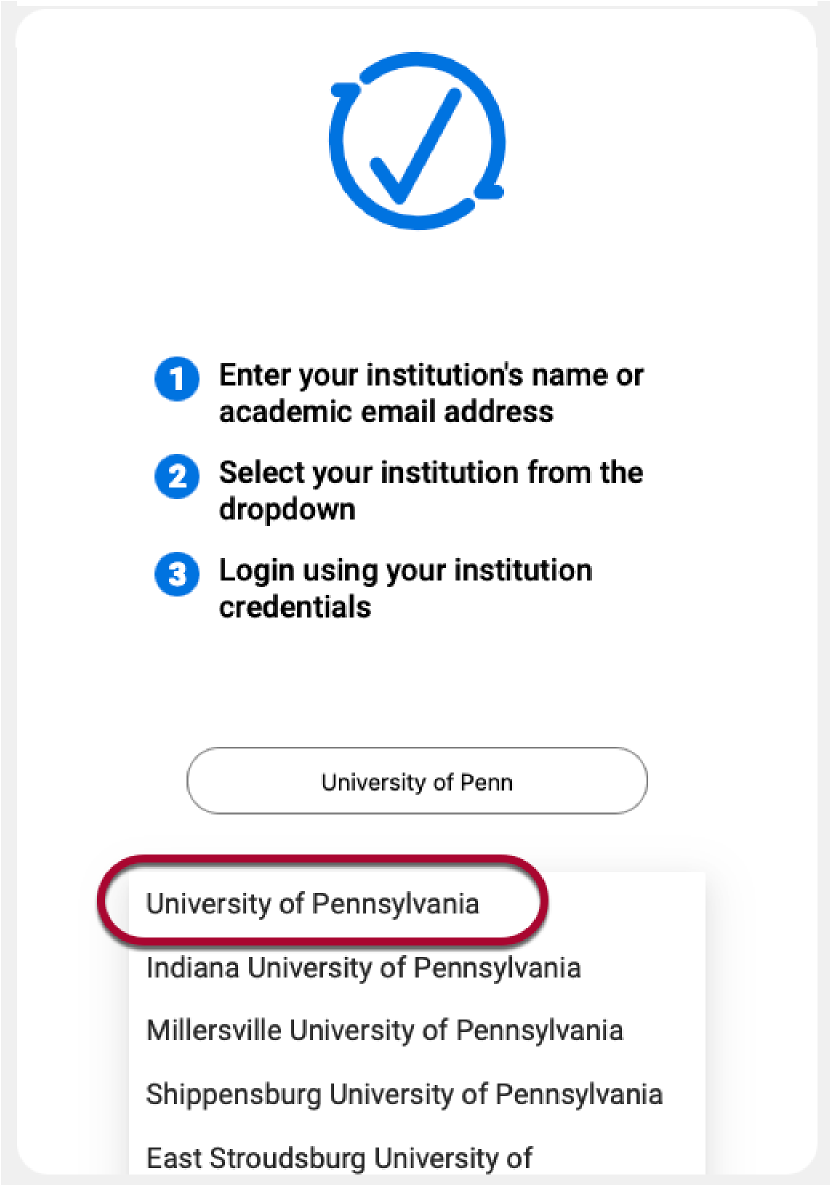
8. For new accounts you'll need to fill in your Affiliation (Student or Instructor), and then the details of one of the courses you're taking/teaching.
School/University Name should be: The Wharton School of the University of Pennsylvania. Enter your address details, check the **I Accept** box, and then click the blue **Next** button.



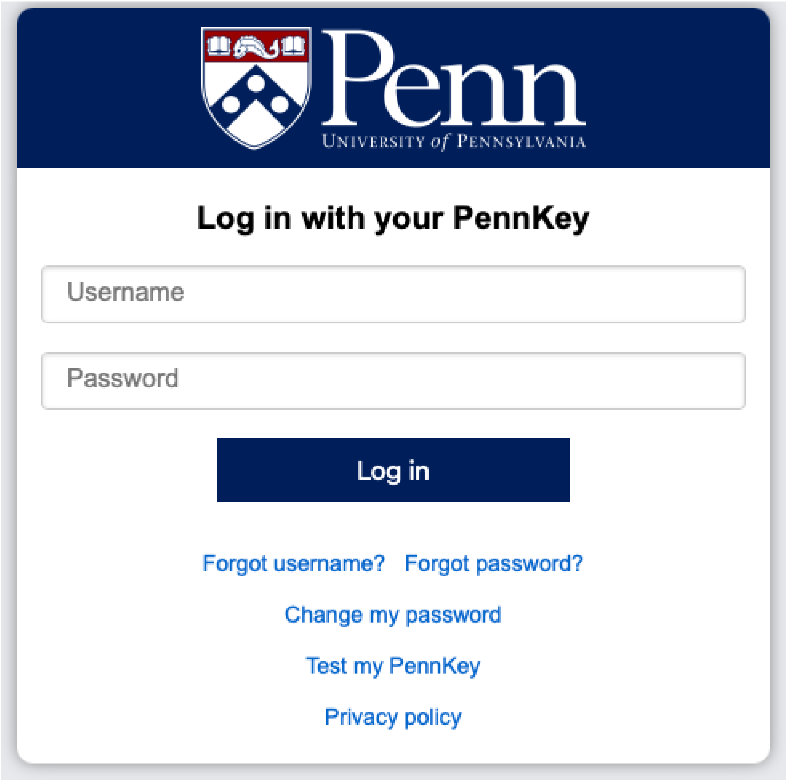
9. JMP uses your PennKey account to verify your University Affliation, so click the blue Start button and have your PennKey username and password handy.



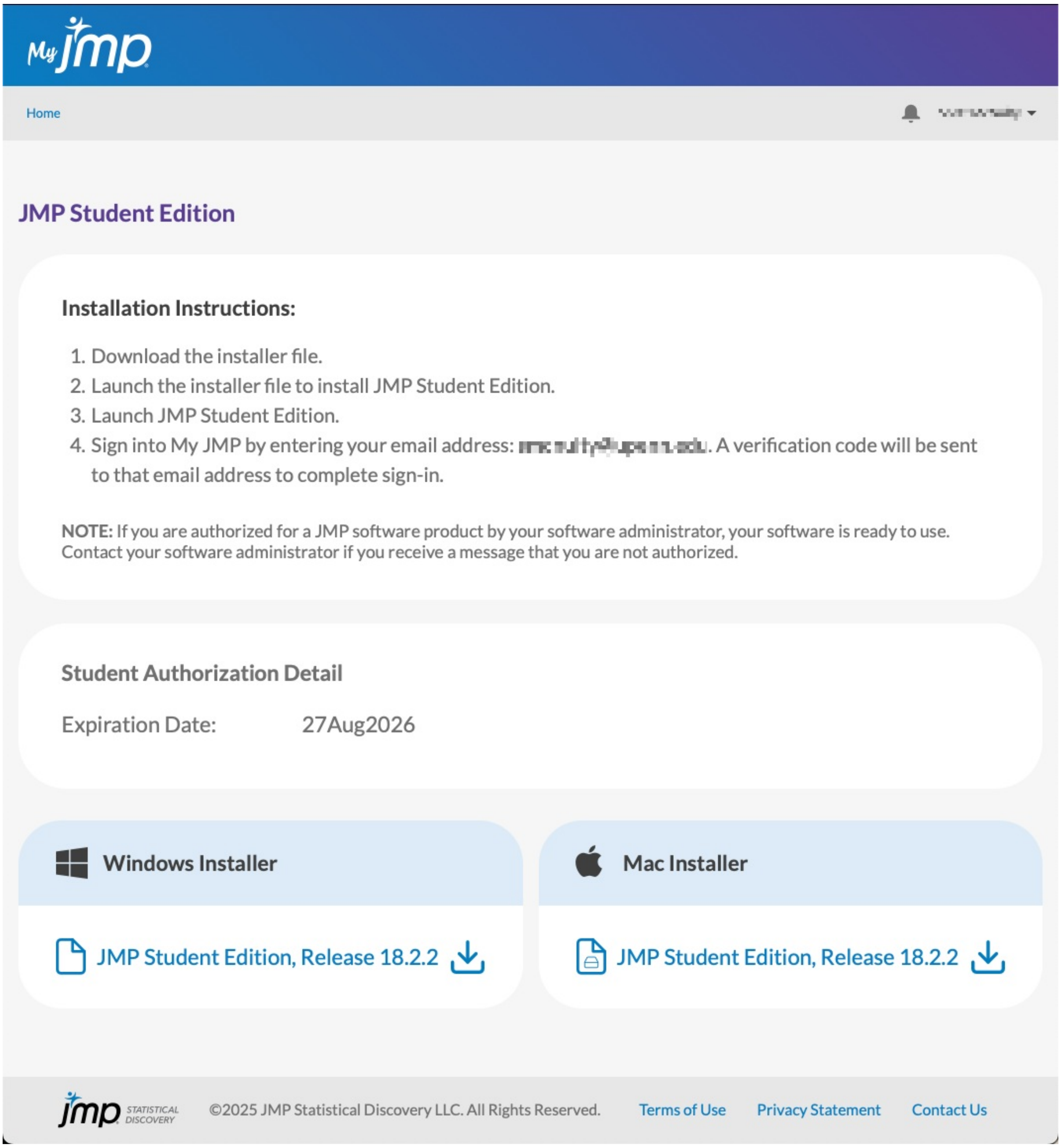
10. Type "University of Pennsylvania" in the search box (it'll automatically suggest names as you type, so you can click on **University of Pennsylvania** when it appears).



11. Once you click University of Pennsylvania you'll be taken to the familiar PennKey log in screen. Enter your username and password and click **Log in**.



12. Enter your Duo code.
13. Follow the instructions to download JMP Student Edition for your operating system of choice.



Accessing JMP from Wharton Public Machines

JMP is available on any of the Wharton public computers, or via Wharton's Virtual Lab.

1. Log into the public computer (or the Virtual Lab).
2. Navigate to **Departmental Applications > Statistics**.
3. Launch JMP
4. You may need to verify your MyJMP account by entering your email address and provided the emailed code.

Troubleshooting

If you have a question on **how to use JMP**, contact the TA or Professor that is requiring you to use it. (Wharton Computing is unable to provide usage assistance.)

Additional information is available in the following support knowledgebases:

- JMP System Requirements
- JMP Support
- JMP Knowledge Base

Questions?

If you are having trouble accessing JMP on the public computers or installing it on your computer, reach out to Wharton Computing Client Support Services.

Software: MATLAB and Mathematica

Last Modified on 09/25/2025 7:47 am EDT

All Wharton Faculty, Staff, and Students have access to free copies of Mathematica and MATLAB while at Wharton. These software packages are only available for Penn-related academic purposes or Penn-related academic research.

Mathematica

1. On the Wolfram website (https://www.wolfram.com/), select Your Account from the upper right User icon.
2. On the Sign In page, click on "Or sign in with Single Sign-On (SSO)".
3. Enter your Wharton email address as the username (*username*@wharton.upenn.edu).
4. You will then be redirected to "standard" PennKey + Password Authentication "Log in with your PennKey" with DUO 2FA.
5. **Download** and install the software from https://account.wolfram.com/products > Wolfram Mathematica Site License.
6. When you install Mathematica, you will be prompted to log in again, using the same SSO method, above.

Additional Mathematica Resources

Hands-on Start to Mathematica popular tutorials for new users. Topics include creating notebooks and presentations, basic calculations, graphics and interactive models, data analysis, and more:

- https://www.wolfram.com/wolfram-u/courses/wolfram-language/hands-on-start-to-mathematica-wl005/

Deeper Dive: Wolfram Mathematica Learning Center offers hundreds of videos and other dynamic learning resources to maximize your use of Mathematica for your particular area of interest:

- http://url.wolfram.com/1Uo_nMpK/

MATLAB

To use the Wharton-licensed version of MATLAB you'll first need a MathWorks account.

Get A MathWorks Account

If you don't already have a MathWorks account, you'll need to create one:

1. Go to https://www.mathworks.com
2. Click **Sign In** in the upper right corner of the screen.
3. Click **Create Account**.
4. Enter your Wharton email address (**yourPennKey@wharton.upenn.edu**).
5. Click **Next**.
6. You'll be taken to the PennKey login screen. Enter your PennKey username and password and log in.
7. You now have a MathWorks account.

Download and Install MATLAB

Once you have a MathWorks account, you'll be able to download the Wharton-licensed version of MATLAB:

1. Go to https://www.mathworks.com/downloads/
2. Enter your Wharton email address (**yourPennKey@wharton.upenn.edu**) in the email field.
3. Click **Next**.
4. Click the blue **Download button** to download the latest release. You can download previous versions by selecting a version from the release dropdown.

To install the Wharton-licensed version of MATLAB after downloading it (by following the instructions above):

1. Launch the installer you downloaded by following the directions above.
2. Follow the prompts and sign into MathWorks by entering your Wharton email address (<your_username>@wharton.upenn.edu) in the email address field and clicking **Next**.
3. Enter your PennKey username and password, and 2FA Duo prompt on your device, if prompted
4. Accept the Terms by clicking **Next**.
5. You'll be asked to pick a license and select **MATLAB (Individual)**.
6. Click **Next**.
7. Select the Products you want to install from the list.
8. Click **Next,** and the installation begins.

Renew a MATLAB License

To renew a MATLAB license, you can follow the instructions here: https://www.mathworks.com/help/matlab/matlab_env/manage-your-licenses.html, which are similar to the below, in MATLAB:

1. click on the HOME tab at the top.
2. in the RESOURCES box, click expand Help.
3. expand Licensing and select Update Current Licenses.
4. you should be prompted to log on ... use <your_username>@wharton.upenn.edu and you should be prompted for PennKey authentication with 2FA Duo.
5. if asked *which* license you should use, select "MATLAB (Individual)".

For additional support using MATLAB, or for problems with installation, contact MATLAB's support at http://www.mathworks.com/support/

Questions?

Contact - Wharton Computing Student Support

Email - support@wharton.upenn.edu

Moving from JMP Pro to JMP Student Edition

Last Modified on 08/28/2025 10:32 am EDT

JMP Student Edition is available to both students and faculty to install for any Wharton class that requires the use of JMP. This article provides basic instructions on how to download, install, and access JMP.

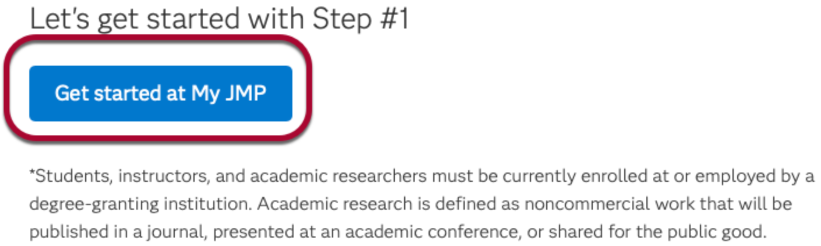
When you launch JMP Student Edition for the first time you'll need to verify that you have a license (which are free for students and faculty). It will prompt you to enter your email address and then send a verification code. Enter the code and you're all set.

A MyJMP account is required to obtain and verify a JMP license. See the directions below.

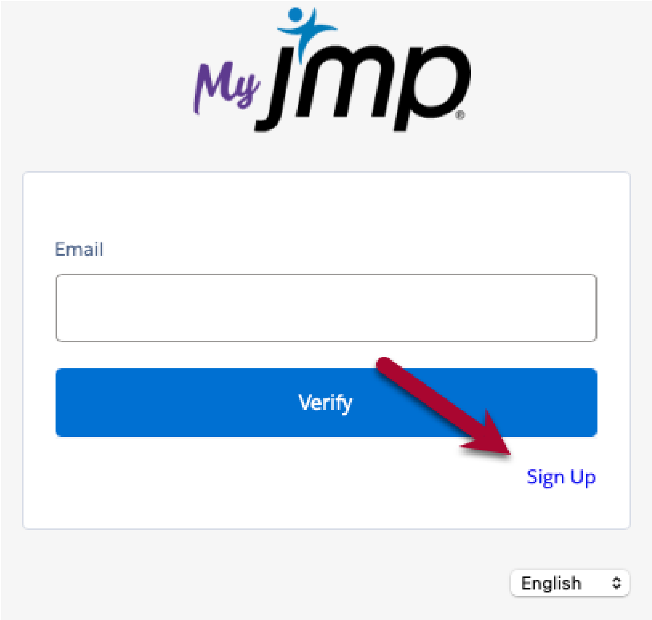
Obtaining a JMP License

1. Navigate to jmp.com/student.
2. Click the **Get JMP for free!** button.

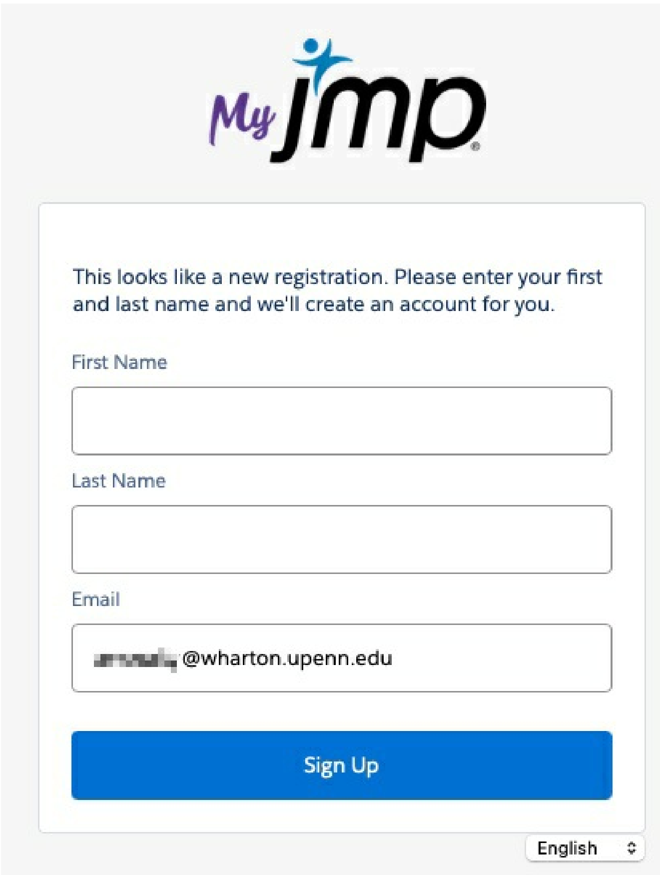
3. Click the **Get started at My JMP** button.



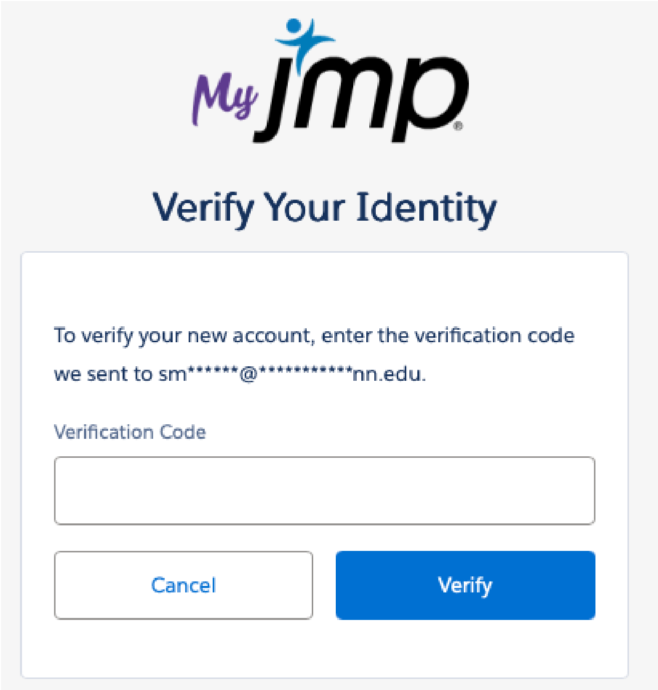
4. Click the Sign Up link in the lower right corner.



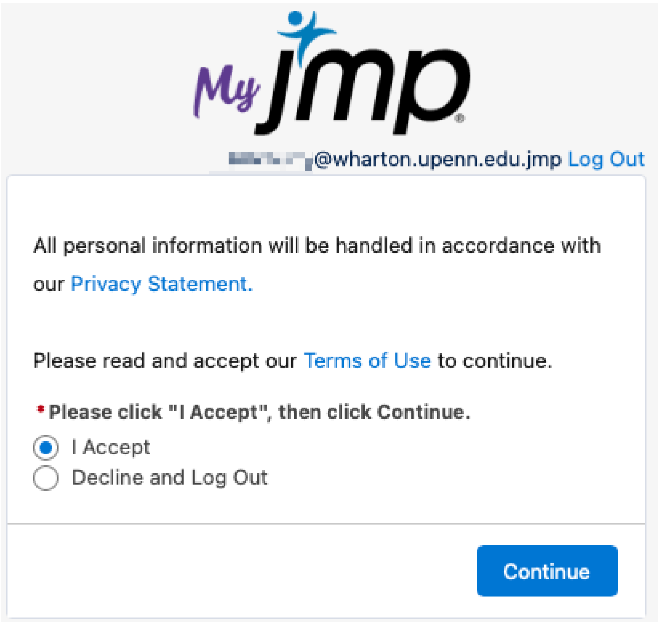
5. Enter your First name, Last name, and Wharton email address (<YourPennKey>@wharton.upenn.edu) and click the blue **Sign Up** button.



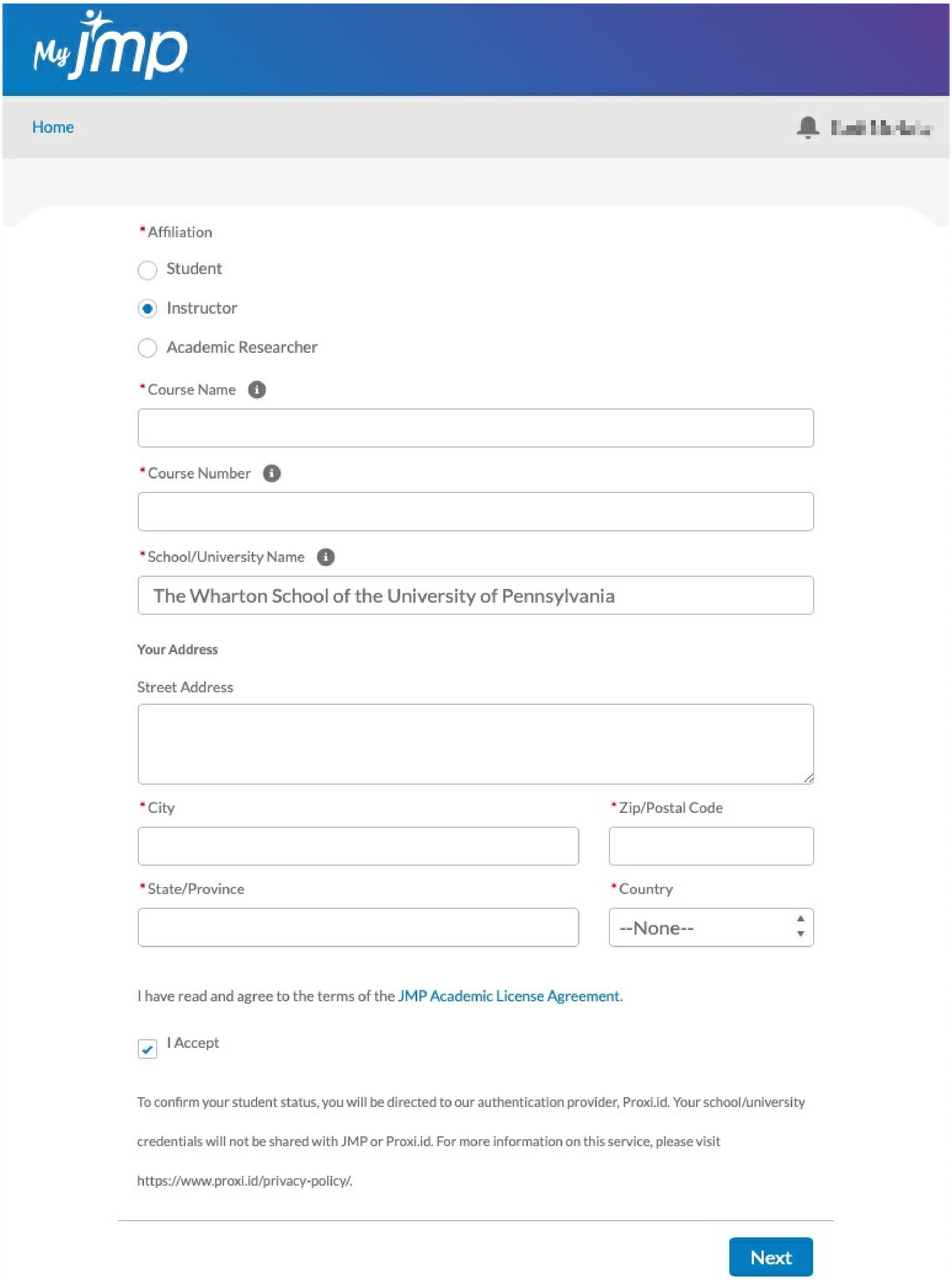
6. A verification code will be emailed to the email address you entered (for new and existing accounts a like). Find the code and enter it in the **Verification Code** field then click **Verify**.



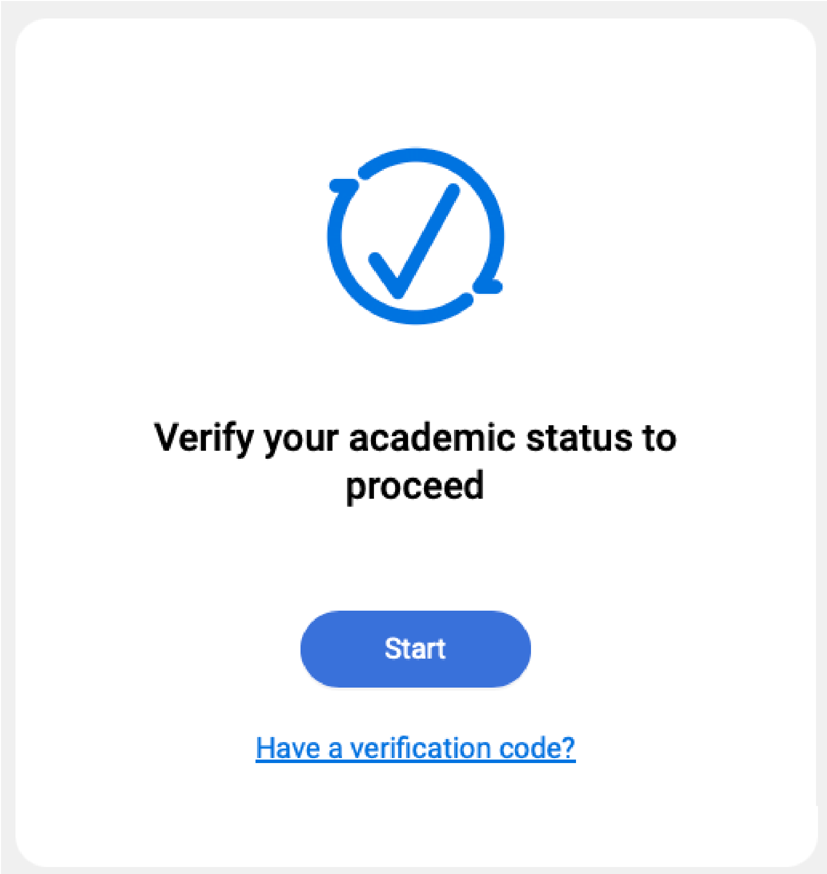
7. Click the **I Accept** radio button and then **Continue**.



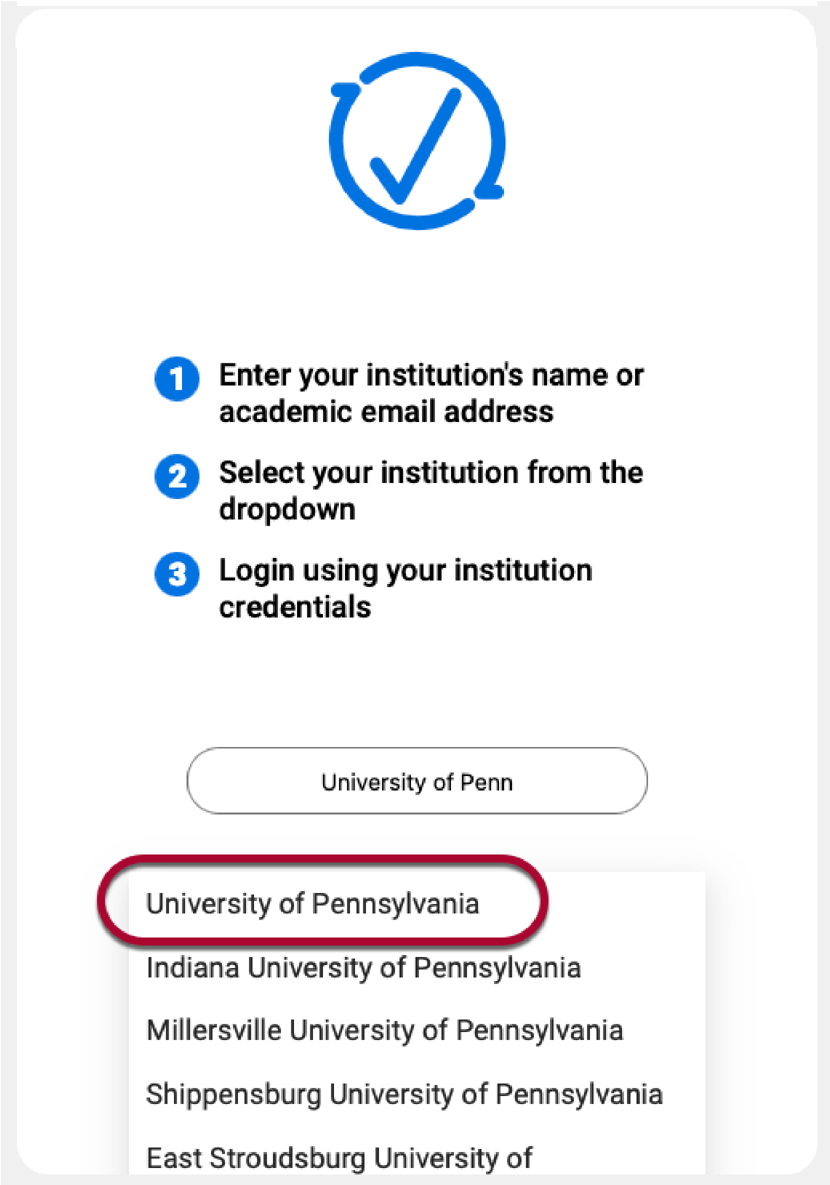
8. For new accounts you'll need to fill in your Affiliation (Instructor), and then the details of one of the courses you're taking/teaching.
School/University Name should be: The Wharton School of the University of Pennsylvania. Enter your address details, check the **I Accept** box and then click the blue **Next** button.



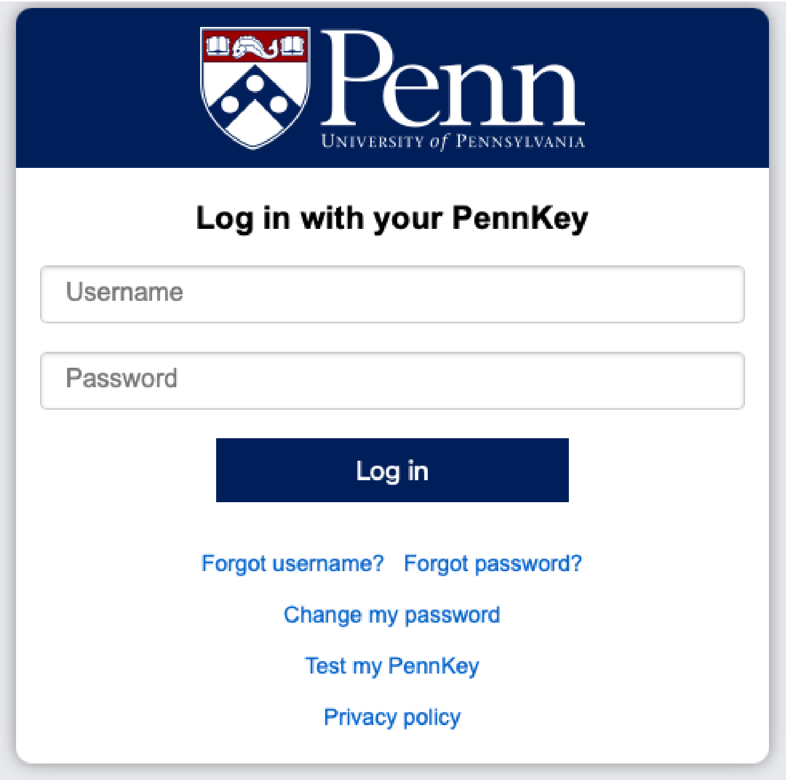
9. JMP uses your PennKey account to verify your University Affliation, so click the blue Start button and have your PennKey username and password handy.



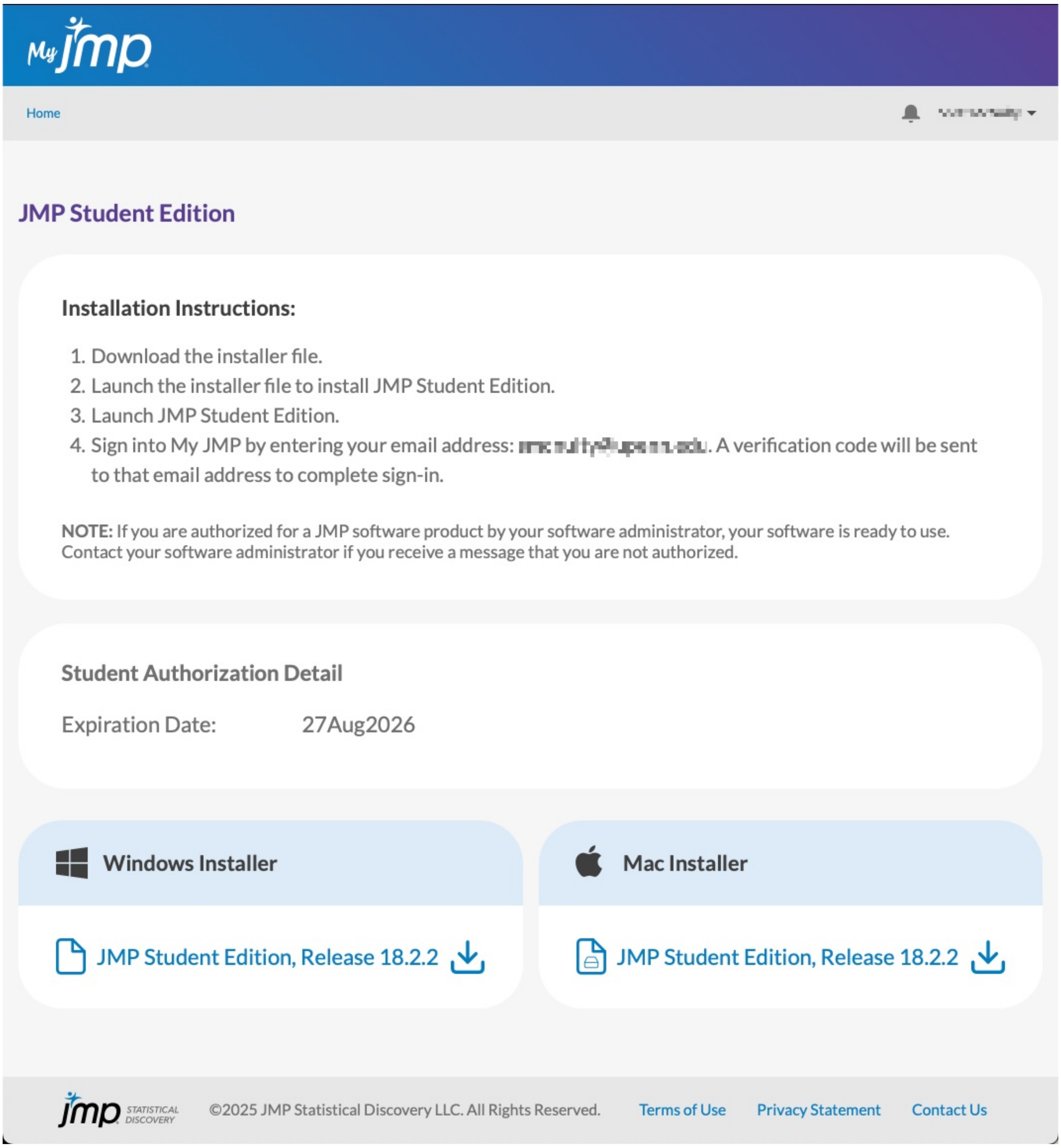
10. Type "University of Pennsylvania" in the search box (it'll automatically suggest names as you type, so you can click on **University of Pennsylvania** when it appears).



11. Once you click University of Pennsylvania you'll be taken to the familiar PennKey log in screen. Enter your username and password and click **Log in**.



12. Enter your Duo code.
13. Follow the instructions to download JMP Student Edition for your operating system of choice.



Troubleshooting

If you have a question on **how to use JMP**, contact your Wharton Computing representative.

Additional information is available in the following support knowledgebases:

- JMP System Requirements
- JMP Support
- JMP Knowledge Base

Questions?

If you are having trouble accessing JMP on the public computers or installing it on your computer, reach out to

Wharton Computing Client Support Services.

Virtual Lab (for Laptops)

Last Modified on 04/16/2025 12:18 pm EDT

Wharton provides remote access to virtual computers that are equipped with the same software as Wharton's public computers. This service is designed to provide an alternative for students who otherwise aren't able to get to campus to log into the public labs.

The Virtual Lab is available 24/7 for student use and may be accessed from any computer running Mac OS, Windows, and Ubuntu, and many mobile devices. Use this service to:

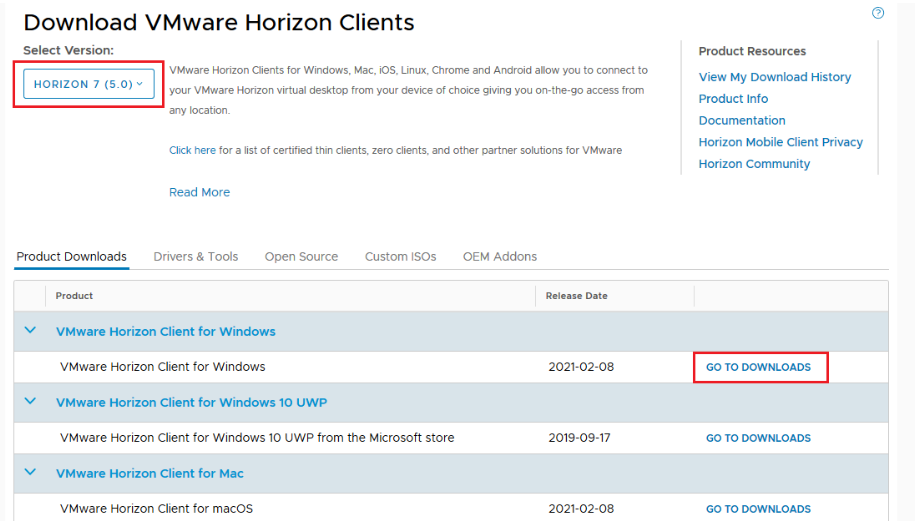
- Access specific departmental applications such as JMP and Matlab.
- Use Windows software from a Macintosh.
- Print (for users who are not able to print from their laptop or mobile device).

To use the virtual lab, you will need to install the appropriate client software on your laptop or desktop computer using the steps in this article. Using a different device?

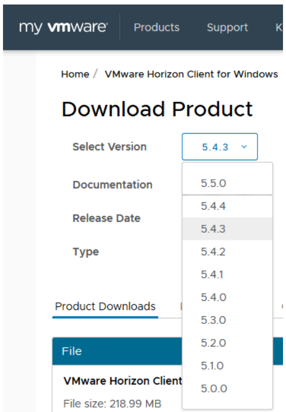
- For a phone or tablet, see Virtual Lab on Mobile Devices.
- Having trouble with the Virtual Lab? See Troubleshooting the Virtual Lab

Installing the Virtual Lab Software

1. Download and run the VMWare Horizon Client installer for your computer. Use **Version 5.4.3**, the preferred, supported version:
    - **Windows and Mac (Windows 10** users may also install the VMWare Horizon Client from the Microsoft Store.)
        - Go to the VMWare Horizon Client Downloads page:
          **** Start from the Version 7 (5.0) page to access the version 5.x installers; VMWare's version numbering has changed.***



        - Select the **Go To Downloads** link for your OS (e.g.: Windows, Mac, Linux, iOS, etc.).
        - Select **Version 5.4.3** from the "Select Version" dropdown in the upper left corner:



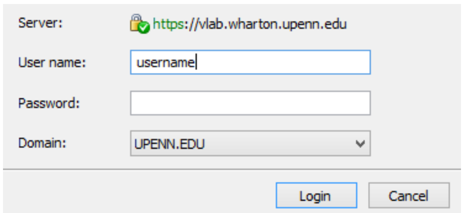
- ◦

2. Accept the default settings until you reach **Default View Connect Server.** (If asked to choose Network Protocol, select **IPv4.**)
3. In the **Default View Connect Server** box, type **https://vlab.wharton.upenn.edu**.
4. Click **Finish.**

Note to Mac users: Install **Version 5.3**. Please do not install the latest version (5.4) because of known issues.

Running the Virtual Lab Software

1. Launch the **VMware View** software.
2. Double-click the **Virtual Lab option** (https://vlab.wharton.upenn.edu).
3. Log in with your PennKey username and password.



4. Double-click the **Virtual Lab option** (https://vlab.wharton.upenn.edu) again.

The VMWare View Client connects you to a virtual desktop and gives you a few menu options, including full screen or windowed mode.

Display Note

VMware only supports screen resolutions up to 2560 X 1440. Mac users will not have to change their screen resolution, but some PC users may need to do so. See directions for how to change your VM screen resolution.

Mobile Notes

Using a mobile device instead? See our directions for mobile devices.

- **USB**: Some platforms may allow you to redirect USB ports on your device to the virtual machine, if that option is available it will be in the menus here.
- **CTRL+Alt+Del:** If you need to send a CTRL+ALT+DEL to the virtual computer, it can also be done from this menu. This option should not generally be needed.

- **Logging Off:** The VMWare View Client will present you with options to disconnect or log off. If you disconnect, you can pick up your session where you left off if you reconnect within 30 minutes. If you log off you will free up your virtual desktop for other users immediately.

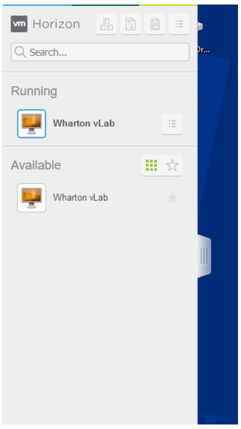
Accessing the Virtual Lab via Web Browser

The Virtual Lab may also be accessed via web browser, without the VMWare client.

1. Open a web browser session and navigate to https://vlab.wharton.upenn.edu
2. Select the **VMWare Horizon HTML Access** link on the bottom right of the form:

3. Log in with your PennKey username and password as you would in the VMware client and click the**Login** button.
4. Click the **Wharton Lab** option.

You will be connected to a virtual desktop scaled to your browser window; there will be a tab on the left of the window that will provide you with some additional functions/options.



Tip: Using the web browser can be an option when you do not have access to the VMWare Horizon client application, or if you're having problems connecting from the client application.

How does the Virtual Lab differ from a physical lab?

Since you're connecting remotely to access these computers, your network speed plays a large role in your experience. You will get the best results on a fast connection.

Display Note

VMware only supports screen resolutions up to 2560 X 1440. Mac users will not have to change their screen resolution, but some PC users may need to do so. See directions for how to change your VM screen resolution.

Troubleshooting the Lab

If you are having trouble using the Virtual Lab, see our troubleshooting article.

Provide Feedback

Your feedback will help us make the service better! Provide your feedback here.

Virtual Lab (for Mobile Devices)

Last Modified on 07/15/2020 3:22 pm EDT

Wharton provides remote access to the public computers for students. Log into our lab computers using your mobile device to access all of the software available on lab machines including the full Windows version of Microsoft Office and course specific applications such as JMP and Matlab. The Virtual Lab can be accessed on a variety of mobile devices, including iOS and Android. For a complete list of devices and downloads, please refer to the VMware site.

Using a laptop? See our directions for laptops.

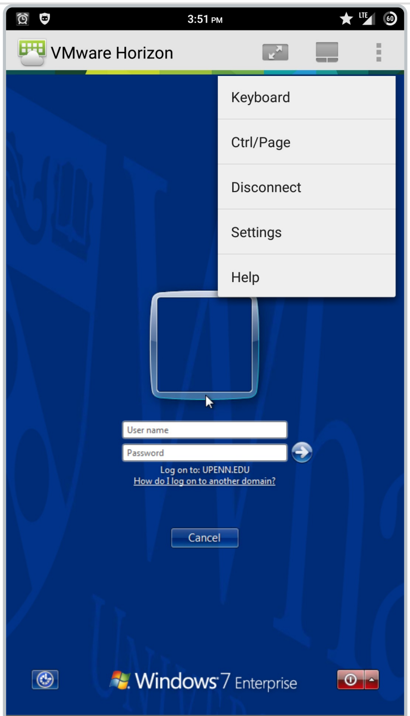
Installing on iOS and Android

1. To install, search **VMWare Horizon Client** In the iOS App Store or Google Play and tap install. The app is free.
2. Type **vlab.wharton.upenn.edu** in the Server Address and tap **Add Server/Connect**.
3. Enter your **PennKey** and **password**. Double-check that the **Domain** is set to **UPENN**.
4. Tap **Virtual Lab** to connect.

Tips

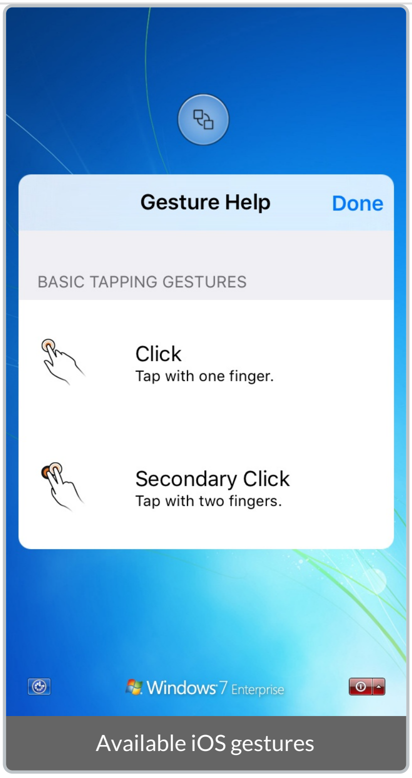
- In iOS, helpful functions are available in the translucent circle. They pop out when you click. For Android, these functions are always along the top (see below).

iOS functions

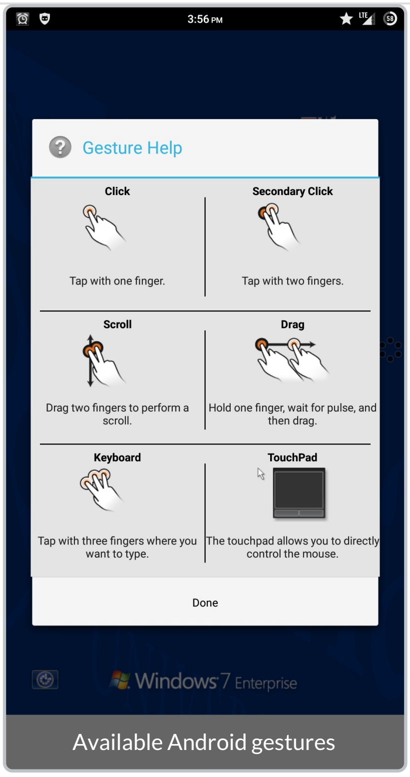


Android functions

- Mobile device gestures do not translate exactly to the Virtual Lab environment. Basic tapping gestures are always available in the Help menu (see below).



Available iOS gestures



Available Android gestures

- For more precise mouse pointing, use the trackpad feature. This allows you to move your finger as if you are using a trackpad to control the mouse pointer, resulting in fewer accidental clicks. Clicking gestures are the same in trackpad mode.
- Don't forget that you can print! If you need to print a document, you can log into the Virtual Lab and send it to the queue, saving you the need to find an open computer

Questions?

Contact: Wharton Computing Student Support

Email: support@wharton.upenn.edu

Wharton Connect App

Last Modified on 09/08/2021 10:16 am EDT

The Wharton Connect mobile app provides Wharton students and alumni with access to key Wharton services, including the Wharton Community web site and more.

Before You Start

You might need one or more of the following before you can complete this task:

- PennKey account
- Wharton account (only for current students)

Wharton Connect App

The Wharton Connect mobile app allows you to do the following:

- **Search** the entire student and alumni directories by location, industry, tags and more
- **Update** your own profile, and find recently updated profiles at a glance, and edit your own profile
- **Register for events**, get directions, and check in to events once you're there so others can connect with you in person
- **Connect** with Wharton by reading Wharton's latest news articles and social media posts
- **Alumni Class Notes** delivered right to your mobile device
- **Class check in** and group study room reservations for current students

Accessing Wharton Connect

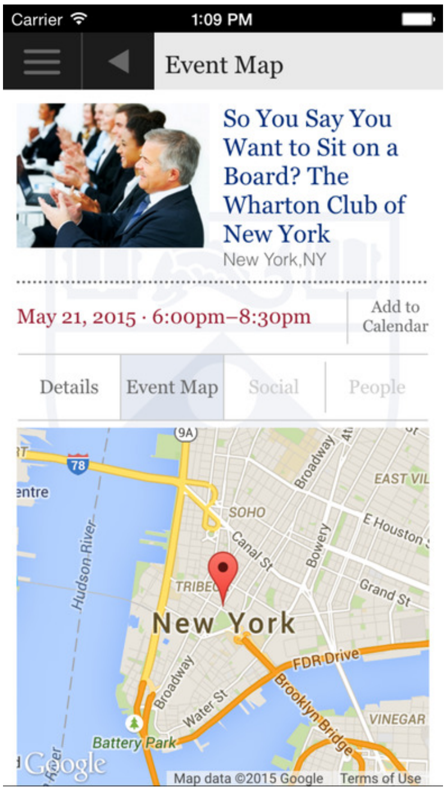
There are versions for iOS and Android systems, and a web browser version for laptops or other devices.

Wharton Connect for iOS	Wharton Connect for Android	Wharton Connect for Browser
Available on the App Store	ANDROID APP ON Google play	MOBILE BROWSER VERSION

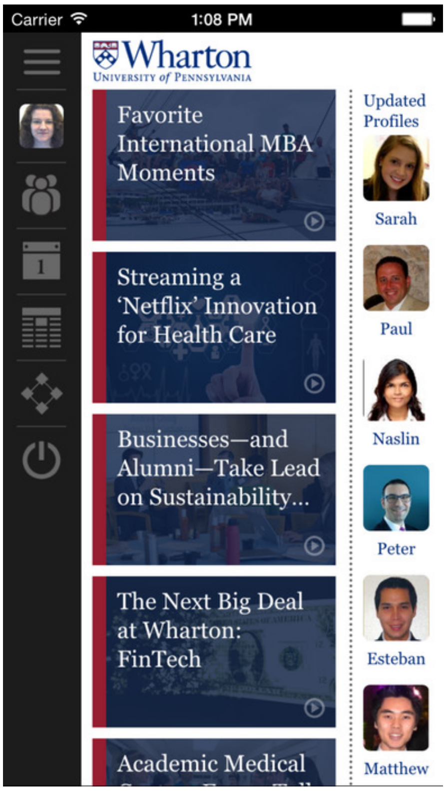
Wharton Connect In Action

Login Screen

Events



News Feed



People

Troubleshooting

Preliminary Steps

- Download the most recent app version/update from the App Store or Google Play Store
- Make sure you are connected to AirPennNet wifi
    - If you aren't connected, please see Wireless Network Overview
    - Ensure auto-join is turned off for **Connect to AirPennNet** & **AirPennNet-Guest**

Common Problems

Problem: When you load the app you see a blue screen with three white blinking dots.

Problem: "I've checked into my class and the app says I'm checked in, however, I still get an email at the end of the day saying I was absent"

Problem: The check-in option does not show up when you load the app.

Questions?

Contact: Wharton Computing Student Support

Email: support@wharton.upenn.edu

MyPenn

Last Modified on 12/12/2024 4:28 pm EST

In November 2020, the new community, MyPenn was launched and became available for Wharton Alumni as well as for current students. This new platform replaced the WhartonConnect and Quakernet directories for all University alumni. MyPenn serves as a one-stop portal for Penn and Wharton students and alumni, offering the same benefits of the old systems along with new opportunities to connect with fellow alumni, create a customized experience, and access university resources.

MyPenn is a web-based platform; the mobile app is available in both Android and iOS stores.

MyPenn for iOS	MyPenn for Android	MyPenn for Browser
Download	(Android app is temporarily unavailable; check back soon)	MOBILE BROWSER VERSION

Penn Students/Alumni

To log into MyPenn, visit https://mypenn.upenn.edu, and use your PennKey username and password.

Wharton Students

Much of the functionality from the former WhartonConnect app for students is now available in MyWharton. To search the alumni directory, Wharton students will need to visit MyPenn.

Wharton Alumni

Alumni should visit https://mypenn.upenn.edu. MyPenn is an online community for University of Pennsylvania alumni.

Frequently Asked Questions

For more support, visit the Alumni Relations FAQs or contact alumni.relations@wharton.upenn.edu.

Is **WhartonConnect still available?**

No. MyPenn has replaced WhartonConnect.

Will my information automatically transfer from the old directory (WhartonConnect) to new directory?

Yes, the information you shared in WhartonConnect is available in the new directory. Please review it and make any necessary profile updates.

Is my information automatically available for others to search in the new MyPenn platform?

- **If you previously opted out of WhartonConnect,** you have been opted out of MyPenn. To change that decision and opt in to MyPenn, log in and changing your opt-out setting. Your personal profile will be added to MyPenn in real-time so you can update and manage your privacy settings.

- **If you previously opted in to WhartonConnect,** a limited profile has been automatically made available for you. You will need to visit MyPenn to opt in and update your sharing preferences. If you would not like to be included, visit MyPenn. to opt out.

Will my Wharton Alumni forwarding email address still work?

Yes, there are no changes to the functionality of your Wharton Alumni forwarding address. Update your forwarding preferences by logging into MyPenn and updating your profile.

Troubleshooting the Virtual Lab

Last Modified on 11/18/2025 4:38 pm EST

Here are common problems, and possible solutions, you may encounter connecting to the Virtual Lab.

Error Messages

"The desktop is currently not available. Please try connecting to this desktop again later ..."

The Virtual Lab is currently set up to accommodate 75 simultaneous connections. Once all of the seats are full, you may receive this error message. As seats become available, you should be able to log in again.

"Cannot establish an SSL connection to…"

You may be able to get around this error if your computer is running Kaspersky antivirus software:

If this is your situation, go into the web-protection section of Kaspersky and explicitly trust the following URL:

- https://vlab.wharton.upenn.edu

"The display protocol for this desktop is currently not available. Please contact your system administrator."

This message indicates something is wrong with the Virtual Machine you are trying to connect to. Often the problem will resolve itself within half an hour, but if it doesn't, you can try downloading and installing the most recent supported version of the client (see Installing the Client for download instructions). If neither of these solutions fixes the problem, please submit a ticket reporting the steps you have taken.

"Bad Username or password"

This message means that your PennKey password and O365 password are out of sync. Please go to PennKey Self-Service Password Reset Portal and change your PennKey password. Allow 15 minutes for the change to apply. If after that you still have issues, please contact Student Support.

Problems

Mac Display is white when you launch the Virtual Lab.

This problem is fixed by reinstalling the latest version of the Virtual Lab client. See Installing the Client.

If your problem remains unresolved, please submit a Help ticket to the Support Team.

Screencasting via AirServer & Solstice

Last Modified on 08/22/2025 9:39 pm EDT

This article provides instructions on how to use AirServer & Solstice to wirelessly share your device's screen to the monitors in the classrooms and GSRs.

Before you begin

- The device you want to share wirelessly must be connected to AirPennNet or AirPennNet-Device.

NOTE: AirPennNet-Guest is NOT recommended for students, faculty and staff who want to connect to the wireless network. This option is designed for guests at the University and has limited bandwidth.

Classrooms

Logging In

Wharton classrooms use AirServer to allow projection from devices to the screens. You must first log into the classroom's computer and set it up to accept device shares:

Connecting devices to AirServer

To project your device's screen to the classroom's screen(s) you just need to choose AirServer -- directions vary depending on your device.

Windows

MacOS

iOS

GSRs

Group Study Rooms use Solstice to allow you to share your device with a GSR screen. There are two steps to follow:

1. **Solstice software must be installed** on the device you want to share from, and you'll need to launch the software.
2. **Solstice must be launched** from the classroom or GSR screen (it's already installed on these systems).

To use Solstice in Wharton's Group Study Rooms:

Install and Use the Solstice Client

To project your device's screen to the room's screen(s) you need to install the Solstice client.

Windows & MacOS

iOS

Android

Troubleshooting Steps

Can't see the list of displays on my laptop/mobile device

Open Solstice Client on your device, click/tap Settings, and ensure **solstice.wharton.upenn.edu** is entered for Solstice Directory Service Address.

Can't connect to a display from your device

Make sure you are connected to AirPennNet or AirPennNet-Guest. A device connected to any other network (including cellular networks and private hotspots) will not be able to share to Solstice. If you are using AirPennNet-Guest, you won't be able to use Solstice Directory Service – instead, you'll need to enter the IP address displayed on the room's screen.

Can't see the room you're in from your device

Tap Wireless Presentation on the touch panel to ensure Solstice Display is open. Close and reopen Solstice Client on your device. If the display still doesn't appear, click/tap **Enter IP** in Solstice Client and enter the IP Address from Solstice Display.

Trouble scrolling when in Full Screen Mode

If you're in full screen mode, there is no way to scroll. You need to minimize or exit the system, choose a new screen, and then go back into full screen mode.

Screen displays sideways

If your screen displays sideways you'll need to rotate the picture within the photo app on your phone. This is a limitation of the software which we are hoping will be remedied in future releases.

Questions?

Contact: Wharton Computing Client Support Services

Email: support@wharton.upenn.edu

Video Conferences

Last Modified on 07/19/2023 4:46 pm EDT

This article covers using video conferences for individual meetings and small group collaborations. To learn about using video conferences for teaching or learning within Canvas, see Video Conferences for Instruction.

Penn offers both Zoom and Microsoft Teams for video conferencing, but most classes will take place on Zoom. Teams is not covered in this article.

Before You Start
You will need the following before you can complete this task:

- An active PennKey account
- **Faculty and Staff:** admin access to your devices (to install the app)
  - Zoom is generally pre-installed on Wharton-provided laptops or desktops (but not on smartphones).

Zoom

Zoom is a cloud-based cross platform video conferencing service. Zoom makes it easy to collaborate with your colleagues, and can be started and joined via a PC, Mac, smartphone, or regular landline (audio only). Each meeting can accommodate up to 300 participants and supports recording of the meeting and screen/media sharing. All Wharton students, faculty, and staff have access to Zoom.

Install the Zoom App

The native Zoom app isn't required to use Zoom, but we highly recommend it for the best Zoom experience. Read Logging into Wharton Zoom for instructions detailing installing and logging into the Windows, Mac, and mobile versions of the app.

If you are working on a Wharton-provided laptop or desktop, Zoom should already be pre-installed.

Accessing Zoom Meetings

Is your Zoom meeting for a Wharton class? **Log into Canvas first**, launch your class, and then choose Zoom from the left navigation pane. (Most Zoom meetings for classes are created through Canvas.)

Although we recommend accessing any video conferences created in Canvas by logging in via Canvas, it's also possible to see all your meetings by logging directly into the meeting software (https://upenn.zoom.us).

Scheduling a Meeting

Scheduling for a class that's using Canvas, where all students will join via Zoom? See Video Conferences for

Instruction.

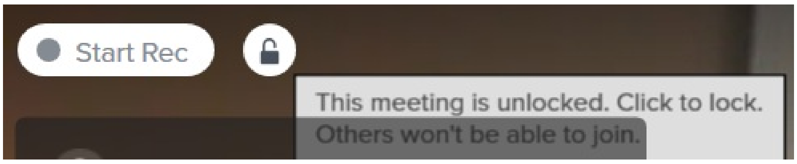
Scheduling for a guest speaker or other attendee who will attend your face-to-face course remotely? Follow these directions:

Advanced Features

Advanced features are useful in customizing your meetings. You can customize them on a per meeting basis, or for all the meetings that you schedule.

- Scheduled meeting sessions: for meetings that you are scheduling, any changes you make will only affect that meeting.
- Personal settings: if you make changes in your personal settings, that will affect all meetings that you schedule.

For security, moderators have the ability to lock out users from joining their meeting (indicated with a lock icon at the top left corner of their screen).



Feature Recommendations

Zoom has a large number of feature settings. Here are suggestions for a variety of settings.

Questions?

For additional help and support:

- See the Zoom FAQ
- Check out the Zoom Knowledge Base
- Contact Zoom support directly

WHOOPPEE (For Students)

Last Modified on 04/16/2025 12:14 pm EDT

In this article, you'll learn the basics of using the WHOOPPEE app.

Before you start:

You will need the following before you can use WHOOPPEE:

- A laptop or desktop PC (tablets and mobile are not supported)
- A modern web browser (such as Chrome, Firefox, or Safari)
- Software to generate PDFs for Canvas submission (Acrobat is recommended)

What is WHOOPPEE?

WHOOPPEE is the **Wh**arton **O**nline **O**rdinal **P**eer **P**erformance **E**valuation **E**ngine which allows students to anonymously submit, rank, and review assignments from their peers. The app operates through 4 phases: **Confirm Submission, Rank & Review, Respond,** and **Results**. Its basic workflow is:

1. Submit an assignment through Canvas. **This assignment must be stripped of all Personally Identifiable Information (PII) and completely anonymous**. The good news is: WHOOPPEE will do that for you!
2. When the Submission phase is closed, WHOOPPEE then distributes random batches of other submissions from your peers back to you.
3. Once you have the batch of submissions, you can review them, comment on them, and rank them in order of strength.
4. After ranking and reviewing, you will then be able to view your peers' comments on your own submission, and decide if the comments are helpful or unhelpful.
5. The results of the assignment (including your grade) are displayed.
    - WHOOPPEE also provides some helpful context in addition to the grade of your submission itself; examples include the **strength** of the batch your submission was in, as well as the strength of your grading of your peers (and/or a **Gold Standard** of ranks and reviews). **All of this combined** helps determine your grade for the assignment.

Video Walk-through

For your convenience, Wharton Computing has provided a simple walk-through video for most standard WHOOPPEE assignments. You can view this video here (best viewed in full screen mode for text readability purposes).

Please note the following changes since this video was created:

1. WHOOPPEE no longer requires you to use a tool (manual or automatic) to review and remove PII. The app does that for you.
2. The Class Distribution page in the Results phase is no longer available; only **My Paper** and **My Results** are shown.

Your browser does not support HTML5 video.

Step-by-Step Guide

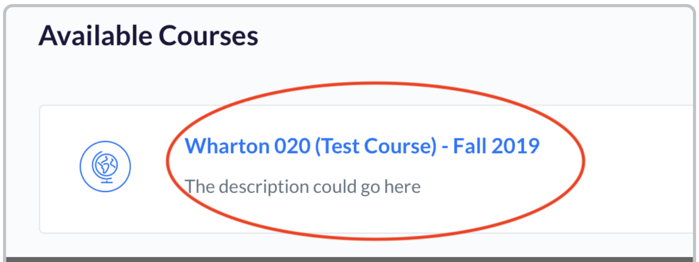
Here is an example of a student going through an assignment with WHOOPPEE.

Submission Phase

1. Once your submission has been uploaded through Canvas, log into the WHOOPPEE app through the link provided in the assignment.

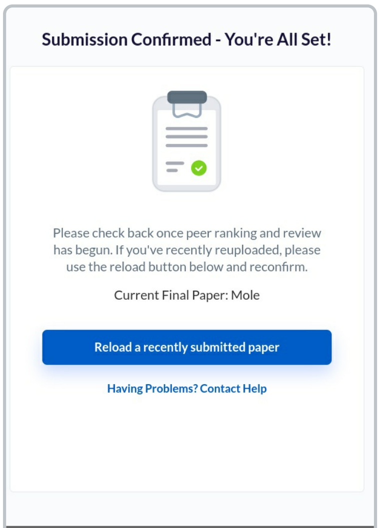
   Note: The file ***must*** be in PDF format. This allows for the PII check to run successfully.

2. After logging in, select the course you're currently enrolled in to advance to the**Confirm Submission** phase:

   When you see your relevant course, click it to advance.

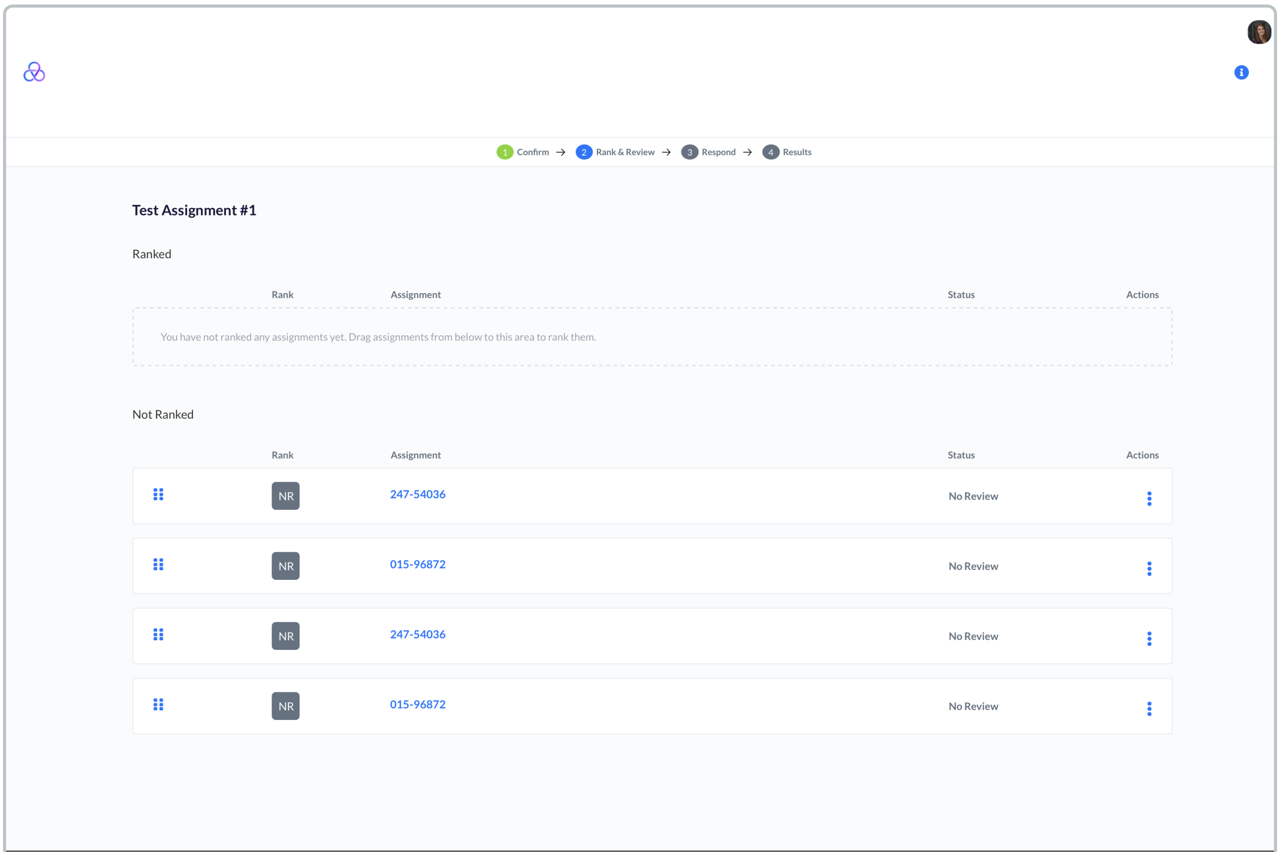
3. Once your submission is confirmed, you will see a confirmation page. In the interim, just sit back for the time being and wait for other students to finish these previous steps, and the **Rank & Review** phase will automatically advance.

   This page indicates your submission was accepted.

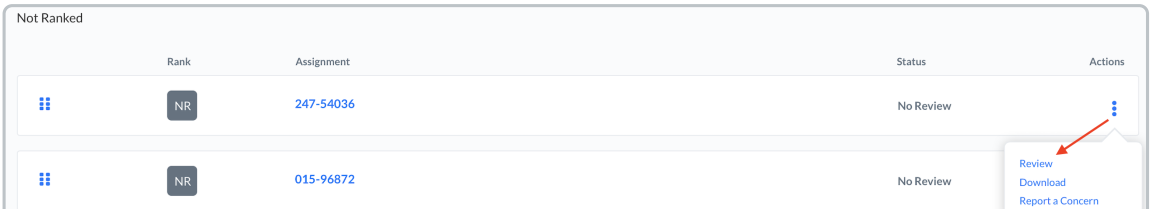
Rank and Review Phase

Once the **Rank and Review** phase begins, the WHOOPPEE app will automatically display the **Rank and Review** section when you're logged in. This is where you will review the assignments in the **Not Ranked** section (the lower field) and then drag them to the **Ranked** section (the upper field) in the order of your preference.



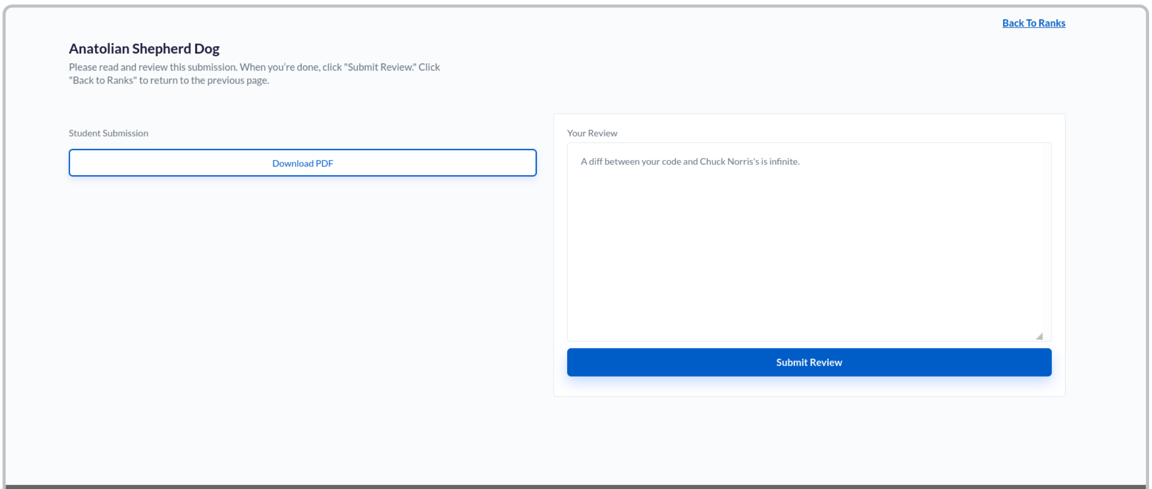
Your page should automatically advance to this **Rank & Review** page once all submissions have been accepted.

- Click the three dots under the **Actions** column on the assignment you'd like to review. Click **Review** to begin the review process.
  - You can also download the assignment for later viewing, or report a concern (for example, if you think you know the identity of the person that submitted this assignment).



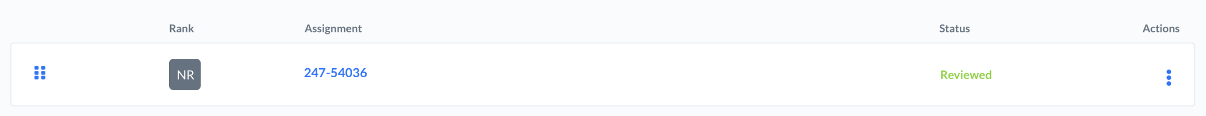
Click the action menu (represented by the three dots) on the right next to the assignment, and then click "Review" to start reviewing it.

- The download link will appear on the left, and when you're done reading, you can submit your comments on the right.

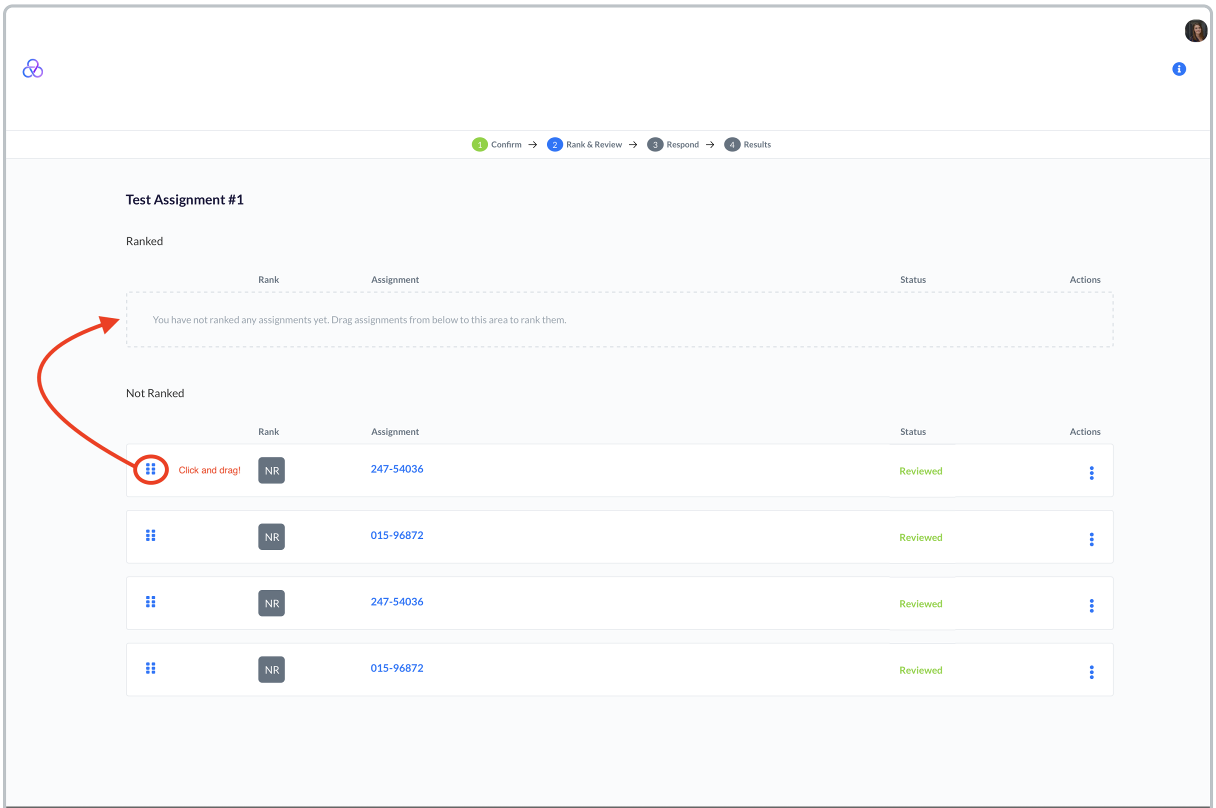
- ◦ 

Click the **Download PDF** button on the left to download the submission. When you're finished reading, leave your review and click **Submit Review.**

- When you're finished reviewing the assignment, click **Submit Review** and you'll be taken back to the landing page, with the assignment status changed to **Reviewed**. Continue until you have reviewed all assignments.

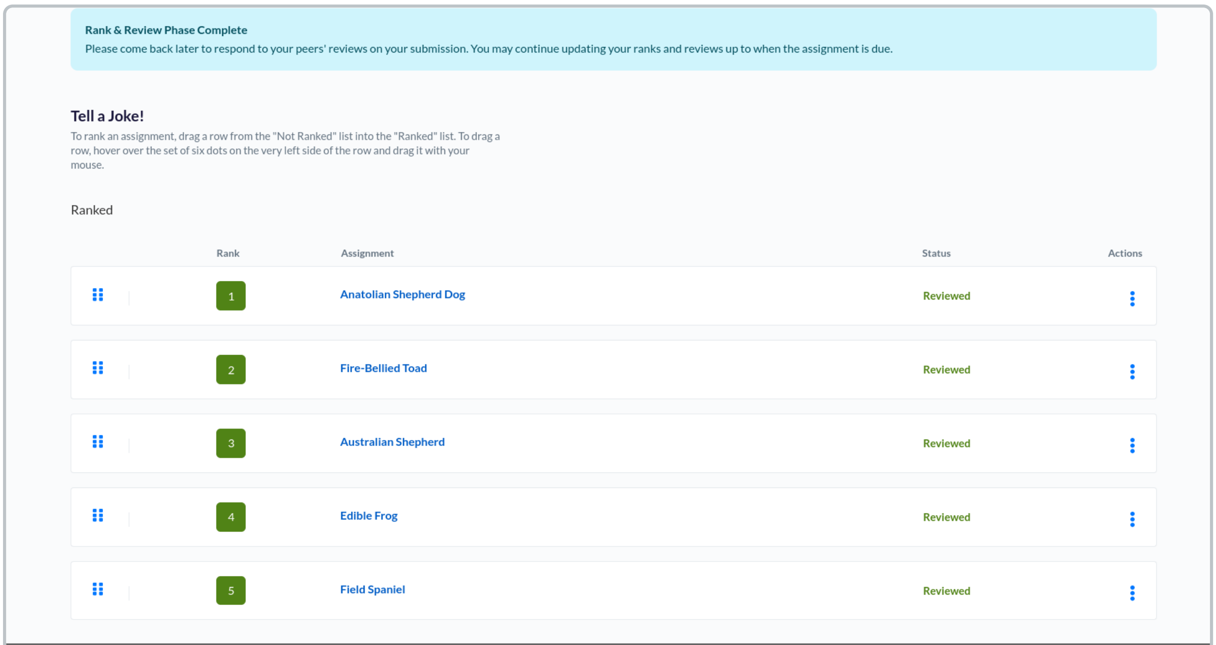


- When you've completed review of all the assignments, click and drag the six dots on the left side of the assignment to move the assignments into the **Ranked** section in the order you like. (You'll see the cursor turn from an arrow to a hand when you're on the right spot.)



Drag the assignments from the **Ranked** section to the **Unranked** section, and then order them from top rank to bottom rank.

- When you're satisfied with the order of your reviews, click **Finalize My Rankings and Reviews** in the top right corner.

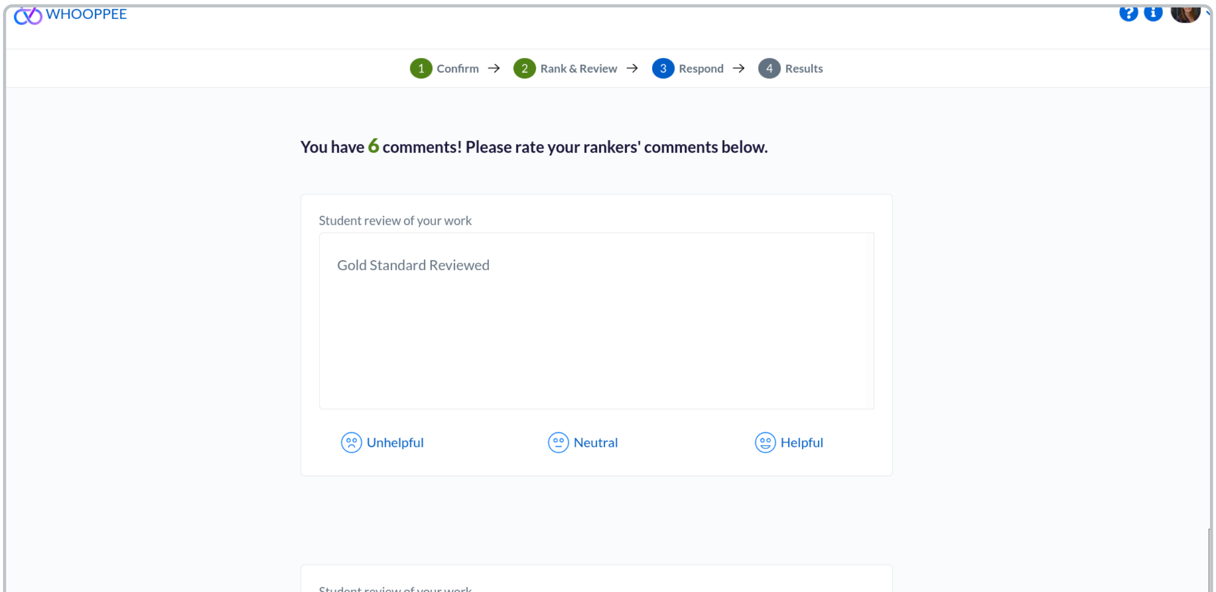


Once you've completed your Ranks and Reviews, all the boxes and text for the submissions will be green, and WHOOPPEE will confirm you're finished at the top of the screen.

Respond Phase

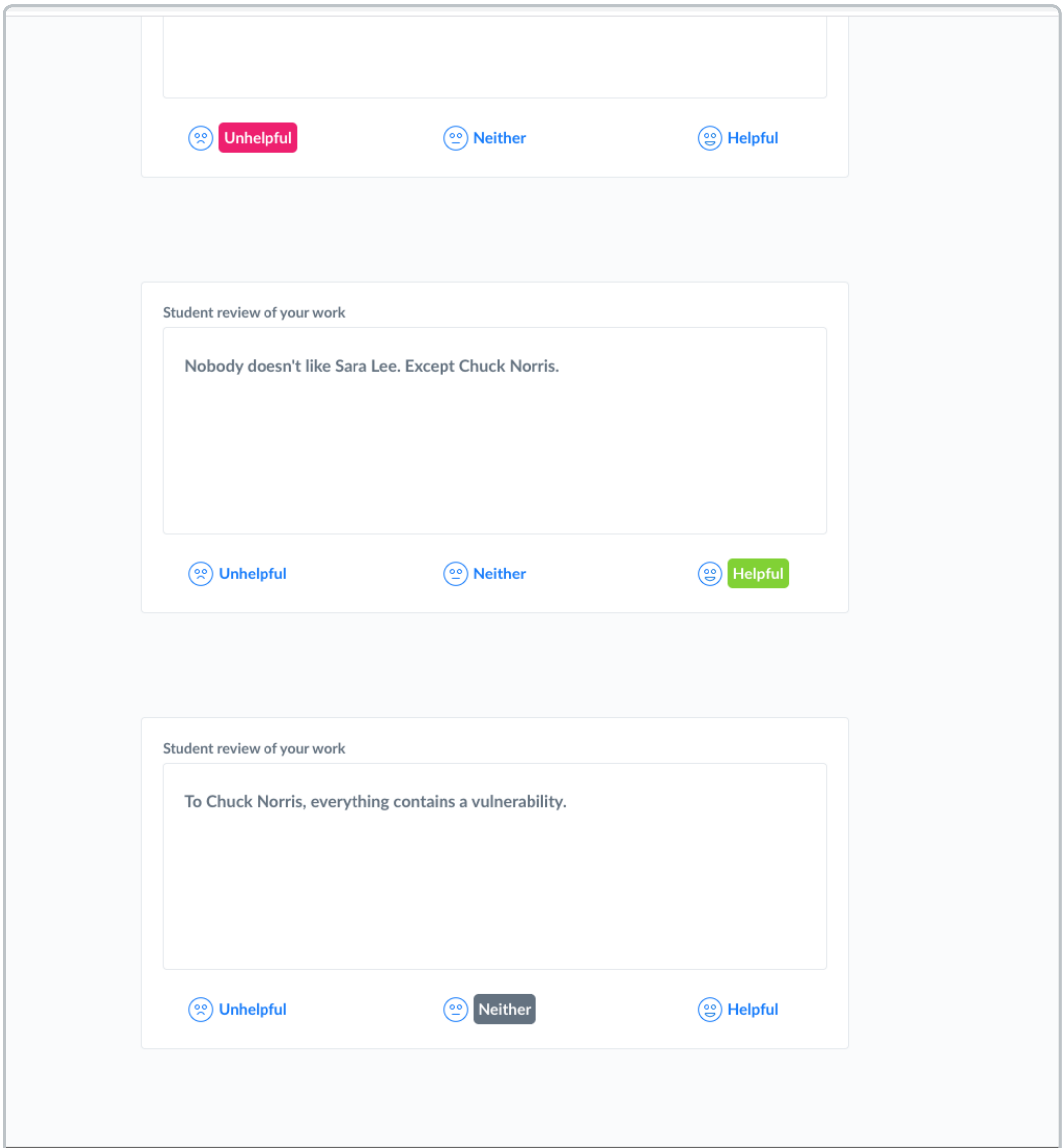
In the respond phase, you will be able to read the reviews of your assignment, and mark down whether the comments were helpful, unhelpful, or neither.

1. Read the reviews of your submission.



The Respond phase will indicate how many comments you have to review for helpfulness.

2. Click the face that corresponds with your opinion (you'll see the color change).



Here's an example of some of the reviews from an assignment a student submitted. You can choose individually if the reviews of your work were helpful, unhelpful, or neither.

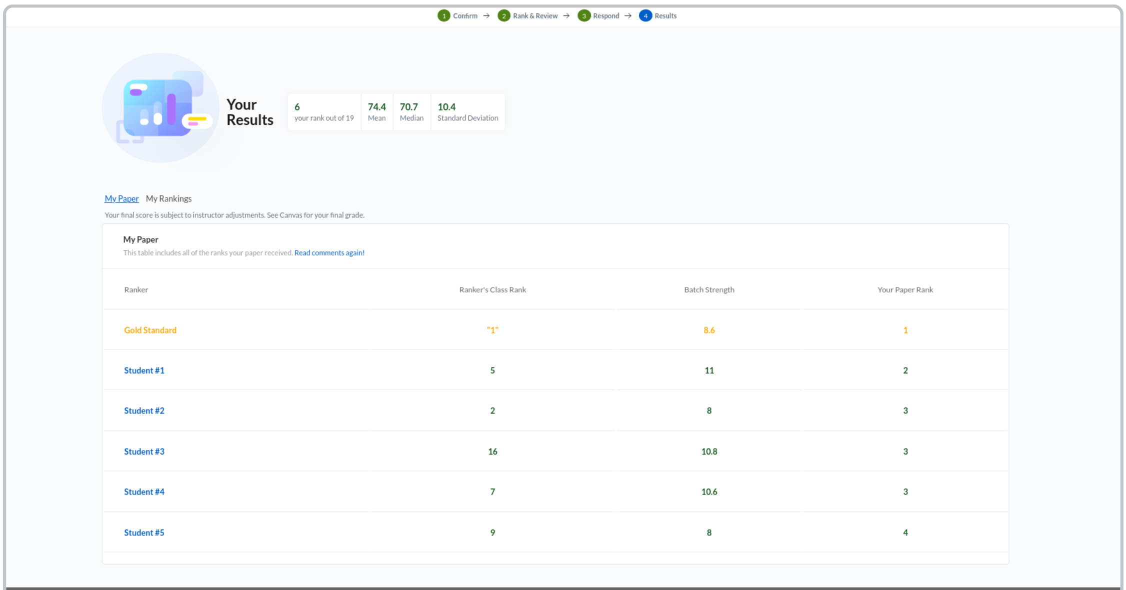
3. When you're done, click the **I'm all set, now take me to the results!** button below the final review box.

Results Phase

Finally, you'll land on the **Results** page, which allows you to see your rank in the class for the assignment. You will also see the class mean, median, and standard deviation of scores next to your rank.

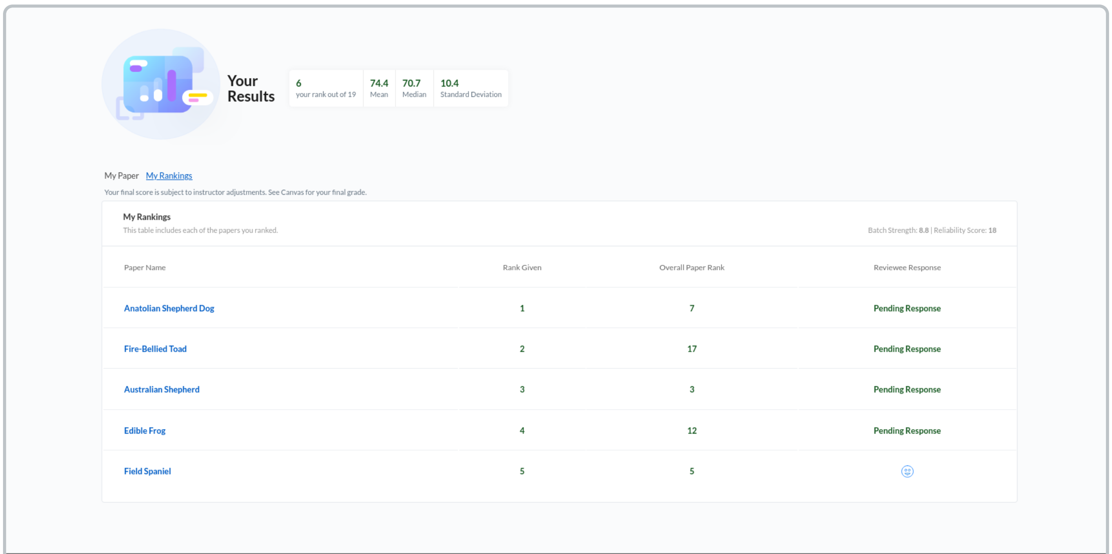
This page is divided into two sections: **My Paper** and **My Rankings**.

- **My Paper**: This is a table that includes all of the ranks that your paper received. This is broken down by each student's class rank as a ranker, the strength of the batch your paper was in, and your paper's rank within that batch.



The **My Paper** page will display attributes about the students that graded your submission, as well as the **strength** of their batches and where your paper ranked in the batches.

- **My Rankings**: This is a table that includes all of the papers you reviewed and ranked. This is broken down by each paper's overall paper rank within the class, the strength of the batch of papers it was in, and the rank you gave it.



The **My Rankings** section contains the papers you ranked, their class rank, the strength of the batches they were in, and the responses to your reviews. Responses that haven't been submitted yet are indicated by a smiling face.

And that's it! Any further questions about your results and how they were calculated can be directed to your teaching team.

Technical Problems?

Because of the way web browsers interact with web applications, sometimes data can become "stuck" or otherwise not function as expected. This happens sometimes in WHOOPPEE, as well.

The simplest way to resolve most technical issues is to perform the following steps:

- **Refresh your web browser.**
- **Clear your browser's cache and/or cookies.**
    - Click the link for your particular web browser for instructions (it will open in a new tab):
        - Chrome / Firefox / Safari / Opera / Edge / Brave
- **Use a different web browser**, since different web browsers can render pages in slightly different ways.
- **Reboot** your device, or use a different one. WHOOPPEE should cache your progress in the cloud, so you should be able to pick up where you left off.

Questions?

All app-related questions can be directed to your teaching team. Please contact Wharton Computing if you notice any technical issues not resolved by performing the steps in the previous section.

WHOOPPEE (For Teaching Team Members)

Last Modified on 12/04/2025 10:49 am EST

This article is suited for members of the associated course's teaching team, and explains the basics of using the WHOOPPEE peer grading app from an administrative perspective. (If you're looking for the student experience, please click here.)

Before you start:

You will need the following before you can use WHOOPPEE:

- A laptop or desktop PC (tablets and mobile are not supported)
- An updated web browser
- A PDF Reader for PDF metadata inspection (Acrobat is recommended)

What is WHOOPPEE?

WHOOPPEE is the **Wh**arton **O**nline **O**rdinal **P**eer **P**erformance **E**valuation **E**ngine which allows students to anonymously submit, rank, and review assignments from their peers. The app from an administrative perspective operates through 4 phases: **Submissions, Rank & Review, Analytics**, and **Results**. Its basic workflow is:

1. **Submit Assignment.** Assignments are submitted through Canvas.
2. **Personally Identifiable Information (PII) Sanitation.** WHOOPPEE anonymizes the submissions through metadata erasure, and assigns them random titles.
3. **Random Assignments.** WHOOPPEE distributes to the student random batches of submissions from the student's peers.
   - The teaching team (consisting of the instructor and course TAs), at the instructor's discretion, will receive **Gold Standard** batches. This will be subsequently discussed.
4. **Student Review of Peers.** Student reviews the peer submissions, comments on them and ranks them in order of strength.
5. **Peer Comments Available.** Once the student has reviewed their peers' submissions, the student's own submission, with peer comments, becomes available to review.
6. **Results**. WHOOPPEE displays the results of the assignment (including the student's grade).

WHOOPPEE also provides some helpful context in addition to the grade of the submission itself. Examples include:

- The strength of the **batch** that the submission was in
- The strength of **each reviewer based on the rank that reviewer's submission received** (where the Gold Standard would be ranked equivalently to the top student's)
- The strength of **the student's own ranking of 5 submissions** (where mis-rankings will likely negatively affect the student's own ranking).
- **Peer responses** to the students' reviews of their submissions, to help indicate if the reviews were helpful or not.

All of this combined helps determine the grade for the assignment.

What is the Teaching Console, and What Does It Let Me Do?

The Teaching Console is a dashboard available for teaching team members that allows for easy viewing of students' progress during the WHOOPPEE process. It will change slightly based on the current phase, but much of the functionality is similar from phase to phase.

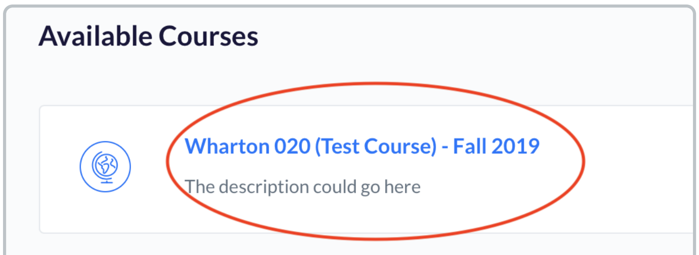
- **At-a-glance reporting** for student status, with filtering:
  - **Submissions Phase**
    - Students with successful submissions
    - Students that have not submitted yet
    - Students that have submitted, but have an anonymity check (PII) failure
      - This shouldn't be an issue, but if there is one, feel free to escalate to Wharton Computing's WHOOPPEE Support.
  - **Rank and Review Phase**
    - Reviews not started
    - Reviews partially completed
    - Concerns reported from a student on submissions they're reviewing (this is usually something along the lines of "I can tell who wrote this paper")
- **Singular or bulk actions** on students, including:
  - Reminding of student to complete assignment (as an editable template) from the app
  - Warning of student to anonymize submission (as an editable template) from the app
  - Singular or bulk e-mailing (no template) from the app
  - Immediate PII concern status clearing, to allow affected students to advance to the Rank and Review phase
    - This should be used for those cases where there is a **false positive** flag of a submission having non-anonymous information, and the teaching team can verify the submission as valid
    - As above, this shouldn't be an issue. But please report to WHOOPPEE Support if you need.
- **Report** downloads using CSV (comma-separated-value) files, for further manipulation in Excel or other spreadsheet software
- **Student Submission** downloads, individually
- **Removal/Deletion** of assignment (in case the assignment needs to be set up again)
- **Emulation of student experience**, similar to Canvas' emulation feature

Step-by-Step Guide

Here is an example of someone with administrative privileges going through an assignment with WHOOPPEE.

Intro: Courses and Assignments

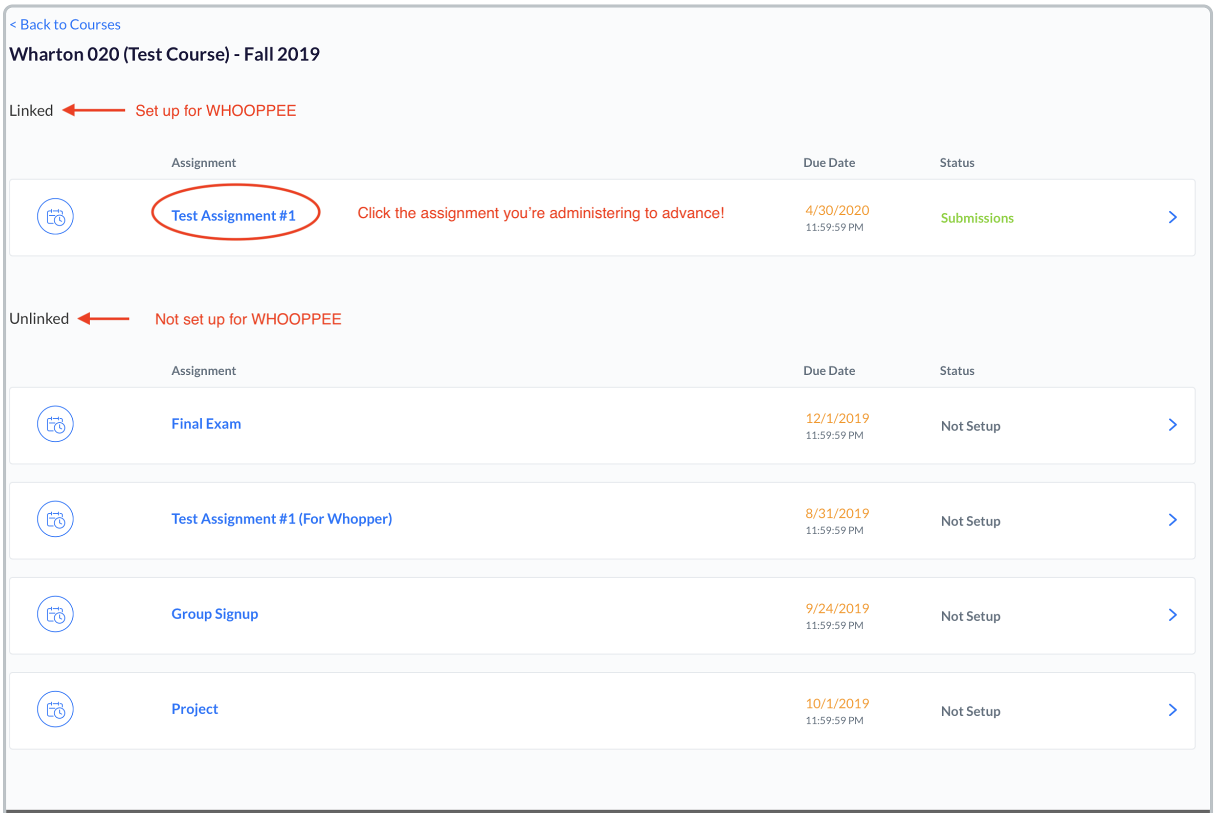
1. Log into the WHOOPPEE app through the link provided in the assignment. You will then see the **Courses** page, which provides a list of courses.



When you see your relevant course, click it to advance.

2. Click on your course to advance to the **Assignments** page.
3. On the **Assignments** page, you'll see a list of **Linked** (assignments set up for WHOOPPEE) and **Unlinked** assignments, as well as their due dates and the current Status (or **phase**) that WHOOPPEE is in. Click the

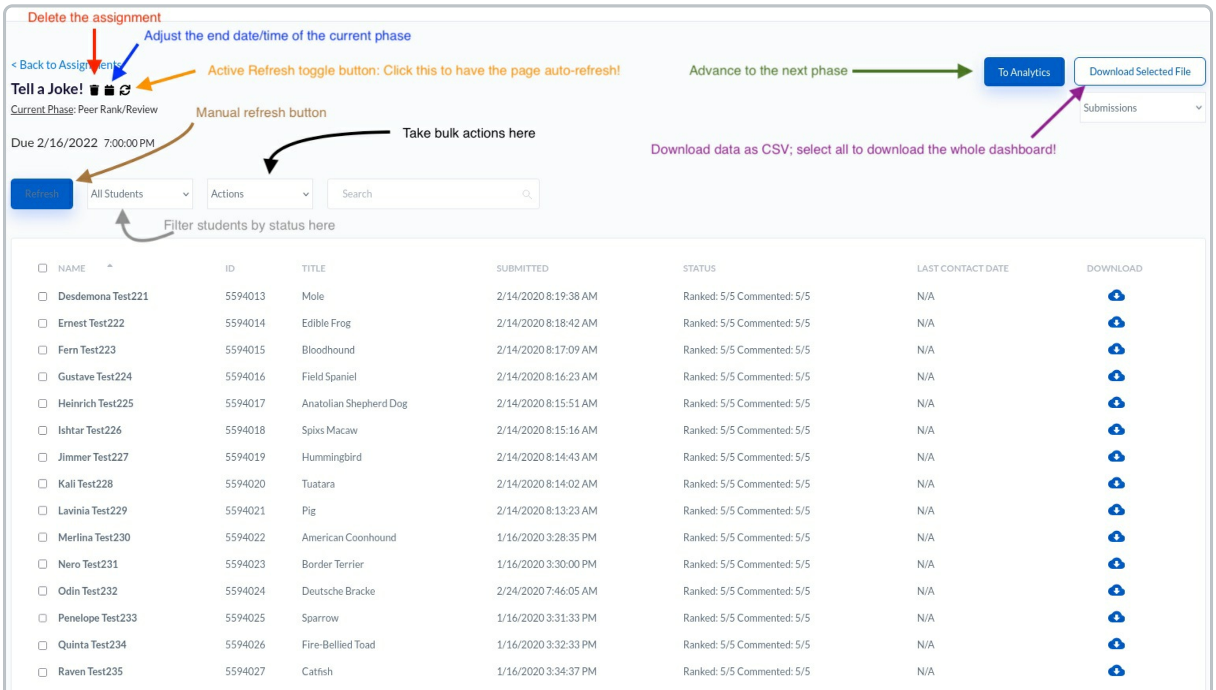
assignment that's relevant to you to advance to the **Submissions Dashboard**.



Be sure to check the **Linked** portion and click the assignment; **Unlinked** ones are not set up for WHOOPPEE.

Submissions Dashboard

1. On the **Submissions Dashboard**, you'll see all of the students' names, IDs, submission titles, submission date/time, the current submission status, and a link to download the submissions.



The **Submission** Dashboard. There are many tools available on each of the dashboards.

- Other features to take note of, as outlined above in the screenshot:
  - The **Trash Can** icon next to the assignment name will **delete the assignment** completely. **Please**

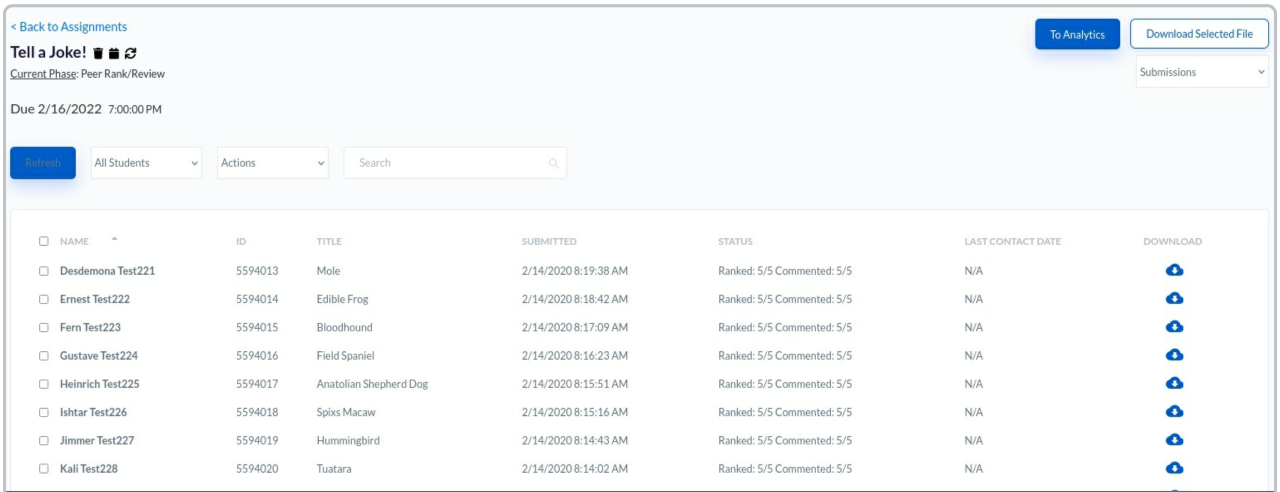
make absolutely sure you want to delete the assignment before clicking it; you'll be asked to confirm, just in case you clicked it by accident. The assignment will then be removed and will have to be recreated; it **cannot be retrieved**.

- The Active Refresh button (the circular arrows) allow the data to refresh every minute.
  - You can also use the blue **Refresh** button below it to reload the data manually without having to refresh your entire browser window.
- The **All Students** and **Actions** drop-down menus allow you to filter students and execute actions on the selected students (respectively).
- The **check marks** next to the name allow you to select individual students. Check the box next to the **Name** column to select all students.
  - For example, you could select the student with the **PII Check Failed** using the check mark box, then click **Actions > Clear Concern** to remove that flag from their status.
- The **download buttons** (the blue clouds with the arrows) enable you to download individual submissions.
- If you plan on manipulating this data table in Excel, you can select all of the students using the check box in the top left and use the **Download Selected File** button to get all of the information you see on screen as a CSV file.

2. Once you've confirmed all expected students have submitted, you can click the **To Peer Review/Rank** button to close the **Submissions** phase. This will advance WHOOPPEE to the **Rank and Review** phase, and the students will automatically see the page change.

Rank and Review Dashboard

The **Rank and Review Dashboard** is very similar in view to the **Submissions Dashboard**. It is also searchable, filterable, and able to perform bulk actions. You can also download all the data as a CSV file, as with the Submissions phase.



The **Peer Rank/Review** Dashboard will appear when you advance the phase to **Peer Rank/Review**.

As with the **Submissions** phase, you can easily see the status of the students. The main status categories will be:

- **Reviews Not Started**: The student hasn't started the rank/review process yet.
- **Partially Reviewed**: The student started, but hasn't finished, the rank/review process.
- **Concern Reported**: The student in question has submitted a concern about one (or more) submissions within the batch they've received; the usual case is that there's something within the submission that could potentially identify the student that wrote it.
  - You should reach out to the student to get more info about the concern and escalate to the faculty

member for further guidance if necessary. Once you're satisfied, you can check the box next to the student and click **Clear Concern** under the **Actions** menu. The student's status will the revert to the **Ranked X/X Commented X/X** status (if they're mid-ranking and review).

- **Ranked X/X Commented X/X**: This should indicate the student has completed the Rank and Review phase, where X is the number of submissions in the batch. The usual number will be 4 or 5 per batch, so it should look something like the example below.

Here's an example of a student with a completed **Peer Rank/Review** phase.

Note: There is no need for students to rank and review all submissions in one sitting. The student can easily review one and come back to review others later.

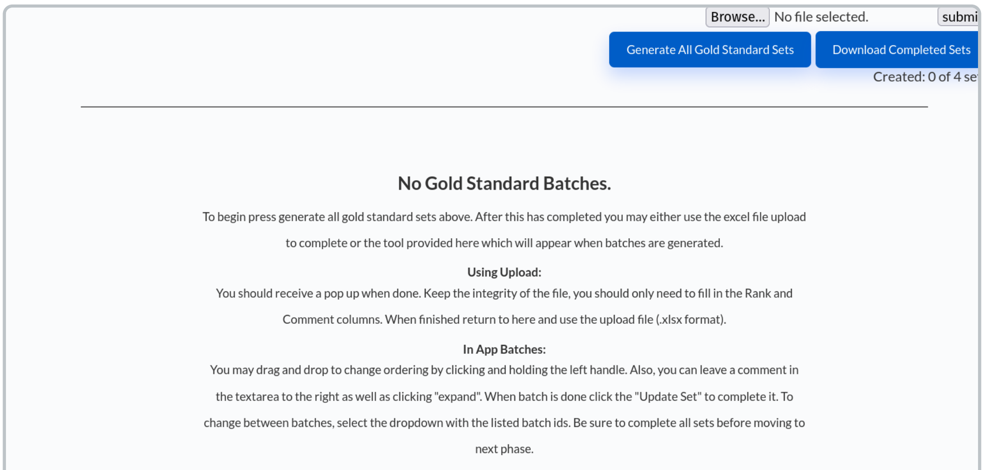
When all students have completed the **Rank and Review** phase (all statuses should say **Ranked X/X Commented X/X**), you can click the **Run Algorithm** button at the top to advance to the **Algorithm** phase.

Gold Standard Reviews

Gold Standard Reviews are ranks/reviews conducted by the teaching team. Use the following steps to generate Gold Standard batches for review.

1. Click **Gold Standard Reviews** at the top of the WHOOPPEE app.
2. Click **Generate All Gold Standard Sets** to begin the process.
3. Once the sets are generated, you have one of two options:
    1. Use the **Excel File Upload Tool** above the blue buttons (**Generate All Gold Standard Sets** and **Download Completed Sets**) to upload your batches downloaded from WHOOPPEE.
    2. Use the **In-App Batches Tool** on the page to update your sets from WHOOPPEE itself. This tool will appear once the batches are generated. This method excludes Excel completely.

We will cover both methods below. For now, you will see this page, which has abbreviated versions of the instructions below.



When you click **Gold Standard Reviews** at the top of the app, you'll be presented with this page (if no batches have been generated yet). Note that there are no batches generated yet in this example.

Using the Excel File Upload Tool

To use the **Excel File Upload Tool**:

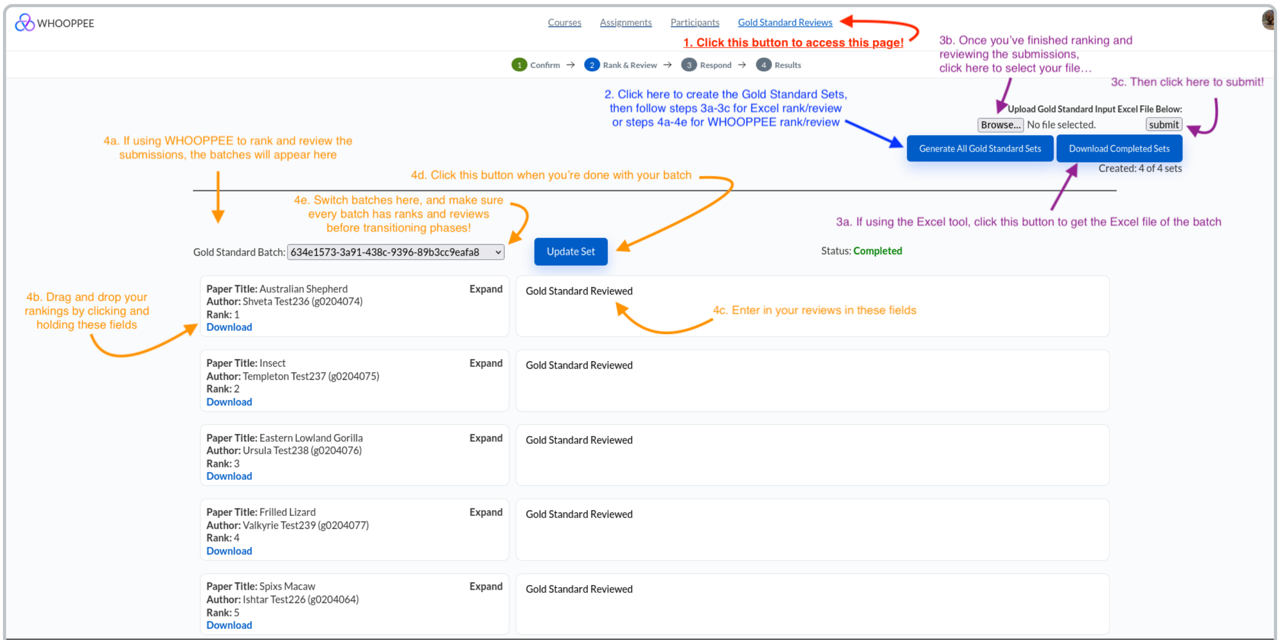
1. Click **Download Completed Sets** to download the batches.
2. Open Excel and fill in the **Rank** and **Comment** sections. You shouldn't need to fill in any other fields; this keeps the integrity of the file intact.
3. When completed, return to the **Gold Standard Reviews** page, click **Browse** to select your file, then click **Submit** to upload the batch.
    - Be sure the file is in **.xlsx** format.
4. Repeat this process until all batches are completed. **Be sure to complete all sets before moving to the next phase.**

Using the In-App Batches Tool

To use the **In-App Batches Tool**:

1. Click and hold the left handle to drag and drop each submission and order them from highest to lowest rank (top to bottom, respectively).
2. You can leave a review by clicking **Expand** and filling your review in the text box on the right that appears.
3. When your batch is done, click **Update Set** to complete it.
4. To switch between batches, select the drop-down menu with the listed Batch IDs.
    - **Be sure to complete all sets before moving to the next phase.**

Here's an overview of what the page looks like, with some instructions embedded. Use the purple instructions for Excel rank and review, and the orange instructions for WHOOPPEE rank and review. Both will provide the same data; it's just a matter of personal preference.



The **Gold Standard Reviews** page lets you rank and review submissions in two ways.

Analytics Phase

The Analytics phase uploads the submissions to AWS and runs the WHOOPPEE algorithm. This calculates the final scores for the students.

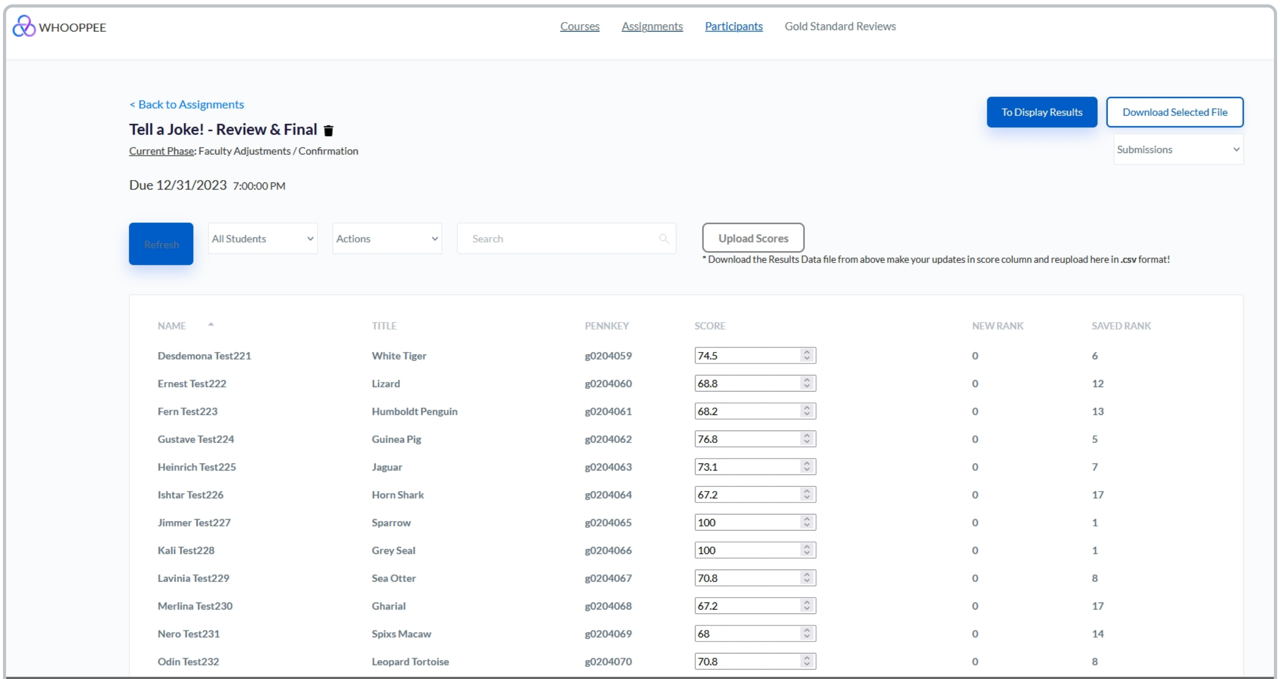
Once the algorithm is complete, you will receive a notification e-mail. You can then click **To Display Results** to transition to the last phase, the **Results** phase.

- Contingent on how many students are in the course, the WHOOPPEE algorithm can take anywhere from a few minutes to a few hours to run completely. If you are unsure of the algorithm's status, please feel free to reach out to Wharton Computing staff and they will verify it.

Faculty Adjustments / Confirmation Dashboard

The faculty **Adjustments / Confirmation Dashboard** allows the instructor to view student scores and make immediate adjustments to scores before moving to the Result Dashboard where students are then notified that scores are ready.

- Once a score has been manually updated you will be presented with the (**Save**) option to accept changes.
- To update scores in bulk download the **Results Data** file make your updates in score column and re-upload in **.csv** format. Once accepted you can choose (**Save**) to complete the task.



Adjustments / Confirmation Dashboard allows the instructor to view student scores and make adjustments to scores.

Results Dashboard

In the **Results** phase, no action is required from a student-monitoring perspective, since the WHOOPPEE run is completed at this final phase. Students' statuses should all be marked as **Success**, aside from those that did not submit before the due date. The results can then be downloaded as a CSV file and viewed by the teaching team to verify the results and provide a more granular perspective.

See the example listed below (note that the Paper Author ID will be populated with the students' anonymous ID):

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Paper Title	Paper Author	Paper Author ID	Score	Score Rank	W Field	Borda Score	Borda Rank	Ignored	Created	Modified		
2	142-33154	Desdemona Test221	XXXXXXX	70.1	10	0.0726112	52.03	19	0	2019-12-09 1	2019-12-09 16:04:35.052000+00:00		
3	239-47096	Ernest Test222	XXXXXXX	67.3	17	0.01080226	82.28	4	0	2019-12-09 1	2019-12-09 16:04:35.909000+00:00		
4	049-46056	Fern Test223	XXXXXXX	68.1	15	0.02808774	74.56	10	0	2019-12-09 1	2019-12-09 16:04:36.846000+00:00		
5	255-41736	Gustave Test224	XXXXXXX	69.7	12	0.06459763	78.42	9	0	2019-12-09 1	2019-12-09 16:04:37.638000+00:00		
6	228-70155	Heinrich Test225	XXXXXXX	66.9	19	0.00E+00	78.42	6	0	2019-12-09 1	2019-12-09 16:04:40.017000+00:00		
7	294-02057	Ishtar Test226	XXXXXXX	72.5	5	0.12940795	70.7	13	0	2019-12-09 1	2019-12-09 16:04:40.033000+00:00		
8	163-60531	Jimmer Test227	XXXXXXX	71.8	7	0.11331297	62.97	17	1	2019-12-09 1	2019-12-09 16:04:40.844000+00:00		
9	232-88582	Kali Test228	XXXXXXX	70.6	8	0.08498126	82.28	5	0	2019-12-09 1	2019-12-09 16:04:41.664000+00:00		
10	023-91265	Lavinia Test229	XXXXXXX	69.9	11	0.06870683	70.7	12	0	2019-12-09 1	2019-12-09 16:04:42.487000+00:00		
11	294-38274	Merlina Test230	XXXXXXX	70.6	9	0.08472493	100	1	0	2019-12-09 1	2019-12-09 16:04:43.342000+00:00		
12	187-07728	Nero Test231	XXXXXXX	66.9	18	0.00E+00	55.25	18	0	2019-12-09 1	2019-12-09 16:04:44.174000+00:00		
13	142-13116	Odin Test232	XXXXXXX	67.4	16	0.01257404	86.15	3	0	2019-12-09 1	2019-12-09 16:04:44.996000+00:00		
14	066-61121	Penelope Test233	XXXXXXX	68.9	14	0.04684372	74.56	11	0	2019-12-09 1	2019-12-09 16:04:45.836000+00:00		
15	275-65431	Quinta Test234	XXXXXXX	69	13	0.04941836	78.42	8	0	2019-12-09 1	2019-12-09 16:04:46.625000+00:00		
16	018-51728	Raven Test235	XXXXXXX	72.1	6	0.1193343	66.84	16	1	2019-12-09 1	2019-12-09 16:04:47.450000+00:00		
17	248-01226	Shveta Test236	XXXXXXX	100	1	1	70.7	14	0	2019-12-09 1	2019-12-09 16:04:49.131000+00:00		
18	215-58365	Templeton Test237	XXXXXXX	86	4	0.43528418	78.42	7	0	2019-12-09 1	2019-12-09 16:04:49.942000+00:00		
19	107-52162	Ursula Test238	XXXXXXX	90.3	3	0.53334484	66.84	15	0	2019-12-09 1	2019-12-09 16:04:50.791000+00:00		
20	268-41649	Valkyrie Test239	XXXXXXX	96.2	2	0.66721537	93.87	2	0	2019-12-09 1	2019-12-09 16:04:51.652000+00:00		

This CSV file contains a more granular view of the final results, to help explain how the final scores are calculated.

WHOOPPEE Scores Report

Overview of Key Columns

authors_id	Internal identifier for each student/paper author.	Used to link results back to submissions.
score	The **normalized peer evaluation score** produced by the WHOOPPEE algorithm.	Typically scaled to 0–100, factoring in peer rankings and reviewer reliability.
score_rank	The rank order of papers based on the "score" value (1 = highest).	Reflects final ordering after normalization.
w	The **weighted "W" score** emerging directly from WHOOPPEE's ranking algorithm.	It reflects the weighted consensus of peer rankings using the **Borda Count** and normalization for review set difficulty.
borda_score	The **raw average** of ranks assigned via the **Borda Count method** (weighted average of observed ranks).	Often close to "score," but can differ when batches vary in quality or reviewer reliability.
borda_rank	The rank of the paper based on its Borda score.	A simpler measure than the final WHOOPPEE "score_rank."
reliability_p	Measures **how consistent the peer reviewers' assessments were** for that paper.	Lower reliability = wider disagreement among reviewers.

reliability_rank	Rank order based on reliability.	Lower ranks indicate less consistency among reviewers.
ignored	Indicates whether the paper was flagged or excluded from a batch.	Usually `0` (included).

- The "**score**" column represents the final normalized output from WHOOPPEE's ranking algorithm, derived from peer evaluations.
- The "**borda_score**" is a simpler average of rank positions (before normalization).
- The "**w**" score is the weighted value that emerges from the algorithm, factoring in reviewer reliability and batch difficulty.
- "**Reliability**" columns measure how consistent reviewers were with each other.

Technical Problems?

Because of the way web browsers interact with web applications, sometimes data can become "stuck" or otherwise not function as expected. This happens sometimes in WHOOPPEE, as well.

The simplest way to resolve most technical issues is to perform the following steps:

- **Refresh your web browser.**
- **Clear your browser's cache and/or cookies.**
  - Click the link for your particular web browser for instructions (it will open in a new tab):
    - Chrome / Firefox / Safari / Opera / Edge / Brave
- Attempt to use a **different web browser**, since different web browsers can render pages in slightly different ways.
- **Reboot** your device, or use a different one. WHOOPPEE should cache your progress in the cloud, so you should be able to pick up where you left off.

Troubleshooting

Questions?

Please contact Wharton Computing if you notice any technical issues not resolved by performing the steps in the previous section.

CampusGroups Connection Programs - Appointment scheduling (for Staff)

Last Modified on 07/19/2023 11:47 am EDT

Here is everything you'll need to know to administer/use your program for appointment scheduling.

Highlights:

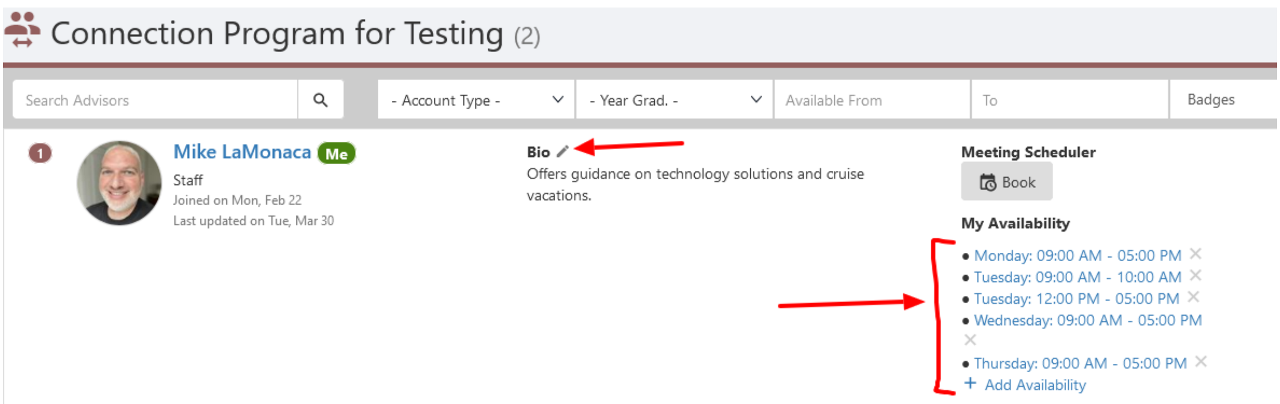
- Your Connection Program will sync with your Outlook calendar, automatically displaying when you have availability (within date/time parameters you define), and automatically saving booked appointments on your calendar.
- For remote meetings, your Connection Program syncs with your Penn Zoom account, automatically creating a private Zoom URL for each meeting.
- Need to set a block of time as **unavailable** for appointments? Simply create a **busy** record on your Outlook calendar -- no need to log into CampusGroups. It will immediately know not to display appointment availability for that time block.

Before You Start

There is a brief, one-time setup process in CampusGroups: (see screenshot)

1. Go to groups.wharton.upenn.edu and log in with your PennKey. If you cannot log in or need an account, contact apps-admin@wharton.upenn.edu for assistance. (Do not create a CampusGroups account yourself.)
2. In the left-hand menu, click on **My Meetings**. At the top, click on the **Manage My Schedulers** button.
3. Click on the **Connected Calendar Settings** button at the top, then **Connect Your Office365 Calendar**. Your username is *username*@upenn.edu (do not include **Wharton**) and your password is your PennKey password.
4. Repeat above, then click on the **Zoom Integration** button at the top. A new window will open; click on the **Sign in with SSO** button. Use **upenn.zoom.us** as the company name. You may be prompted to authenticate with your PennKey credentials. Click the **Authorize** button to finish.

Set Your Bio and Availability



Edit your bio: This is displayed to students when viewing a list of all advisors; for example, use this to indicate any special programs for which you may be an advisor.

Set your overall availability: When the system looks at your Outlook calendar to determine your availability, *it will only look within these weekdays and time spans*.

- You may split availability in a weekday; e.g., 9 to 10 am, then 12 to 5 pm, on Tuesdays.
- Remove a weekday altogether if you do not host meetings on that day. (e.g., the above example exempts Fridays.)

Settings Glossary

Setting	Details	Recommendations
Buffer	Pads time before meetings.	Note that this will place a buffer *before* your meeting. If you intend to start at 9:00 am and you have a 5-minute buffer, it will schedule your first meeting at 9:05. We recommend including buffers in your meeting duration instead -- this is set by an administrator.
Minimum notice	Prevents new appointments from being created at this many hours/days prior.	
Slot start	Controls the start times for created meetings.	Use this to standardize your meeting start times. Otherwise, the system will use any available timeslot on your calendar, and you may have meetings scheduled like "9:20 to 9:45". If you offer 30-minute timeslots, for example, select "HH:00, HH:30".

Setting	Details	Recommendations
Availability end date/time	The last day/time that a meeting can be booked.	If you allow students to book appointments within a certain upcoming time span (eg, up to two weeks out), come back to this setting regularly to extend the deadline. Set a recurring reminder on your calendar to do this weekly.
Send meeting notes email to host / to participant.	Do not use.	Keep these set as **No** for both -- you will not use CampusGroups to keep/share meeting notes.
Meeting feedback survey	Do not change.	If interested, discuss survey options with Wharton Computing.
Maximum number of meetings per day	If you would like to limit the number of meetings you may have within a single day, you can do so here.	
Maximum number of meetings with the same user	Keep a high number for the last setting (...with the same user) as this forces users to log in before they can book a meeting.	Set ...**with the same user** to: **999**

Questions?

Contact Wharton Apps Support apps-support@wharton.upenn.edu

MBA Pre-Term 2025 App

Last Modified on 07/26/2025 4:06 pm EDT

Wharton MBA Class of 2027 students: Welcome to Wharton! To help you navigate MBA Pre-Term, we've created a mobile app for you. It contains your cohort's schedule throughout Pre-Term along with other information. Additionally, the app will allow you to receive push alerts regarding important news and reminders -- **please be sure to "allow notifications" in the app.**

Note: the Wharton Events app requires iOS version 17 or higher, or Android version 11 or higher. But don't worry, you can also access your schedule via the Web: https://whr.tn/mbapreterm

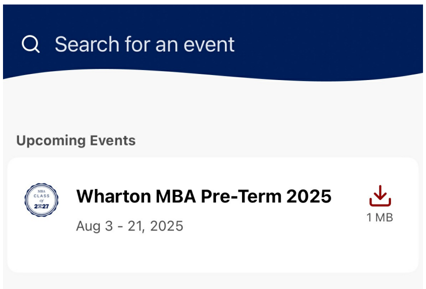
Download the "Wharton Events" app

Go to the app store for your phone type and download the "Wharton Events" app. The links to each are:

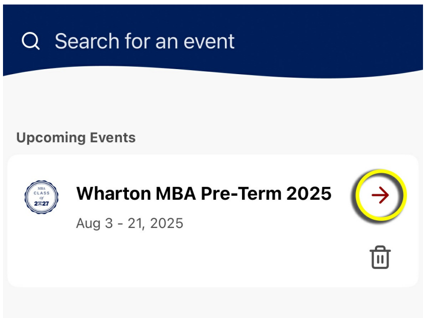
- **iPhone/iOS:** Download the Wharton Events app from the Apple Store
- **Android:** Download the Wharton Events app from Google Play

Download the MBA Pre-Term event

In the app, you will see "Wharton MBA Pre-Term 2025" as an upcoming event.

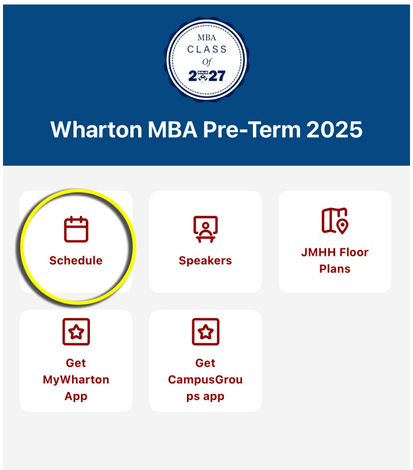


Tap the download icon. Once the download is finished, tap the right-arrow:

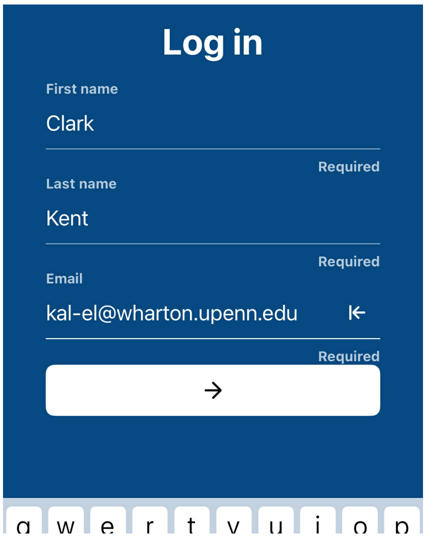


Log in to see your schedule

Tap the "Schedule" button and you will be prompted to log in:

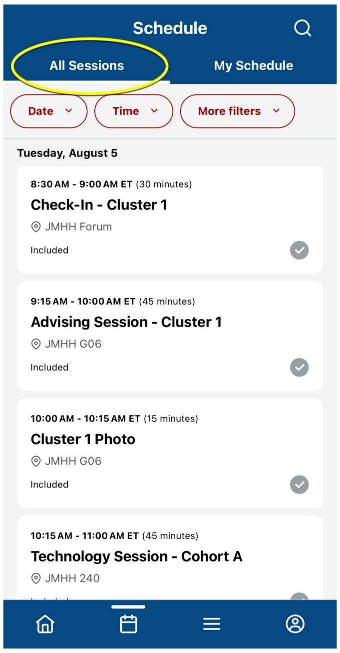


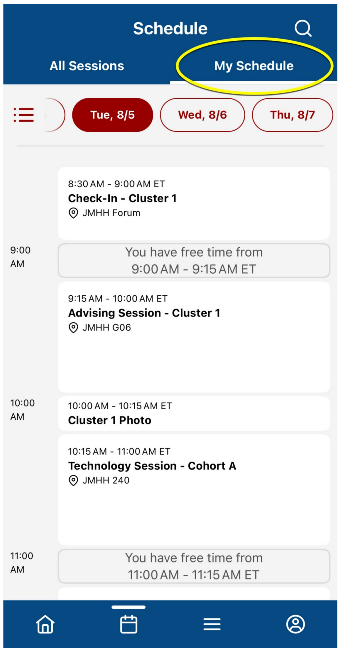
Log in with your name and your **Wharton email address** (*username*@wharton.upenn.edu). *(Pro-tip: don't worry about how your name might be spelled in the system; only the email address needs to match.)*



A 6-digit code will be emailed to you. Enter it on the next screen and then you will be logged in.

Your personalized schedule is available as a calendar grid under "My Schedule" and as a list under "All Sessions":





Need help?

If you need assistance, please contact Wharton Computing Student Support.

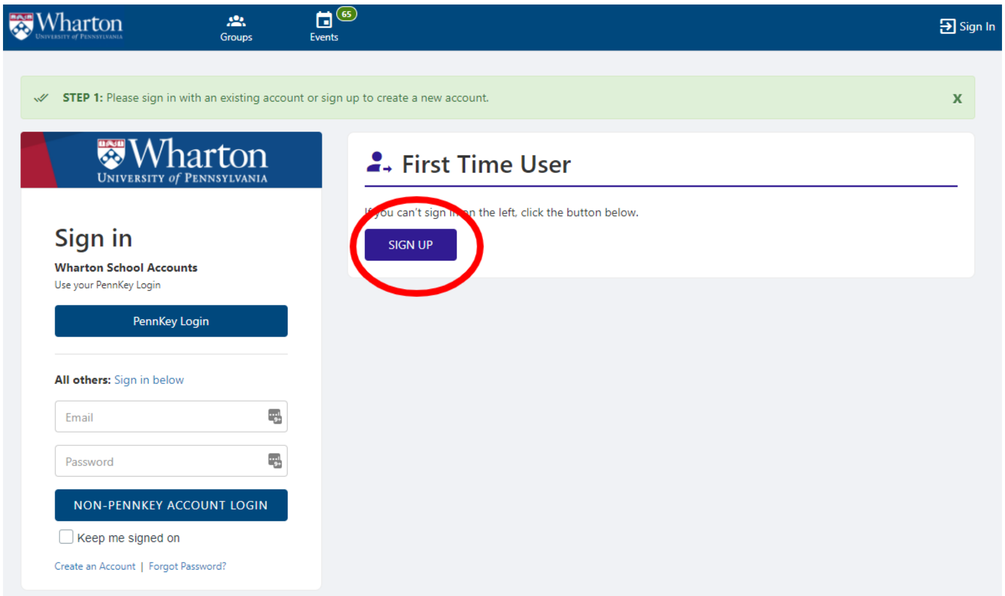
Admitted MBAs: Financial Aid Appointments

Last Modified on 11/07/2022 11:56 am EST

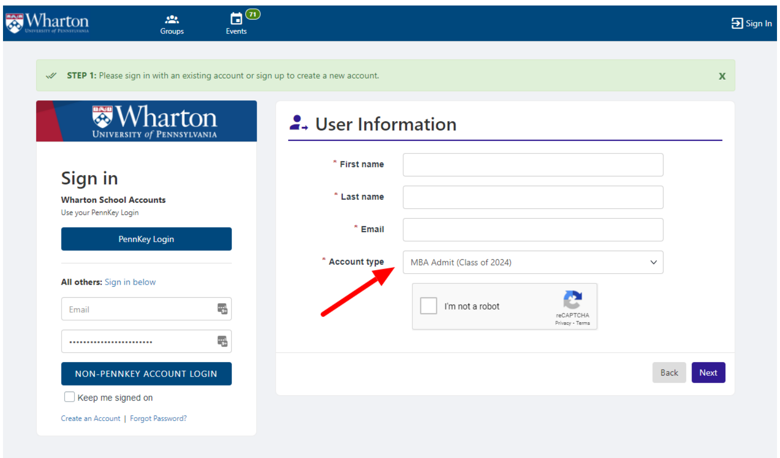
This is the method for newly admitted MBA applicants to schedule a virtual appointment with the MBA Financial Aid Office through CampusGroups Connection Programs.

Creating an Account & Scheduling an Appointment

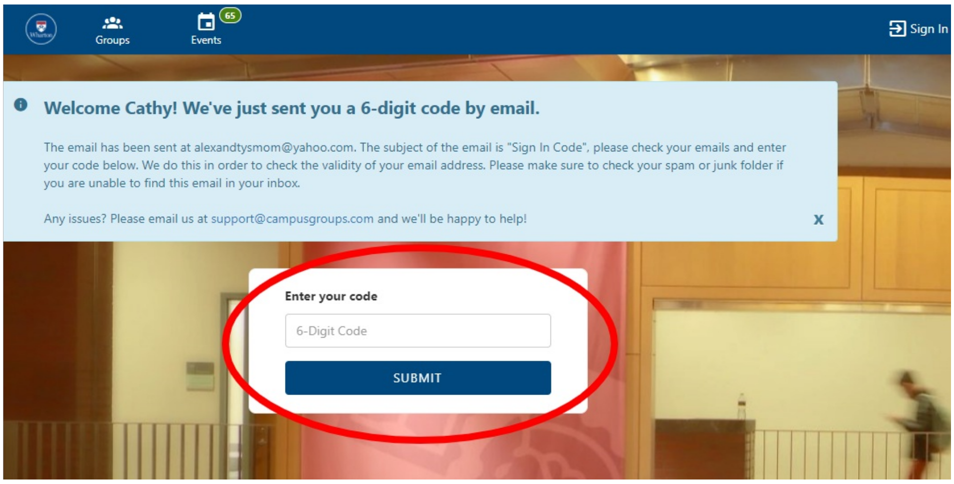
1. Go to CampusGroups at: https://groups.wharton.upenn.edu/meetings/m50/book and **click on Sign Up**. **Do not use your PennKey** to log in to CampusGroups until you have arrived on campus in August.



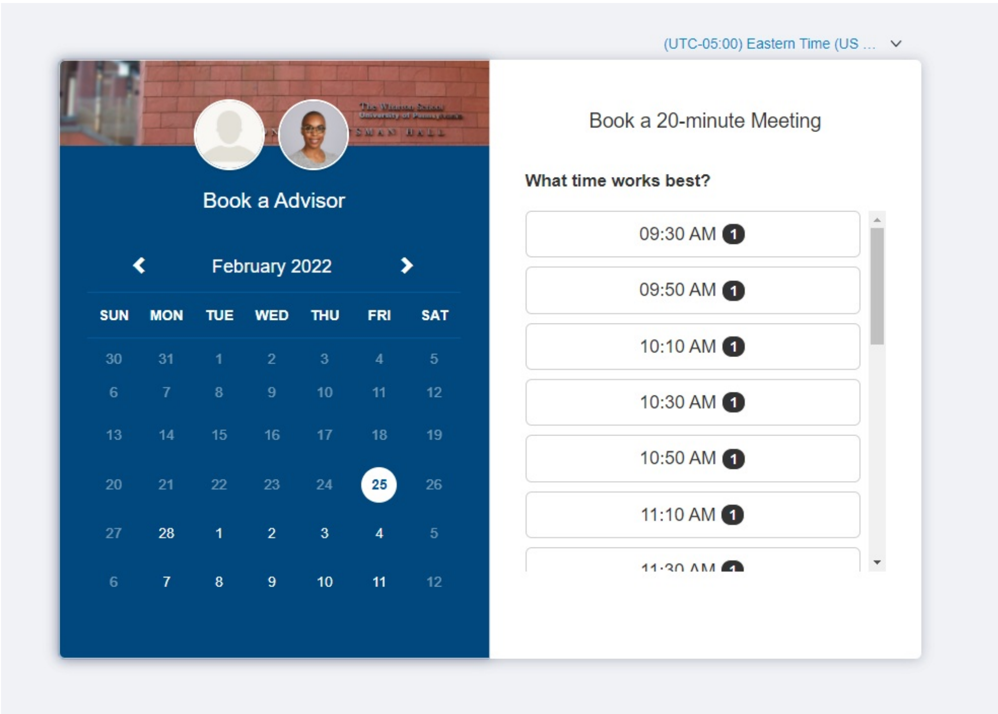
2. Under User Information, enter your **First Name, Last Name,** and the **email address** used on your Wharton application, then select **MBA Admit (Class of 2024)** from the Account type dropdown.



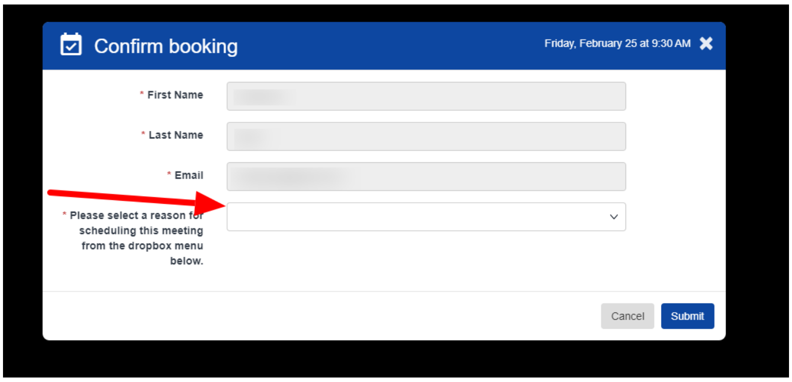
3. After entering your information and checking the reCAPTCHA, **click Next**.
4. You will be sent a 6-digit code by email. **Enter the code** to log in.



5. Select the **date** and **time** for your 20-minute virtual meeting with an MBA Financial Aid Office advisor. Then confirm your host (this is the advisor you will meet).



6. Select your **reason for scheduling** from the dropdown and **click Submit**. An email confirmation of your appointment with the meeting link, date, and time of your appointment will be sent to you.



Efficiency Tip: To return to CampusGroups to view your appointment, **before logging out of CampusGroups**

or closing the appointment window, set your password at https://groups.wharton.upenn.edu/student_password.

If you return to CampusGroups and did not set a password previously, **click Forgot Password** above the Non-PennKey account login button at https://groups.wharton.upenn.edu/, and you will be emailed a link to set your password.

Questions?

Email: support@campusgroups.com

MBA Pre-Term Check-in: OnArrival app

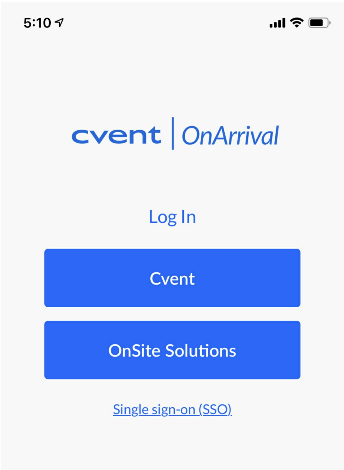
Last Modified on 08/07/2025 12:39 pm EDT

First, download the OnArrival app (made by Cvent):

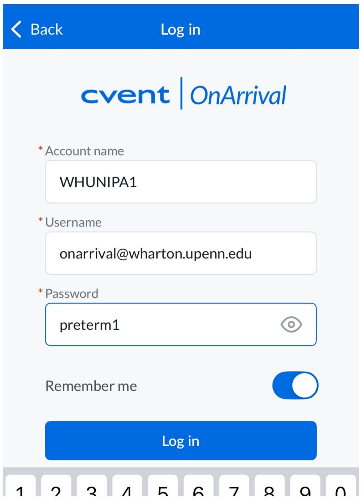
- iPhone: https://apps.apple.com/us/app/onarrival/id680778967
- Google Play: https://play.google.com/store/apps/details?id=com.cvent.onarrival&hl=en_US&gl=US

Be sure your phone is connected to AirPennNet. If you haven't been on campus in a while, you may need to reconnect. Follow the instructions **here**.

Open the app, and select **Cvent**:

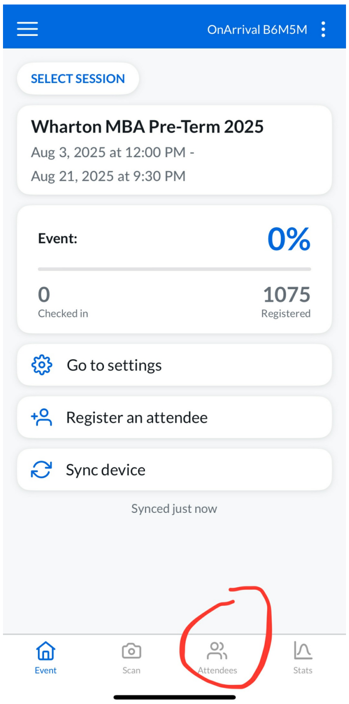


On the login screen, enter the following. Be sure **Remember me** is turned on.



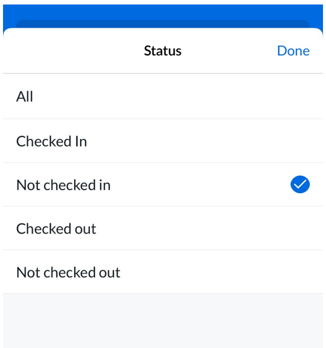
Account name: WHUNIPA1
Username: onarrival@wharton.upenn.edu
Password: preterm1

The main page will load. The app will need to download over 1,000 records and may take a moment. Once ready, tap **Attendees** at the bottom.

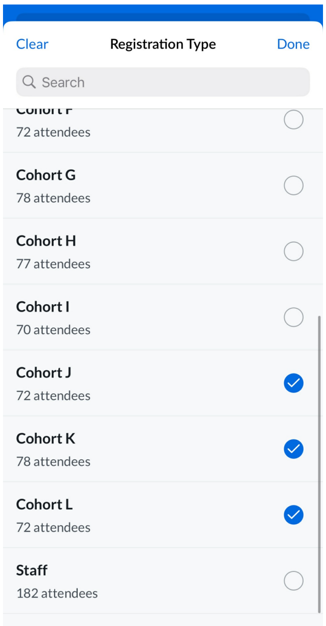


You'll see a list of all students. To make your experience easier, set two filters via the**Status** and **Reg Type** buttons.

Tap **Status**, and change the option to **Not checked in**. Then tap **Done** in the upper-right.



Then tap **Reg Type** *(Reg=Registration)*, and select the cohort(s) you're working with, and then tap **Done**. Be sure to unselect "Staff" as you will not be checking in any of them.



You'll now only see the students in your desired cohort(s), who have not been checked in.

Under each name is the student's Wharton email address, which may be useful if you want to confirm that you're talking to the right person.

To check in a student, simply tap the blue **Check In** button. It will turn purple and the label will change to **Check out**. (We will not be checking out students, so ignore this.)

Tip: If you'd like to clear checked-in students from your list (and you've already set the **Status** to **Not checked in**), place your finger in the middle of the screen and slide down. The page will refresh, and any checked-in students will be cleared from the list.

If you've accidentally check in the wrong student, tap on their name (you may need to change your **Status** to **Checked in** first), then tap **Registration**.

On the Registration screen, tap **Undo** next to the **Checked in** timestamp.

Tap the **Back** option twice to return to your student list. If you've changed the **Status**, be sure to change it back to **Not checked in**.

And that's it! 😎

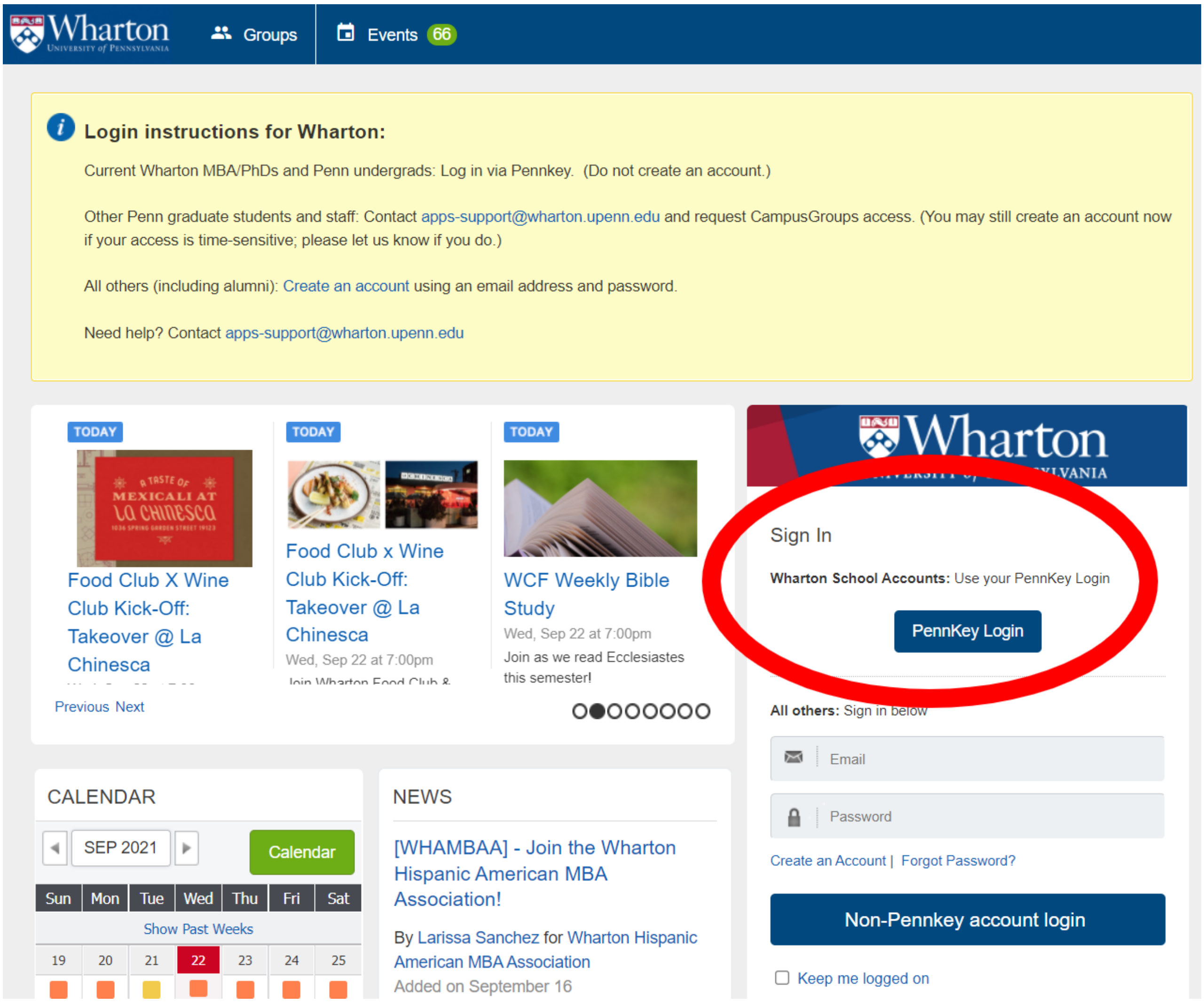
CampusGroups Connection Programs - Appointment scheduling (for UGR Students)

Last Modified on 10/09/2024 11:59 am EDT

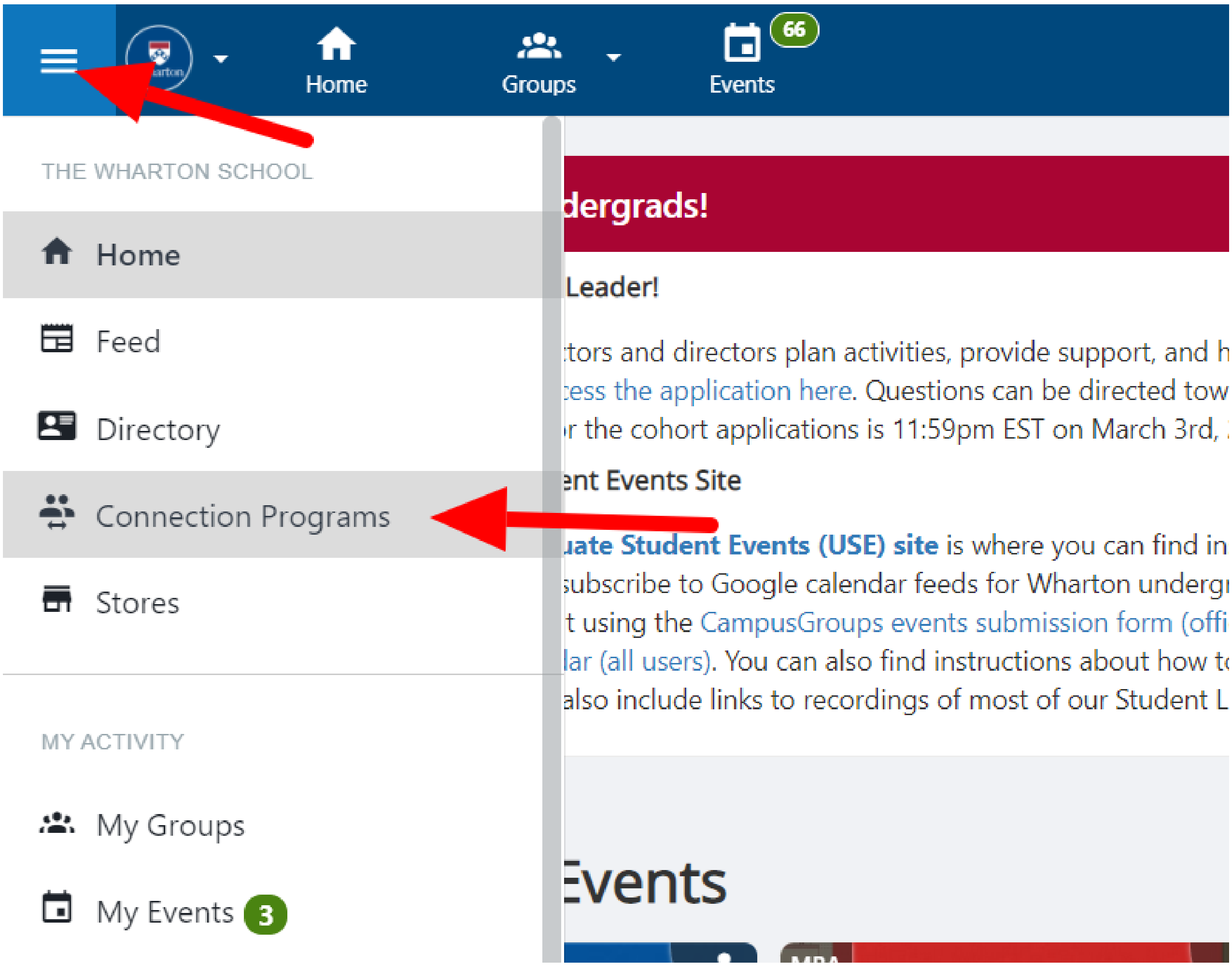
Appointments for Wharton Undergraduate advising have transitioned to CampusGroups, in their "Connection Programs" module.

If CampusGroups fails to load in your browser repeatedly, please let us know so we can track its performance.

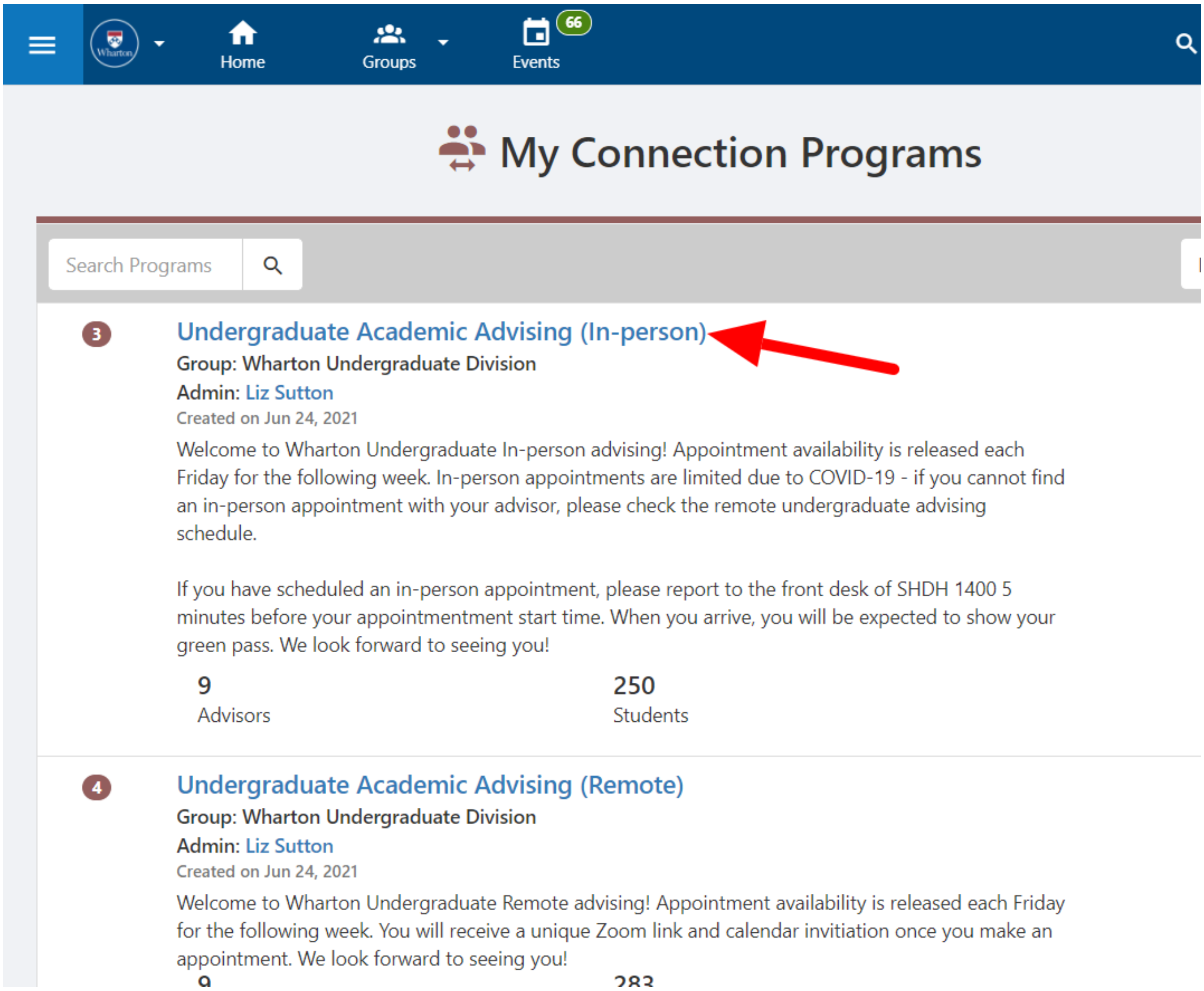
1. Go to https://groups.wharton.upenn.edu/ and log in with your Pennkey. (Do not create a new account -- it won't work.)



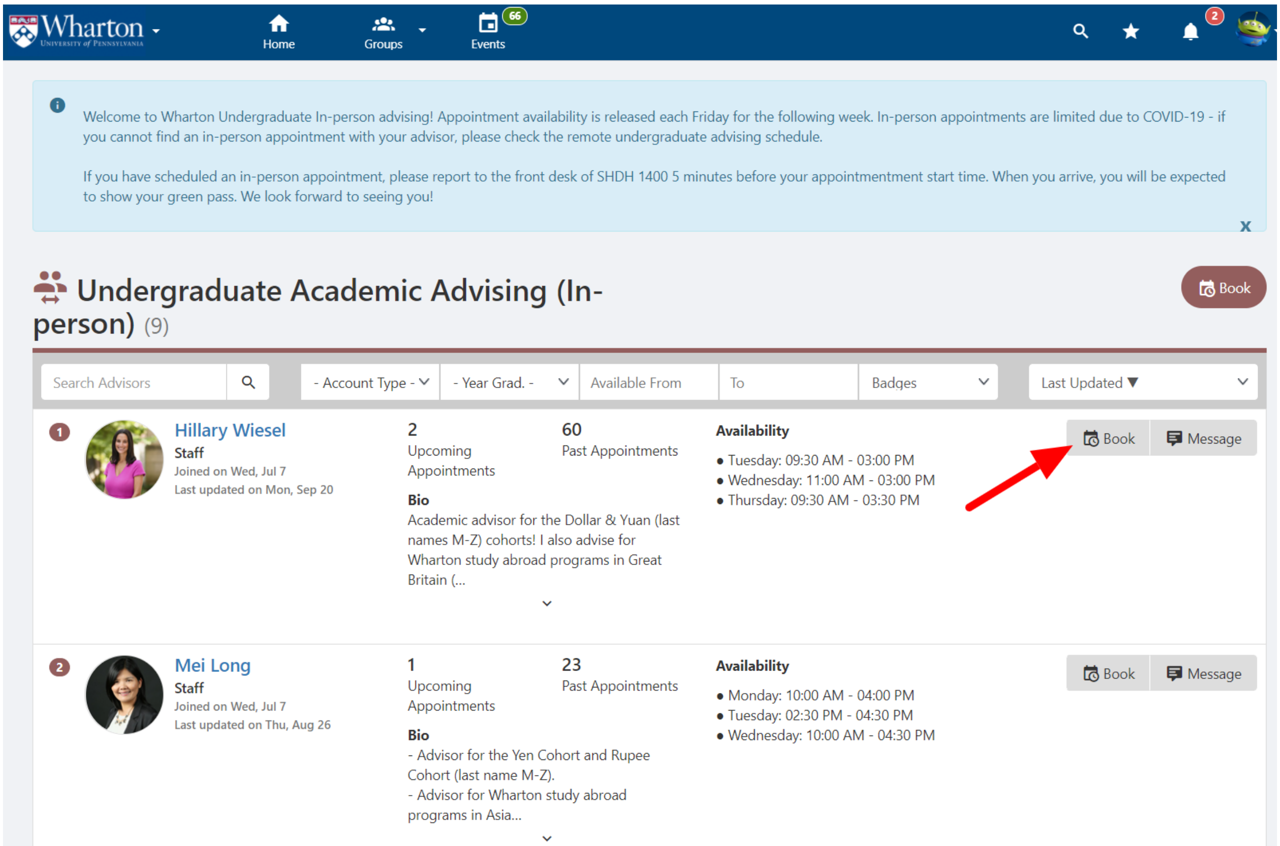
2. Click the "hamburger icon" (the three horizontal stripes) to open the left-hand menu, and select "Connection Programs."



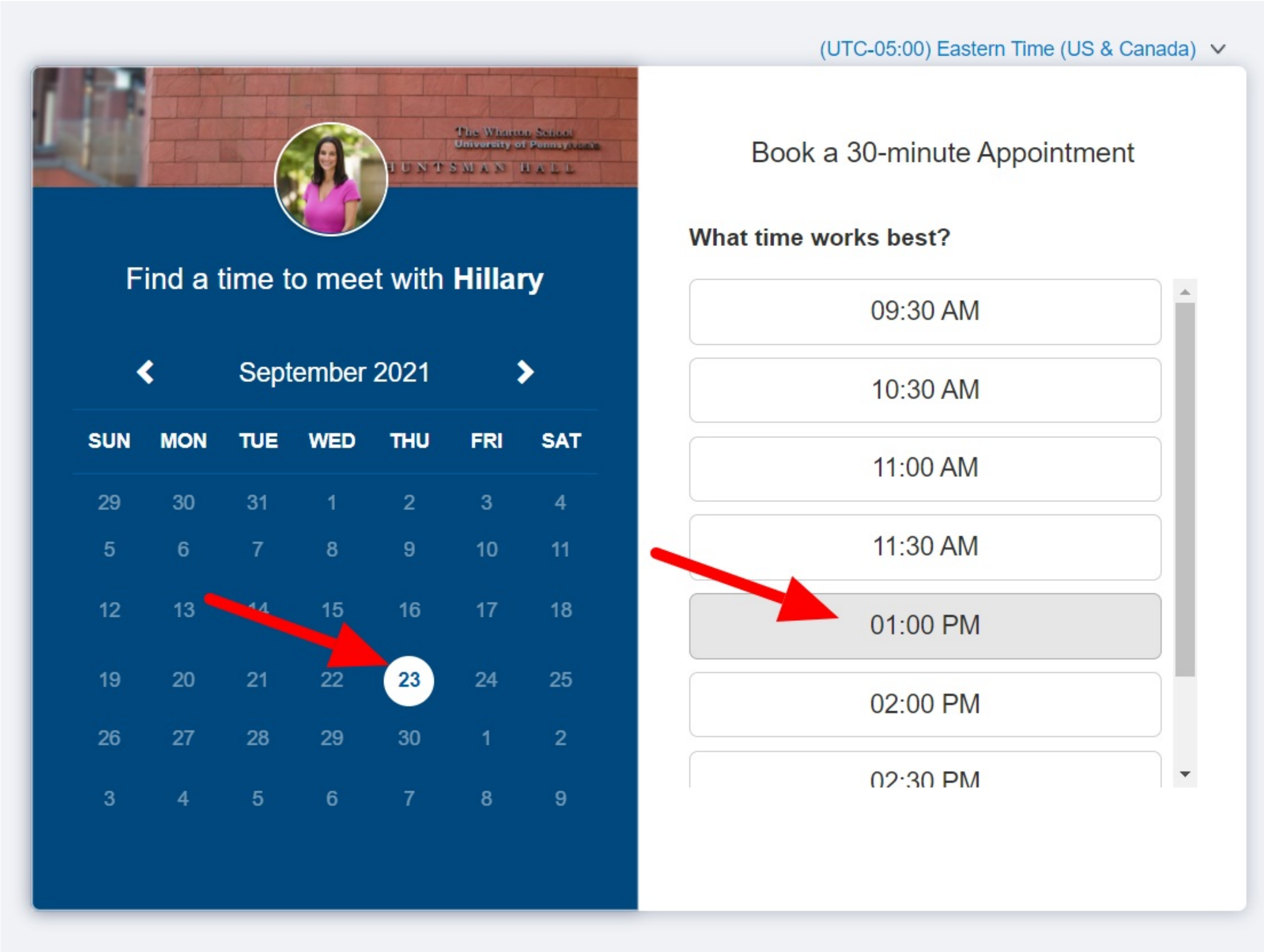
3. Select the advising program.



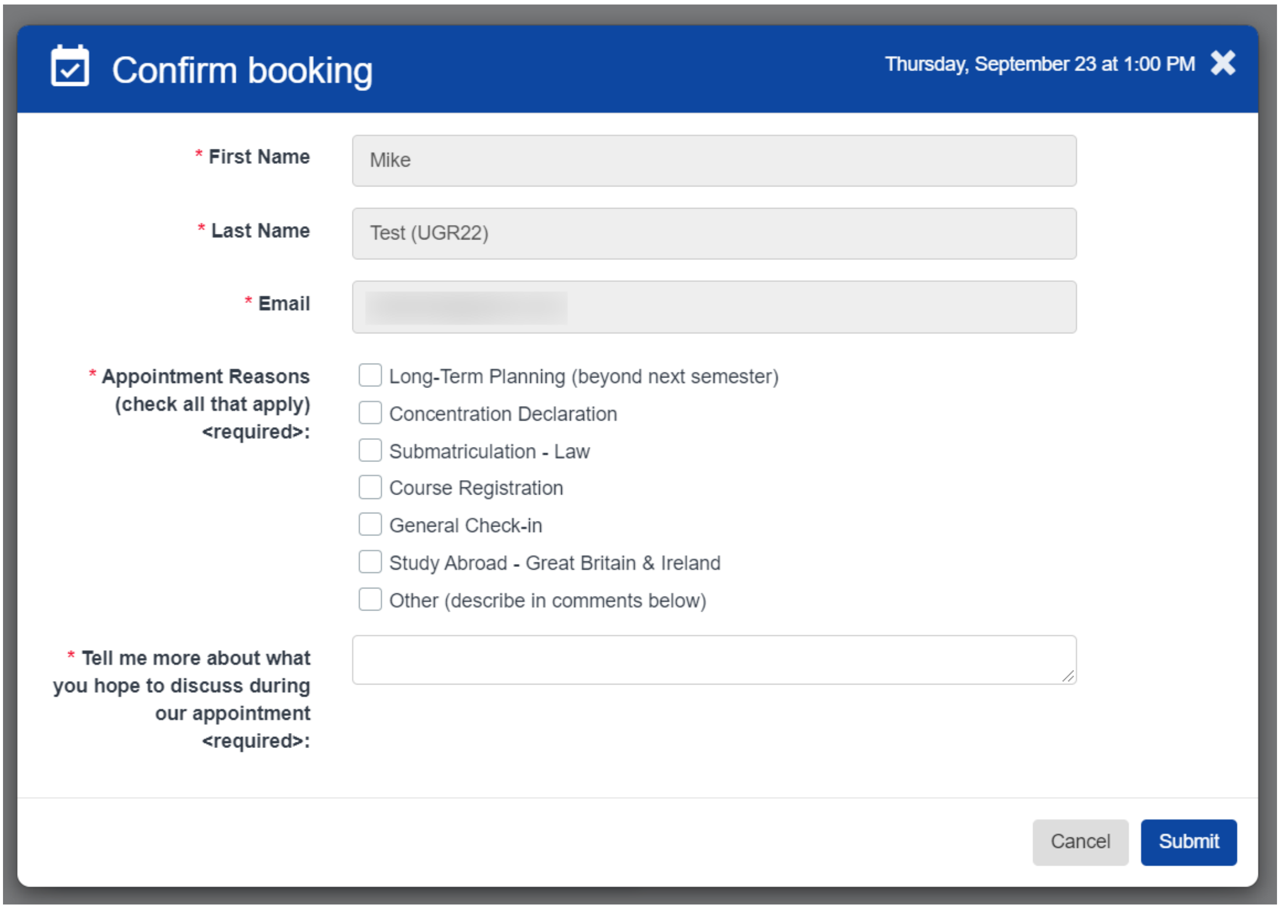
4. Find your advisor, and click the "Book" button.



5. A calendar will appear. Days with availability will be highlighted. Select a date, then an available time slot.

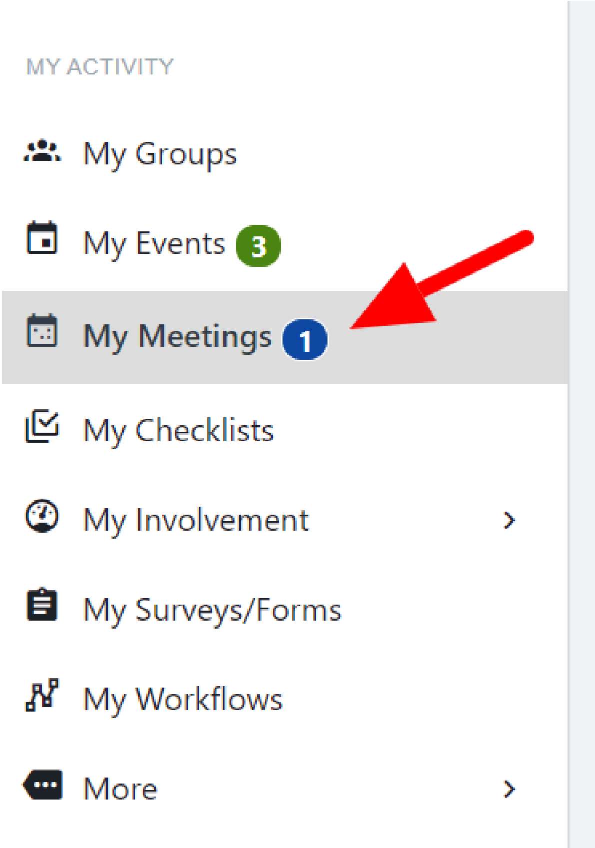


6. Fill out the form and click "Submit."



7. An email confirmation will be sent to you. If you've connected your personal calendar to your CampusGroups account, the appointment will also be added there automatically.

8. You can find your upcoming appointments by selecting the "My Meetings" option in the left-hand menu. If you need to cancel your appointment, you can do so from here.

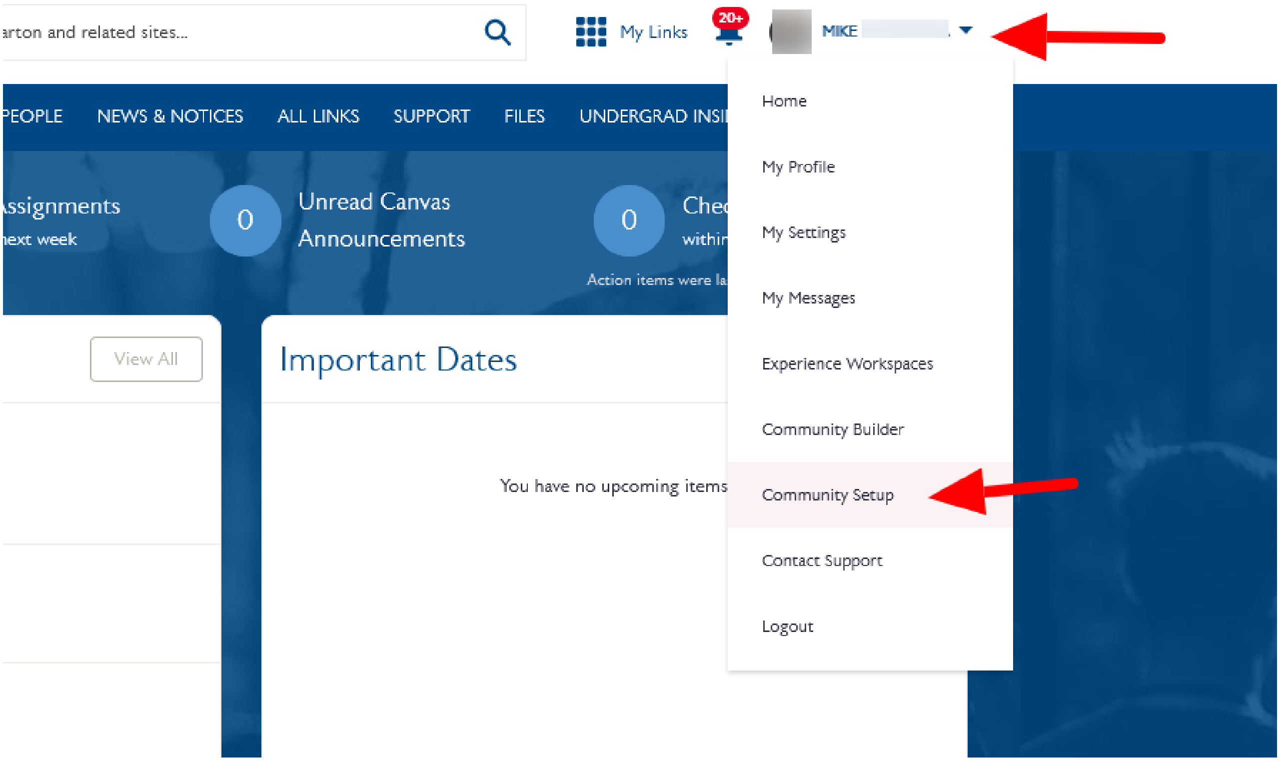

MY ACTIVITY
My Groups
My Events 3
My Meetings 1
My Checklists
My Involvement
My Surveys/Forms
My Workflows
More

Emulate a student in MyWharton (MyWharton admins only)

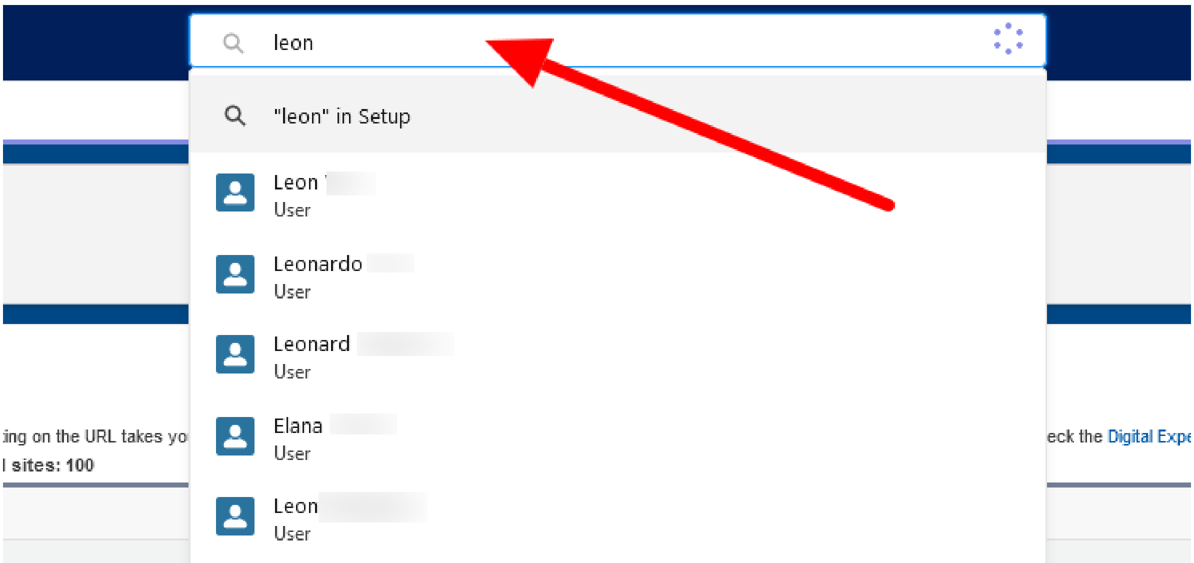
Last Modified on 06/24/2025 4:32 pm EDT

Note: This feature is only available to MyWharton Community Admins and Managers.

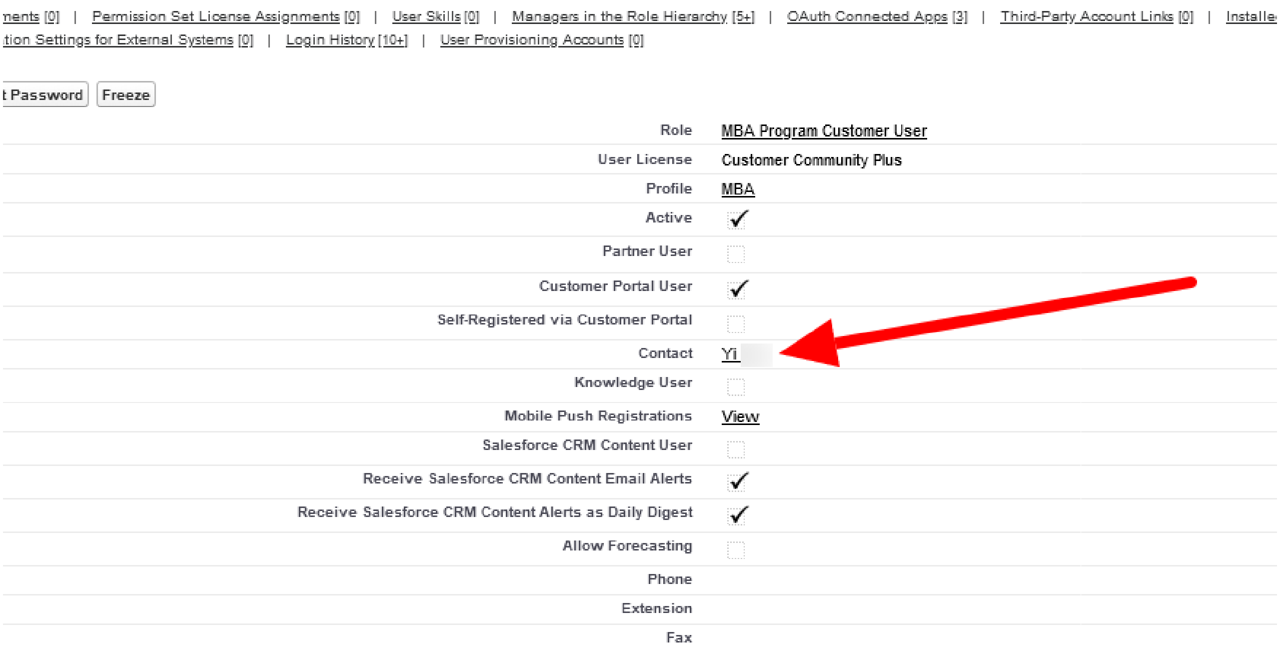
Log in to MyWharton. In the upper-right, select the dropdown menu next to your name, and select "Community Setup."



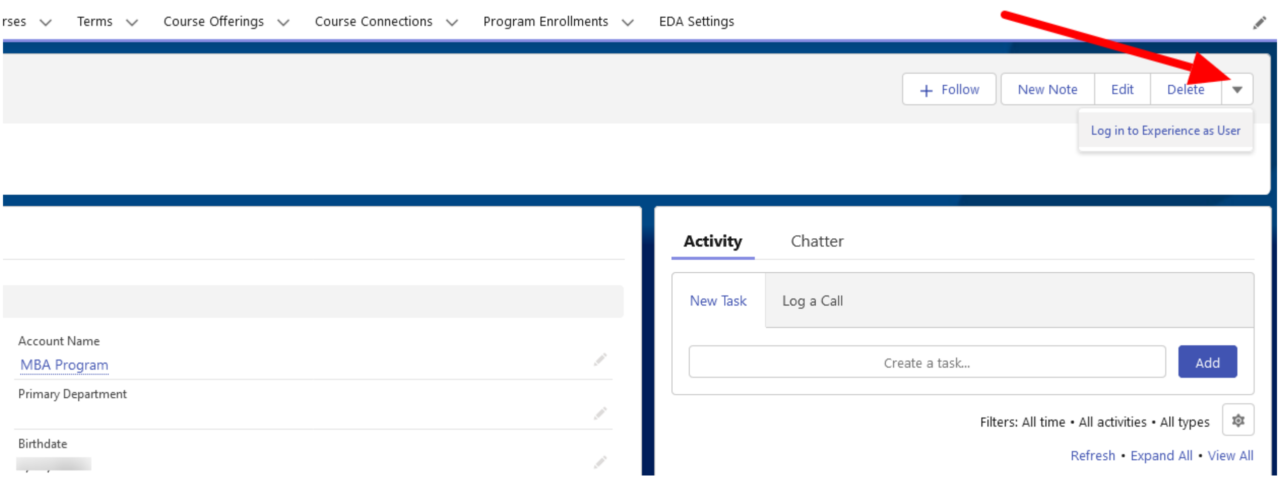
The page will annoyingly reload several times. 😏 When finished, search for the student's name in the search bar, and select them.



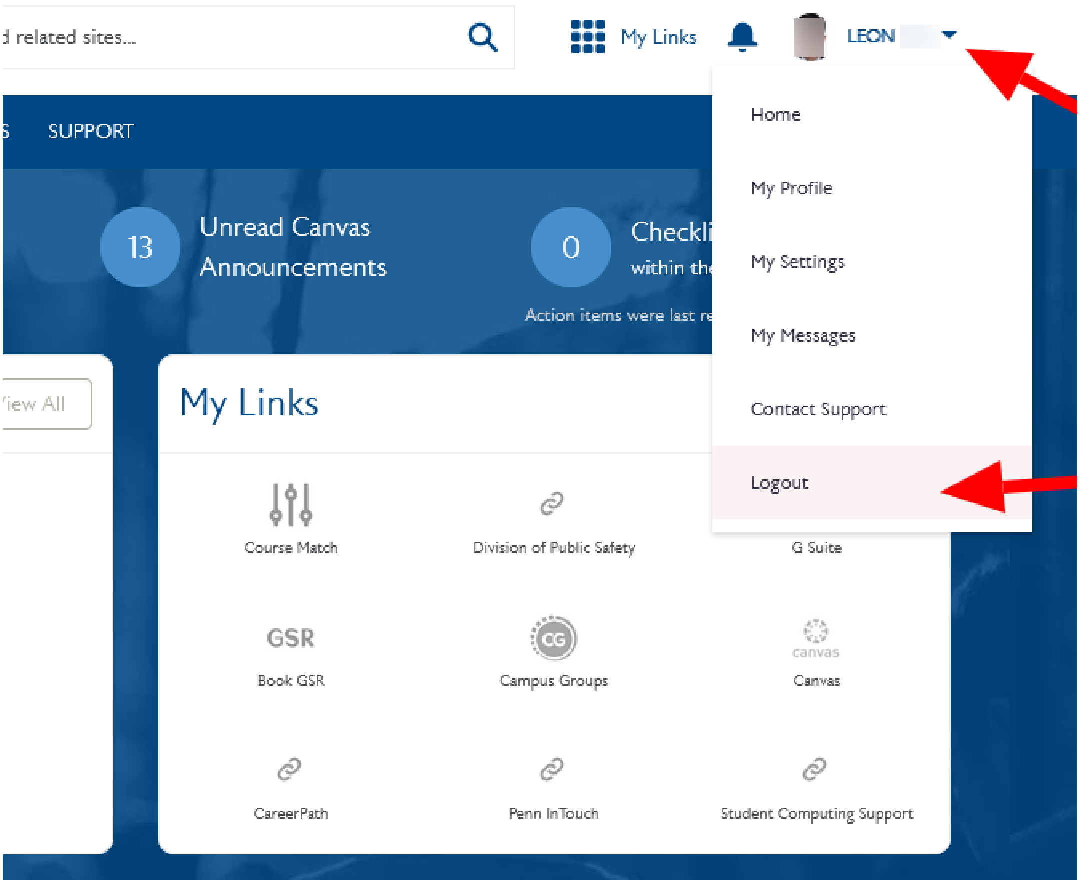
The student's user profile will load. On the right side, click their name next to the label "Contact."



The student's contact profile will load. In the upper-right, click the button "Log in to Experience as User." You may need to select a drop-down menu to find it.



You are now emulating the student. Once finished, be sure to log out of the student's session by going to the drop-down menu next to the name, then selecting "Logout."


d related sites...
My Links
LEON
SUPPORT
13
Unread Canvas Announcements
0
Checkli
within th
Action items were last re
iew All
My Links
Home
My Profile
My Settings
My Messages
Contact Support
Logout
Course Match
Division of Public Safety
G Suite
GSR
Book GSR
CG
Campus Groups
canvas
Canvas
CareerPath
Penn InTouch
Student Computing Support

List of Custom Applications

Last Modified on 06/21/2023 2:57 pm EDT

The 502 Gateway error issue has been resolved, and the below applications should be fully functional with one exception: Life@Wharton. We continue to troubleshoot Life@Wharton.

Wharton Computing Updates are posted to status.wharton.upenn.edu.

- Admin Tools
- Attendance
- Authentication (e.g. for Wordpress Apps)
- Calculator
- Checklists
- Closerlook
- Course Admin Tools
- Course Match
- Course Scheduler Tools
- Cvent Sync
- Event Checkin
- Faculty Reporting
- HRData
- IAM Applications
- Instruction Center
- Life@Wharton
- Mailing List
- MBACM Admin Tools
- GSR
- Payments
- Queues
- Reports
- Research_IT
- Room Request
- Shoutouts/Gratitude
- Spaces
- Speaker Request
- Student Tools
- Syllabi
- UGR Admin Tools
- Waivers
- Walkin
- Webinar Series
- Wharton Alumni Map
- Wharton Behavior Lab Admin
- WHOOPPEE
- WHQualtrics
- Windows Research Portal
- Wire
- WISP API

MBA Core Requirements Evaluation Process (aka Waivers)

Last Modified on 06/17/2024 3:05 pm EDT

The MBA Core Requirements Evaluation Process, also known as the Waivers App, allows students to submit requests for consideration to waive, place, or substitute core requirements of the Wharton MBA Curriculum based on past coursework or experience.

What students see/do

For a given course, a student will step through a decision tree answering yes/no questions until they receive a recommendation. If a student decides to try to waive/substitute by credential, they will start the application process by uploading their first credential. This will create an application for that student/course.

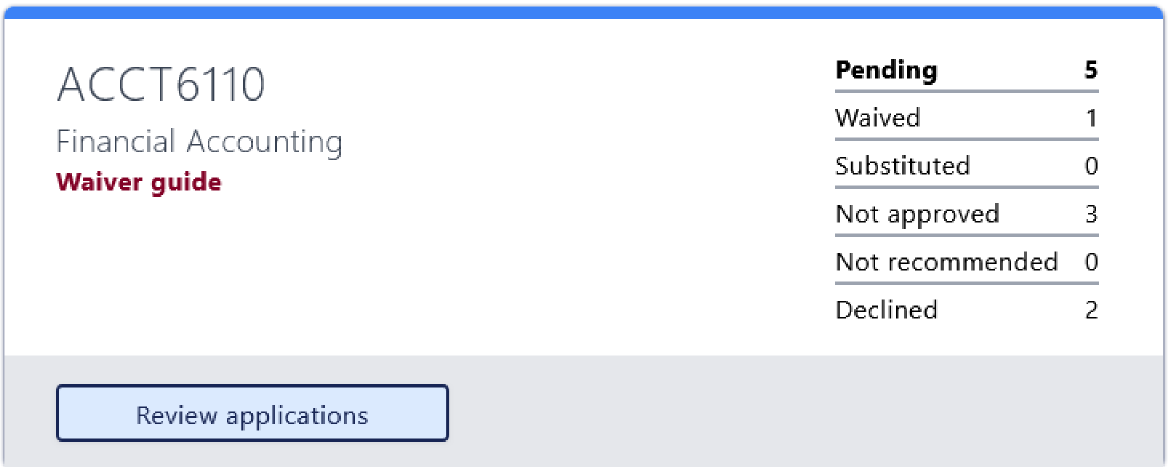
> Note: The term "substitute" is used throughout the system even if the particular option for that course is "placement."

> Tip: As a reviewer, you are still able to step through the decision process via your Dashboard and experience what a student would do. This will create an application and we recommend that you reset the decision afterwards.

The Administrator Dashboard

The application is at: https://apps.wharton.upenn.edu/waivers/

Once logged in to the application, click the "Admin Dashboard" item in the top menu. You will see a card for each course, along with a current summary of applications:



As a reviewer, you will only be concerned with applications in "Pending" status. Click the "Review applications" button to get started.

Course summary

Applications which need your review will be in the "Pending Waivers" box, sorted in the order in which they were submitted with the oldest ones first. Click the student's name to go into their application. (You may see a student's Pennkey username instead; this will change to the student's name once their various accounts are synced while they are being created in Penn's systems. You may still review and act on their application.)

> Note: A status of "In queue" means the application has not yet been viewed, while "In review" means the application has been opened.

ACCT6110: Financial Accounting

Jump to: **Pending Waivers** – **Reviewed Waivers** – **No Action Needed**

▸ Show decision tree

Pending Waivers

Name or Pennkey	Pennkey	Pennid	Status	Submitted	Last Updated
Amy Hallow	amyort	21363367	In queue	Mon 13 May, 09:17a	Mon 03 Jun, 07:16a
Andrew Saraceni	saraceni	29806975	In review	Mon 13 May, 10:13a	Thu 16 May, 03:23p
Lisa Rudi	lrudi	64819147	In review	Mon 13 May, 03:15p	Thu 23 May, 10:07a
Lauren Heath	lheath	10197849	In review	Wed 15 May, 11:29a	Wed 22 May, 04:19p
Brandon Schefstad	schefsb	74607280	In queue	Tue 28 May, 03:13p	Tue 28 May, 03:13p

> Tip: Need to remind yourself of the questions students were asked in the decision tree? Click "Show decision tree" to view it.

Student application

There are several sections to the Student Detail page:

- Application/Decision summary
- Academic & Employment History: this is sourced from the student's admissions application
- Decision tree answers
- Student credentials
- Decision history
- Admin decision (on the right side)

Decision tree answers

You will see how the student answered each question. For courses where students were required to type in prior course details, it will appear here. An example is below:

Are you a CPA or CA?

False

Have you taken introductory AND intermediate financial accounting with a grade of B or better in the past five years? Or were you a Wharton undergraduate student who received a grade of B or better in ACCT 101 within the past five years?

True

You are submitting prior education experience as a credential. Please fill out the following information and be sure to highlight the course on your transcript.

Type	Name
Institution	Cornell University
Course Code	HADM 2230
Course Name	Financial Accounting Principle
Academic Year	2018
Grade Received	A-

Student credentials

Credentials that a student has uploaded supporting their application will be available here. Click the View button and the file will open in a modal -- at the bottom of the modal is a button that will open the file in a new window where it can be viewed larger and/or downloaded.

Credential Type	Credential Name	Course	Actions	Timestamp
Transcript	Transcript_ABIGAILWAX.pdf	MKTG 6110	View	24 May, 11:01 a.m.
Transcript	Abigail_Wax_Final_Transcript_MKG_101_Course.pdf	MKTG 6110	View	24 May, 11:01 a.m.

> Note: Although we ask students to only upload PDF files, other file types may require you to download them before they can be viewed.

Admin decision

In this box you will record your decision. The available choices do not consider what is/isn't offered for that course so be careful with your answer (e.g., if a waiver is not permitted for your course, be sure you don't select that option).

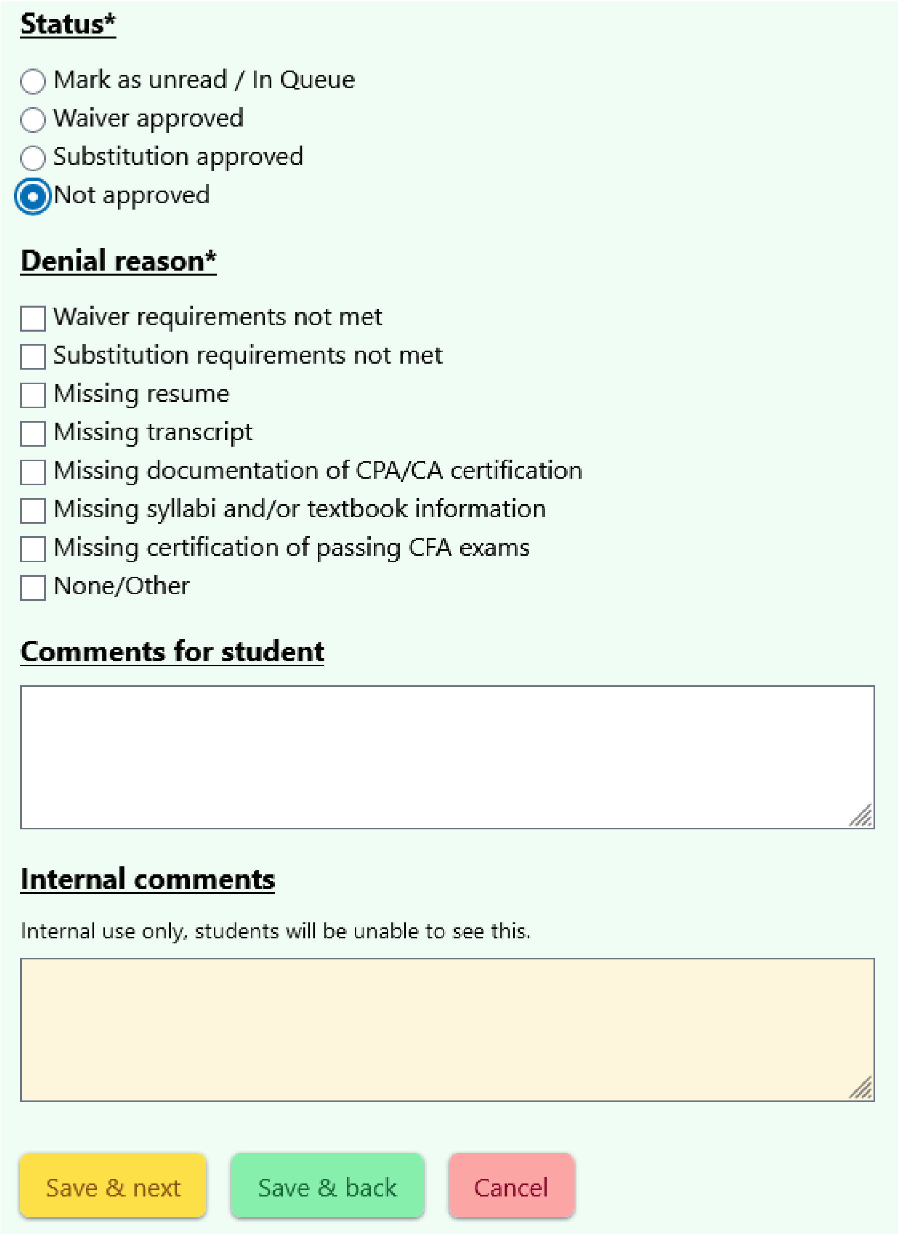
If you select "Not approved" a set of checkboxes will appear; a response is required. This selection(s) will be visible to the student.

There is an optional text box for entering information for a student to see. If you are denying a request due to missing information, please be specific with that information as students will be able to request another review.

There is also a textbox that is only visible to you and other reviewers, and not to the student. You may use this to record any private notes that may be helpful.

Tip: Opening an application will change the "In queue" status to "In review" but you can change this back to "In queue" if you prefer to keep it marked as unread.

When finished, select "Save & next" to go to the next application to be reviewed, or "Save & back" to return to the course summary page.



Note: Students will not receive any automated emails from the system; they will only see your comments when they return to the app. (A notification feature may be added in the future.)

Decision availability and appeal process

The MBA Program determines a date before which all decisions (and optional comments) will be embargoed and not displayed to students. On/after this date, all decisions will be immediately available.

Students will have the option to appeal their given decision, which is useful when you determine that not enough information was submitted for review. (Be sure to explain this to the student in the Comments box when entering your decision.) These applications will re-appear in the Pending Waivers list along with a status noting that the student requested a re-review.

Support

For questions about reviewing applications, please contact the MBA Academic Operations team.

For technical questions or reporting errors, please contact: apps-support@wharton.upenn.edu

If students report any issues to you, please refer them to Student Computing Support: support@wharton.upenn.edu

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Class Recording Permissions (For Students)

Last Modified on 08/20/2024 3:48 pm EDT

Wharton's Class Recording Permissions app allows you to view and submit video access requests for particular course dates in Canvas.

Although you access the Class Recording Permissions app through Canvas, it is a separate service. The app can be used from within Canvas on desktop or on mobile devices (smartphones, tablets) via the Canvas app.

Before You Start

Using the Class Recording Permissions app requires:

- Being enrolled for more than one business day in a class that is using the Class Recording Permissions app. Check with your professor for more information on their policies around the use of this tool in your class.
- A working PennKey and password.
- The Canvas Mobile app is not required but recommended (Apple | Android).

Class Recording Permissions Access

This feature may or may not be enabled for your class.

Professors can enable different levels of access around Class Recording Permissions, which determines whether you will have access to view and submit permission requests.

To view the application's availability for your course:

To View Access to Class Recording Permissions:

For step-by-step instructions,

Viewing Class Recording Permission Requests

Viewing your Class Recording Permission requests gives you a quick way to check on the request's status. You can still view your current permission requests if a course is set to Restricted Access to Recordings (see above).

This feature may or may not enabled for your class.

To View Class Recording Permission Requests:

For step-by-step instructions,

Submitting New Class Recording Permission Requests

When the Class Recording Permission app is enabled, you can submit one or more requests for class recordings on specific class meeting dates for a given section.

Requests can be submitted for past, current, and future meeting dates for your classes, e.g. if you plan on being absent.

This feature may or may not enabled for your class.

To Submit New Class Recording Permission Requests:

For step-by-step instructions,

Troubleshooting

When I try to use the Class Recording Permissions app for my class, I get an error saying, "We were unable to determine your Canvas identity. Please reload and try again."

You must be enrolled in a course for more than one business day to view or request Class Recording Permissions requests. If you enrolled in a class on the same day you try to use the app, you will receive the above error. Try again on the next business day, and you should no longer encounter this error.

Questions?

Contact Student Support for help.

Class Recording Permissions (For Faculty)

Last Modified on 01/28/2026 11:48 am EST

The Class Recordings Permissions tab in Canvas is a standalone app to help you manage access to your class recordings.

Before You Start

You will need the following before you can complete this task:

- Canvas Site
- Class Recordings Tab
- Class Recording Permissions Tab

Students can review Class Recording Permissions (for Students).

Video Walkthrough

This 8-minute walkthrough recording of a demo to faculty shows the entire app - from setting your preferences to managing student permissions. The rest of this article provides written instructions and screenshots for these same features.

Click **Read More** to view this excerpt from a recent faculty demo:

Configuring Class Recording Permissions

You'll need to set your permissions preferences for your Class's recordings. See our video above or follow the step-by-step instructions to configure your class.

Configuration Step-by-Step Instructions

The Class Recordings configuration screen allows you to view and set general settings for classroom recording permissions, such as "No Access," "All Access," or "Restricted Access."

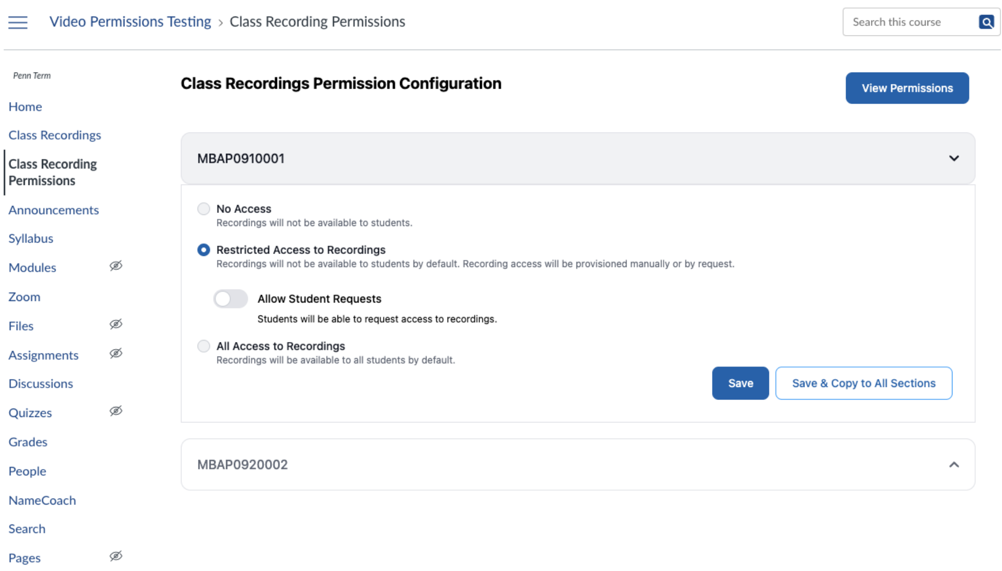
NOTE: Your changes to Configuration will not be saved until you confirm your choices as follows:

- **Save Changes**: Changes will not be saved until you click the **Save** button.
- **Apply to All Sections**: Changes will not impact all sections unless you select "Save & Copy to All Sections."

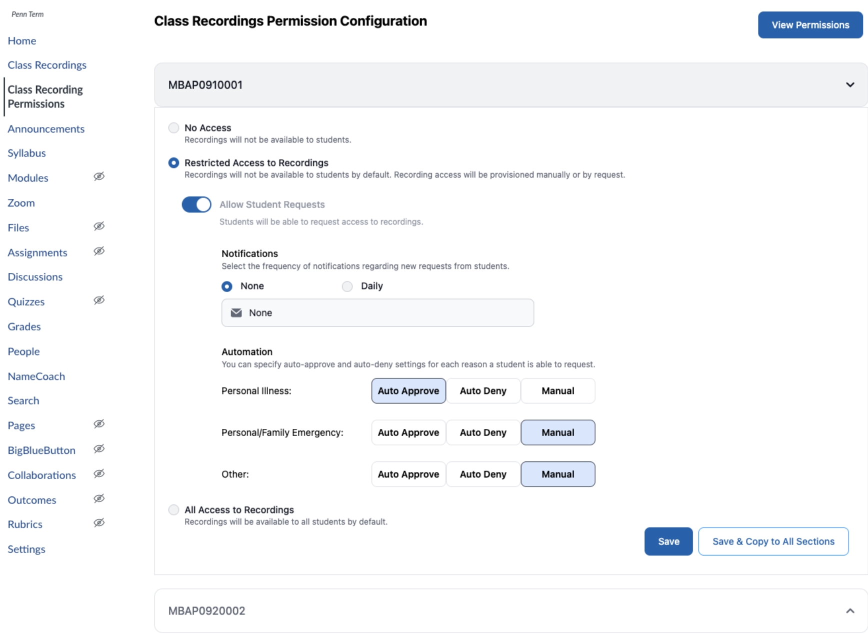
You will need to make one of the following choices:

- **No Access:** If you choose this, recordings will not be available to students. **This is the default setting;** if you want recordings to be available to students you must pick another option.
- **Restricted Access to Recordings:** This setting allows you to grant students access to recordings selectively.

For example, you might grant the entire class access to an exam review session.



- ◦ **Allow Student Requests:** When you restrict access to recordings in general, you can still allow students to submit requests for certain videos. In addition, you can:
    - Determine how frequently you receive notifications for these student requests.
    - Automate whether to approve or deny the student requests based on the reason.

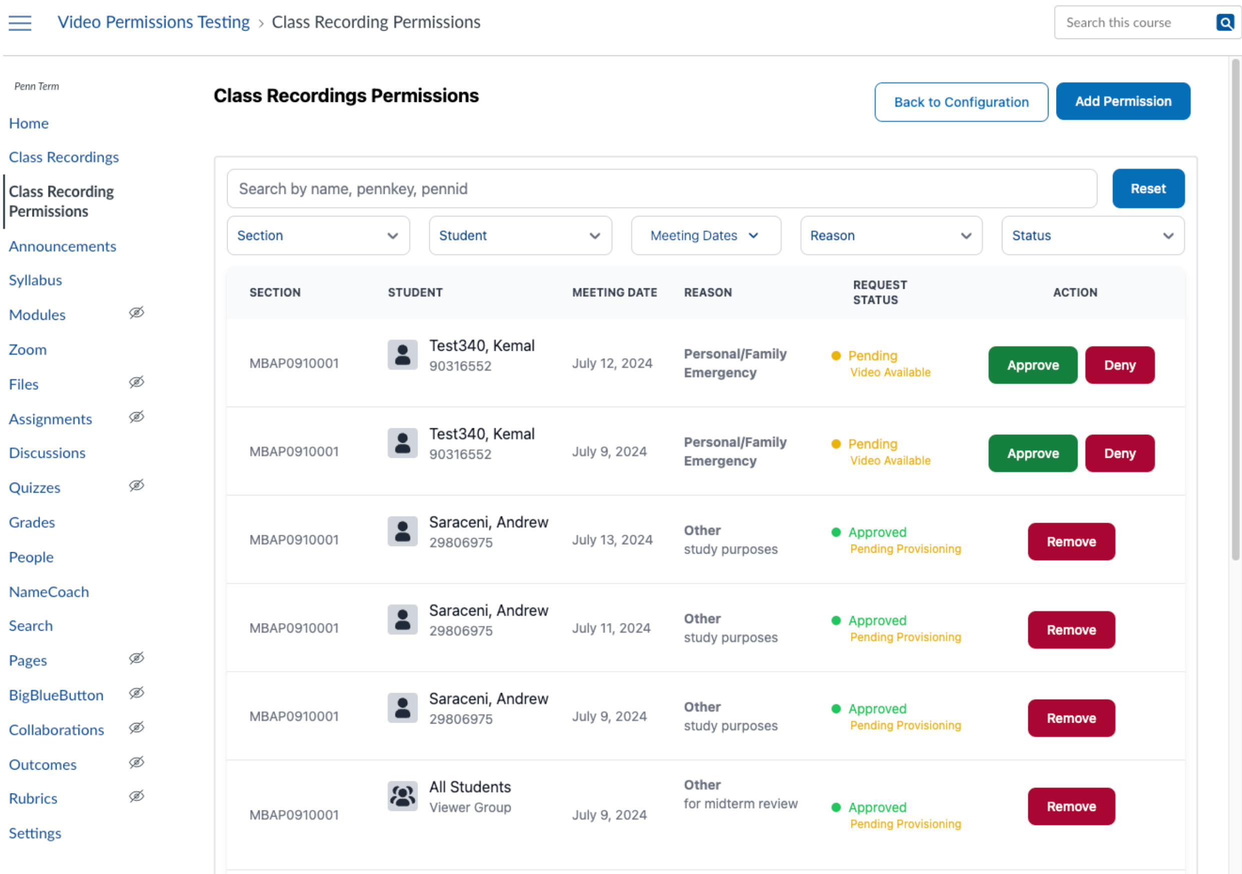


- **All Access:** This choice makes recordings available to all students.

> Under most circumstances, you should click the **Save & Copy to All Sections** button to save your work so that all sections will have the same policy. Individual Section configurations are available for complex course setups, such as recitations.

Once you've chosen your settings, click the blue **View Permissions** button (Top Right) to navigate to the next page, where you can further refine your configuration choices.

Managing View Permissions

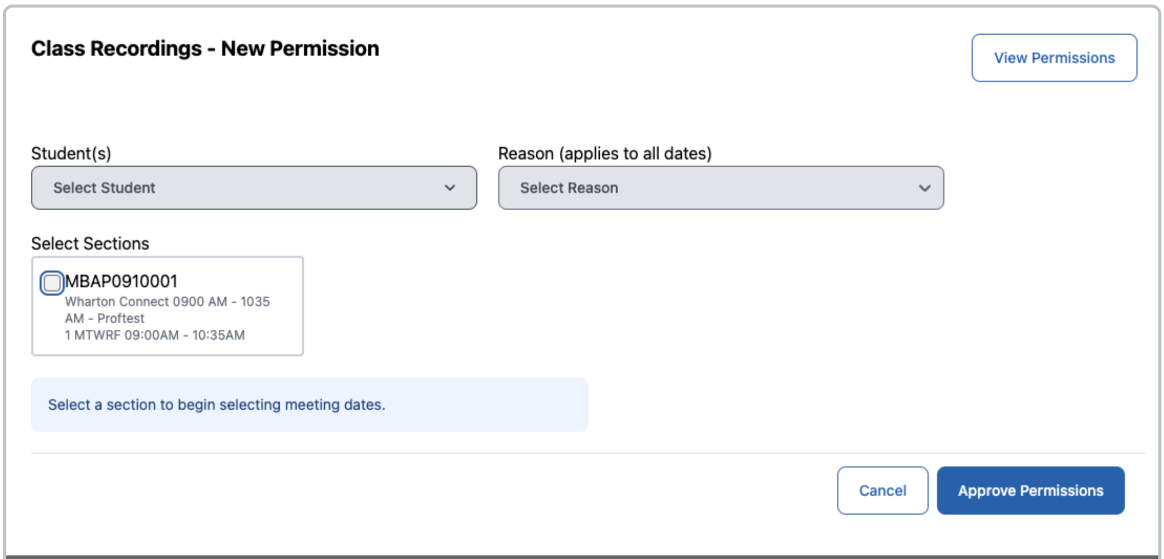


The View Permissions page provides an overview of all the permissions for your Canvas course. All sections will appear by default, sorted by meeting date and request status.

- **Filter** these results with the search bar, or by using any of the dropdown menus underneath the Search bar.
- **Sort** by clicking on the column headings (e.g. Section, Student, Meeting Date, and more).
- **Grant Permissions** in the Action Column. If you have decided to allow student requests, **Approve/Deny** buttons become visible, allowing you to handle those requests. You can remove permissions at any time.
- To add a permission proactively, click the blue **Add Permission** button at the top right of the screen.

Adding Permissions

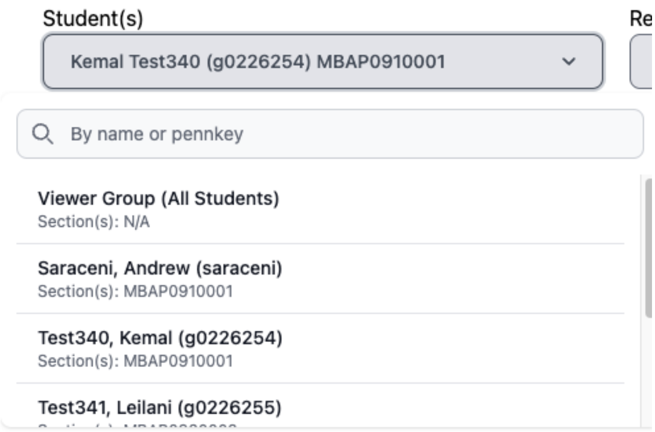
When you have chosen Restricted Access to Recordings in the configuration section, you can add permissions selectively for individual students or for the entire class.



New Permission Screen - Prior to Selecting a Student

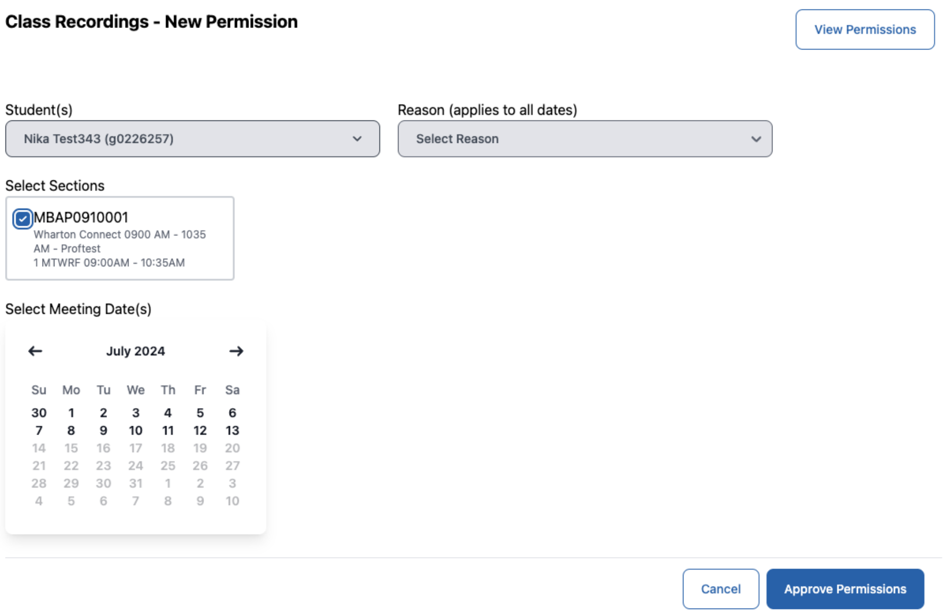
Selecting Students

From the Student(s) dropdown, search for a single student. If you would prefer to add a global permission for all students, select the **Viewer Group (All Students)** option, usually first in the list.

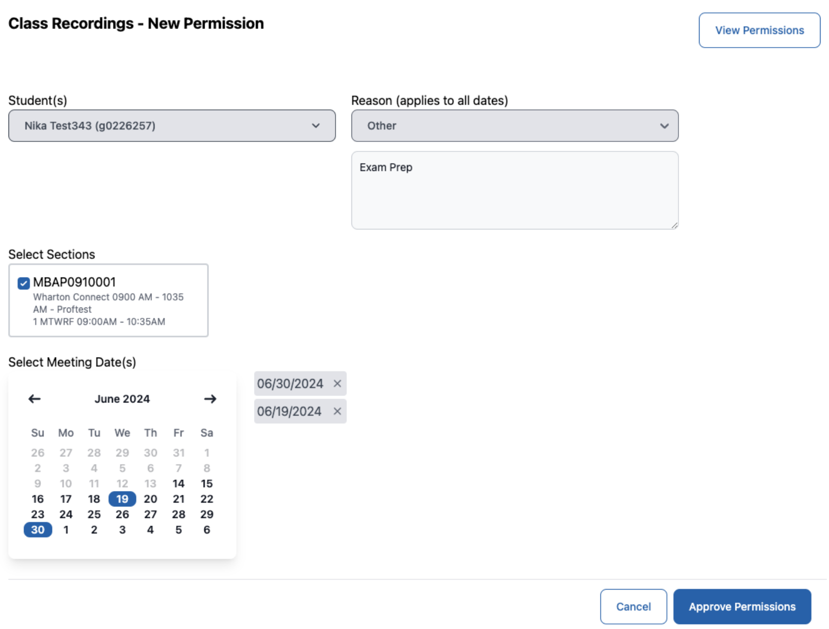


Selecting Sections

Once you have selected a student, select the section from the available list. You will then see a calendar for choosing meeting dates.



- **Select the meeting dates** by clicking on each date
- Assign your **Reason.**
    - Choosing **Other** allows you to enter a customized message explaining the reason.



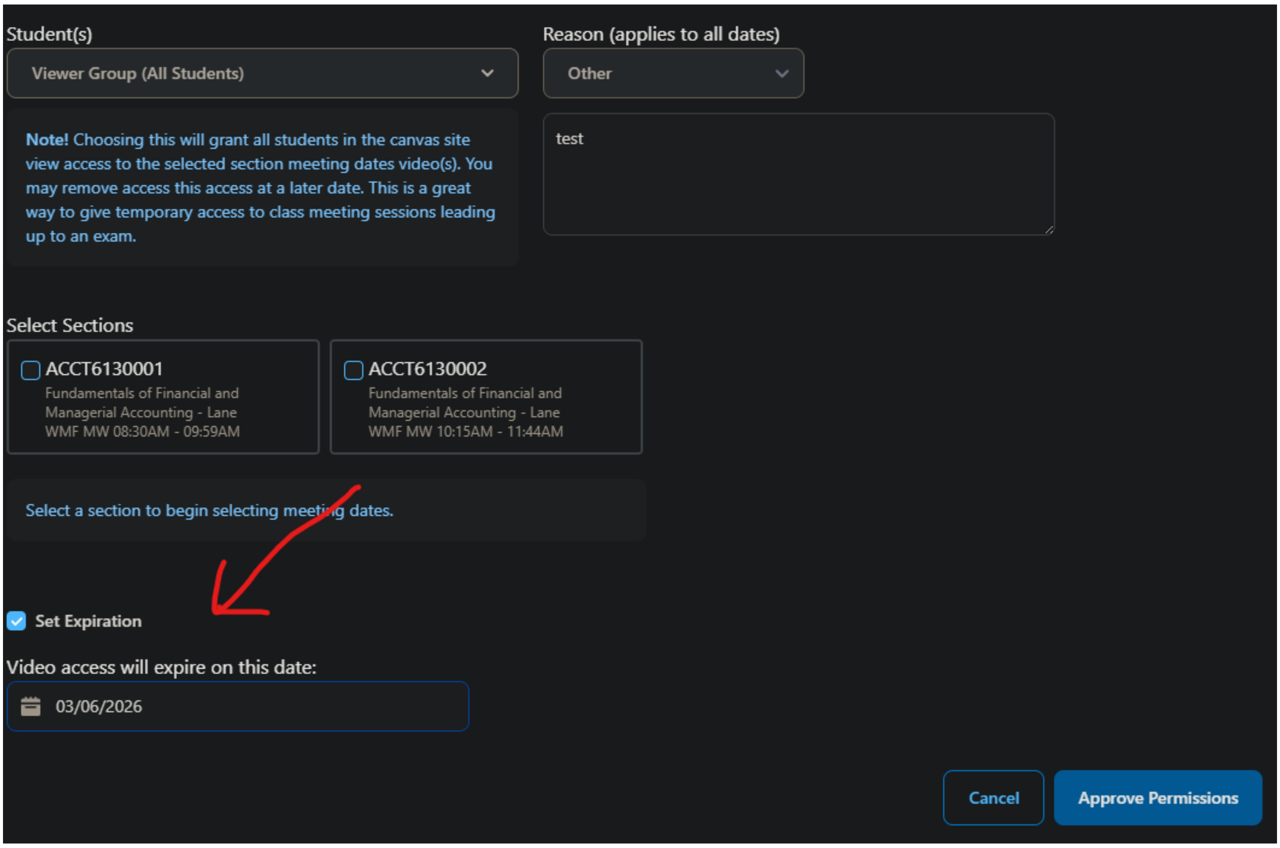
- Click the blue **Approve Permissions** to add this video permission.

Please allow up to 48 hours after the end of that class AND up to 6 hours after approval for video access to begin.

Setting Expiration Date

You can set an Expiration Date when granting individual permissions which will automatically remove access at 12 midnight of the selected date (eg 3/4/26 00:00)

To set an Expiration Date, select the Expiration Date box below the “Select Sections” area. Then use the calendar picker to select the date you’d like access to expire. Click Approve Permissions buton.



Permissions for Midterms/Exams

Granting Access for All Students

You easily grant all students access to recordings so they can prepare for an exam but still maintain Restricted Access without affecting individual student requests.

- From the Student(s) dropdown menu, select the Viewer Group (All Students)

- Once you have selected the Viewer Group (All Students), select the section from the available list. You will then see a calendar for choose meeting dates.
- **Select individual meeting dates** or the blue **Select All Dates** button. Assign your **Reason**.
    - Choose **Other** allows you to enter a customized message explaining the reason.

A screenshot of a computer AI-generated content may be incorrect.

- Click the blue **Approve Permissions** to add this video permission.

Removing Access After Midterm/Exam

To remove **All Student** access after an exam, navigate to the **View Permissions** page, is the search bar type **All Students**. This will filter all current permissions to show only the **All Students** group. Click the red **Remove** button beside each recording you'd like to remove the **All Students** group.

A screenshot of a computer AI-generated content may be incorrect.

Questions?

If you have questions about this application, please contact your Wharton Computing representative for help.

Useful Mobile Apps at Wharton

Last Modified on 07/24/2025 10:44 am EDT

This list of all the current mobile offerings at Wharton/Penn, focused on student needs, should help round out your device configuration. You can also see our Mobile Device Buying Guide here.

Penn Mobile Apps and Websites

- **Penn Mobile for iOS and Android** - Designed by students in Penn Labs to make your school life simpler, Penn Mobile features a variety of Penn services including course information search, dining hall hours and menus on demand, laundry machine availability, Penn student and professor emails, and access to various on-campus publications.
- **Other apps by Penn Labs**
- **PennTransit Mobile Information**

A note about Penn Mobile: Penn Mobile is **not an official Wharton app**. It is a student designed, run and supported app. Any issues with functionality, features or connected services are supported by Penn Labs.

Wharton Mobile Apps

Virtual Lab (VMware)

iOS

Android & Chromebook

Zoom Meetings

iOS

Android & Chromebook

Solstice Screensharing

iOS

Android & Chromebook

MyWharton Mobile App

iOS

Android & Chromebook

Canvas Student

iOS

Android & Chromebook

CampusGroups

[iOS]

[Android & Chromebook]

Google Workspace

[iOS]

[Android & Chromebook]

Microsoft 365

iOS

Android & Chromebook

Dropbox for Business

iOS

Android & Chromebook

A Note about the Canvas App

To register your Student or Teacher app with Penn Canvas, enter **canvas.upenn.edu** or select **University of Pennsylvania**. Check "Remember my authorization for this service."

Additional Apps You May Find Useful in Our Environment

- **Scanning Apps** - good resource if you need to scan documents to PDF to upload for class.
  - Scannable for iOS & Genius Scan for Android
- **Evernote** - great for electronic note-taking.
  - iOS & Android

Questions?

Contact - Wharton Computing Student Support

Email - support@wharton.upenn.edu

Close an Unresponsive App

Last Modified on 01/26/2023 2:03 pm EST

Sometimes apps become unresponsive or don't perform as intended. In those circumstances, it is a good first step to close, or **force quit** the application to ensure it is no longer running. Upon reopening, the application may have been restored to working order by the restart.

If these steps don't work, you may need to reboot your computer.

Directions for Closing or Force Quitting

iPhone/iPad: http://support.apple.com/kb/ht5137

Android: https://support.google.com/android/answer/9079646

Mac: https://support.apple.com/en-us/HT201276

Windows: https://www.howtogeek.com/680236/how-to-force-quit-an-app-on-windows-10/

Questions?

Students - Wharton Computing Student Support

Faculty - Academic Computing Services

Staff - Administrative Support

Microsoft 365 University

Last Modified on 08/22/2025 4:08 pm EDT

Penn offers Microsoft 365 to all current full-time members of Wharton. This includes access to: Word Online, Excel Online, Powerpoint Online, OneDrive, Mail (Faculty & Staff only), and more! Log into your Microsoft 365 account on the web using your PennKey credentials to see all the available apps.

You can also download and install the M365 version of Microsoft Office applications on up to five devices while you have an active PennKey account.

Before You Start

You will need to:

- Be an active Wharton student, faculty, or staff member
- Have a PennKey username & password

Acceptable Use Policy

You are responsible for using PennO365 services in accordance with Penn's Acceptable Use Policy. Also see the University guidelines about protecting personal and University data at Protecting Penn Data. These guidelines will help you protect your personal information and understand how to identify and handle sensitive University information.

Benefits of Microsoft365

1TB of OneDrive Storage	Use on up to 5 devices at a time	Automatic Updates
Save directly to the cloud from your laptop	Multi-user editing	Access your files from any device

Signing Into Your PennO365 Account

Microsoft365 credentials are often referred to as your **PennO365 account**. These credentials are automatically created for every full-time Penn student, faculty, and staff. The username for the account is ***pennkey*@upenn.edu**. Upon creation of the account, your PennO365 password is automatically synced with your PennKey, so use **the same password** when signing into your M365 apps or the online versions at portal.office.com.

PennO365 ProPlus Email Accounts (*Faculty & Staff Only*)

Along with the applications included with a PennO365 ProPlus account, faculty & staff are also provisioned a mail account. After setting your credentials using the steps above, you can access your inbox at outlook.office.com.

Downloading & Installing Microsoft 365

Your PennO365 ProPlus account includes access to a variety of downloadable applications including: Word Online, Excel Online, Powerpoint Online, OneDrive, OneNote, and more! Microsoft 365 can be installed on up to 5 devices simultaneously.

Managing Microsoft 365 Installs

You can view how many copies of Microsoft 365 are active in your account.

Back up PennO365 ProPlus (OneDrive) Data

Below you will find instructions on how to back up your PennO365 ProPlus account data, specifically anything stored in OneDrive or OneNote. If you are a student, see our Back Up Wharton Account Data using Google Takeout (Students) article for instructions on backing up your Google@Wharton data.

Sharing a document in OneDrive does **NOT** grant ownership of the file. When the owner's PennO365 account expires, the document will no longer be available to the shared users unless the owner has been changed .

Back up OneDrive

Back up your PennO365 ProPlus OneDrive data using these directions:

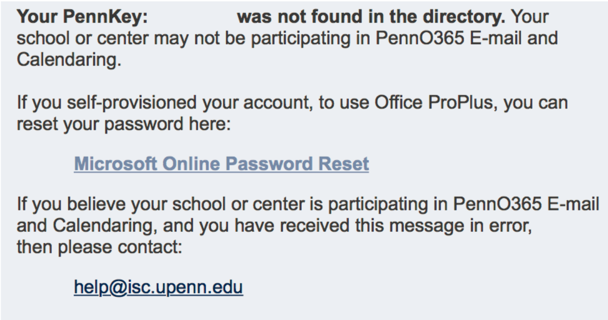
Back up OneNote (Windows Only)

Note: To export a notebook from OneNote, you must have the most recent version of Microsoft 365 installed from portal.office.com (See **Downloading & Installing Office365** above). It is not possible to export a notebook from the Windows 10 version of OneNote or the web version of OneNote.

Export your OneNote notebook using these instructions:

Tips and Troubleshooting for Penn's O365 ProPlus

PennKey Not Found



Your PennKey: **was not found in the directory.** Your school or center may not be participating in PennO365 E-mail and Calendaring.

If you self-provisioned your account, to use Office ProPlus, you can reset your password here:

Microsoft Online Password Reset

If you believe your school or center is participating in PennO365 E-mail and Calendaring, and you have received this message in error, then please contact:

help@isc.upenn.edu

If you are receiving the above error message when attempting to reset your password, please contact your IT support representative. This error can occur if you transferred from another school at Penn to Wharton – this can affect students, faculty, and staff.

Trouble Logging Into PennO365 ProPlus

If you are having problems logging into PennO365 ProPlus, confirm you have enrolled in Penn's two-factor authentication at: https://www.isc.upenn.edu/two-step-quick-start

Microsoft Access in O365 ProPlus

Microsoft Access is not currently offered in Penn's O365 software options. Wharton students who want to use Access can log into the Virtual Lab, where it is available.

Questions?

For questions or help, contact Wharton Computing Client Support Services.

Penn's Client Care: O365 for Penn Students

We recommend starting with the Penn Office 365 information on the Client Care website. These tips will help you get set up.

Microsoft Office Support: Microsoft 365 Training

You can also find extensive support and training materials on Microsoft's support site. These tips will help you learn to use Office 365.

LinkedIn Learning Video Tutorials

Last Modified on 10/24/2022 11:34 am EDT

LinkedIn Learning (formerly Lynda.com) provides general interest online training videos for students, faculty, and staff at Penn. Subjects include: productivity software (Microsoft Office), video and audio editing, Adobe design products, photography, web programming, and more.

Faculty and Staff: Any specific training assigned to you based on job role will be provided in Knowledge Link.

Accessing LinkedIn Learning

Browser

Login address: http://linkedinlearning.upenn.edu/

Username/Password: Use your PennKey and password

Mobile App

Access LinkedIn Learning from your mobile device using the LinkedIn Learning app (iOS App Store, Google Play Store).

1. Open the app and tap **Sign in**.
2. Enter university email in **<pennkey>@upenn.edu** format.
3. When redirected to PennKey login page, enter your login credentials.
4. Verify with Two-factor authentication.
    - If you already have a personal LinkedIn profile connected to your learning account, you may be asked to authenticate your connected account, as well.
5. Once login completes, you will be able to search for training courses within the app, or manage your training through Knowledge Link.

Questions?

All current faculty, staff, and students are eligible for a LinkedIn Learning account. If you believe you should have access but don't, contact ISC Client Care. See Penn's website for answers to LinkedIn Learning questions, or...

Students: Wharton Computing Student Support

Faculty: Academic Distributed Representatives

Staff: Administrative Support

A Guide to Remote Working - Staff

Last Modified on 06/07/2023 1:13 pm EDT

Working from home has a few requirements that differ from working in the office. This article covers some of the basic things you should have in place before you consider working from home.

Have computer you can use for remote work

This can be a University-provided laptop, or a personal computer at home.

If you're using a personal computer there are a couple of things to check before logging into University resources:

- Ensure that it is running the most recent operating system available (Windows 10 or OS X Mojave or newer) and has the most recent updates applied.
- An antivirus program should be installed and running. If you don't have one installed you can download Sophos Home for free as a staff member: https://www.isc.upenn.edu/how-to/antivirus-desktops-and-laptops

A stable internet connection is key

By definition, you'll need an internet connection to work remotely and to access most of the resources listed later in this document.

Some things to keep in mind:

- Don't connect to open WiFi networks when working with University Resources. They are insecure.
- Always connect to the Wharton VPN. Make sure to install the VPN, or know how to connect using the VPN, before you attempt to work remotely.
- If something seems wrong with your internet service, check your providers' status page and the Wharton Computing Status Page for any outages or updates. You can subscribe to the Wharton Computing Status alerts if you want them delivered to your email or phone.

Getting Work Done Remotely

Now that you have an updated computer with the VPN installed and configured, you're going to want to actually get some work done. Below is a list of Wharton provided tools that you may already be familiar with. Keep in mind that this list isn't comprehensive; your department may use a tool not listed here. If you have any questions reach out to your Wharton Computing Representative.

Two-Step Verification

Make sure you have the device (smartphone, key fob, or something else) that you use to authenticate for Two-Step Verification. You might also want to print out some backup authentication codes by following these instructions (the **Generate and print backup codes** section specifically).

Communicating

- Meeting Remotely - There are a wealth of tools out there to enable remote meetings; Penn supports Zoom and Microsoft Teams, which is part of the PennO365 platform (available to faculty and staff at Wharton).

- Email - Webmail (https://outlook.com/upenn.edu) is very handy if you find yourself using a computer that doesn't have Outlook setup. If you'd like to install Outlook follow these instructions and configure it as detailed here.
- Forwarding your office phone - If you have a PennFlex office phone you can forward your phone to another number (your cellphone, perhaps) and check your voicemail.

File Shares

You may access a number of files via a network share mapped to a drive on your work computer (i.e.**That presentation is on the Y drive**.). You can connect to those shares remotely, though keep in mind the Wharton VPN is required.

If you use a cloud file sharing service (Box, Dropbox) you should be able to connect as you normally do; no VPN required.

Other Tools

Here is a partial list of University-provided software you can install on your personal computer for the purposes of remote work:

- Office 365 - The full Microsoft Office suite.
- Adobe products - This will give you access to any Adobe products that you've been licensed.
- Wharton VPN - This allows you to access certain resources on campus.

Getting Help

Reach out to your Wharton Computing Representative if you need help, or have any questions.

Parallels Desktop for Mac

Last Modified on 09/25/2025 4:37 pm EDT

Parallels Desktop is virtualization software that allows users to run Windows and Windows applications on their Mac computers.

Wharton Computing recommends students on a Mac who need access to a Windows environment do so via Virtual Lab service. The virtual lab provides access to the same applications found on our public computers, in a secure environment. Click here for details about our Virtual Labs service.

Please consult the below chart to decide which option bests suits your needs.

	Parallels	*Virtual Lab*
Free to use	✘	✔
Install software	✔	✘
Access to Dept. Applications	✘	✔
Offline access	✔	✘
Patched Automatically by Wharton Computing	✘	✔

Windows on Parallels Desktop

For the purposes of security, treat Parallels VMs like a new computer

Parallels Desktop creates a guest OS in a virtualized environment that emulates an entire computer. It does not inherit security settings, antivirus, or other security features from your MacOS and is therefore vulnerable to viruses like any PC.

Students who install Parallels are strongly advised to install antivirus software. UPenn owns a home license of Sophos Antivirus, which works on both MacOS and PC environments and is a natural choice for Parallels VM.

Wharton Faculty and Staff

Faculty and staff have different requirements on their machines regarding security and compliance and should reach out to their IT organization within Wharton Computing to help them set up Parallels securely.

Additional Resources on Parallels Security

KB Parallels: Computer Viruses in Windows virtual machines

Installation

A step-by-step guide for installing Windows on Parallels Desktop can be found here.

Questions?

Students - Wharton Computing Student Support

Faculty - Academic Distributed Representatives

Staff - Administrative Support

Add a contact to Skype for Business

Last Modified on 05/13/2019 9:54 am EDT

Skype for Business (formerly Lync) is available on Windows, MacOS, Android and iOS.

Before You Start

You will need the following before you can complete this task:

- Skype for Business installed on your computer or mobile device.
- Your PennO365 username and password.

The Skype for Business Contact list makes it easy to reach the people you frequently chat with.

Windows Client

Mac Client

Questions?

If you have any questions or issues with logging into Skype for Business please contact yourWharton Computing representative.

Dropbox for Business

Last Modified on 01/14/2026 11:33 am EST

Dropbox for Business is a cloud storage and collaboration service available to full-time faculty and staff.

Students who matriculated at Wharton starting with December 2025 should see our File Sharing and Collaboration article for recommended solutions.

Before You Get Started:

- You must be full-time Wharton **faculty or staff.**
- You must have a **PennKey username and password**

Starting in December, 2025, matriculating students do not automatically receive Dropbox accounts. File sharing solutions for students are reviewed in our File Sharing and Collaboration article.

You are responsible for using Dropbox in accordance with Penn's Acceptable Use Policy. Also, review University guidelines about protecting personal and University data at Protecting Penn Data.

Wharton's Dropbox for Business

Dropbox for Business is a cloud storage and collaboration service available to full-time faculty and staff. It allows you to access, store, synchronize, and share documents from any device. You can log in with your PennKey and password.

Dropbox is not a preferred filesharing solution for students. Some students, depending on their matriculating year, may continue to have legacy Dropbox accounts through 2029. Please see What to Expect When you Leave for information on how long data will be stored.

Benefits and Features

Using Dropbox for Business

The Dropbox for Business user guide walks you through joining the Wharton Dropbox team using secure sign-on (SSO), connecting your personal Dropbox account, adding content to your Dropbox, and sharing your files with others: https://www.dropbox.com/guide/business

Working Collaboratively (Team Folders)

Team folders provide a way of working collaboratively. They are Root Dropbox Folders that are shared with groups and are the hub of content for a team. Within the team folder, each group is assigned a role (either as editors or view-only). Team Folder are not owned by a specific user, and access is managed through Groups within Dropbox. Team Folders cannot be nested within other Team Folders.

Naming conventions

Team folders should follow the naming convention 'School/Center + Group/Team Name [+ Team Folder Name]' and must be unique across the Penn Dropbox Team. There is a 50-character limit for Team Folder Names.

Examples:

- Wharton External Affairs - Giving
- Wharton Computing SP Team

Team Folders can only be created by a Dropbox Team Admin. We suggest that you connect with your Strategic Partner -- they can help identify the elements you will need for your team, and will be able to work with Wharton Computing Client Support to help with setup.

Either way, you should provide the following information:

- Desired Name of Team Folder(s)
- Desired Name of Group(s) with Permission to Team Folder(s)
- List of PennKeys that will be members of the Group(s)
- PennKey(s) for Manager(s) of the Group(s)

What to Do If You Already Have a Personal Account

I Already Have a Personal Dropbox Account

I Already Have a Dropbox Account Tied to My Wharton Email

Getting a Refund If You Were Paying for a Personal Account

Installing the Desktop and Mobile Applications

The **Dropbox desktop application** lets you access all your most important files any time from your computer, even ones that were originally created on another device. You can also access your files on the go from your smartphone or tablet with the **Dropbox mobile application**. Follow the instructions below to download them onto your devices.

Dropbox Desktop Application

Dropbox Mobile Application

Note: You can sign in to multiple accounts in both the desktop and mobile application if you have a personal Dropbox account in addition to your Wharton Business account.

Can I access the Dropbox Desktop Application on Lab Machines?

Using Selective Sync and Smart Sync to Save Space

What to Expect When You Leave

Off-boarding at Graduation (Students)

Students Matriculating in 2025:

If you are a regular full-time Wharton student and matriculated in 2025, you will have an account while you are a student. Once you graduate, access to Dropbox accounts will end *within 30 days* after graduation. We recommend copying your data to another location *before* graduation so you don't lose access to it.

Students whose Dropbox accounts were created prior to 2025:

Regular full-time Wharton students who received a Dropbox account prior to 2025 will be off-boarded to a free or basic Dropbox account (comes with 2GB of space) with continued access to data and options to upgrade if you choose. Your personal address will be automatically set to your alumni forwarding address. This will take place within *30 days* after graduation.

Since your account will be off-boarded to a free or basic account when you graduate, we recommend that you copy it into a personal Dropbox account or other storage option and take it with you.

> **NOTE**: If your storage exceeds the basic Dropbox quota of 2GB, you may not be able to convert your account to a free Dropbox account. You should reduce your data below 2GB to ensure no issues with keeping your Dropbox account.

Linked Personal Accounts at Graduation

If you linked your personal account to your Wharton account, when you graduate you'll have two accounts: one tied to your personal email and one tied to your alumni forwarding address.

Off-boarding at Resignation/Retirement (Faculty, Staff and PhD)

When you leave Wharton, your Dropbox account will cease to be available once your Wharton affiliation has been updated in our system.

An Overview of Security

Check out the Dropbox Security Overview for an introduction to this topic.

Need Help with Accounts?

For more help articles about using Dropbox for Business, visit the Dropbox Help Center.

For questions about using Dropbox at Wharton, contact Wharton Computing Client Support or email support@wharton.upenn.edu

SumatraPDF - Default Classroom PDF Reader

Last Modified on 03/22/2024 4:34 pm EDT

SumatraPDF is the default reader for PDF files on all Wharton public workstations. This includes classrooms, labs, GSRs, conference rooms, and other public-facing Wharton workstations.

Access requirements: You must have the ability to log into these workstations with your PennKey and password to use the software.

What is SumatraPDF?

SumatraPDF is a lightweight PDF reader that allows for many of the same functionalities included in Adobe Reader, but which may be otherwise limited or non-functional in web browsers. These include:

- Remote/clicker functionality
- Fullscreen Mode
- Presentation Mode

Menu Layout and Basic Functions

Here are some examples of the basic layout and functionality of SumatraPDF menus:

Main Menu

File Menu

View Menu

Go To Menu

View Options using Sumatra PDF

These examples show different ways you can view your PDF files using Sumatra.

Normal View

Note that SumatraPDF opens multiple files in tabs at the top. When you open a PDF, the toolbar will become active, and you can perform certain toolbar functions such as Find, Print, etc.

Fullscreen Mode

Like Adobe Reader, if your PDF isn't scaled to the dimensions of the display, it will add black bars to the side (**Fullscreen Mode**) or grey bars to the side (**Presentation Mode**).

Frequently Asked Questions

Q: Are the keyboard shortcuts I use for Adobe Reader the same as SumatraPDF?

Q: How do I use a remote or clicker in SumatraPDF?

Q: Can I annotate (or use any other advanced functions) using SumatraPDF?

Support

Contact: Wharton Computing Student Support

Penn+Box

Last Modified on 06/26/2023 1:19 pm EDT

Penn+Box is a cloud-based collaboration service providing up to 1 TB of storage per user for securely managing and sharing files and folders within the Penn community and externally. Penn+Box ensures that University data and intellectual property are securely protected. For more information on the service, see ISC's information page on Penn+Box.

Your default e-mail address for Penn Box is ***pennkey@upenn.edu*** (not ***@wharton.upenn.edu***). This can cause confusion when working with colleagues, as folders shared to your Wharton e-mail address will not appear in Box unless your Wharton e-mail address is listed in your Box profile. To fix this, you must add your Wharton e-mail address as an additional e-mail address in Box's settings (see the next section for instructions).

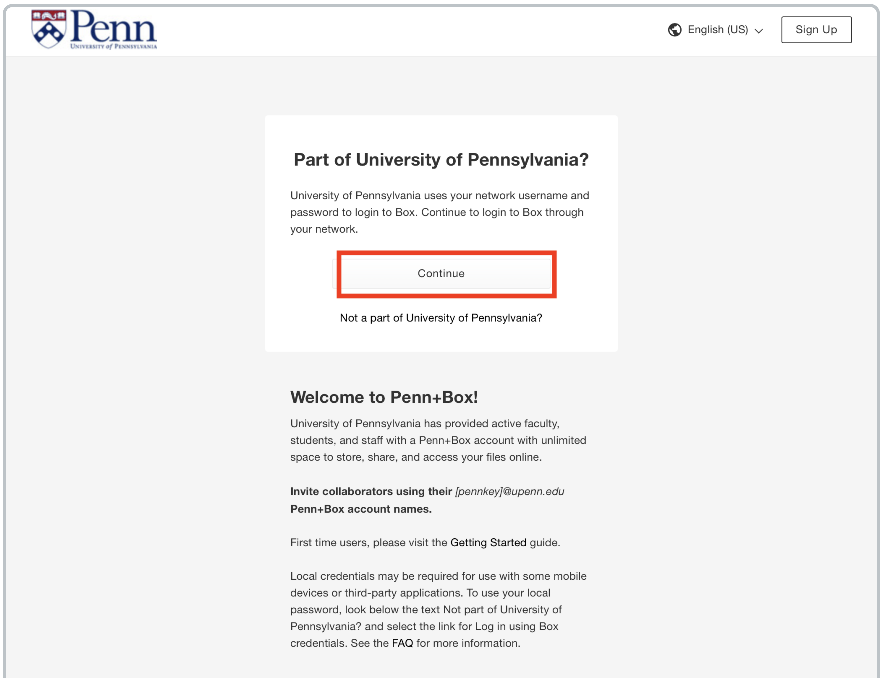
Adding your Wharton E-mail Address to Penn+Box

Before You Start

Be sure that you're able to log into Penn Box using SSO (your PennKey and password), and that you have access to your Wharton e-mail to confirm its addition to Box. If you're unable to, please contact your technical support representative listed at the bottom of this article.

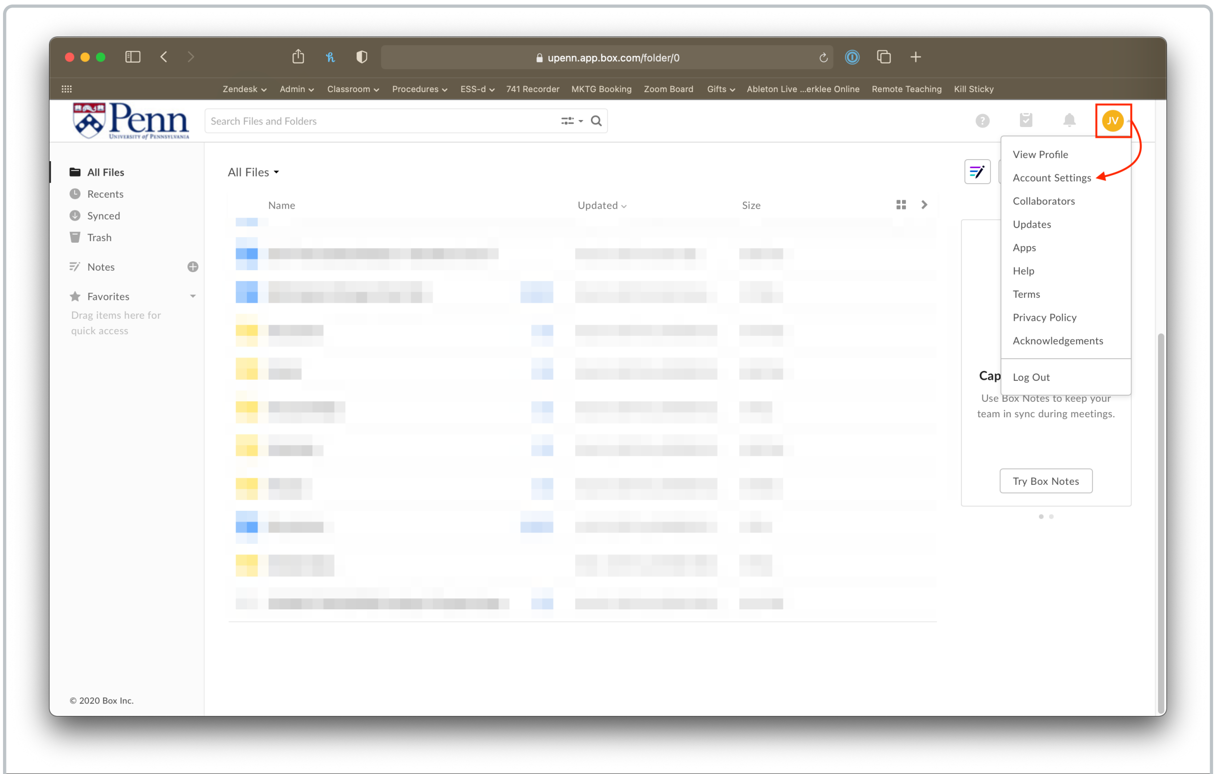
Step-by-Step Guide

1. Log into Penn Box by navigating to the Penn Box site and clicking **Continue**. You will need to log in with your PennKey and its password, and in some cases use two-factor authentication as well.



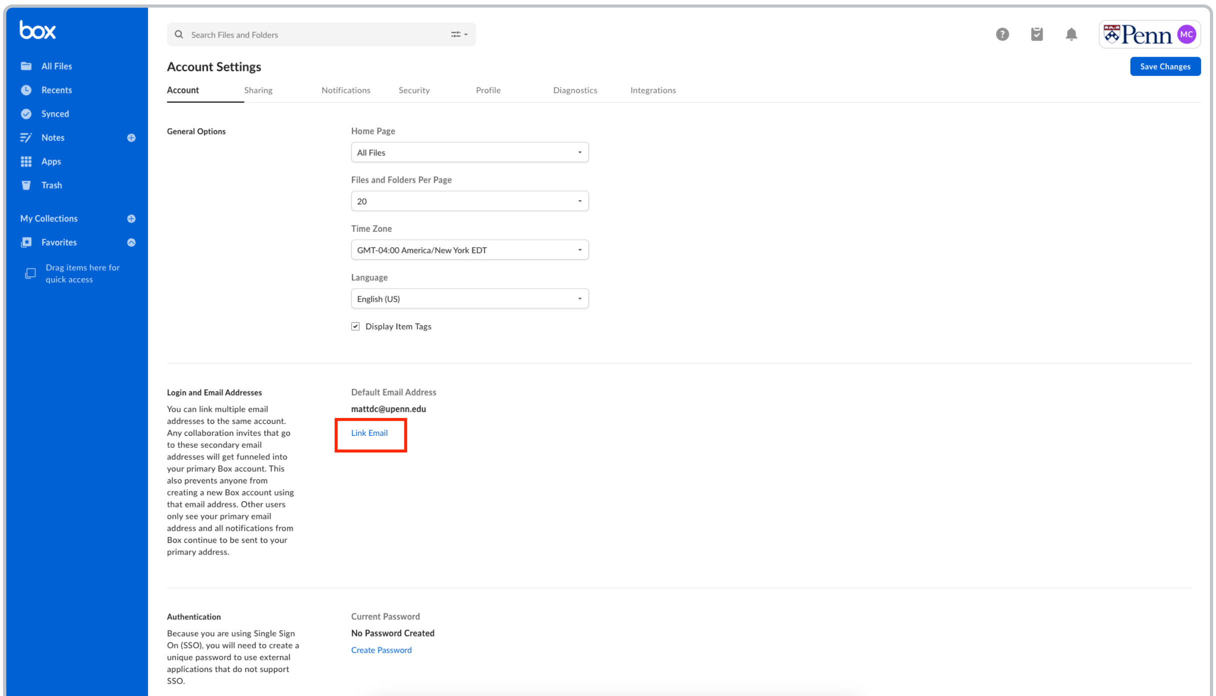
Click Continue to navigate to the PennKey login page.

2. Click your initials in the top-right corner, and click **Account Settings**.



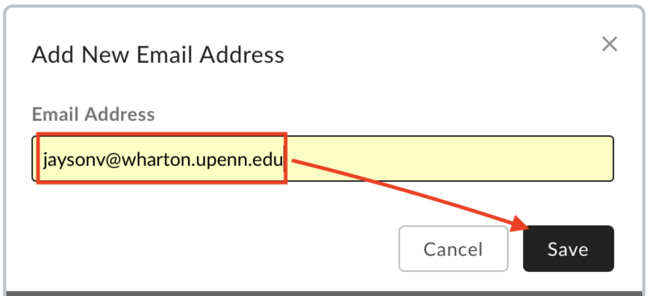
Your initials (or profile picture) are in the upper-right hand corner; click them to see advanced options for Box.

3. Under *Login and Email Addresses*, click **Link Email.**



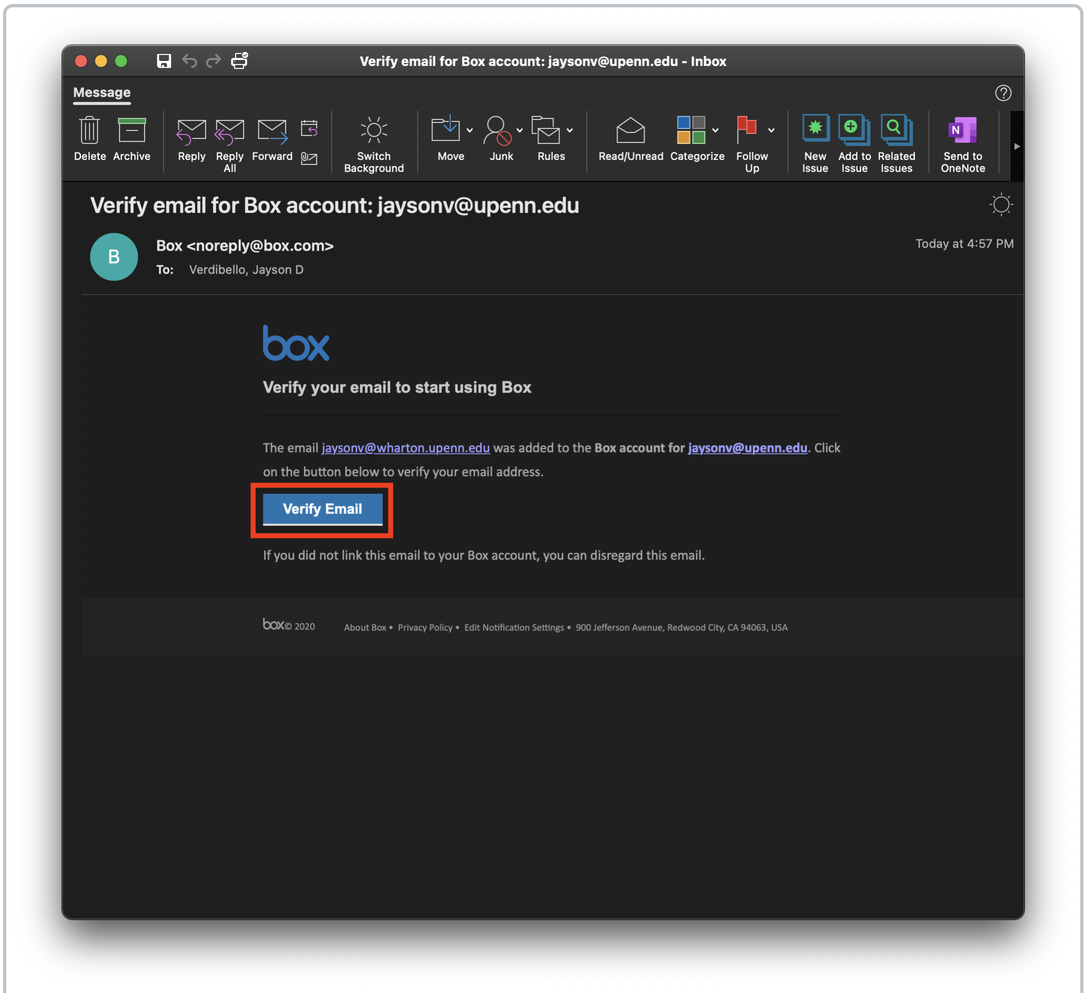
You can add multiple e-mail addresses if your collaborators are contacting you using different e-mail addresses.

4. Enter your Wharton e-mail in the **Email Address** field that appears (be sure it ends in *@wharton.upenn.edu*).



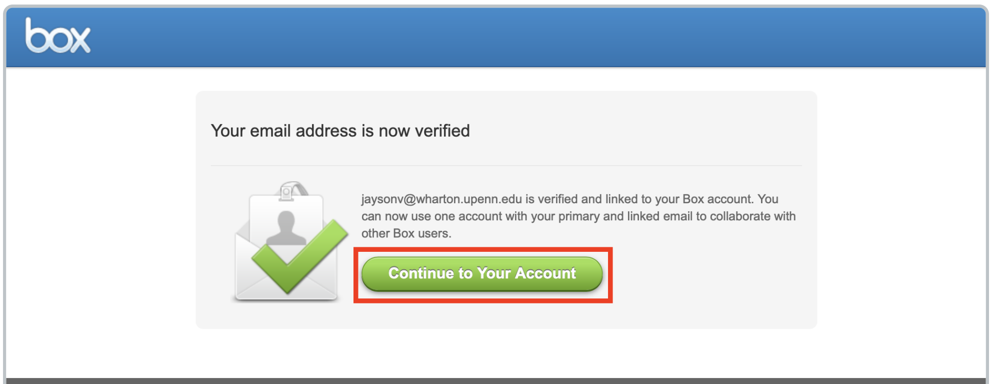
This window appears as a lightbox; simply click Save when done.

5. Open your email and check for a message from Box to verify your e-mail address. Click the **Verify Email** button in the e-mail.



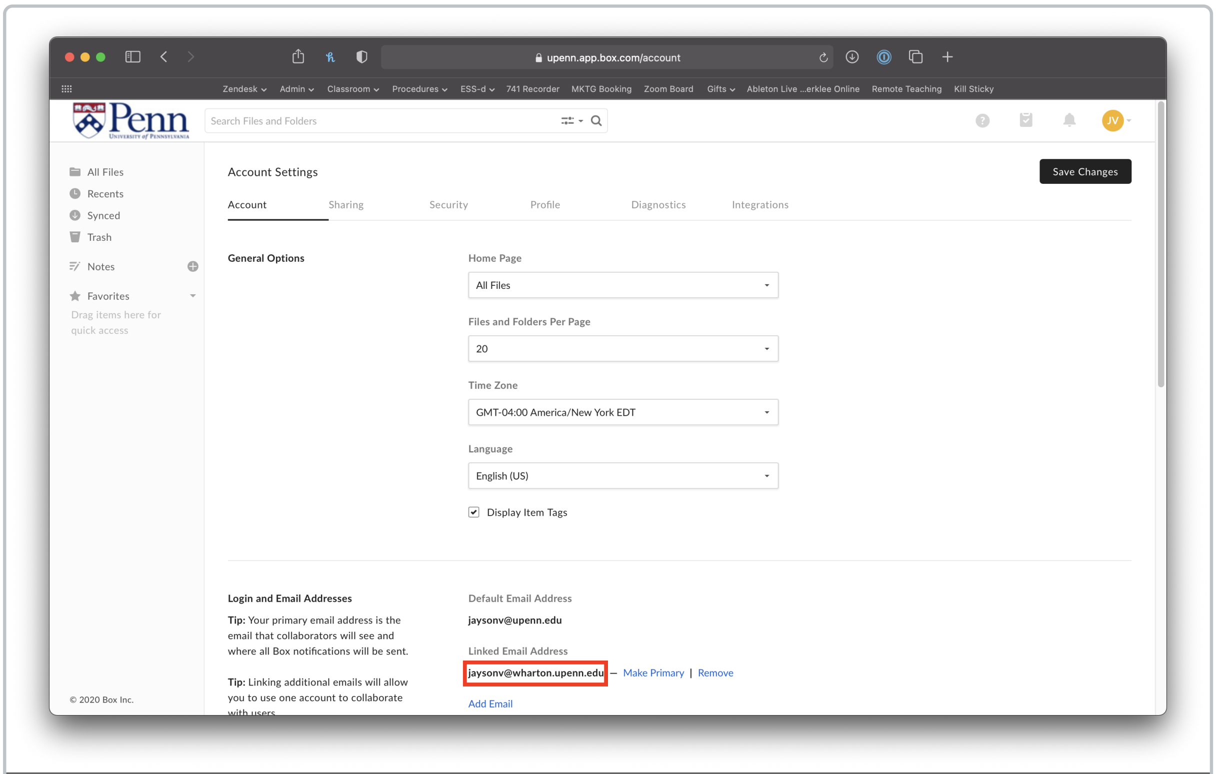
Your view of this e-mail may look slightly different dependent on your image view settings and e-mail client.

6. This will open a new browser window that will verify your Wharton e-mail address. Click **Continue to Your Account** to re-open Box.



Your e-mail address is verified at this point, and you can close your other Penn Box tab/window.

7. Navigate back to **Account Settings** (see Step 2).
8. Verify your e-mail address is listed in the **Login and Email Addresses** section.



If you see your e-mail listed here, you're all set - feel free to check if a folder shared with you is now listed.

Note: You do not have to make your Wharton e-mail address the primary address on the account. Feel free to leave the default settings. Do not remove your @upenn.edu address, however.

Questions?

You can review the Penn+Box FAQ on the University's website, or contact your IT representative:

- Academic Departments may contact Academic Computing Services at acs-support@wharton.upenn.edu.
- Administrative Departments may contact Administrative Support at admin-support@wharton.upenn.edu.
- Students may contact Student Support at support@wharton.upenn.edu.

Microsoft Teams

Last Modified on 03/20/2025 1:25 pm EDT

Redirecting to ISC since they have information on it.

PennFlex Phone

Last Modified on 07/18/2025 10:06 am EDT

PennFlex Phone is the next generation phone system now in use at Penn. Most Wharton faculty and staff are eligible for a PennFlex phone account (depending on your department's phone policy). PennFlex Phone benefits include:

- A mobile application that allows you to receive and place calls from your Penn phone number using your desktop, tablet, or smartphone.
- Voicemail transcription sent to your email address.

Wharton has migrated the old PennNet phones to the new PennFlex phone system. If your phone display says "PennNet," please contact your Wharton Computing representative.

Haven't set up your new Phone?

If your phone was migrated but you never set up your voicemail, there are several steps you need to take:

Mobile App with Webex

Penn provides an application to use with this service, called the Mobile App with Webex. Wharton staff and faculty can install the Mobile App with Webex with the BigFix Self-Service Application Portal. (Wharton is not offering the Video portion of the app)

See the section Using the App (Soft Client) for more information.

Please Note: If you are using your own smartphone, there may be charges if you do not have an unlimited data plan. You do not need to use your smartphone to be able to talk and get messages -- you can use your computer.

Setting Up Your New PennFlex Phone

If you are new at Penn and have been issued a new PennFlex phone, use these directions to get yourself set up.

This phone service provides a number of features to help with the increasingly wide variety of phone needs at Penn. For a complete overview of the system, see ISC's announcement, PennFlex Phone service.

Handsets

If you have chosen to receive a handset, you'll need to set it up. Follow these directions to set up your new PennFlex Phone Handset.

For more information, see Using your PennFlex Phone below.

Using the App (Soft Client)

Whether or not you are using a handset, you will likely want to use the software application, Mobile App with Webex. This app can be set up on either your smartphone or your computer, or both. Use these instructions to get set up and start using the app.

If your computer is managed by Wharton Computing, you **will not need to install the app** -- it has already been installed on your computer. Skip the first part about installation.

Computers Managed by Wharton Computing

If Wharton Computing manages your computer, you can install Webex through the Self-Service app.

1. Launch the Self-Service app and install Webex.
    - **Windows**: Press the **Windows Key**, type **BigFix Self-Service Application** to bring up the self-service app, and then install **Webex (PennFlex Phone)**.
    - **Mac**: Use **Spotlight** search and type **Self Service** to bring up the self-service app, and then install **PennFlexWebex-ARM.**
2. Skip the first part about installation in these directions and start with the section **How do I sign in to Mobile App with Webex?**.

If you do not find WebEx available in Self Service, and your machine is managed by Wharton Computing, please contact your Wharton Computing representative.

Personal (or non-managed) Computers and Mobile Devices

Use these directions if you are setting up your application for the first time, or are shifting from the MobileConnect client. Make sure to choose the "**Webex: Business**" version, not the "Webex Meetings: Video Conferencing".

Forwarding / Unforwarding Calls

You may have chosen the "Forward Only" option for your PennFlex phone number, which allows you to forward all your incoming calls to another device. Or, you may have a handset and wish to temporarily forward calls to another device. Here's how to forward your calls.

Forwarding from your Handset

To forward all incoming calls using the Home Screen on the PolycomVVX 400:

1. Select **Forward** on the home screen.
2. Choose **Always**, **No Answer**, or **Busy**.
    - If you choose **No Answer**, enter a value to specify # of rings before call will forward.
3. Enter a contact's number
4. Tap **Enable**.

Disable Call Forwarding (Unforwarding)

1. Select **Forward** on the home screen.
2. Choose forwarding type.

3. Select **Disable**.

Full instructions for use of the Polycom VVX 400 can be found here:https://s3.amazonaws.com/smartlynk-vonage-assets/wp-content/uploads/2019/10/03211730/VVX-400-QSG.pdf

A video tutorial can be found here:
http://knowledgelink.upenn.edu/help/tutorials/VonagePolycomTutorial/story_html5.html

Forwarding from the App

To forward calls directly from the app you will need to first add the phone number you want to forward to, and then you can set the forwarding.

1. Log into the app.
2. Click on **your profile**, and choose **Settings**.
3. Choose **Calling** on the left navigation tree.
4. Under the Call Forward box on the right, **enter the phone number** that you want to forward to.
5. Click **Save**.
6. Go back and choose **Call Forward** from the drop down box.
7. Choose **your phone number**.
8. **Save**.

Disable Call Forwarding (Unforwarding)

Choose **Do Not Forward** from the drop down box.

Using your PennFlex Phone

Your new PennFlex phone will provide many new useful services. You'll have access to a PennKey-based Single Sign-on (SSO) portal to view call analytics, configure voice and voicemail settings and access voicemail. Once your phone is up and running, you'll be able to log into the portal, click the End User button, and explore all the new features and settings available to you.

International Calls

All users in the new phone system are configured to make international calls. To make a call outside of the US:

1. Dial **011**
2. Dial **country code**
3. Dial **city code**
4. Dial **phone number**

For more information see the PennFlex FAQ.

Using PennFlex while traveling

The PennFlex soft client allows you to place and make calls while traveling from your phone device or laptop. If you encounter difficulty connecting to the PennFlex service while traveling, it may be that the network administrator is blocking access. Using the University VPN will allow you to access PennFlex to make and receive calls

Changing your Voicemail Greeting

There are several ways to customize your voicemail greetings on the new system.

You will need your passcode to listen to voicemails or make changes from your handset. If you've forgotten your passcode (or never set one up), log into the portal, and choose **Voice Settings -> Voicemail Settings** from the left navigation menu. **Change your Voicemail Password** is the first option.

Use Standard Greeting

We recommend that you create a universal greeting that will work for most office situations.

1. Access the standard voicemail greetings
   - **From the PennFlex Phone:** Press the **messages button** (or dial **99999**), enter the passcode, then **press #.**
   - **From another PennFlex Phone:** Dial **86423**, enter the mailbox's number, enter the passcode, then **press #.**
   - **From a non-Penn phone:** Dial **215-898-6423**, enter the mailbox ID (the full 10-digit number), enter the passcode, then **press #**.
2. **Press 1** to access your voice mailbox.
3. **Press 8** to record your name for the standard messages.

Requesting a Customized Greeting

If you wish to create custom voicemails for different situations (i.e.: Away, Out of Office, etc.) please contact your Wharton IT Support Team for assistance.

Recommended Reading

Data Privacy: We want to make sure you understand how your data privacy is managed in this new system.

Headsets: As with all phones there are some specific recommendations about headsets.

Voicemail and Passwords: They're critical -- here's how to check your voicemail and change your password.

Additional PennFlex Phone Resources

- PennFlex Phone service details
- PennFlex Phone Migration details
- Training Videos: https://www2.isc.upenn.edu/how-to/pennflex-phone-service-and-migration-resources#Training-Resources
  - PennFlex Phone handsets
    - Poly VVX 401 Video Tutorial
    - Poly VVX 201 Video Tutorial
- PennFlex FAQ: https://www2.isc.upenn.edu/how-to/pennflex-phone-service-and-migration-resources#FAQ

Questions?

Please contact your Wharton Computing Representative with any questions.

WeConnect

Last Modified on 08/15/2023 4:34 pm EDT

Using WeConnect

Before You Start

You will need to:

- Be an active Wharton Executive MBA Global student
- Have a PennKey username and password

Connecting to WeConnect for Online Class

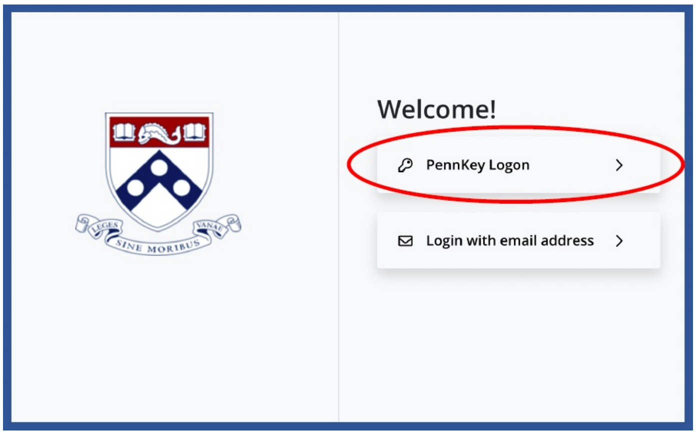
Before you get started, you'll need:

1. **A comfortable learning space:** Ideally, this should be a well-lit area with minimal background noise and distractions.
2. **A compatible device:** PC, Mac or iPad. We highly recommend using a laptop or desktop for the best class experience.
3. **A compatible browser:** Google Chrome, Microsoft Edge, or Safari. Firefox is not recommended.
4. **A webcam and microphone:** We recommend using an HD webcam (720p or 1080p) for best results. If you'll be in a quiet space, using the built-in webcam microphone and laptop speakers should be ok. If there will be any background noise, we recommend using a headset with integrated microphone.

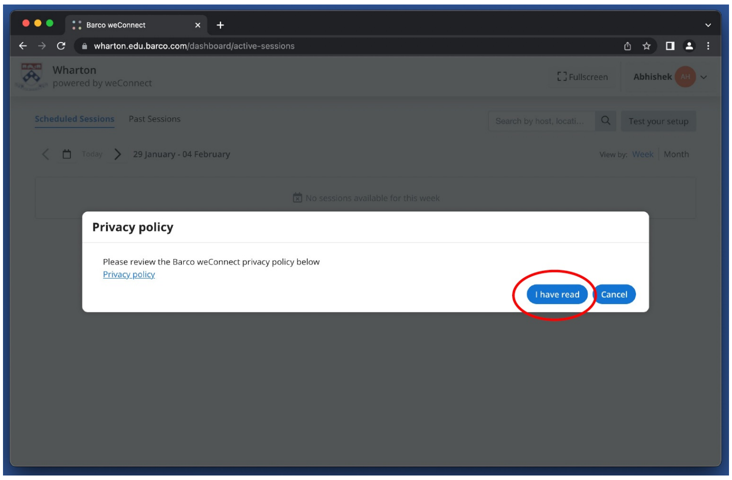
Remember to stay muted when you're not talking to create the best learning environment for you and your classmates. For recommended hardware options, visit Wharton Computing's support website.

Instructions to Connect

1. First, navigate to the Canvas site for your class.
2. Find the assignment called **Test Your Setup**.
3. Click on the link to join the virtual class portal (https://wharton.edu.barco.com).
4. Select **PennKey Logon** and login with your PennKey as usual. You may need your phone to complete two-factor authentication.

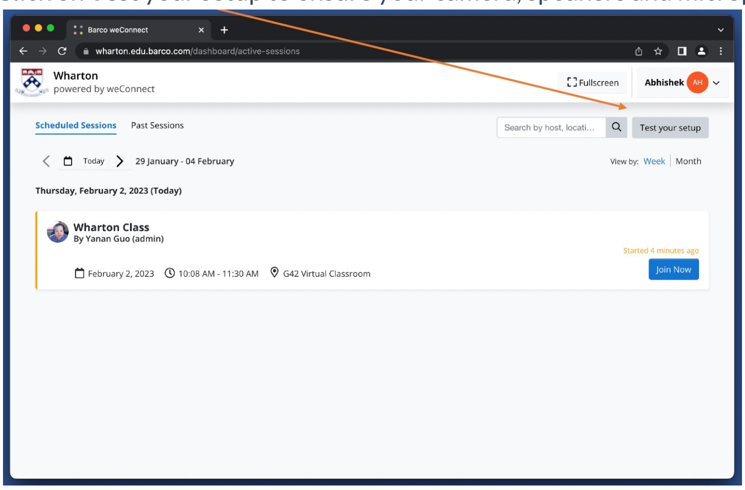


You will likely see a Privacy policy message when you first login. Please read through the Privacy policy and then click **I have read**.



Testing Your Setup

Click on **Test** your setup to ensure your camera, speakers and microphone are working correctly.



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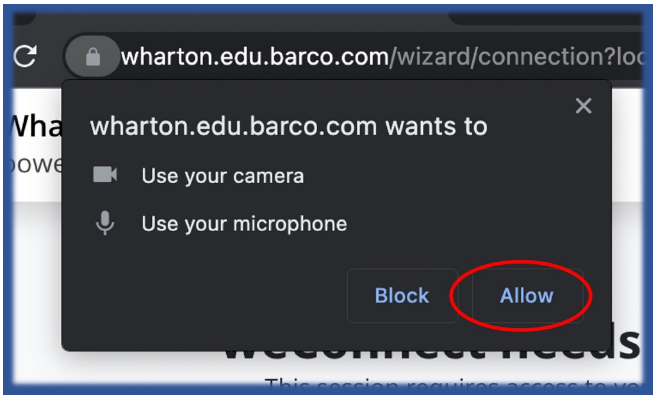

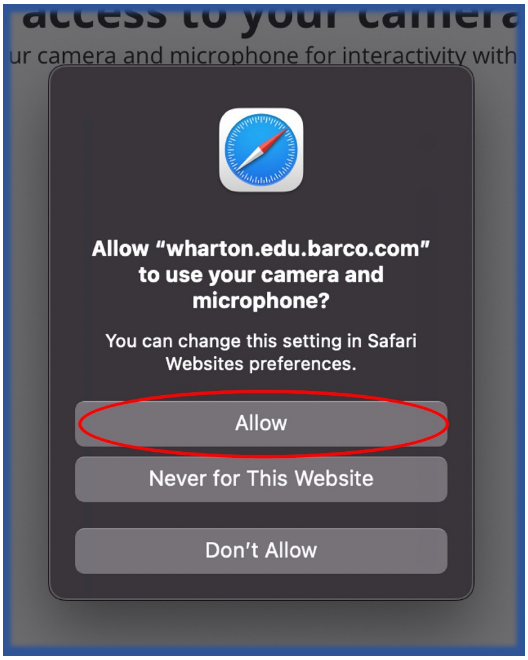

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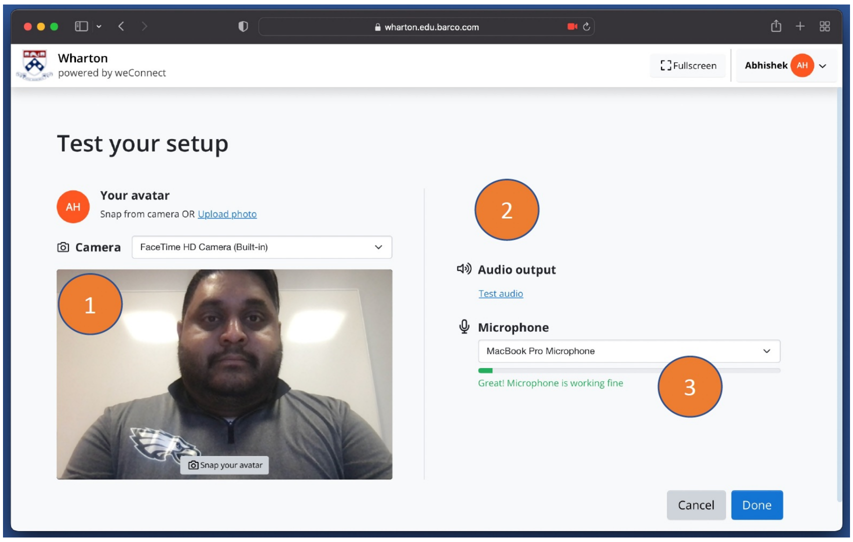

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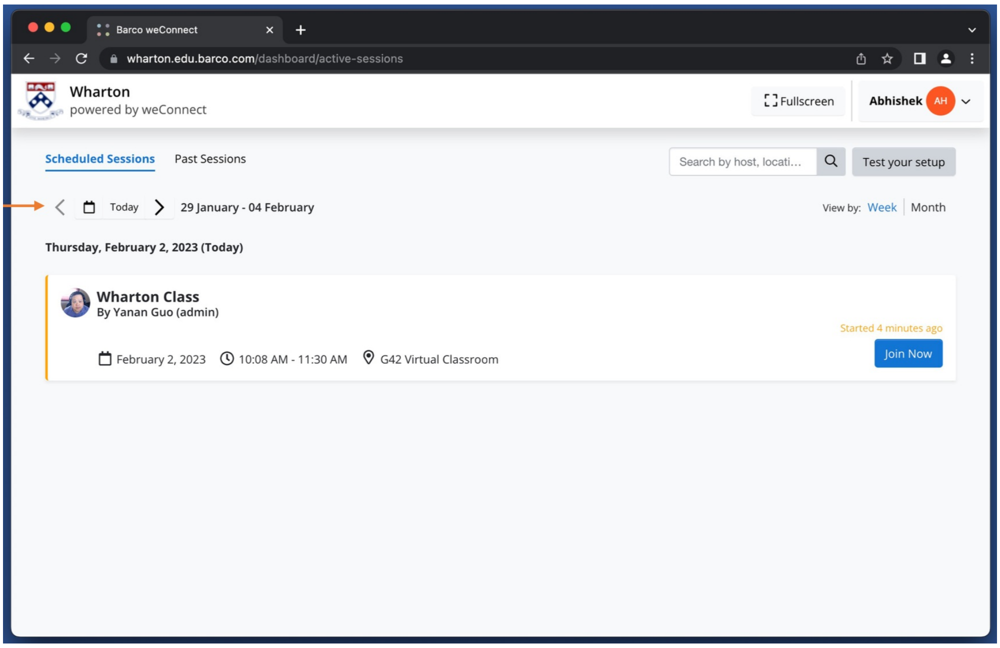

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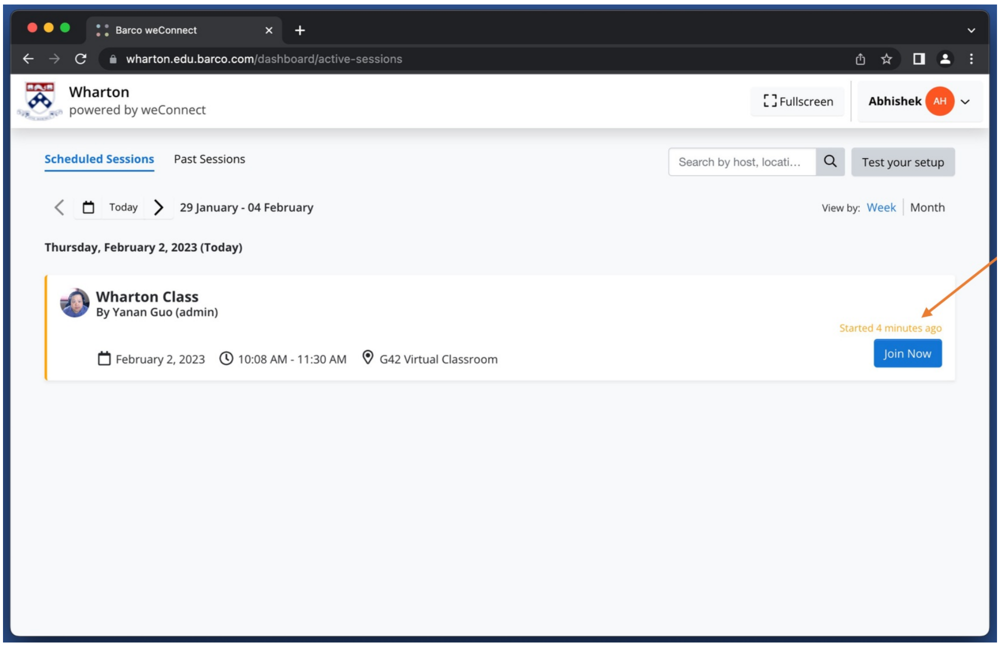

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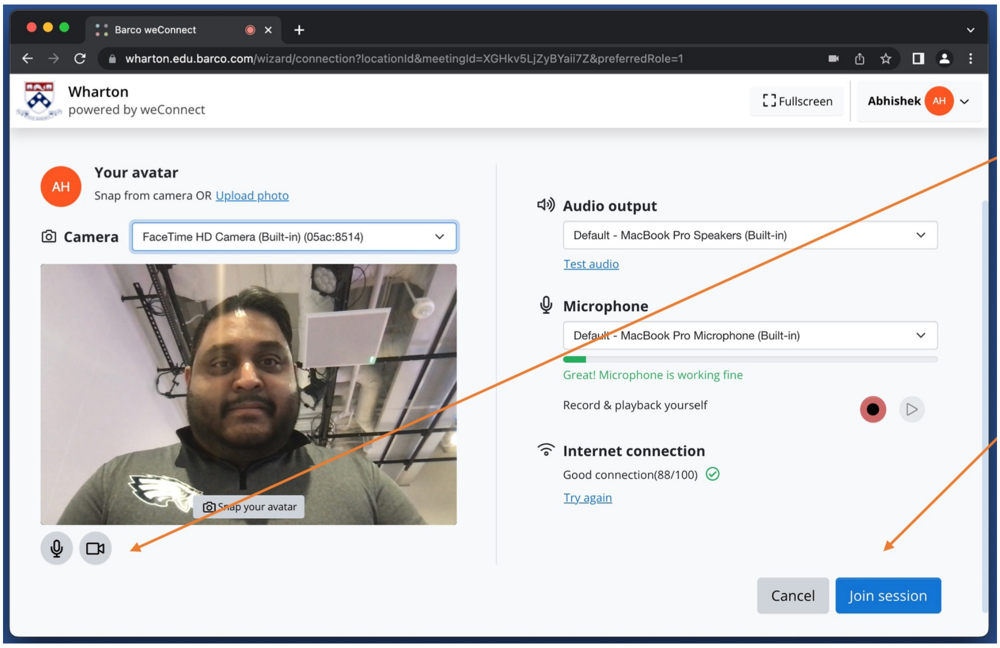

In-Class Layout

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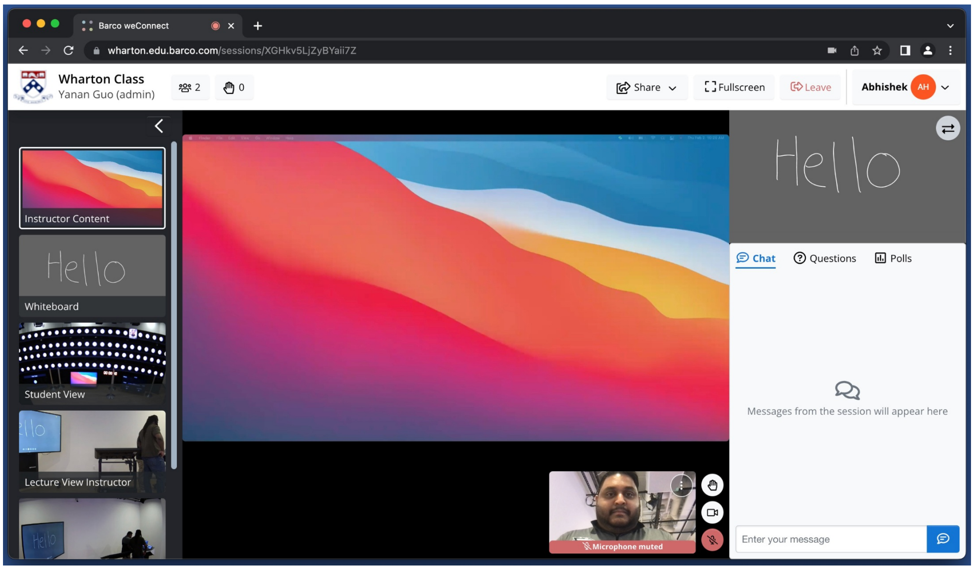

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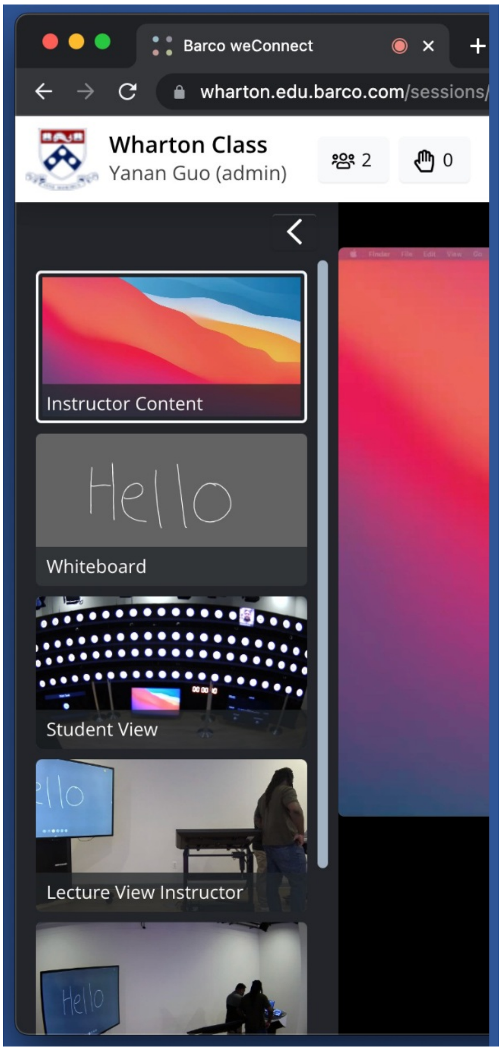

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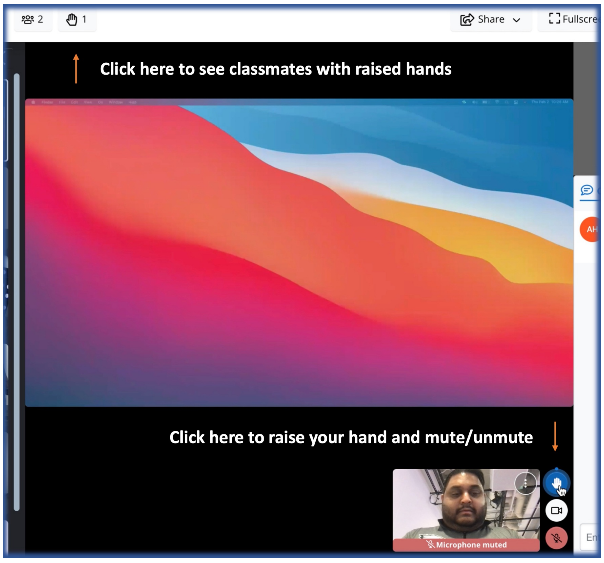
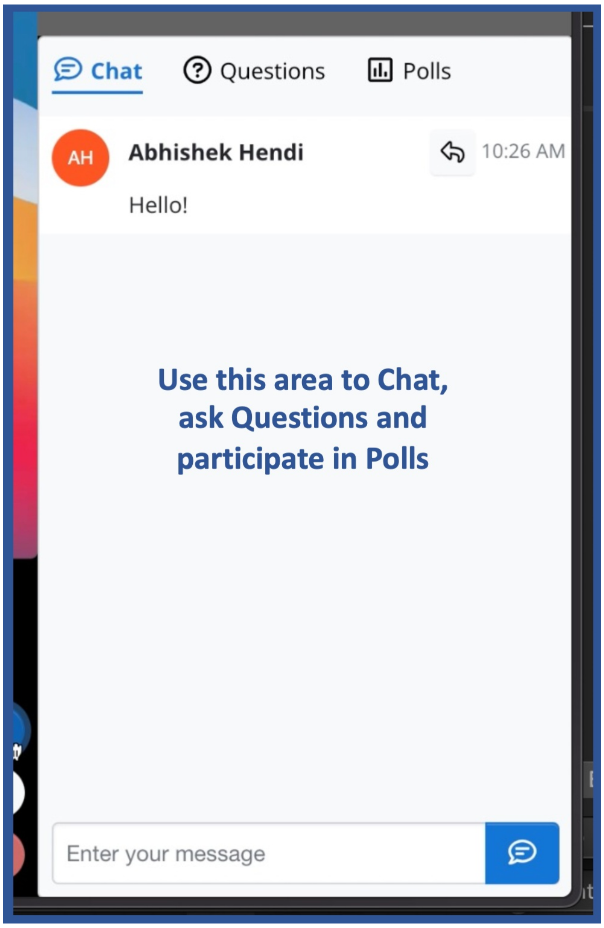
Instructor Content
Click to select as secondary source
Whiteboard


Share
Click here to see classmates with raised hands
Click here to raise your hand and mute/unmute
Microphone muted



More WeConnect Resources

If you have any trouble connecting to class, Wharton Computing will be available to help.

WeConnect for Wharton Executive Education

Last Modified on 08/17/2023 12:48 pm EDT

Using WeConnect (for Executive Education)

Before You Start

You will need to:

- A login username and password provided to you by a Wharton program

If you are using WeConnect for something other than a Wharton Executive Education program, please see this article.

Connecting to WeConnect for Online Class

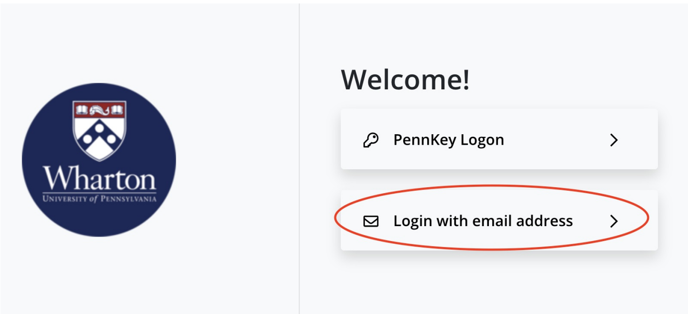
Before you get started, you'll need:

1. **A comfortable learning space:** Ideally, this should be a well-lit area with minimal background noise and distractions.
2. **A compatible device:** PC, Mac or iPad. We highly recommend using a laptop or desktop for the best class experience.
3. **A compatible browser:** Google Chrome, Microsoft Edge, or Safari. Firefox is not recommended.
4. **A webcam and microphone:** We recommend using an HD webcam (720p or 1080p) for best results. If you'll be in a quiet space, using the built-in webcam microphone and laptop speakers should be ok. If there will be any background noise, we recommend using a headset with integrated microphone.

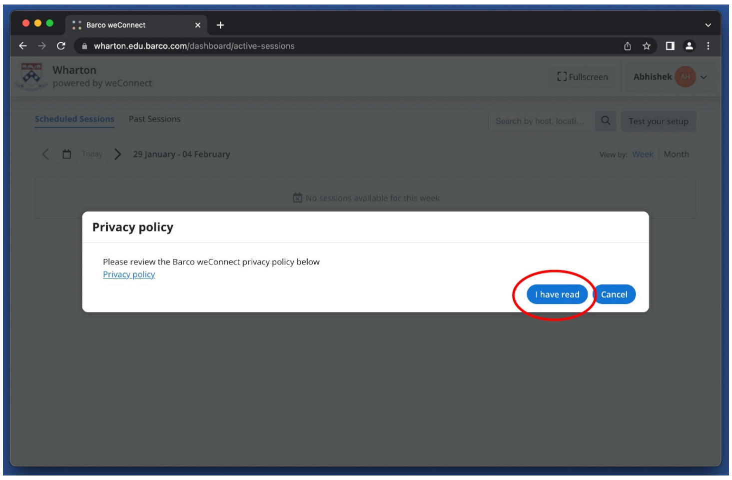
Remember to stay muted when you're not talking to create the best learning environment for you and your classmates. For recommended hardware options, visit Wharton Computing's support website.

Instructions to Connect

1. Click on the link to join the virtual class portal (https://wharton.edu.barco.com).
2. Select **Login with email address** and login with the credentials you have been provided.



You will likely see a Privacy policy message when you first login. Please read through the Privacy policy and then click **I have read**.



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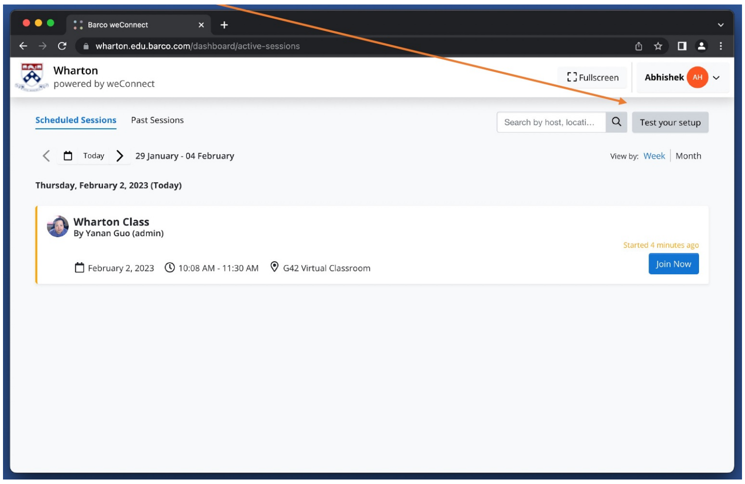

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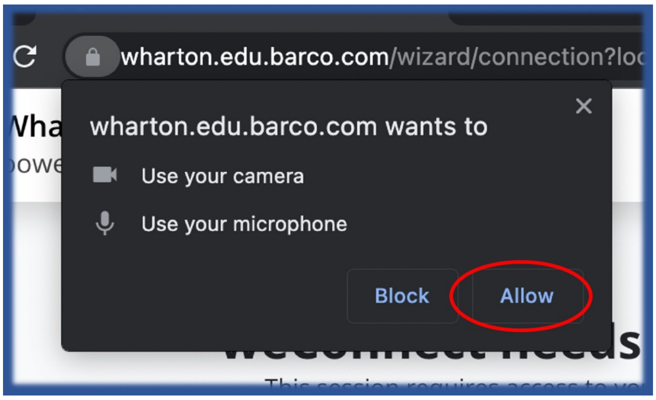

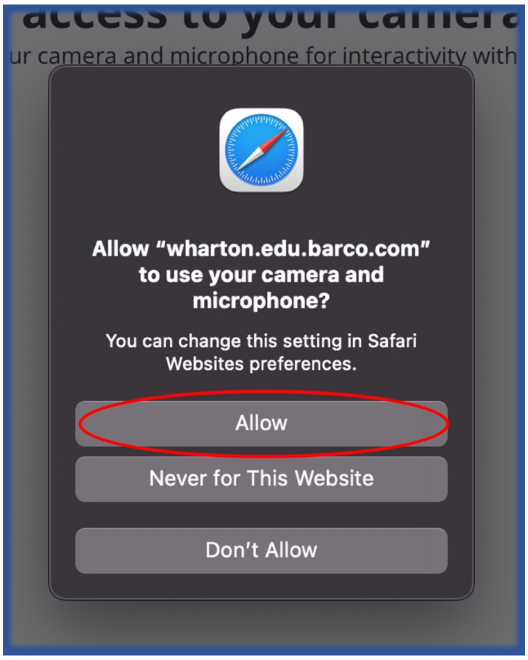

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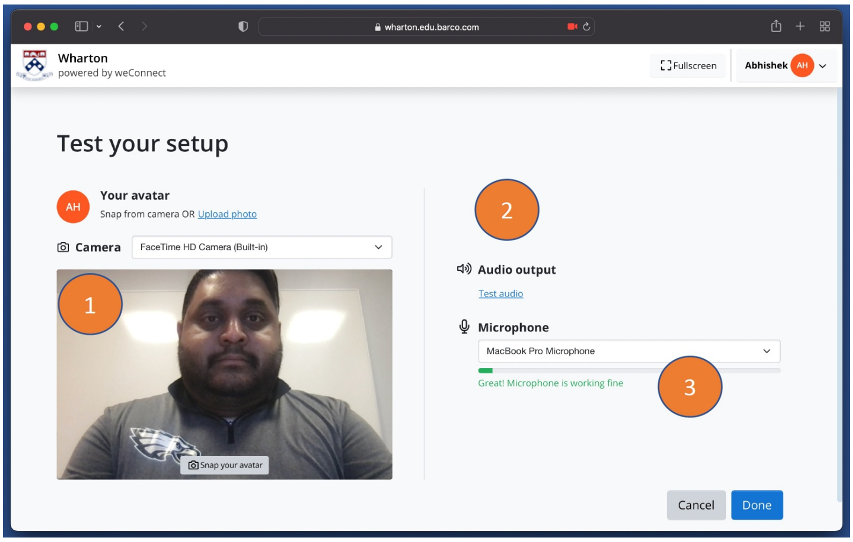

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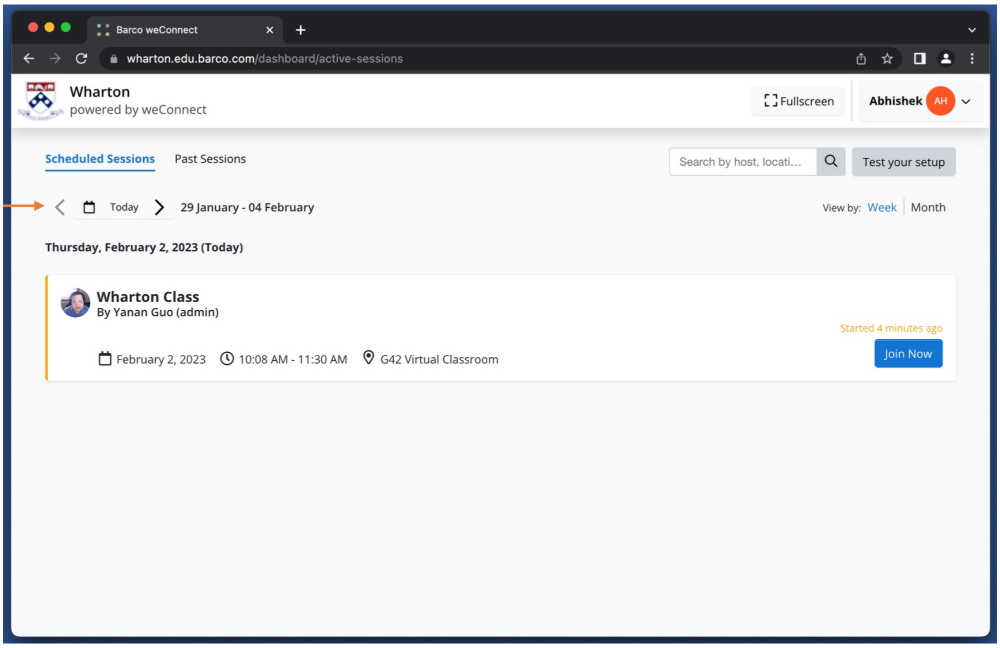

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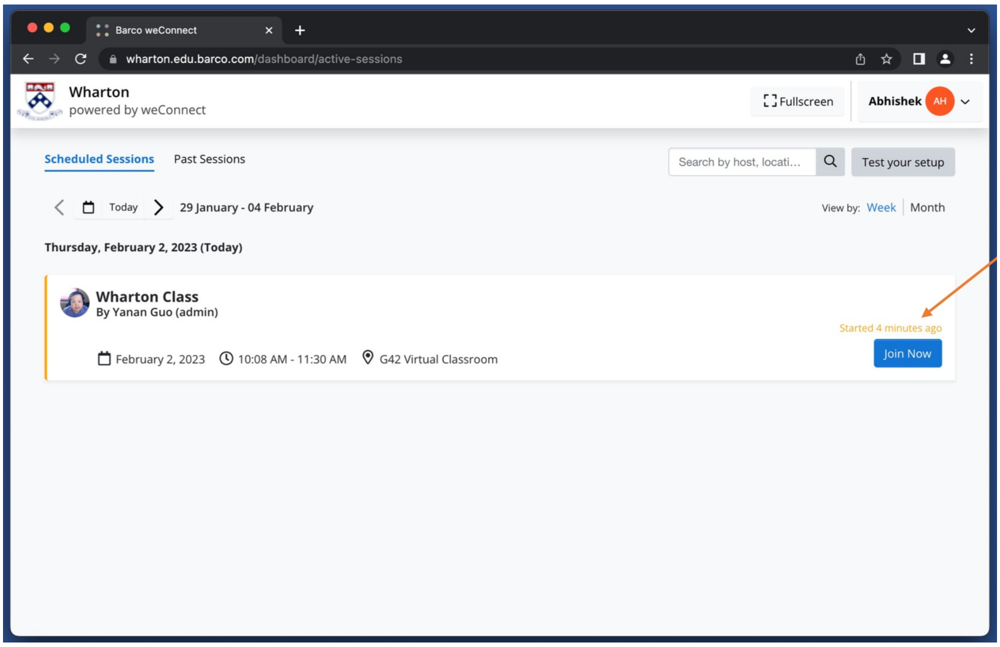

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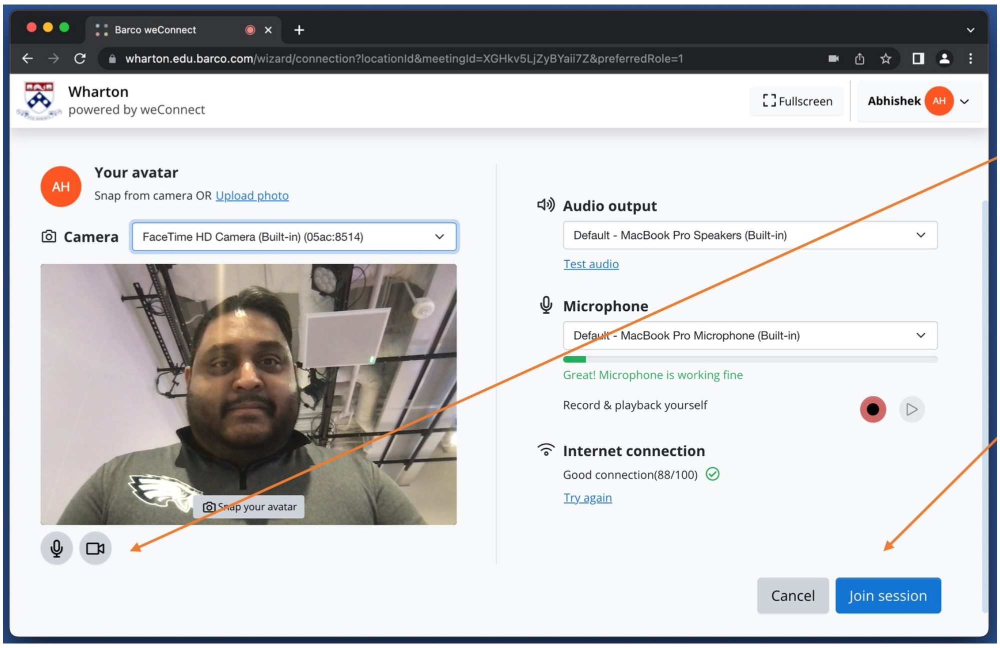

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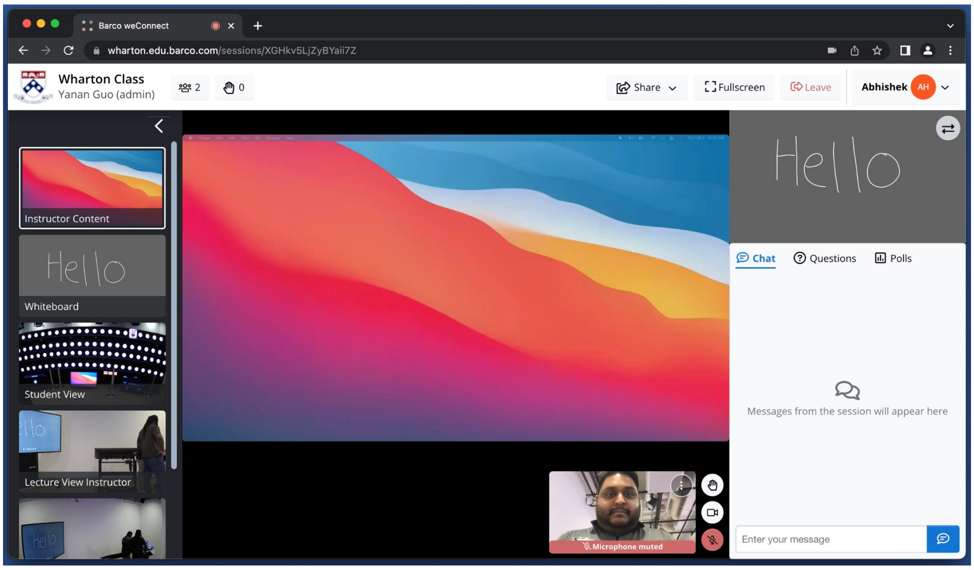

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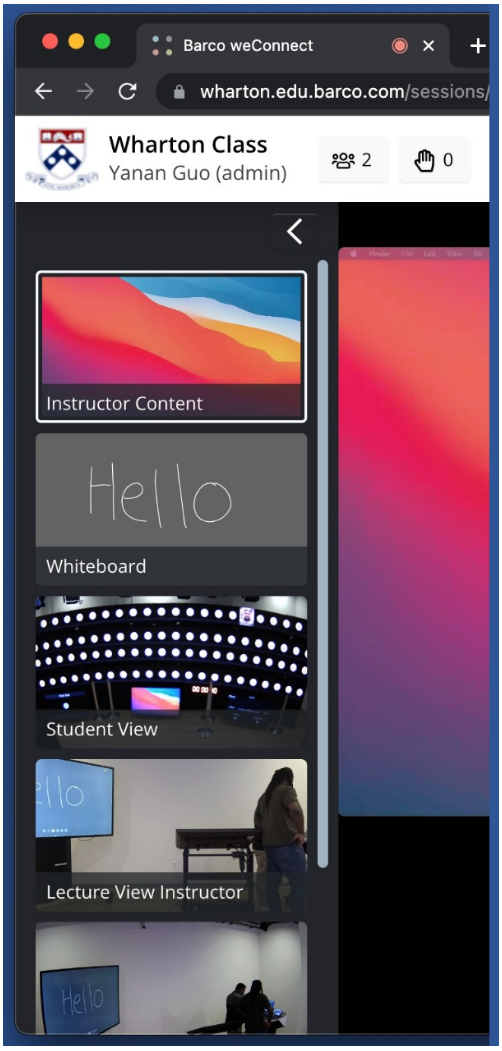

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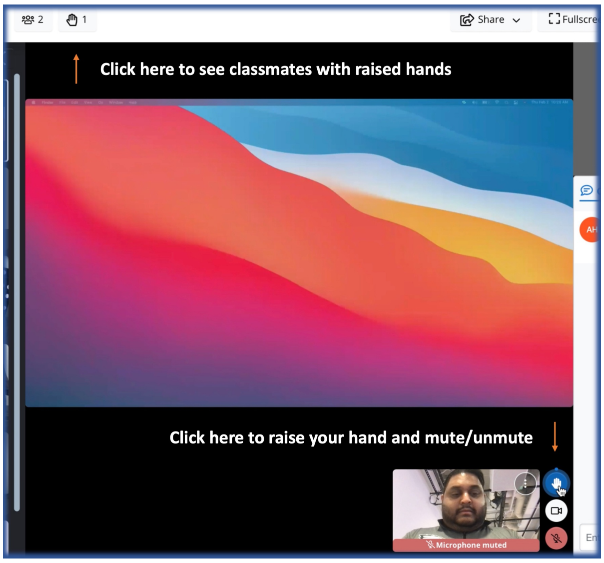
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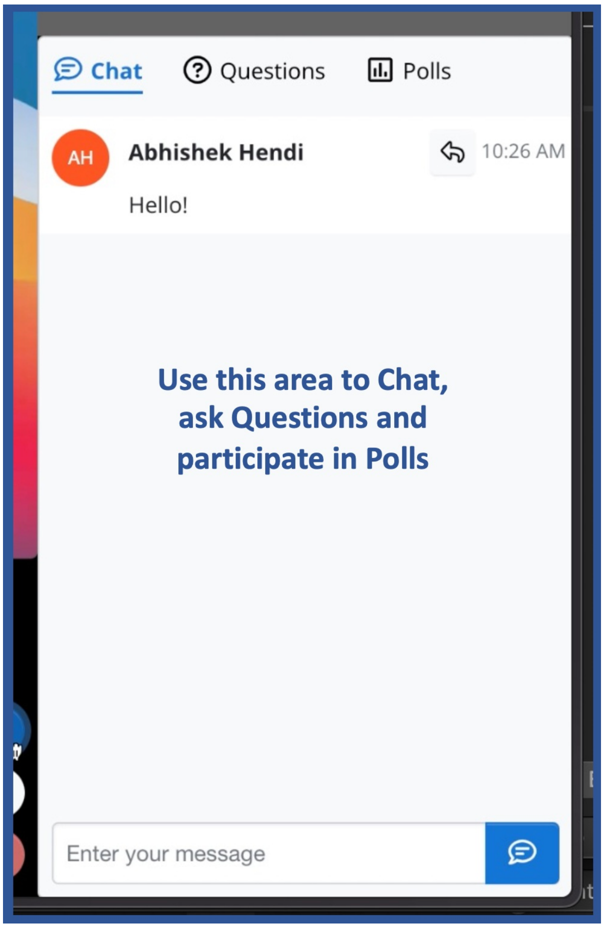

More WeConnect Resources

If you have any trouble connecting to class, Wharton Computing will be available to help.

Dropbox Account Exception Request

Last Modified on 01/14/2026 10:11 am EST

This article outlines how a faculty or staff sponsor can request a Dropbox account for a student if they need one.

Before You Start

You will need the following before you can complete this task:

- Valid PennKey account
- Wharton sponsor (faculty or staff)
- Business justification

Dropbox accounts are provided to Wharton Staff and Faculty, but not by default for students. If there is a compelling reason for a student to be issued a Dropbox account, a faculty or staff "sponsor" can make an exception request.

Steps for Requesting an Exception

The student's sponsor should work with their Strategic Partner to submit a ticket to Wharton Client Support Services. The ticket should include the following information:

- **Student information**:
    - Name
    - Email address
    - Affiliation (e.g. MBA, UGR, WEMBA, etc)
    - Graduating year
- **Name of sponsoring Wharton user** (faculty or staff member name working with the student)
- **Business justification** for Dropbox account
- **Alternatives**: explanation for why the shared file storage need cannot be met by other existing services, e.g. Google Drive, Penn+Box
- **Duration** of the Dropbox account: A month, a year, indefinite?
- **Collaborators**: Will the student be collaborating with any other Dropbox users or departments? Will they be granted access to other Dropbox Team folders?

Questions?

Contact Wharton Computing Client Support with any questions.

AWS Best Practices

Last Modified on 10/16/2025 12:55 pm EDT

AWS is Wharton's preferred cloud vendor. Wharton has AWS Enterprise Support and has integrated account creation for AWS, allowing payment via budget code. For information on obtaining an account see AWS Linked Accounts.

Enterprise Support

All Wharton faculty and staff with AWS-linked accounts can contact AWS directly for Enterprise Support.

- To open a support case, see Amazon Support's article, Creating support cases and case management.
- Enterprise Support includes:
  - Unlimited 24x7 support
  - Billing assistance
  - Architectural reviews
  - Proactive guidance

If you want more information about Enterprise Support, ask your Wharton Computing Representative to contact Wharton Computing's ESS team on your behalf.

Billing

- Every linked account must have a budget code associated with it. F&A will charge back costs to that billing code quarterly.
  - Wharton Research has a separate billing mechanism for users who use Research's AWS accounts. Those charges are billed back monthly.
- Users can see the charges in their linked account by using the AWS Cost Explorer.
- Wharton has a more sophisticated tool called CloudHealth that is available on request. To get access to CloudHealth, ask your Wharton Computing Representative to contact Wharton Computing's ESS team on your behalf.
  - To log in, use **[your Pennkey]@upenn.edu** and your Pennkey password
  - If you are interested in an introduction to CloudHealth, ask your Wharton Computing Representative to contact Enterprise Solutions and Services.
  - CloudHealth is the only way to see charges for multiple AWS-linked accounts at one time.
- CloudHealth provides a Cost Anomaly Detector that uses artificial intelligence to detect surprising upward deviations in spending. The detector can be set to send an email alert when anomalous spending crosses a threshold.
  - Users can also set up cost anomaly detection on any single AWS-linked account.
  - To set up cost anomaly detection across multiple linked accounts, or simply to get assistance, ask your Wharton Computing Representative to contact Enterprise Solutions and Services.

User Access

- By default, each AWS-linked account has two roles, an administrator role and a read-only role. When the account is created, at least one person is assigned to the administrator role.
- Wharton has implemented single sign-on so that account users can log on with their Pennkey and password.

Roles

- Account users can create their roles and request that users be assigned to the roles.

User Authentication

- Wharton strongly recommends that users authenticate with Pennkey whenever possible.
- Pennkey authentication ensures that users who no longer have active Pennkeys cannot access AWS-linked accounts.
- If necessary, linked account users can create IAMusers. This is a less desired configuration as IAM users are not protected by PennKey MFA (Multi-Factor Authentication). Also, IAM user accounts will not expire when the account user is no longer affiliated with Penn.
- Every account has a root credential. This root credential is held byWharton Computing for landing-zone accounts (all accounts created since March 2020). Account owners have the root credentials for accounts created before March 2020. AWS policy is that root credentials should never be used for regular account access and that the service team that manages AWS should hold all root credentials. Also, all root credentials should be protected with MFA.

Emergency Account Access

- By default, Wharton Computing has no access to linked accounts that are owned by faculty. Access for staff-linked accounts is set by the account owner.

- In an emergency, Wharton Computing can shut down systems that have security breaches.

- Also, if an account has an anomalous cost increase Wharton Computing can shut down systems.

- Wharton Computing's senior leadership has to approve any emergency access to shut down resources in linked accounts.

Security

- AWS-linked accounts are configured by default to follow AWS best practices for security. They use AWS Config, GuardDuty, and Security Hub to monitor potential threats.

Questions?

For more information, contact your Wharton Computing Representative.

AWS Linked Accounts and Budget Codes

Last Modified on 10/16/2025 1:12 pm EDT

AWS (Amazon Web Services) Linked Accounts enable Wharton staff and faculty to log into AWS services using their Pennkey credentials. This article explains the AWS Linked Accounts and Budget Code policy enforced by Wharton Finance and Administration (F&A) and Wharton Computing.

Definitions

- **Linked Account:** An AWS account that is a part of the Wharton Computing Organization. All Linked Account charges are rolled up into the central "payer billing account" or Management Account.
- **Master Billing Account:** The central account at the root of the organization to which all accounts, billing & configuration link back.

Scope

This policy only addresses the assignment of costs. Linked-account owners are responsible for ensuring they do not exceed budgeted costs.

Purpose

Linked Account charges are assigned to a payer billing account, also referred to as the management account, which is paid by F&A. The costs are then charged back to the budget code associated with the Linked Account. All AWS-linked accounts are assigned to one or more budget codes so that AWS charges can be charged to the appropriate Wharton entity.

Account Policy

When a new AWS-linked account is created, it must be assigned at least one budget code. The Object Code in the budget code must be **5308** (070-9999-9-999999-**5308**-9999-9999).

Wharton Computing strongly prefers that a single budget code be assigned to a single linked account; however, more than one budget code can be assigned to a linked account. In these cases, the percentage for each budget code must be explicitly defined (for example 70% for budget code A and 30% for budget code B).

AWS-linked account budget code can be changed by writing to infrastructure-support@wharton.upenn.edu.

Requesting an Account

Refer to this article for the requirements to request an account.

Questions?

Budget Codes / Financial Considerations / Account Setup / Troubleshooting write to Wharton Computing - Infrastructure and Services at infrastructure-support@wharton.upenn.edu with your requests.

Requesting a AWS Linked Account

Last Modified on 10/16/2025 12:57 pm EDT

An AWS-linked account is an AWS account that is a part of the Wharton Computing AWS Organizations.

> AWS Organizations allow us to centrally manage and govern our environment as we grow and scale our AWS resources. Consequently, there are mandatory policies, configurations, and processes required to protect AWS-linked accounts. Still, account owners have a high degree of freedom in how to deploy their services.

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Requirements

The following information is needed to provision an AWS-linked account:

- **Account Name:** A friendly name for the account that helps to identify its purpose. The name must be at least five characters long.
- **Contact Email**: An email address or mailing list used to reach account owners and/or managers regarding account operation.
- **PennKey:** The PennKey of the account owner or the person responsible for the AWS account.
- **Budget Code**: An appropriate budget code for all AWS account charges.
- **Account Admins:** The PennKeys of users to be granted admin rights for services running inside the account.
- **Include a Virtual Private Cloud (VPC) for Instances**: Indicates if the account requires a VPC to connect computing resources inside the account to our on-prem network.
- **Include VPC for Workspaces**: Indicates if AWS Workspaces will be deployed, and it needs to connect to our on-prem network.
- **Operational Alternative Contact info:** An email address for AWS to send operational information and actionable items about the account. This additional information is optional: name, title, and phone number.

Ready to Request the Account?

If you are interested in getting an AWS account, contact your Wharton Computing Representative, and they will be able to help you

Log in to the AWS-Linked Account

All AWS-linked accounts are configured to use PennKey to log in:

- Click on https://aws.cloud.upenn.edu/
- Authenticate using your PennKey and password
- Select the AWS-Linked account(s) and access role(s) you have rights to assume from the AWS sign-in page.

AWS at Wharton Guardrails

Last Modified on 01/30/2026 10:59 am EST

The Cloud Architecture Team and the Information Security Office have implemented guardrails to ensure security, control, and consistency within the AWS Cloud Environment. Some of these guardrails may restrict the use of certain AWS services; therefore, we recommend that account owners review them carefully.

AWS Regions Allowed for Cloud Deployments

Only US regions are available by default in order to maintain a cost-effective security posture.

US Regions

- N. Virginia (us-east-1)
- Ohio (us-east-2)
- N. California (us-west-1)
- Oregon (us-west-2)

Requesting Additional Regions

To access other regions, please submit an exception request with the Information Security Office at https://technology.wharton.upenn.edu/iso.

Bedrock Large Language Models

Data Classification

Bedrock is not approved for use with High Data by the University (https://support.wharton.upenn.edu/help/data-classification-and-management-standard). AWS Accounts identified as handling high data are not eligible for access to AWS Bedrock Serverless offerings.

Approving Purchases for LLMs for Bedrock in AWS Marketplace

The terms for AWS Bedrock Serverless offerings must be approved by University Procurement before the models related to them are made available. This protects account owners from inappropriate terms in the “click-through” agreements.

As terms may change, it is possible that previously available models may be revoked. Wharton Computing will send communications to account owners in the event of such a change.

Approved LLM models/Resellers

The following models and/or resellers whose EULA have been reviewed and approved by Penn procurement:

- Anthropic models (all)
- Cohere

- Minstral Models
- Twelve Labs

The following models have been denied:

- No terms have been reviewed and denied.

If you have a need to purchase a model that has not been approved or scheduled, please submit a request with the Information Security Office: https://technology.wharton.upenn.edu/exception-form/.

Halo at Wharton

Last Modified on 10/08/2025 5:39 pm EDT

Halo is a third-party hosted "Enterprise Service Management" tool that we are rolling out here at Wharton.

Halo helps us deliver services to folks in a more efficient way. It easier to track the progress of the request for both the requester and the team fulfilling the request.

Before You Start

You will need the following before you can complete this task:

- An active Wharton faculty or staff affiliation
- An active PennKey

Logging into Halo

Halo has two kinds of accounts:

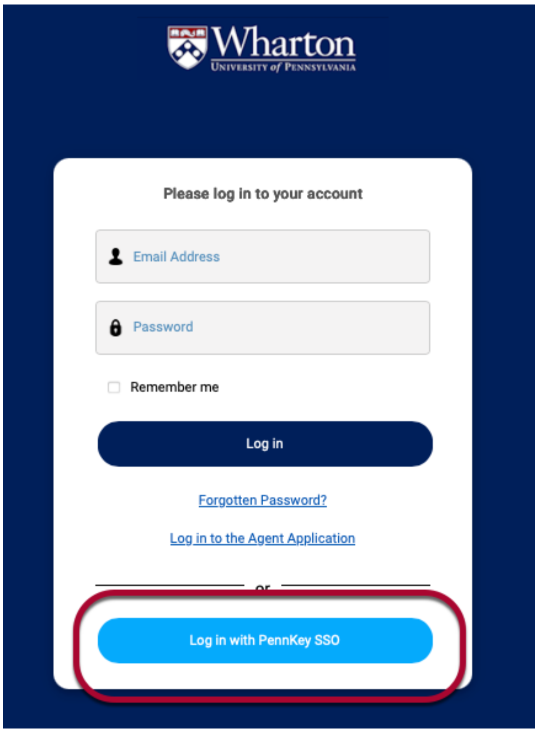
- Users - Everyone in the Wharton community has a Halo user account. This account allows you to submit tickets, request services, and log into the User portal.

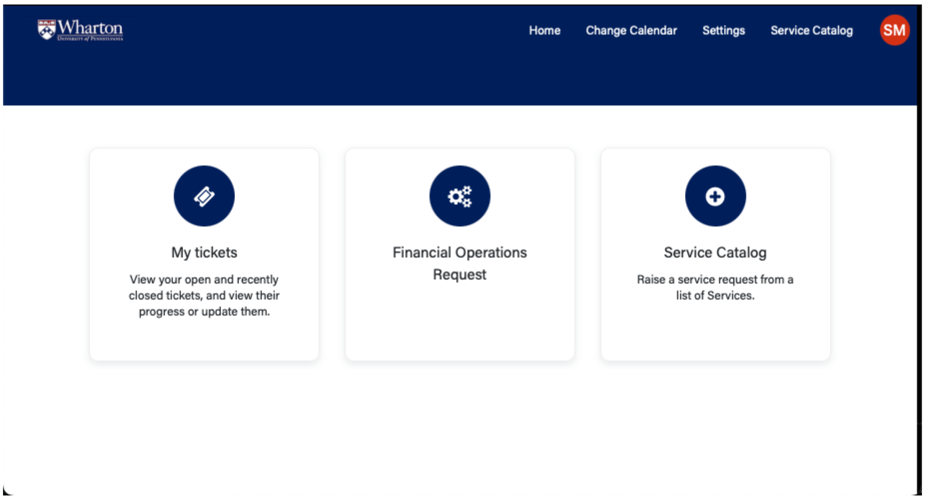
- Agents - Solving tickets? Fulfilling service requests? That'll require an agent account. These are for folks who are using Halo to do the work that has been requested by users and allows you to log into the agent application.

All Agents are Users, but not all Users are Agents. Agents can request services, and submit tickets but Users are not able to log in and solve/work on those tickets.

User Portal

1. Go to https://wharton.haloitsm.com/portal/.
2. Click on **Log in with PennKey SSO**.

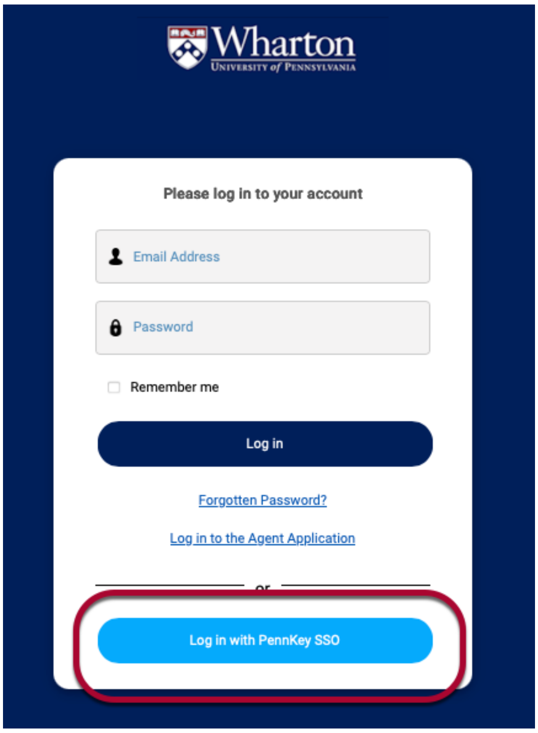


3. Enter your PennKey username and password.
4. Click **Log in**.
5. Enter your Duo information.
6. 

You are now logged into the user portal. What is displayed on the portal differs person to person based on permissions.

Agent Application

1. Go to https://wharton.haloitsm.com/.
2. Click on **Log in with PennKey SSO**.



3. Enter your PennKey username and password.
4. Click **Log in**.
5. Enter your Duo information.
6. You are now logged into the Halo agent application. Agent permissions determine what modules and dashboards you have access to in the agent application. Different agents have access to what is displayed in the portal, so it differs person to person based on permissions.

Agents can switch between the user portal and the agent application by:

1. Clicking on your initials in the top right of the Halo screen.
2. Click on either **Switch to Agent Application** (when on the Portal) or **Switch to User Portal** (when in the Agent Application).

Questions?

Contact: Your Wharton Computing Representative

Financial Operations Requests

Last Modified on 10/27/2025 1:48 pm EDT

Financial Operations General Requests are created using Halo's user portal (learn how to log in here).

All financial operations requests **from** the following groups should be submitted via the portal:

- Wharton Computing
- Wharton Human Resources and People Operations
- Wharton Operations

Any requests **to** the following F&A groups must be submitted via the portal:

- F&A Payroll Support
- F&A Financial Operations

Before You Start

You will need the following before you can complete this task:

- An active Wharton faculty or staff affiliation
- An active PennKey

Submitting a Request

You'll need to log into the Halo User Portal (http://wharton.haloitsm.com/portal/) to submit a Financial Operations Request. If you're someone without an active PennKey a PennKey holder will need to create the request on your behalf.

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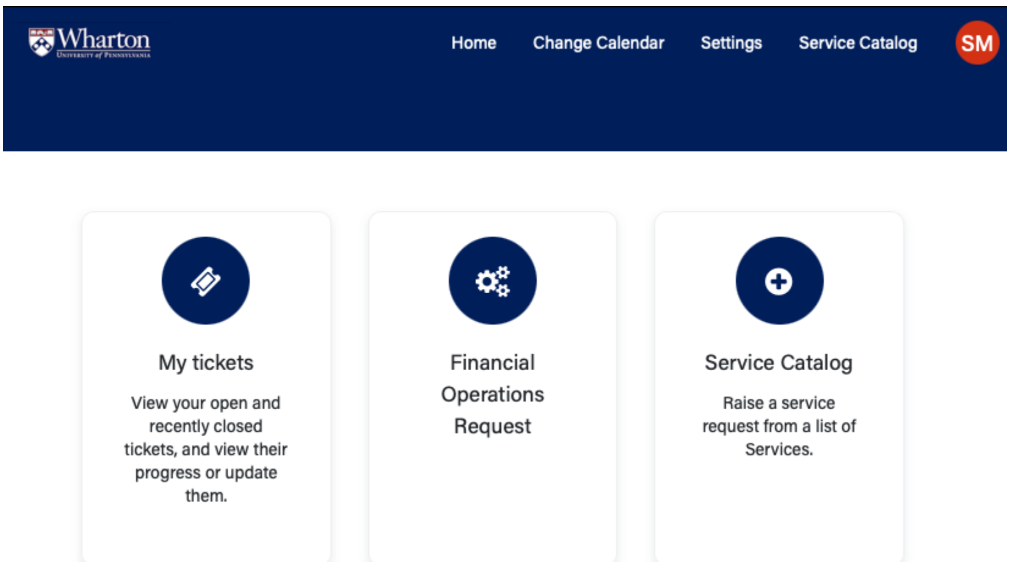
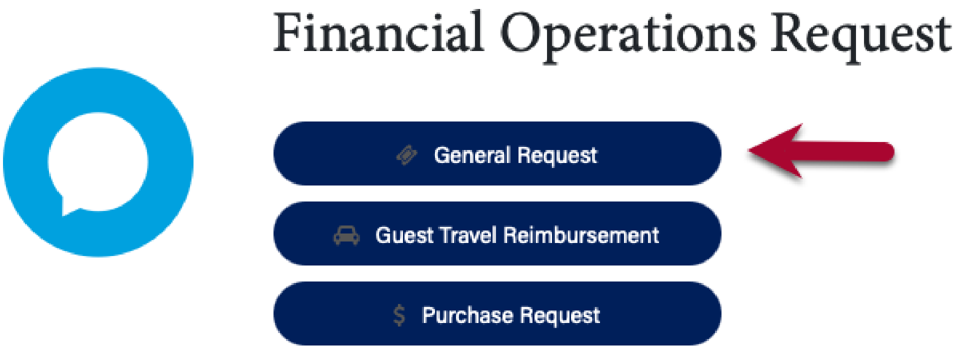
2. 

Once you've logged into the User Portal you're presented with the tiles you have access to. Click on**Financial**

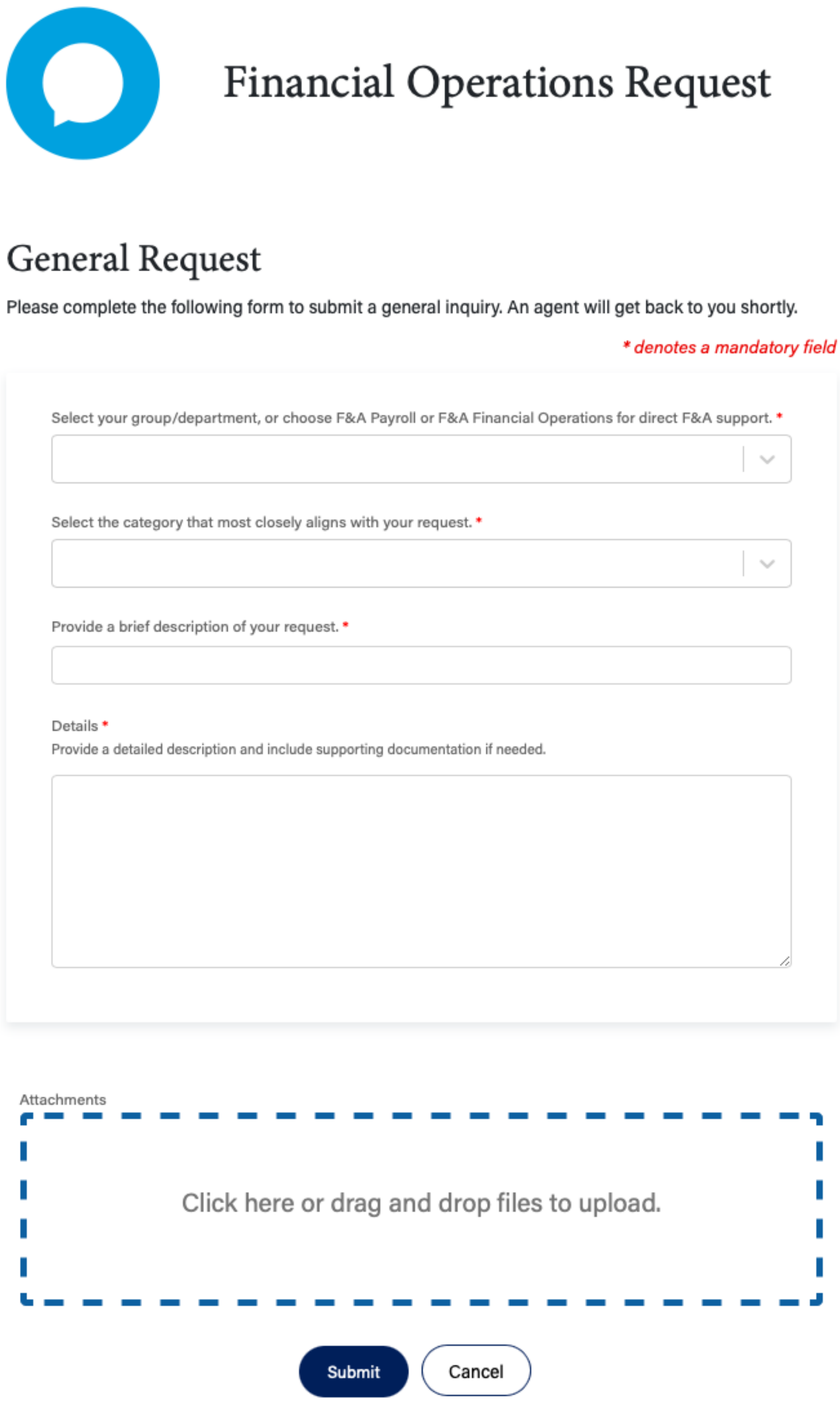
Operations Request.

3.



Click on **General Request**. More options will be added to this screen over time.

4.



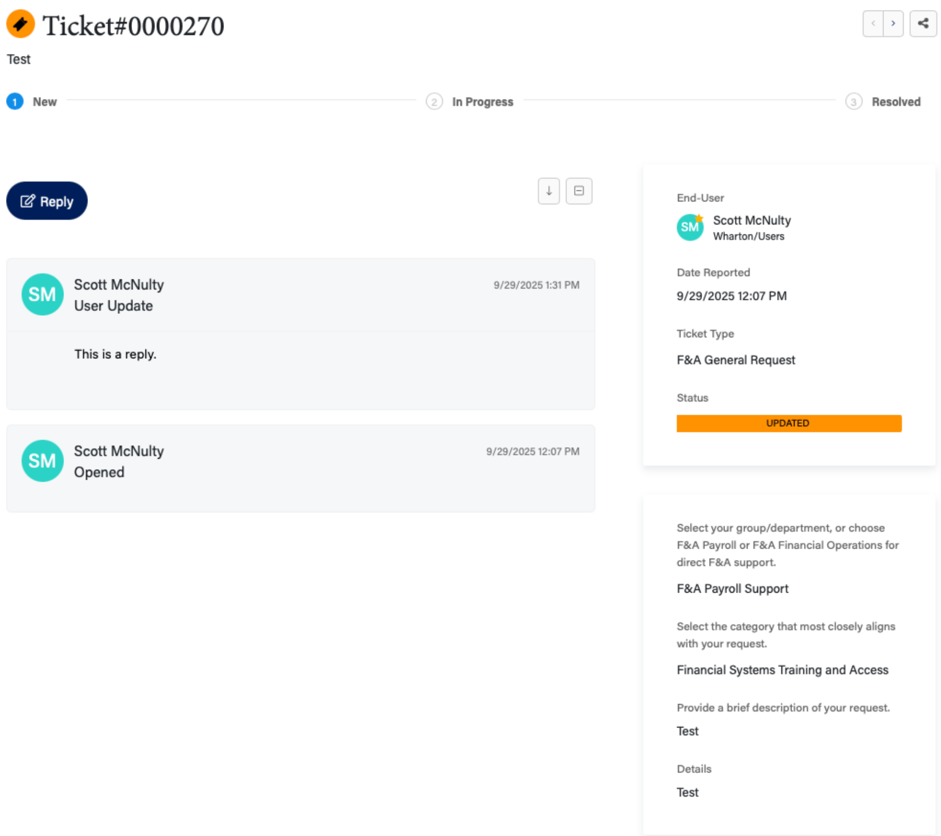
Fill in the form with as much detail as you like. The first field should be either the group that the request comes from OR the F&A group that the request is going to (only for payroll or financial operation issues). Attachments are optional, though you can add multiple attachments if so desired.

5. Click **Submit**.
6. The ticket is created and details of your request are shown. You'll also receive an email confirmation.

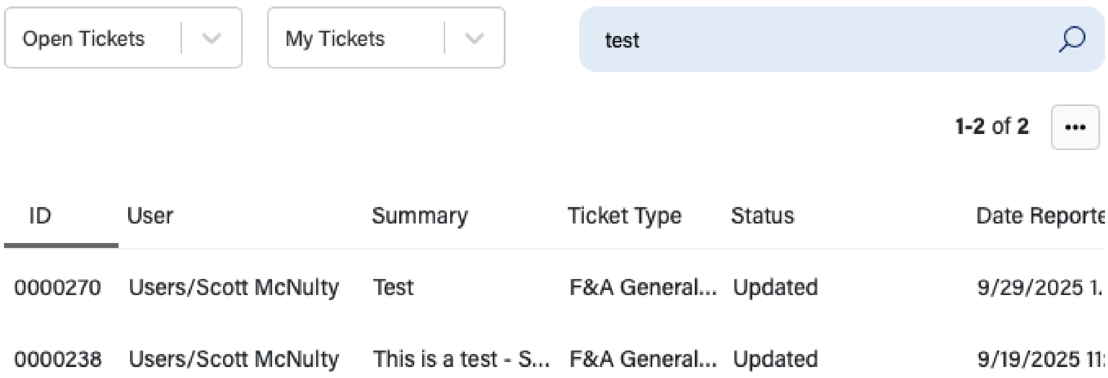
Checking the status of a Request

1. Log into the user portal (https://wharton.haloitsm.com/portal/) with your PennKey username and password.
2. Click **My tickets**.
3. All of your open tickets are displayed on the My Tickets page. Click on one for more details.

4.



At the top of the screen you can see at what point of the workflow your ticket is currently in. The status and more details are listed on the right of the screen and any messages or actions that have been taken on the ticket are listed on the left.

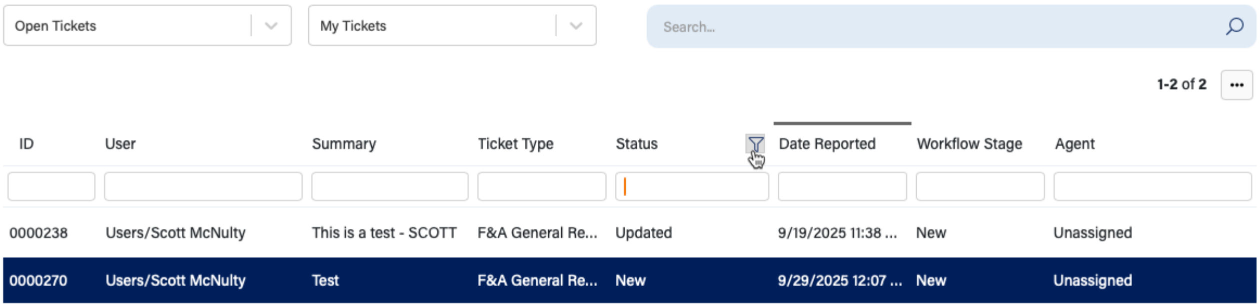


To search across all your tickets type in your search term in the search box on the right of the screen. Your My Tickets list will update automatically. Clear the search term to list all the tickets.

Changing the view

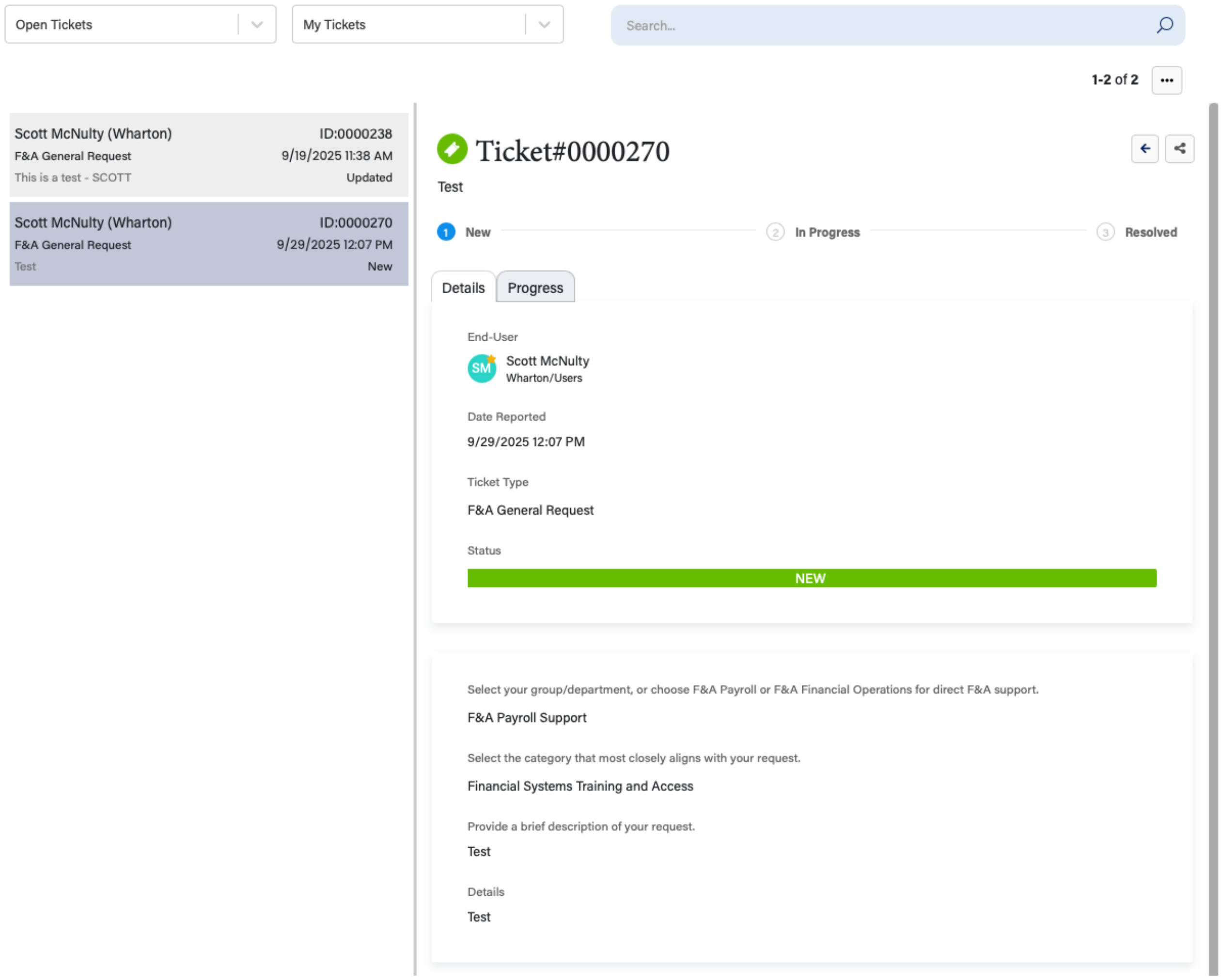
By default My Tickets lists your tickets in a table view. There are a few other views available to you. Clicking the ... button under the search field on the My Tickets screen allows you to switch between all the available views:

Table



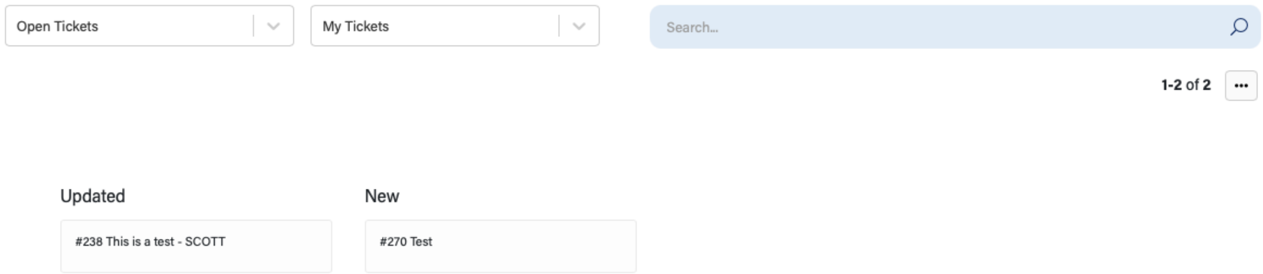
The default view. Click on a header to sort your tickets by that column. When you hover over a column name the filter icon appears. Click on it and you can filter the table by the contents of a column.

Tile



This view is inspired by Outlook. Your tickets are listed to the left, click on one and details are displayed on the right.

Kanban



Kanban is a way of visualizing work using cards (which are tickets in Halo) into rows or columns (statuses or workflow states in Halo).

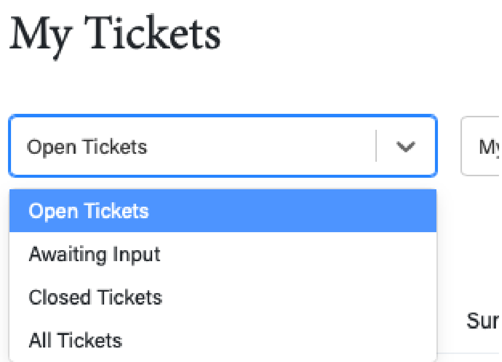
Gantt

The Gantt view requires a feature we aren't using at the moment.

Filtering

By default all of your Open Tickets will be listed on the My Tickets screen. However, you might want to see historical ticket information or just highlight those tickets that require your attention.

That's where the filter dropdown in the upper left corner of the My Tickets screen comes in handy. Click on the dropdown to see the four options:



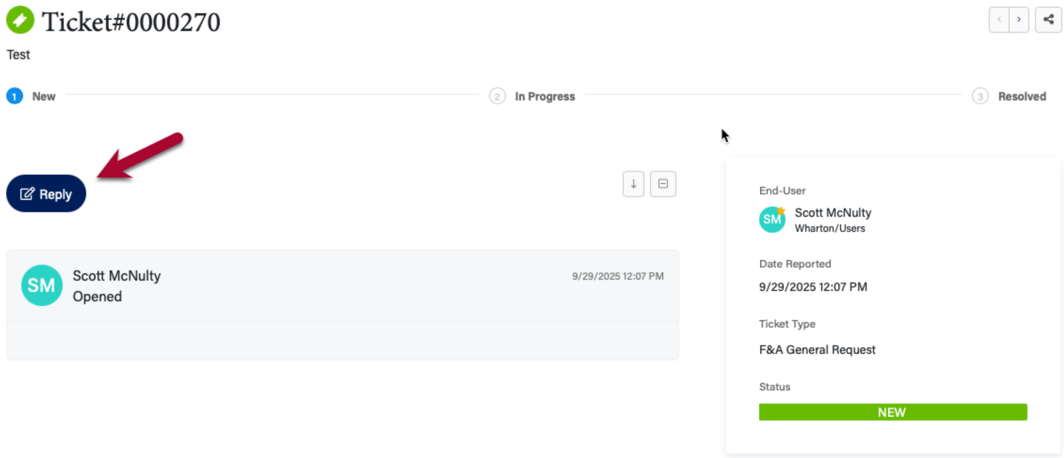
- OpenTickets - The default shows only tickets that are currently open.
- Awaiting Input - These tickets have been marked by an agent as needed input from you (we'll cover responding to a ticket later in this article).
- Close Tickets - Lists only completed tickets.
- All Tickets - Tickets with any status are listed.

To change your filter just select a value from the dropdown. The filter is instantly applied and your My Ticket list is updated.

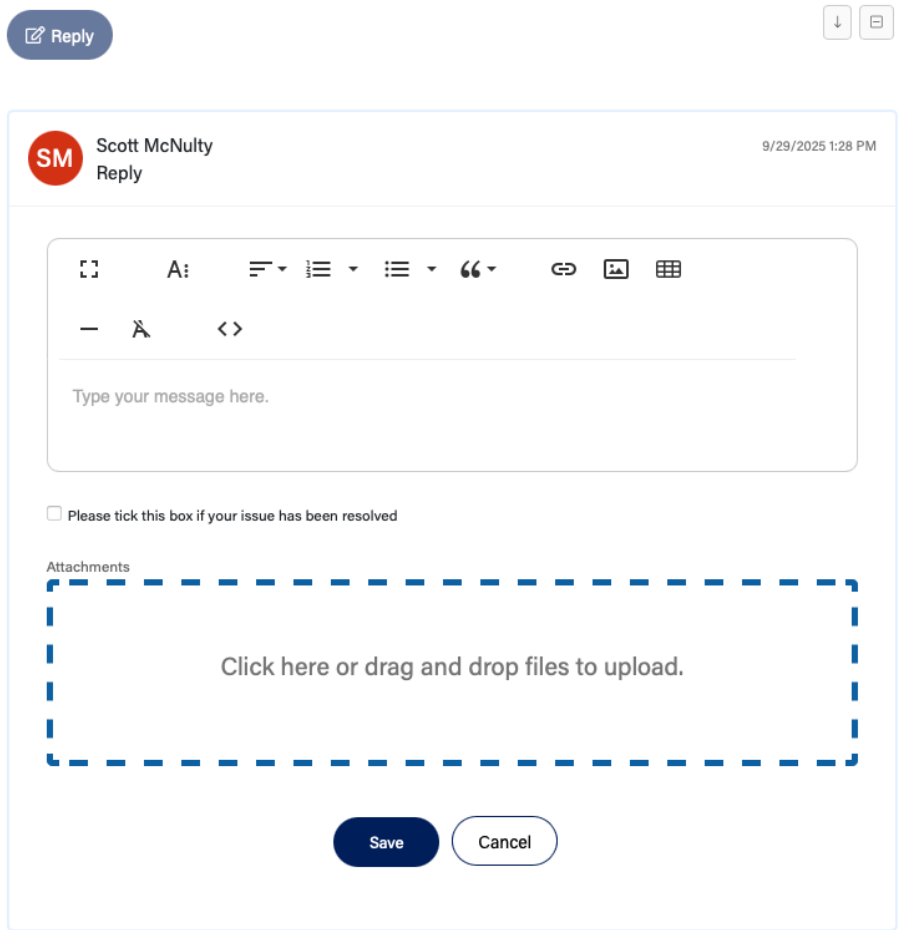
Replying to a Request

You can respond to an agent message on one of your tickets, or provide additional details, through the user portal:

1. Log into the User Portal.
2. Click **My Tickets**.
3. Locate the ticket you need to reply to and click on it.
4.



Click on the blue **Reply** button.

5. 

Enter your message in the editor. You can include links and advanced formatting if you like. You can also add an attachment by dragging and dropping them in the denoted area.

6. Click the blue **Save** button to send your reply.

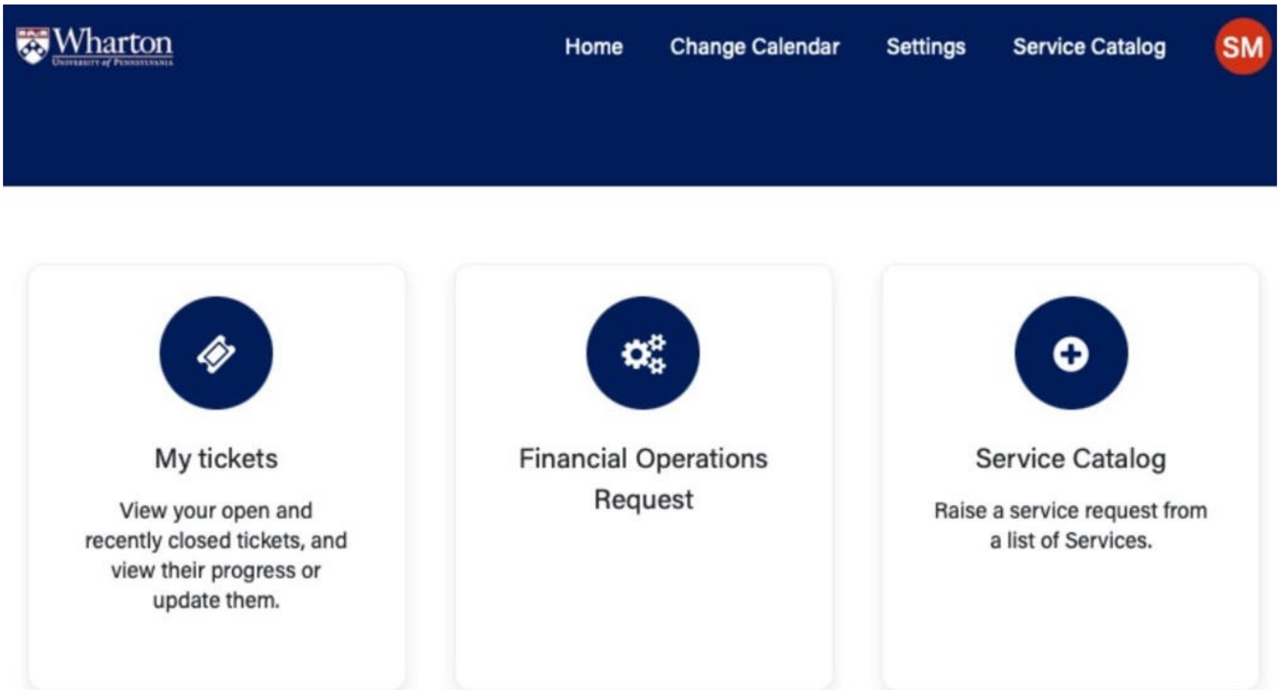
> Note: Should your problem be resolved you can close this ticket by checking the "Please tick this box if your issue has been resolved" box on the reply screen. Clicking save will then close the ticket.

Questions

Contact: Your Wharton Computing Representative

Halo User Portal

Last Modified on 10/08/2025 12:24 pm EDT



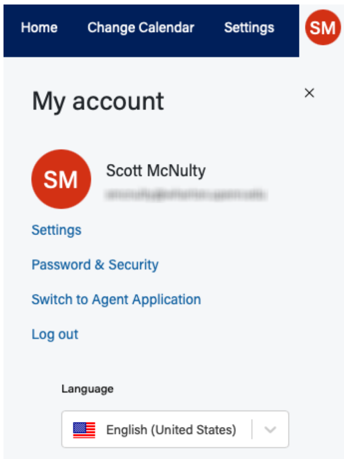
The Halo User Portal is where you can create and track Financial Operations requests.

The portal has two sections:

- Located at the top of the Portal, the **Navigation Bar** has several links. Going from left to right, the links are:
  - **The Wharton logo**: Clicking on this will take you back to the portal homepage, no matter where you end up on the portal.
  - **Links**: These links will differ depending on who is logged in, but Home and Settings are always included. Home takes you back to the Portal home page, and clicking on Settings gives you access to some portal user settings (see section below).
  - **Profile Picture**: Clicking on the profile picture (Or your initials if you haven't uploaded a profile picture) in the upper right-hand corner of the screen opens the My Account menu. More on this below.
- A variety of clickable **tiles** is the most notable feature of the portal. You'll see different tiles depending on what functions are available to you. Click on a tile to see more.

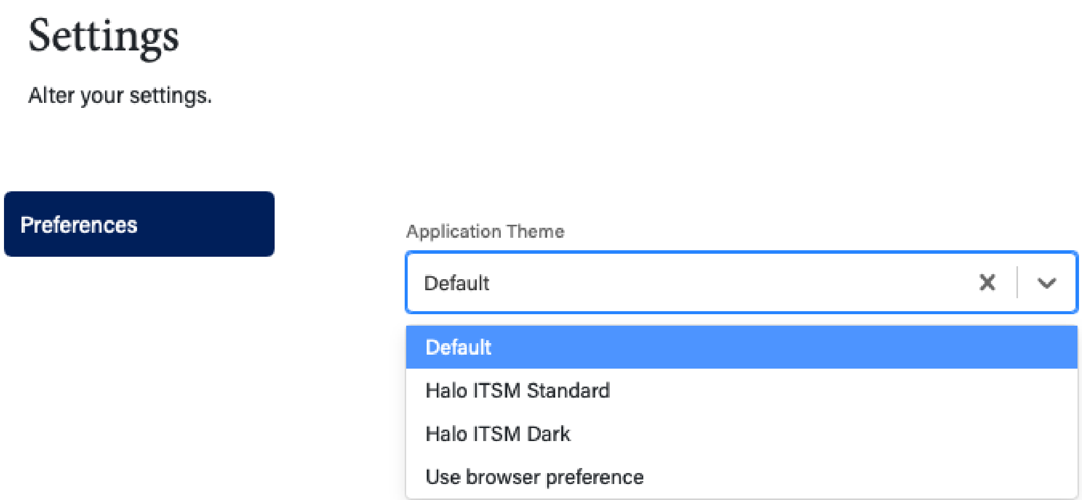
My Account

The account menu in the User portal doesn't include that much of interest:



- Settings - One of two ways to your portal preferences. See the next section for more details.
- Password & Security - There are three sections here:
    - Password - This is disabled since we're using PennKey authentication.
    - Two-Factor Authentication - The Two-Factor Authentication settings can't be changed.
    - Sessions - Whenever you log into Halo, you're creating a "session." If you need to ensure you're totally logged out of Halo, you can go to this section and revoke all your sessions. You'll almost certainly never need to do this.
- Switch to Agent Application - If you're an Agent in Halo, you can switch to the Agent application by clicking this link (and do something very similar in that app to switch to the portal!).
- Log Out - Clicking this logs you out.
- Language - You can select another language, though Wharton Computing only officially supports "English (United States)."

Settings



You can get to your portal settings one of two ways:

- Click **Settings** in the top navigation bar.
- Click **Settings** in the My Account menu (reveal this menu by clicking on your user avatar in the upper right corner of the portal screen).

Clicking either will take you to your Portal preferences, where the only thing you can do is change the Application Theme from Default (light) to either Dark or to use your browser preference.

Halo Agent Application Homescreen and Navigation

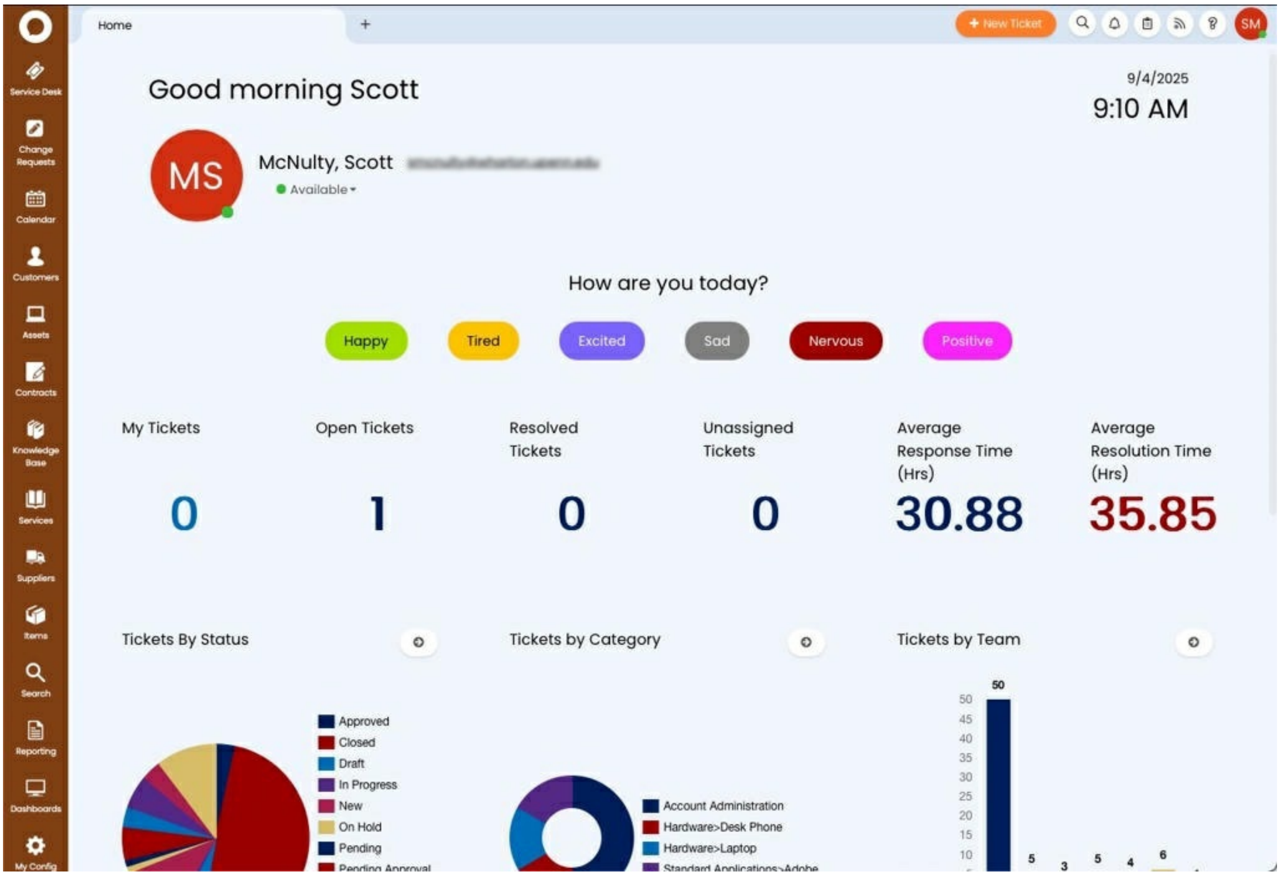
Last Modified on 11/14/2025 10:04 am EST

This article covers the basics for navigating the Halo Agent application.

Before You Start

You will need the following before you can complete this task:

- An active Halo agent account

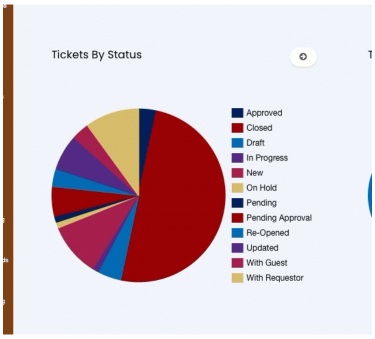


After logging into Halo as an agent, the Halo homescreen is divided into three major sections:

- The Dashboard - This takes up most of the screen, displaying some relevant data.
- Navigation - The main navigation of Halo appears on the left of the screen. All the functions/apps that you have access to will be listed here, along with settings.
- Links - At the top right of the screen, you'll see a few buttons that allow you to create a new ticket, amongst other things.

Each of these sections are covered in more detail below.

Dashboard



When you log into Halo as an agent, the first thing you'll see is your dashboard. The dashboard displays several tiles with a variety of information, like your number of open tickets.

If you hover over a tile a border appears around it, indicating you've selected that tile. Click on either the number it is displaying or the arrow icon to get more details about whatever information is displayed on the tile.

All agents have a default Home Screen Dashboard that gives access to information the administrators think would be useful. Each agent, however, can change their own dashboard. This change only impacts the currently logged-in agent, so don't worry about accidentally changing other people's dashboards.

> Only tickets that you have access to will be displayed on your dashboard.

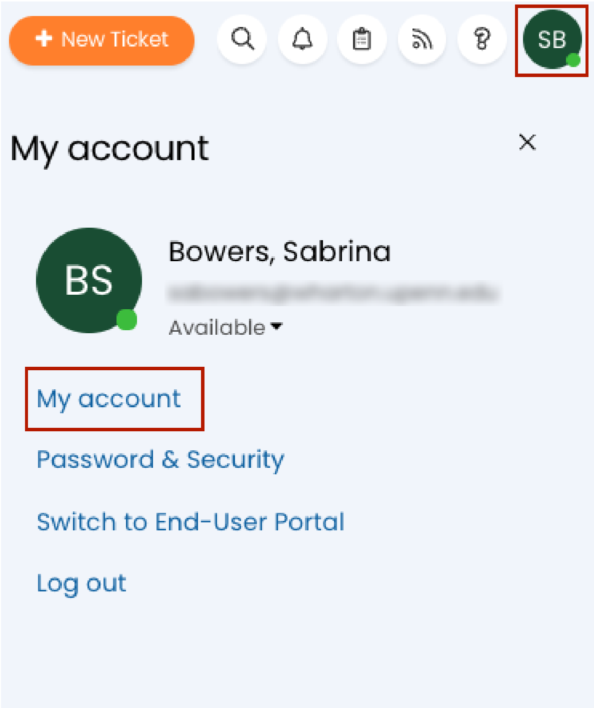
There are currently three dashboards available in Halo, each configured for a specific purpose:

- Change Dashboard - Designed for use with Wharton Computing's Change enablement process, this dashboard only lists Change Request ticket types.
- F&A Dashboard - This dashboard only displays "General Request" ticket types.
- Service Desk - This dashboard includes tickets of any type.

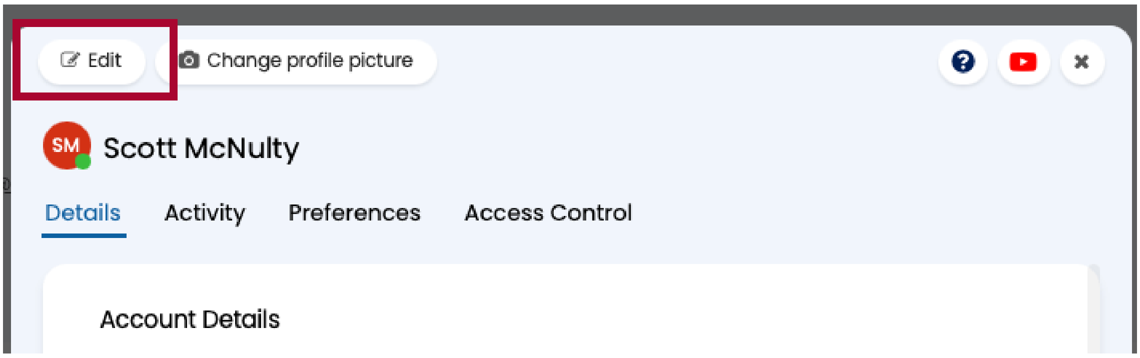
Change Your Homescreen Dashboard

The Service Desk Dashboard is configured as the default Home Screen Dashboard. This is the first screen you will see when you login to Halo. This can be changed as part of your custom preferences in your account:

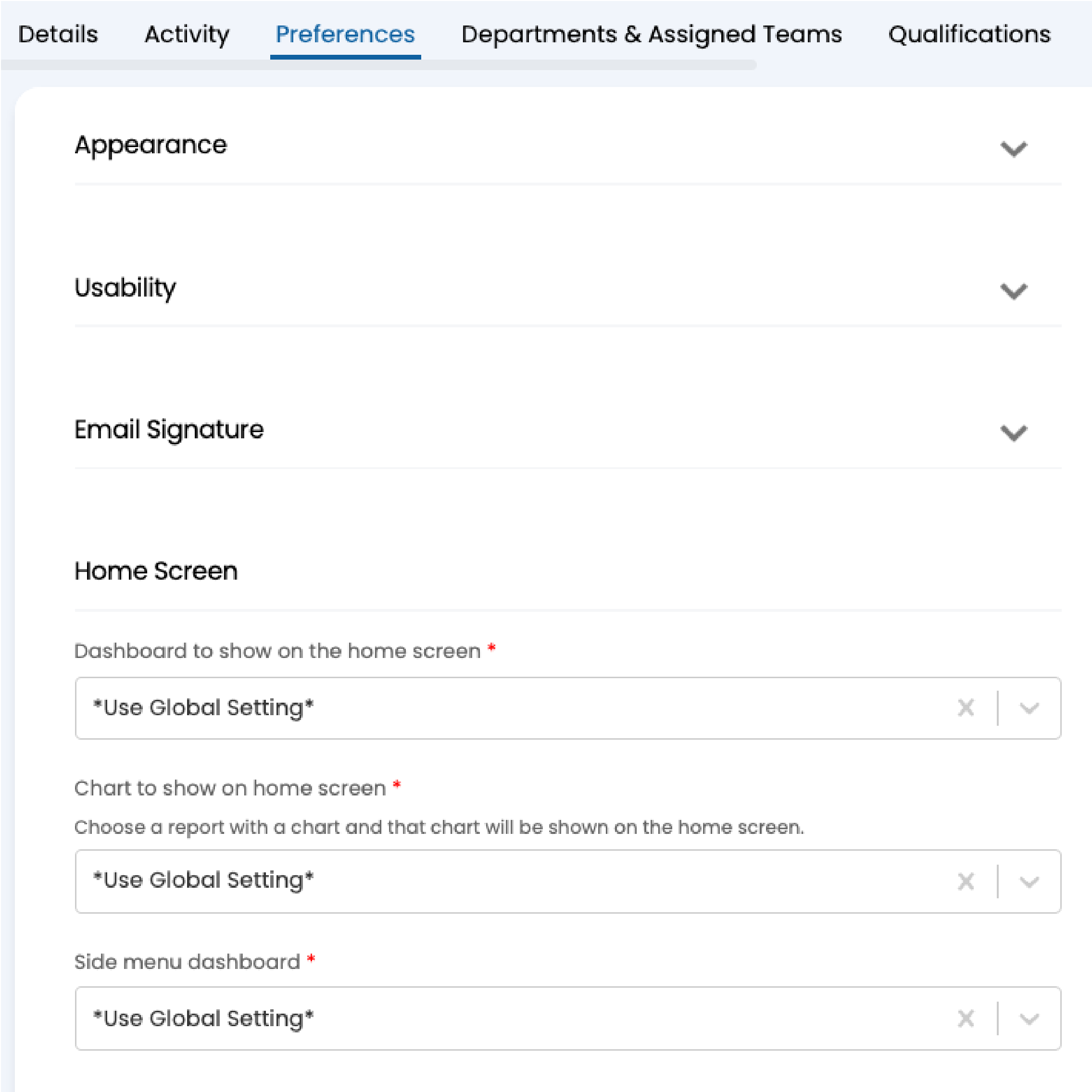
1. Login to the Halo agent application.
2. Click on your account icon in the top right of the screen.
3. Click **My account**.



4. Click on the **Edit** button.

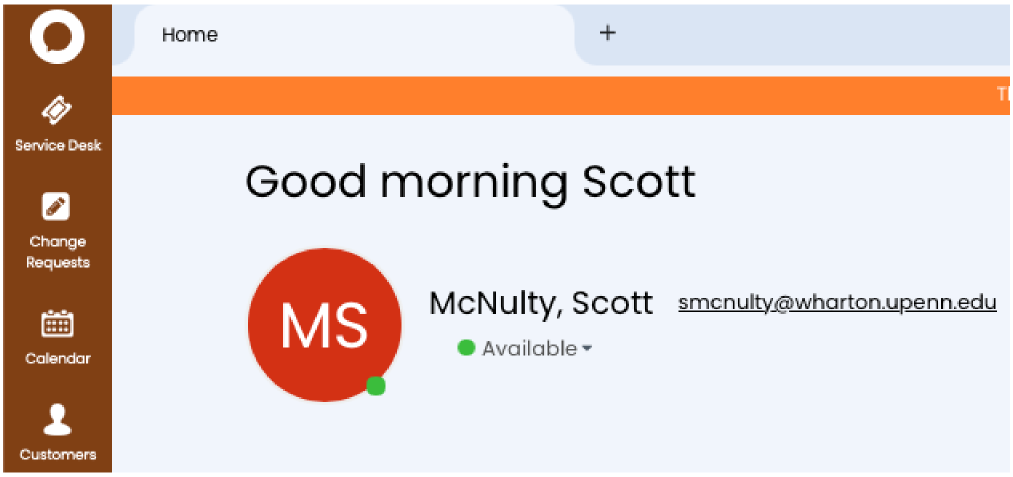


5. Select the **Preferences** tab.
6. Click on the **Home Screen** section.



7. Select a new dashboard from the dropdown menu.
8. Click the **Save** button at the top of the screen.

Navigation



The lefthand navigation bar is how you'll switch between the various Halo "modules" that you have access to. Only modules to which you've been granted access will appear in your navigation.

Click on the icon of a module (Change Requests, for example) and it'll load. You can also go back to your Home screen by clicking the Halo icon at the very top of the navigation bar.

Tabs

You'll notice in the screenshot above there's what looks like a browser tab labeled "Home" containing your Home screen. It looks like a browser tab because it is a Halo tab.

Tabs allow you to open multiple Halo apps and switch between them so you can easily compare information or keep tabs (ha) on information in different apps.

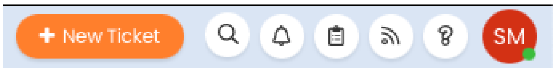
You can open a new tab in two different ways:

- Right-click on an app in the navigation bar and then click **Open in a new tab**.
- Click the **+** in the tab bar and then click on the app you want to open in that tab.

To switch tabs just click on the tab you want to look at. And to close a tab click on the **X**.

Links

At the top right of the homescreen you'll see several buttons, starting with the New Ticket button. Let's review them from left to right:



	New Ticket - Clicking on this button brings you to the new ticket form, where you'll be able to select the type of ticket you want to create (everything is a ticket in Halo!) from the ticket types you have access to.
	Search - Brings up a search field that allows you to search across all of the Halo items you have access to.
	Notifications - A list of notifications from Halo.
	To-Dos - See a list of your current to-dos, and create new one.
	Feed- A filterable list of things that have happened in Halo (for example, you can see all the tickets that have been closed recently).
	Help - Links to Halo documentation.
	My Account - Set your account preferences, switch to the End-User Portal, or log out from this menu.

Halo Ticket Anatomy

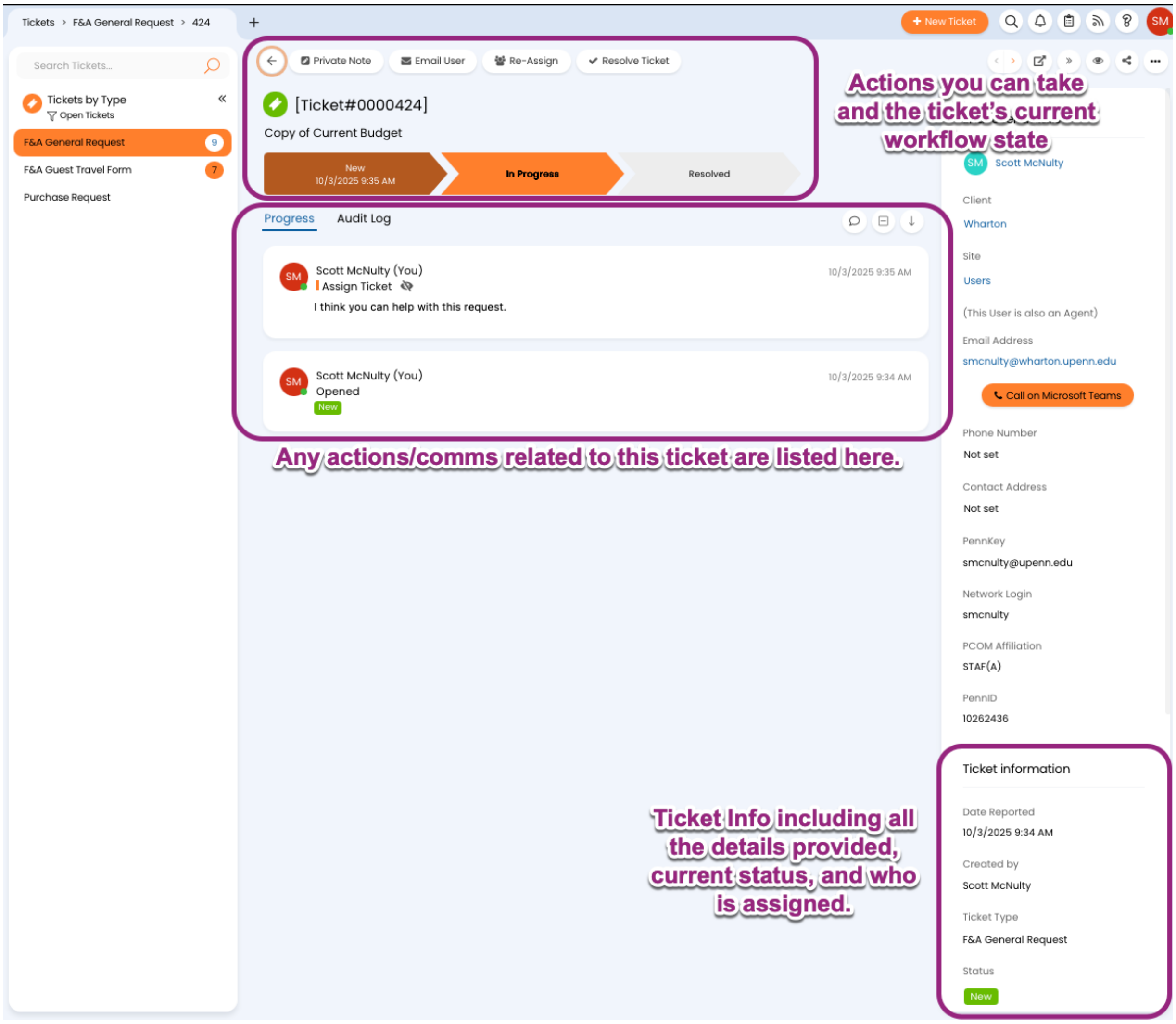
Last Modified on 01/23/2026 1:20 pm EST

This article explains the various parts of a Halo ticket. It is important to note that there are many types of tickets in Halo, and they all don't look exactly a like. They will all, however, share the same basic structure.

Before You Start

You will need the following before you can complete this task:

- An active Wharton faculty or staff affiliation
- You also need to be logged into the Agent Application to see tickets in Halo.



Everything is a ticket in Halo, well, nearly everything. That means as an agent, you'll be spending a lot of time on individual tickets doing work.

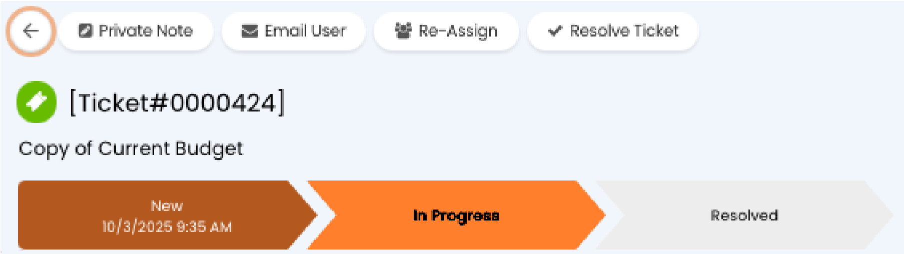
Before we dive into the parts of a ticket, there are a couple of things to be aware of:

- Halo's interface is responsive. This means it'll move things around on the screen depending on your screen's size. We will try to note when things might move, but just be aware that Halo might look a little different on your screen; all the options are the same.

- Speaking of options, different modules will have different ticket types which will have different actions associated with them (those are the buttons at the top of the ticket, as seen in the screenshot above).

To get to a ticket log into Halo, click on a module, and click on a ticket in the list. The ticket detail screen will open (as seen above). There are four main areas of a ticket:

Actions and State



Along the top of any ticket in Halo you'll find action buttons (Private Note as an example from the screenshot above) and arrows depicting where that ticket is in its workflow (the ticket above is in progress).

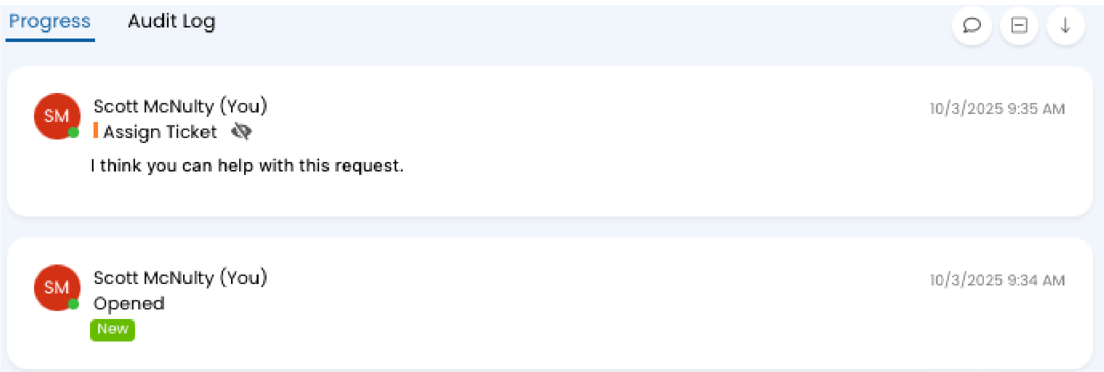
The values of both of these items are dependent on the ticket type, so you'll see different things in different tickets. Also, keep in mind that some action buttons become available during certain workflow stages.

To use an action button, just click on it.

Different ticket types have different actions, but some examples of common actions include:

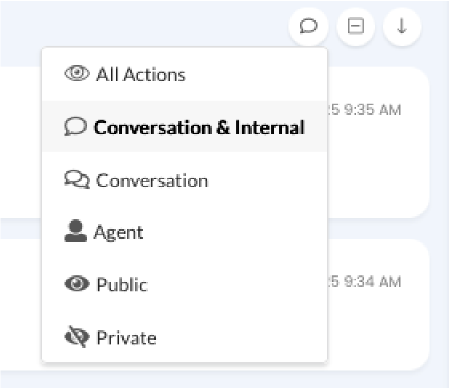
- Assign - Available on new and closed tickets, this action allows you to assign the ticket to an agent (including yourself).
- Re-Assign - Available on assigned tickets, this action allows you to assign the ticket to someone else. You can re-assign any ticket that is assigned to someone, no matter the status (including closed tickets).
- Private Note - Make a note for other agents to see on a ticket. These notes aren't shared with the requester.
- Email User - Send an email from Halo to the requester right from the ticket. The text of the email will be displayed in the Progress section of the ticket, as will any replies.
- Resolve Ticket - Changes the status of the ticket to closed, though an email to the requester is required.
- Re-Open Ticket - Available on closed tickets, this allows you to re-open a ticket to continue working on it.

Progress Feed and Audit Log



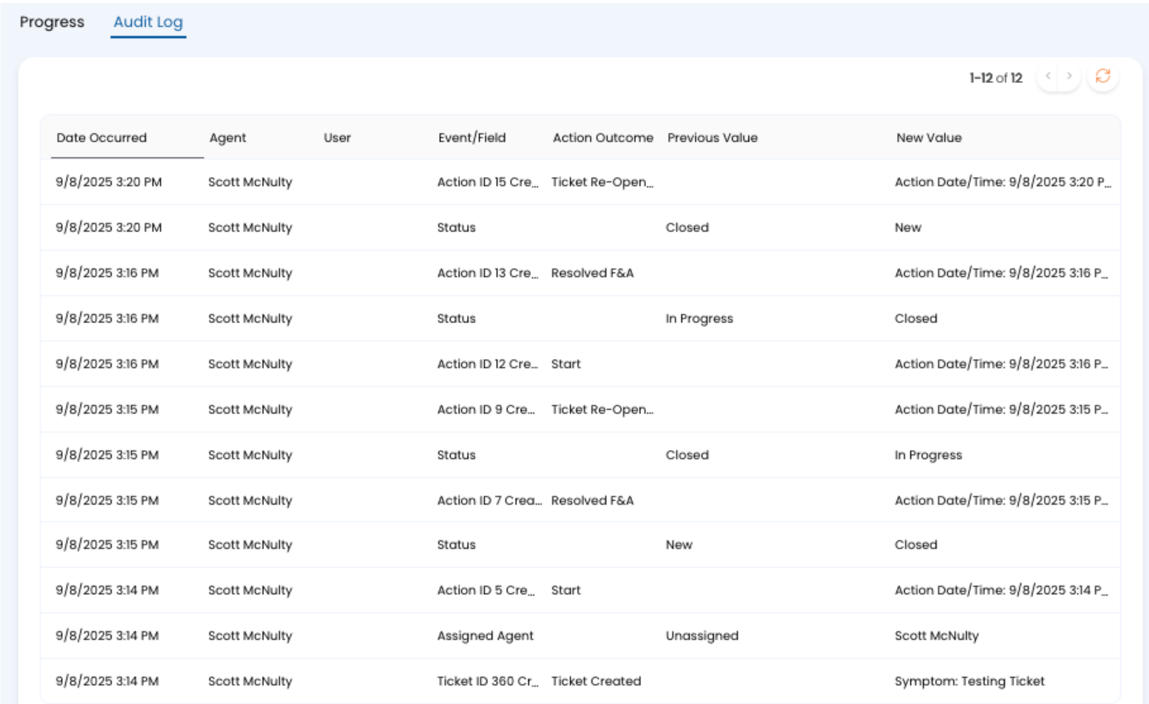
Each ticket will have a Progress feed and an Audit Log, which show information related to the ticket.

The Progress feed shows any actions taken on the ticket, and who took them. As you can see in the screenshot above, Scott McNulty opened a ticket and then assigned it to someone (in this case, himself).



At the top right of the Progress feed, you'll see three buttons:

- The "speech bubble" allows you to filter which actions you see listed in the Progress feed. By default, Conversations & Internal is selected, which shows internal notes and any emails associated with the ticket. Conversation only shows emails, Agent will show you only actions taken by agents, Public will show actions that a requester will be able to see in the portal (if one is available), and Private will only list things the requester can't see.
- The Minus button will collapse the entries in the Progress feed.
- The down arrow scrolls to the bottom of the list.


Progress Audit Log

1-12 of 12

Date Occurred	Agent	User	Event/Field	Action Outcome	Previous Value	New Value
9/8/2025 3:20 PM	Scott McNulty		Action ID 15 Cre...	Ticket Re-Open...		Action Date/Time: 9/8/2025 3:20 P...
9/8/2025 3:20 PM	Scott McNulty		Status		Closed	New
9/8/2025 3:16 PM	Scott McNulty		Action ID 13 Cre...	Resolved F&A		Action Date/Time: 9/8/2025 3:16 P...
9/8/2025 3:16 PM	Scott McNulty		Status		In Progress	Closed
9/8/2025 3:16 PM	Scott McNulty		Action ID 12 Cre...	Start		Action Date/Time: 9/8/2025 3:16 P...
9/8/2025 3:15 PM	Scott McNulty		Action ID 9 Cre...	Ticket Re-Open...		Action Date/Time: 9/8/2025 3:15 P...
9/8/2025 3:15 PM	Scott McNulty		Status		Closed	In Progress
9/8/2025 3:15 PM	Scott McNulty		Action ID 7 Crea...	Resolved F&A		Action Date/Time: 9/8/2025 3:15 P...
9/8/2025 3:15 PM	Scott McNulty		Status		New	Closed
9/8/2025 3:14 PM	Scott McNulty		Action ID 5 Cre...	Start		Action Date/Time: 9/8/2025 3:14 P...
9/8/2025 3:14 PM	Scott McNulty		Assigned Agent		Unassigned	Scott McNulty
9/8/2025 3:14 PM	Scott McNulty		Ticket ID 360 Cr...	Ticket Created		Symptom: Testing Ticket

The Audit Log records everything that has happened to this ticket, the agent or user who did the action, and the various status changes.

Click on a column header to sort by that value. Hover over a header and click on the filter icon to filter the columns.

End-User Details and Ticket information

Depending on your screen size you'll find some more information on the far right of the ticket or in tabs:

End-User details - this lists all the information in Halo about the requester, including their name, email address, Penn, and affiliation (staff, faculty, and so on). Click on the requester's name to see all the tickets associated with them that are visible to you.

Ticket information - Here you'll find when the ticket was opened, who created it, the type, status, assigned team, and the details.

> Depending on your screen size, these panels will either be listed side by side on the right, above one another in a single column on the right, or in a tab called Details in between Progress and Audit Log above the ticket's Progress feed.

Working with Tickets in Halo

Last Modified on 01/23/2026 4:26 pm EST

As an agent in Halo, you'll spend most of your time interacting with tickets in Halo.

Halo offers robust access control, which is a fancy way of saying some tickets will not be visible to you. The Halo interface, and the basics covered here, apply to all ticket types - even if you don't have access to the specific ticket types shown in the screenshots (and don't worry - these are test tickets, so there's no sensitive data here!).

Details like status, forms, and other things will vary from ticket type to ticket type.

Types of Tickets

Tickets in Halo are sort of like "units of work." They can be anything from:

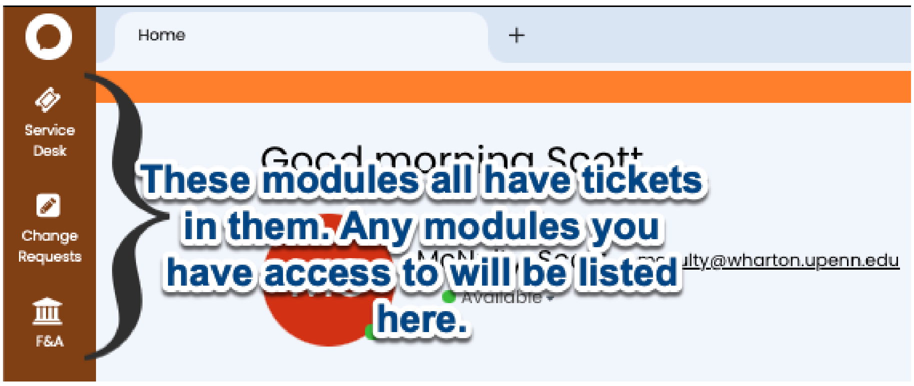
- Change requests ("We plan to upgrade this app on xx, is that cool?")
- Incident requests ("Help, stuff is broke!")
- Other things

These "ticket types" are grouped together with any you have access to appearing on the lefthand navigation bar.

Ticket Groups

Ticket Groups have been established in Halo to allow one ticket to be assigned to a group. Agents can assign tickets to any group that is visible to them, however, agents will only have access to tickets in groups of which they are a part. This means that an agent can assign a ticket to a group that they have no access to. Once that happens that agent will no longer see the ticket, and in some circumstances will get an error saying "Ticket not found, or you do not have access to this Ticket." The ticket is fine, it just is no longer viewable to that agent.

Navigating Tickets

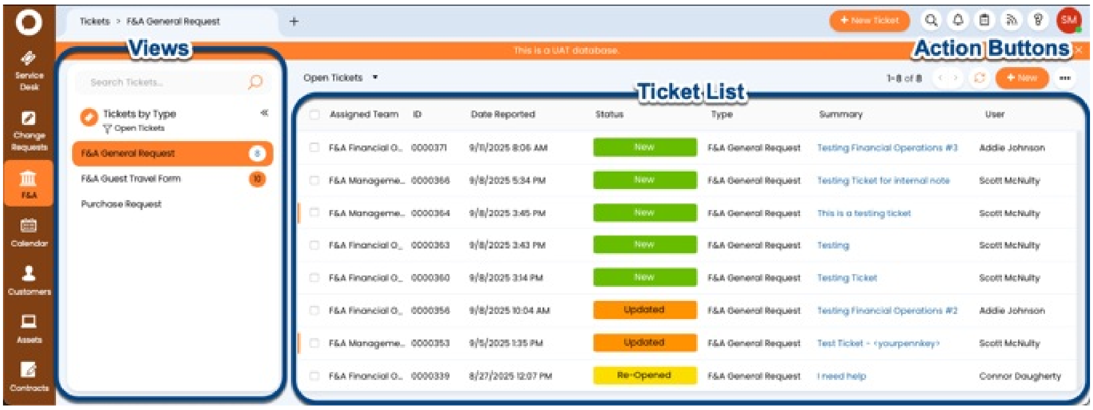


After logging into Halo, you'll see all the ticket types you have access to listed in the left-hand navigation. Click on one of those icons to be taken to that ticket grouping.

The Agent Homescreen, the first screen you see when logging in, also features a dashboard that'll have links to specific ticket groups as well. You can click on one of those links to access tickets, if you so fancy.

Lists

This is a typical list of tickets in Halo. There's a lot going on, but there are really three main sections of the screen:

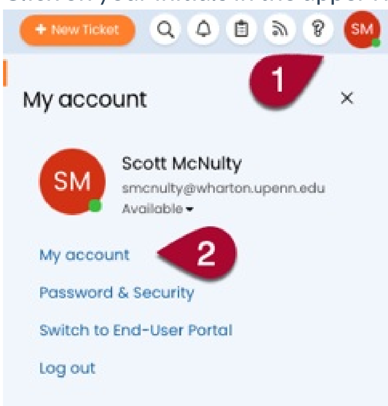


1. Views - Each module has a default ticket view, which determines how the tickets are displayed. These views allow you to look at groupings of tickets easily. You can also filter your ticket view here (more below).
2. The ticket list - Lists the tickets that you have permission to see in this view. What you see here is determined by the module you're in, the current view, and your permissions. You can sort and filter this list further (see below).
3. Action Buttons - The Action buttons let you create a new ticket, change the list view format (see below), and more.

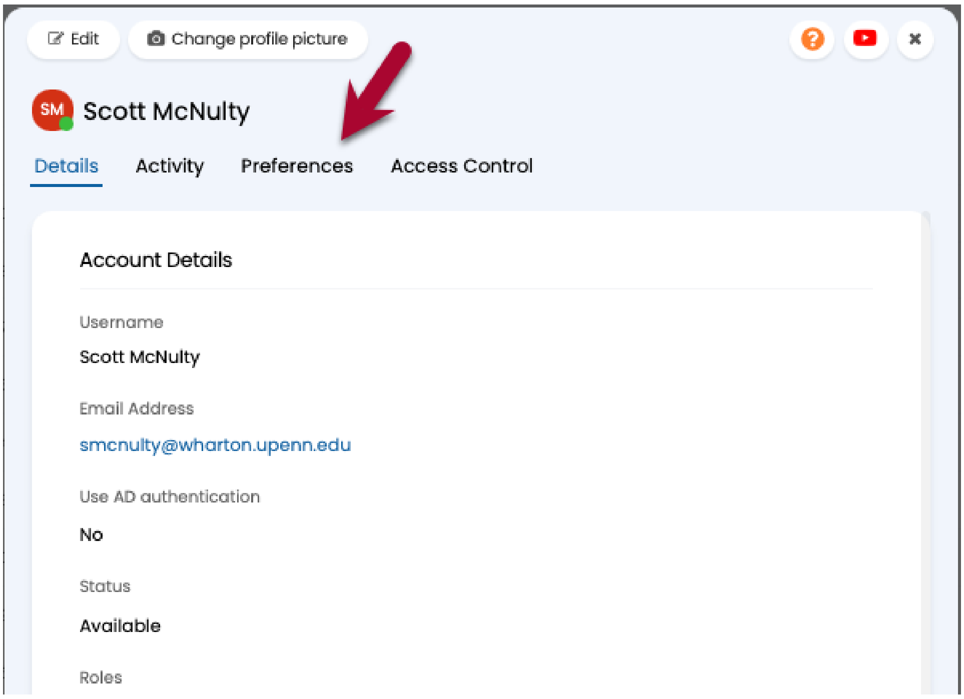
Setting your default list View

You can change the default grouping of tickets (just for you) by:

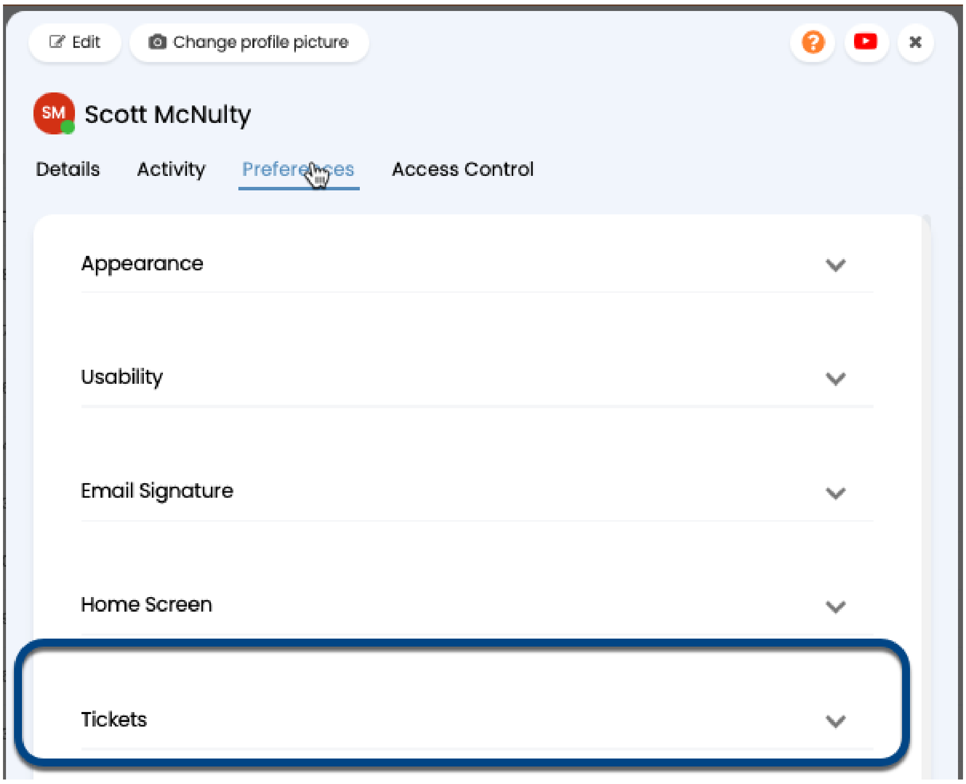
1. Click on your initials in the upper right of the Halo screen and then click on My account.



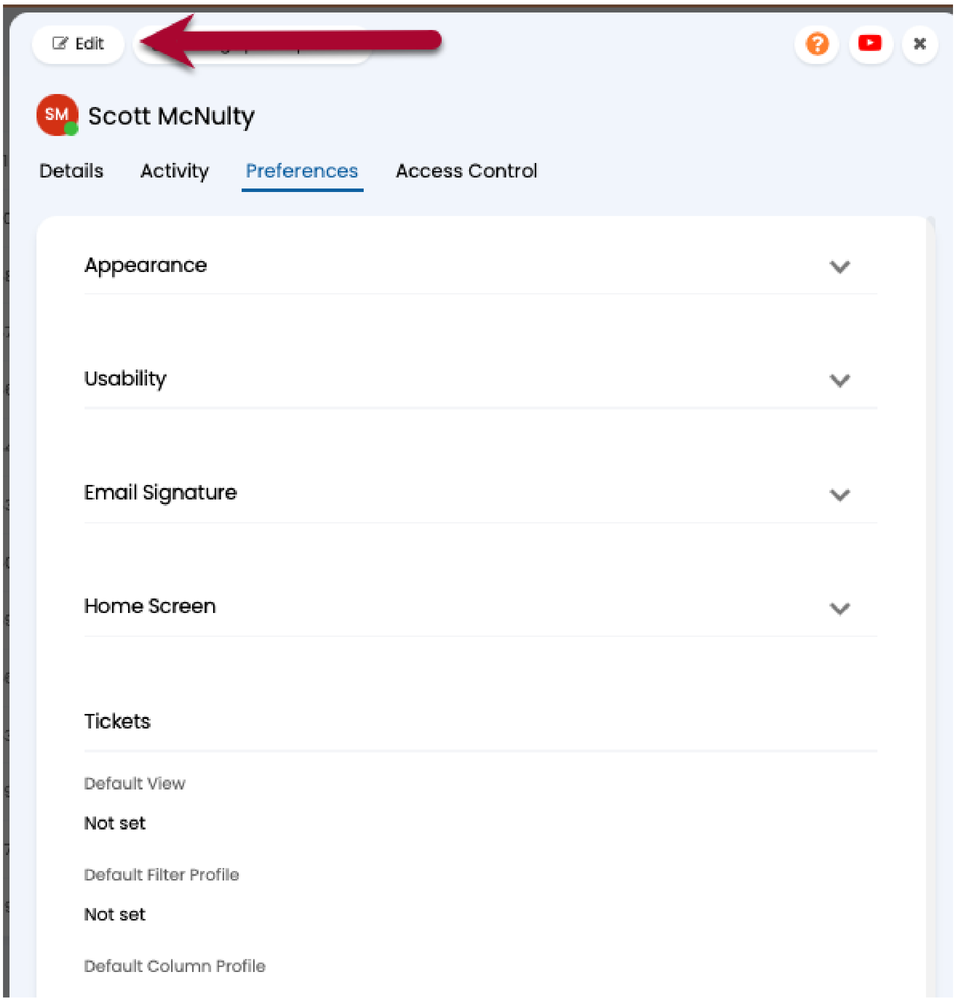
2. Click on **Preferences.**



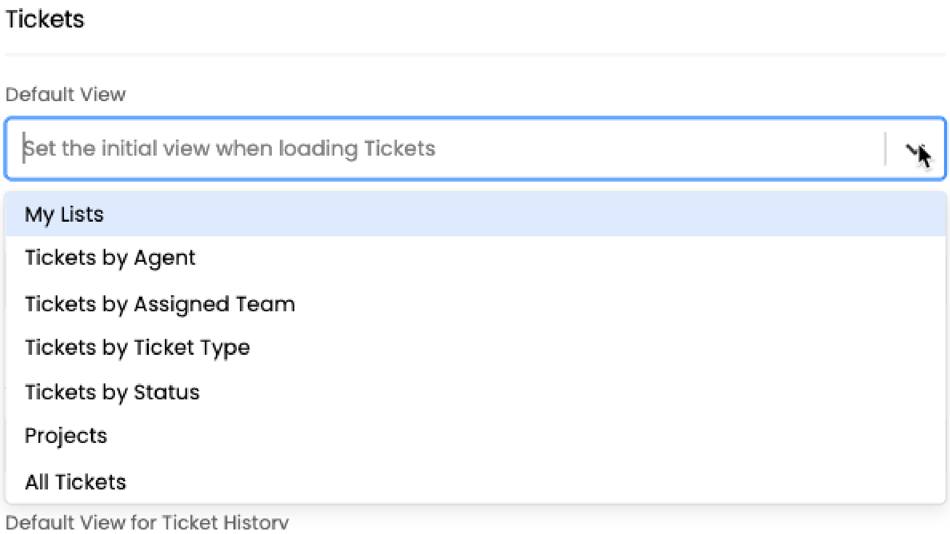
3. Click on **Tickets** to expand the Ticket preferences:



4. All of your current Ticket preferences are listed. Click on the Edit button to make some changes.

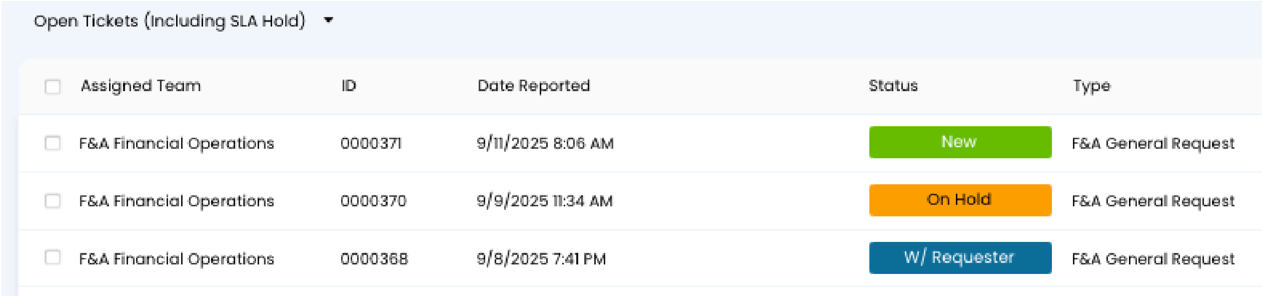


5. You can change a bunch of things here, but we're just interested in the Default View. Click on the dropdown and select the view you'd like to use as your default.



6. Click the Save button at the top of the Preferences window, and your default Ticket filter is now set.

Filters



When you're in a view, you might wonder where that closed ticket, or that ticket that's awaiting a response, is hiding.

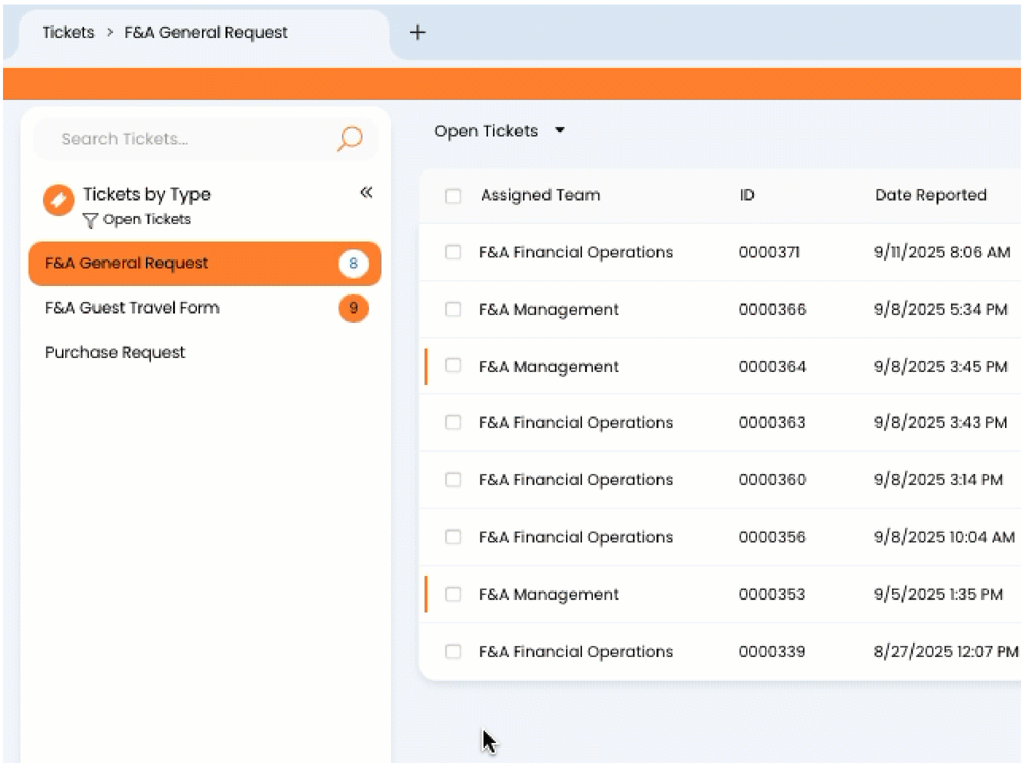
Chances are, you can't find it because a filter is hiding it from you (helpfully).

The default filters are:

- All Tickets - Displays all tickets, no matter their current status.
- Closed Tickets - Only displays tickets with a "Closed" status.
- Open Tickets - Only displays tickets that are considered "Open," which includes "New," "Updated," and "Re-Opened."
- Open Tickets (Including SLA Hold) - Includes everything in Open Tickets plus "On Hold" and "W/Requester."

What's an SLA, you might ask, and why should it be held? SLA = Service Level Agreement. That's the amount of time within which a ticket should, ideally, be solved. When a ticket is put on hold or you're waiting for a response, the SLA clock is paused since you can't actively work on it.

Changing the Ticket Filter



As you can see above, there are two ways to change the ticket filter:

1. In the left side navigation bar, hover your pointer over the filter icon under the name of your current view.
2. Click on the filter icon (you'll see a little pencil appear next to the name of the currently applied filter).
3. All the current filters are listed. Click on the one you want.

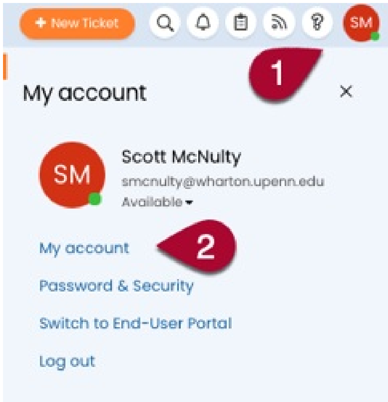
The new filter name is displayed both under the view name and at the top left of the ticket list.

You can click on the filter name at the top left of the ticket list, and a dropdown menu will appear listing all the available filters. Switch filters by clicking on another one.

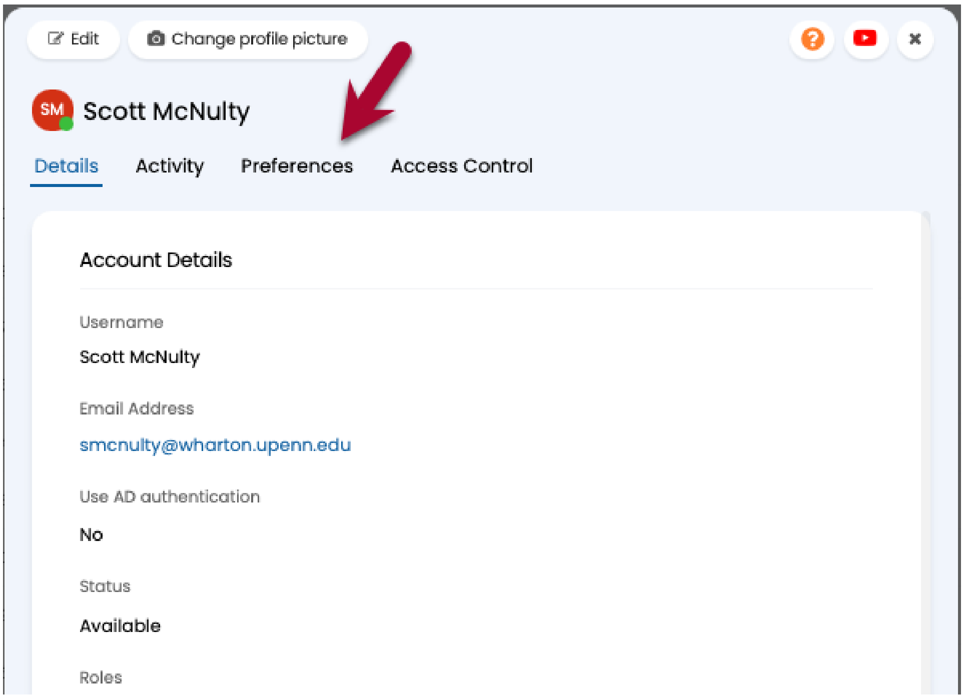
Setting your default filter

Wouldn't it be great to be able to set your default filter for all ticket lists? Here's how you do it:

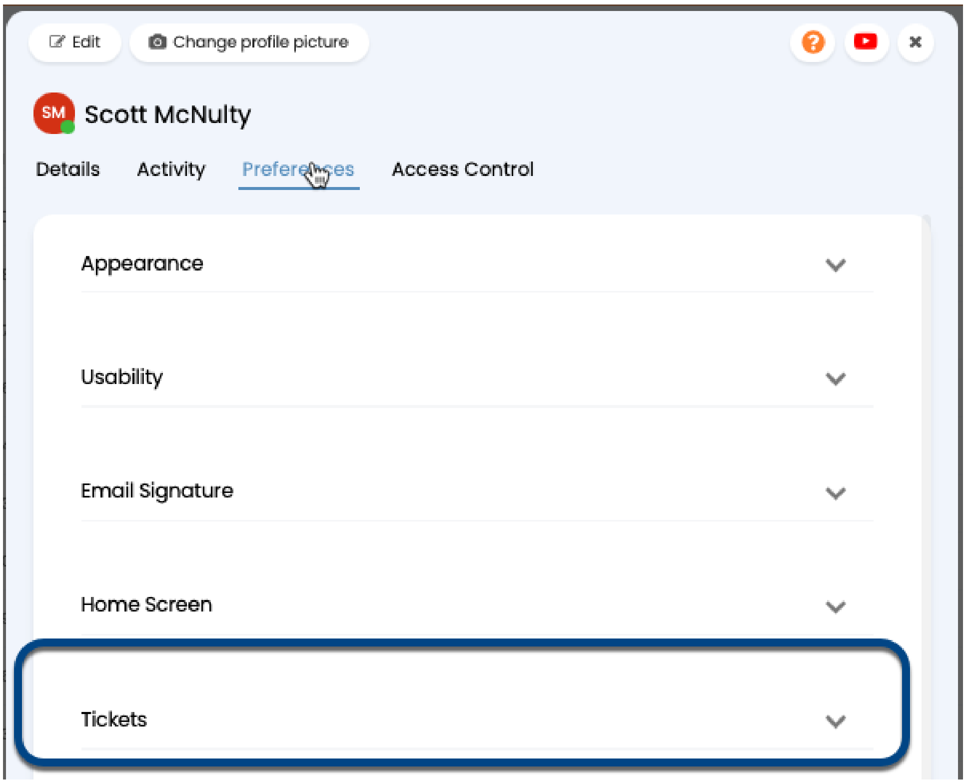
1. Click on your initials in the upper right of the Halo screen and then click on My account.



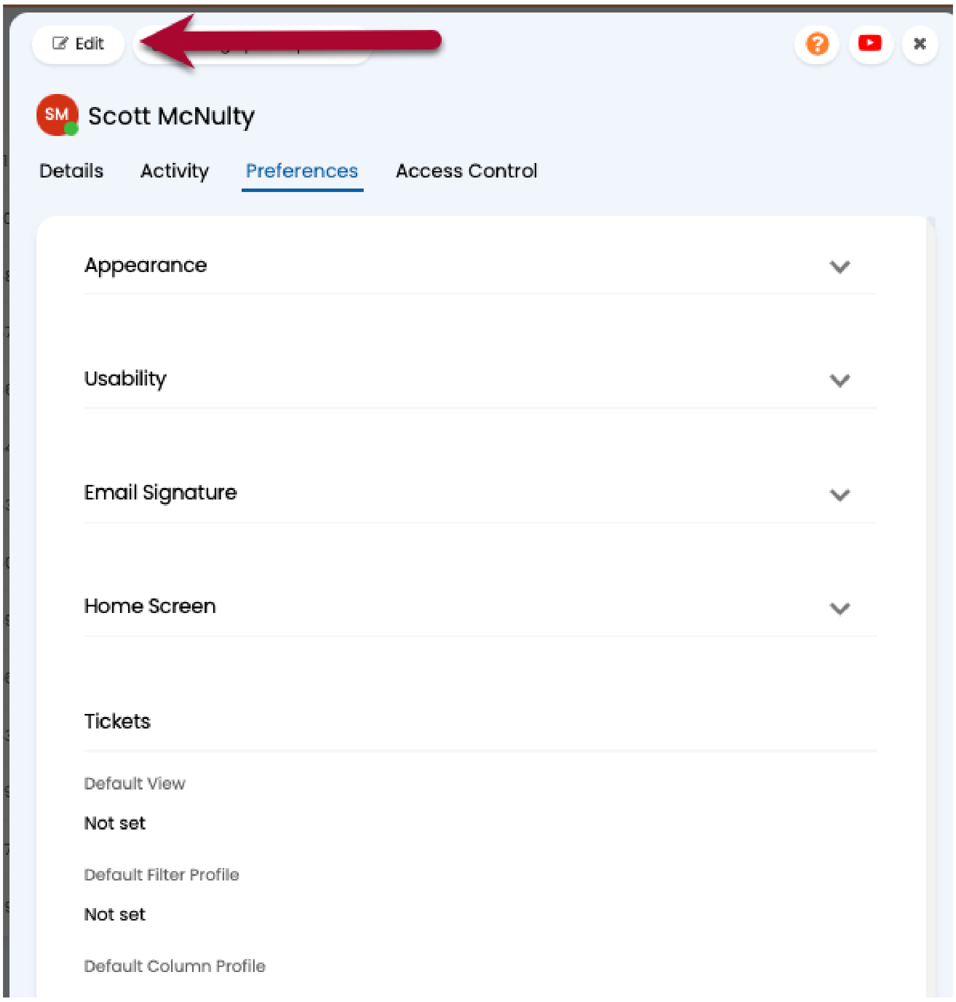
2. Click on **Preferences.**



3. Click on **Tickets** to expand the Ticket preferences:

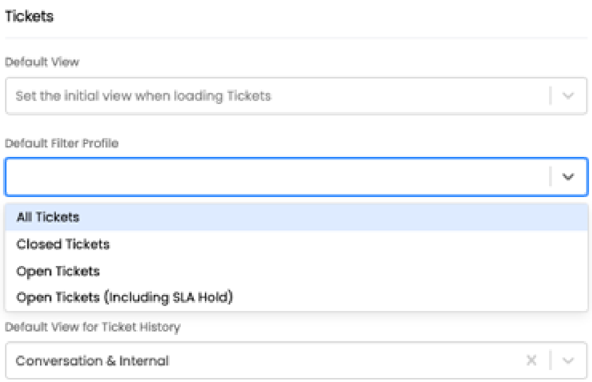


4. All of your current Ticket preferences are listed. Click on the Edit button to make some changes.



5. You can change a bunch of things here, but we're just interested in the Default Filter Profile. Click on the

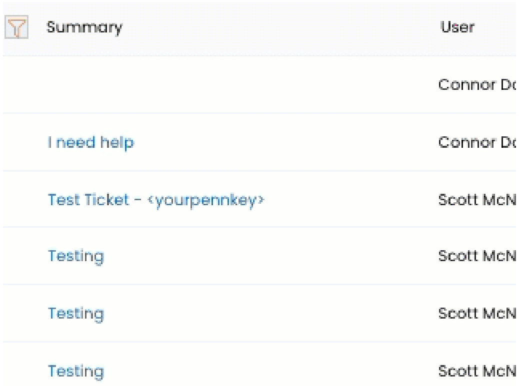
dropdown and select the filter you'd like to use as your default.



6. Click the Save button at the top of the Preferences window, and your default Ticket filter is now set.

Ticket List

Sorting and Filtering



By default, your tickets are listed in a list. Sort the list by clicking on any column header. Click the header again to reserve that sort.

Hovering over a column header will reveal a filter icon. Click on the  **filter icon**, and a filter box appears below each column header. You can either type in text or enter a date to filter. The ticket view will automatically update to show you the results as you type, which is nice.

The filter boxes will stick around until you close them by clicking the **X** icon all the way to the left of the filter boxes. You can always open them again by clicking the filter icon on any header.

Changing the View

By default, the ticket list is shown in "Table view," which lists each ticket meeting your filtering criteria as entries in a table. You can sort the table (see above) and click on a ticket to get more details.

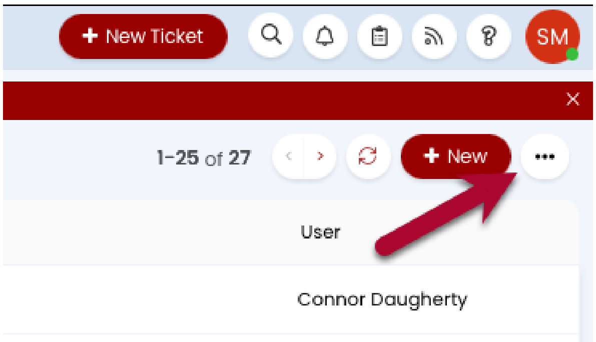
There are a few other views available to you, including:

- Tile View
- Kanban View
- Calendar View
- Gantt View

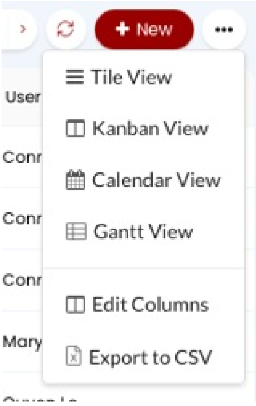
> Calendar View and Gantt View are designed to work with project tickets, which we haven't implemented yet, so we won't go into what those views offer.

To change your current view:

1. Click the ... button in the top right corner of the ticket list.

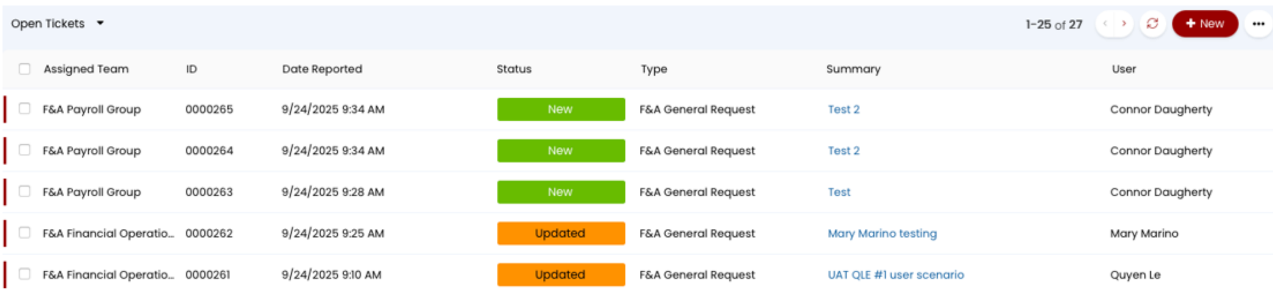


2. Click on the view that you'd like to switch to (note the view you're currently using won't be in the list).



3. The ticket view changes.

Table View (default)

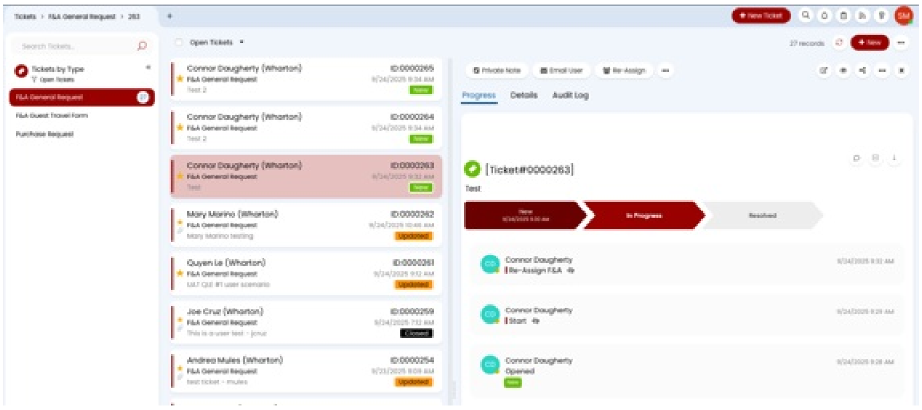


Assigned Team	ID	Date Reported	Status	Type	Summary	User
F&A Payroll Group	0000265	9/24/2025 9:34 AM	New	F&A General Request	Test 2	Connor Daugherty
F&A Payroll Group	0000264	9/24/2025 9:34 AM	New	F&A General Request	Test 2	Connor Daugherty
F&A Payroll Group	0000263	9/24/2025 9:28 AM	New	F&A General Request	Test	Connor Daugherty
F&A Financial Operatio...	0000262	9/24/2025 9:25 AM	Updated	F&A General Request	Mary Marino testing	Mary Marino
F&A Financial Operatio...	0000261	9/24/2025 9:10 AM	Updated	F&A General Request	UAT QLE #1 user scenario	Quyen Le

Table View is the default. Click on a column header to sort by that column. Hover over the column and click the Filter icon to filter.

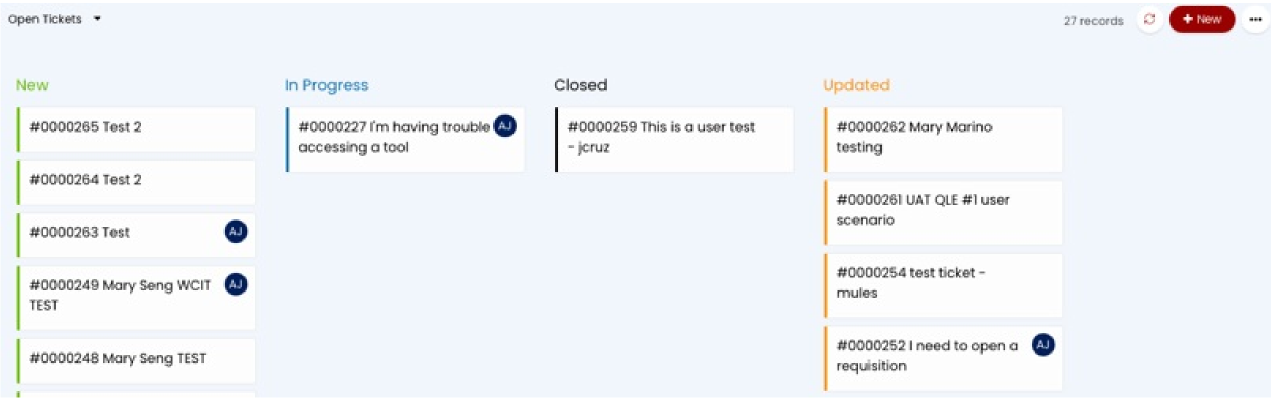
You can export the ticket list as a CSV file if you like by clicking on the**...** button and clicking **Export to CSV**. Just be aware that the exported file will only contain the data displayed in the table; full ticket information is not included.

Tile View

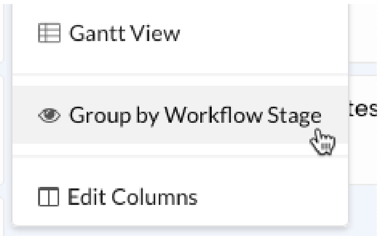


Tile view is inspired by Outlook. It lists all the tickets that conform to your filters in a column. Click on a ticket to see details on the same page. This is useful for browsing the contents of tickets quickly.

Kanban View



Kanban is a way of visualizing work using cards (which are tickets in Halo) into rows or columns (statuses or workflow states in Halo). One of the nice things about the Kanban view is that you can drag and drop a ticket from one column to another when grouping by Status, updating the status as you go.



Clicking on the ... button shows that you can change the grouping (i.e., columns) option for this view using either Workflow Stage or Status.

Editing the Columns in Table View

The table view is the default ticket list view, and the one that you'll probably end up using most. If the default columns aren't displaying the information you want you can create your own custom view:

1. Click on the **...** in the top right corner
2. Click **Edit Columns.**
3. Highlight the view you'd like to base your custom view on (“F&A Column View” is a good one) and click **Edit.**
4. Change the **Column Profile Name** to something meaningful to you. This name will be what's listed in your available views.
5. In the **Columns** section you'll see a list of the columns in the current view. Here you can:
   - Change the order of the columns by dragging and dropping them.
   - Remove a column by clicking on the trash can icon.
   - Change the Sorting, Grouping, or display name of a column by clicking on the pencil icon.
     - You can decide set a column to be the primary sort order all the way to the quinary sort order.

    - Each table can only be grouped by one column.
  - Add a column to the view by clicking Add and selecting a column, or columns, from the list.
6. Scroll down and click **Save as new**.

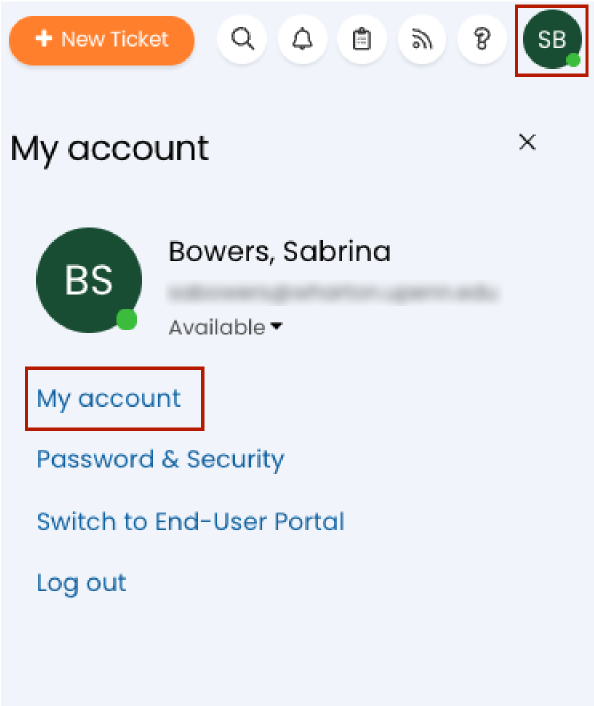
To use your custom view:

1. Click on the **...** in the top right corner
2. Click **Edit Columns.**
3. Highlight the view you just saved.
4. Click **Use**.

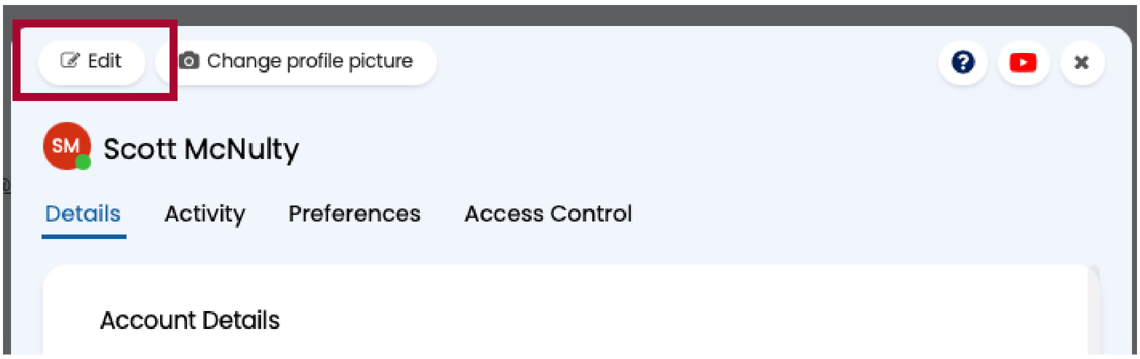
Ticket Preferences

By default Halo displays tickets in the same way for everyone in a particular team. However, if you'd like to change the why tickets are displayed and filtered for yourself you can do that.

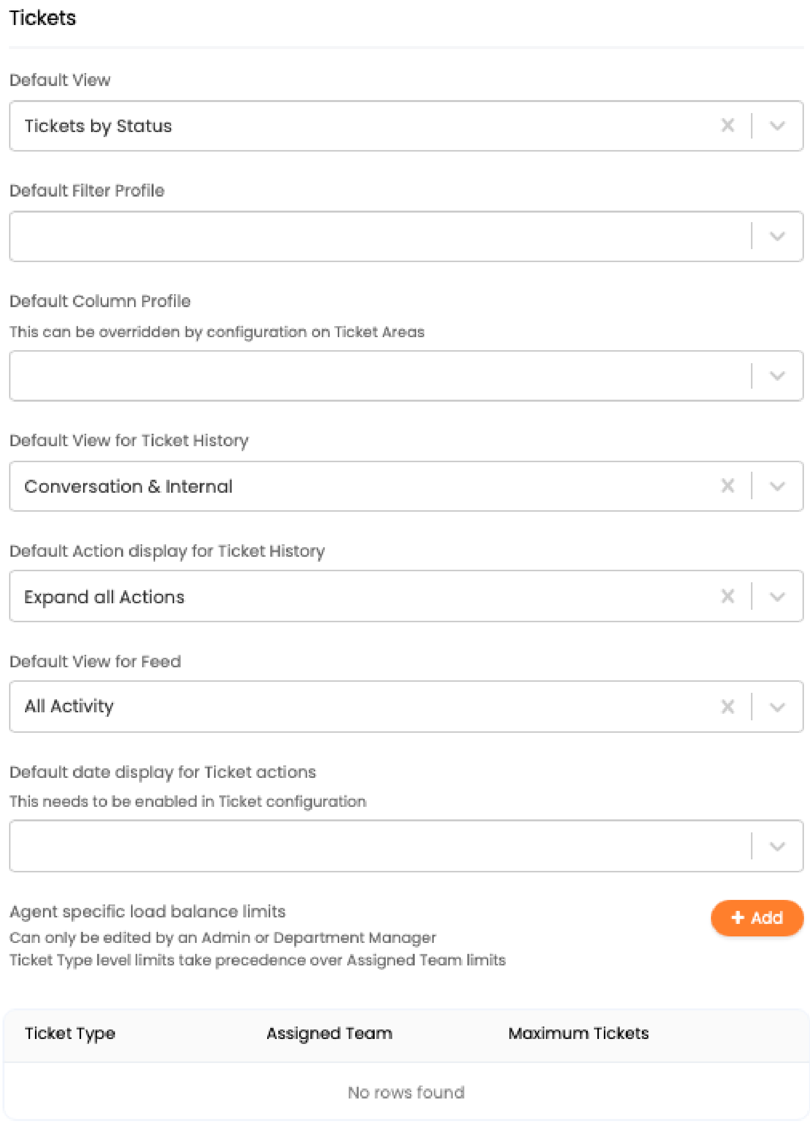
1. Login to the Halo agent application.
2. Click on your account icon in the top right of the screen.
3. Click **My account**.



4. Click on the Edit button.



5. Select the **Preferences** tab.
6. Click on the Tickets section.



Here's what each ticket preference means and the options:

- Default View: This sets your view of ticket lists. You can have them grouped by type, team, agent, and more. You can always change the view on the list as well.
- Default Filter Profile: The default filter on ticket lists. It can be All, Closed, Open Tickets, or Open Tickets (Including SLA Hold). This can always be changed on the list itself (see the Filters section above).
- Default Column Profile: You can set the columns included in ticket lists using a column profile. See "Editing Columns in Table View" above for more information.
- Default View for Ticket History: By default the ticket history displays conversations (email) and Internal (notes). You can set this to "All Actions" or "Conversation."
- Default Action display for Ticket History: By default all the actions in the Ticket History are expanded to give you the information at a glance. You can opt to have only the most recent action expanded.
- Default View for Feed: You can decide what items appear on your ticket feed.
- Default date display for Ticket actions: We aren't using this at the moment, but it can be set to either Date Done or Date Created.

7. Once you've set your preferences click the Save button either at the very bottom of the window (you'll need to scroll) or at the top left.

Creating a New Ticket as a Halo Agent

Last Modified on 10/27/2025 1:46 pm EDT

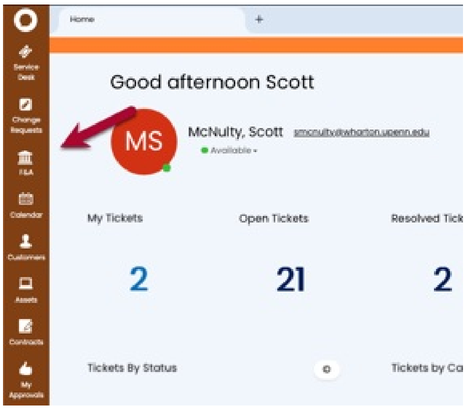
Generally, people will create tickets on their own using whatever method of ticket intake your group has on offer (i.e. the user portal). As an agent, there are times when you'll want to create a ticket on behalf of someone else (perhaps they called you on the phone or emailed you directly). This article will walk you through the process.

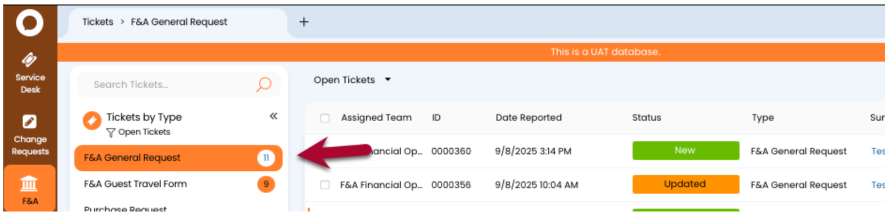
There is an orange "+ New Ticket" button at the top of every agent screen in Halo. We recommend against using that to create a new ticket because it requires you to enter more information than if you follow the directions below.

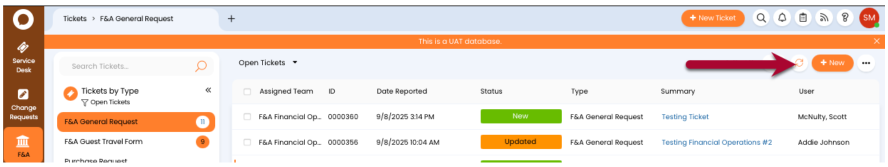
Before You Start

You will need the following before you can complete this task:

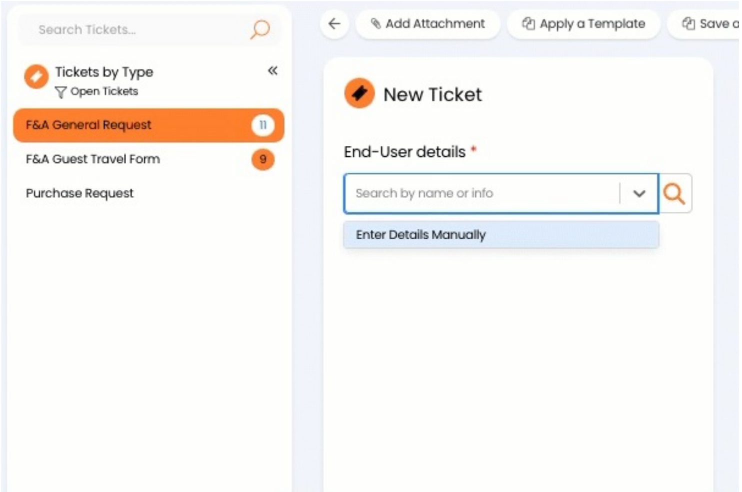
- An active Halo agent account

1. Log in to Halo.
2. Select the proper module from the sidebar (We'll be using F&A for these instructions).


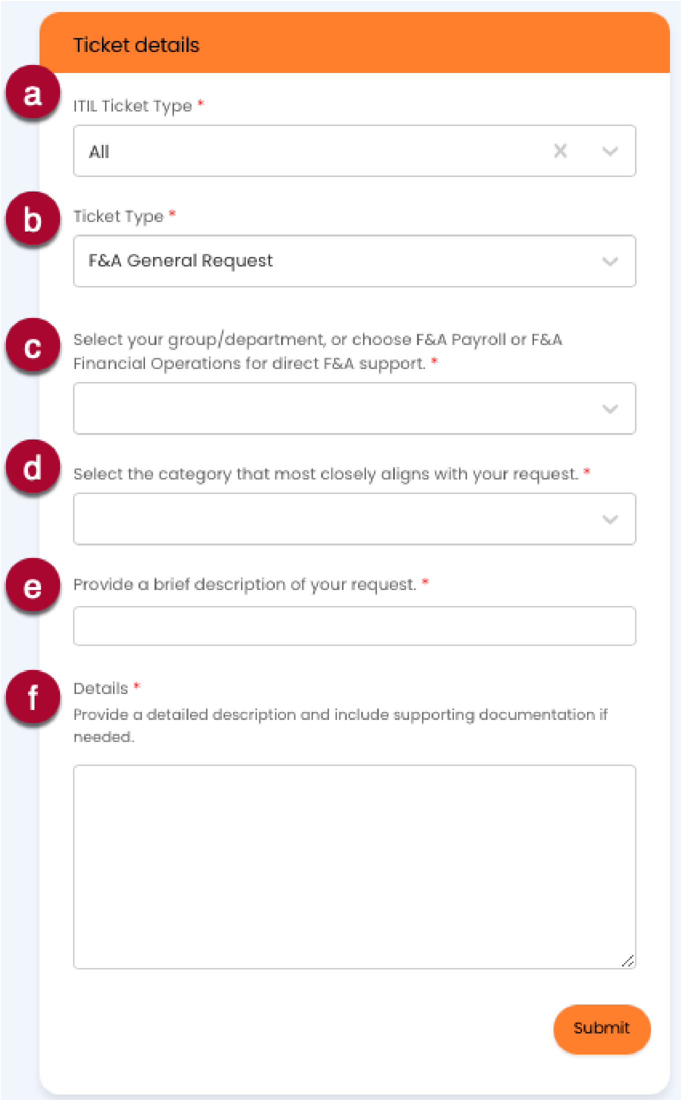
3. Click on the ticket group you'd like to create the ticket for.


4. Click **+ New** to create a new ticket. Note: Do **not** click the + New Ticket button at the very top of the screen.


5. In the new ticket form, search for the name of the person for whom you're creating the ticket. Once you find the person, click on their name to select them (all Wharton users are in Halo).



6. Fill in the details of the ticket:



a. ITIL Ticket Type: Keep this as the default.
b. Ticket Type: The ticket type determines how the ticket is handled within Halo. The correct type is assigned automatically when you use the +New button within a ticket group.
c. Select your group/department: This is the group or department that your ticket should go to. In the case of Financial Operation General Requests, your options include:
   - F&A Payroll Support
   - F&A Financial Operations
   - WCIT

        - Wharton Human Resources and People Operations
        - Wharton Operations
        - Management Department
    d. Category: The categories available depend on the module you're in. For F&A General Requests the categories are:
        - Budget and Strategic Planning
        - Concur/Travel and Expense Management
        - Financial Systems Training and Access
        - Guest Traveler
        - Purchasing and Payables
        - Student Hiring and Payroll
        - Workday and Payroll
        - Other
    e. Brief description: Think of this as a "subject line" for your request.
    f. Details: The full details of the request go here.
7. Click the **Submit** button, and the ticket is created and shared with the proper group.

Emailing from a Halo Ticket

Last Modified on 11/21/2025 1:54 pm EST

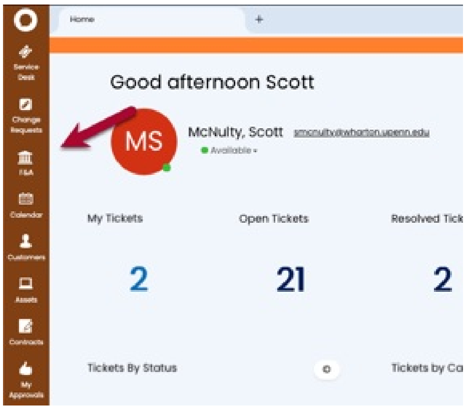
There are times when you'll need to reach out to a requester for more details and you can do this without leaving Halo! Emailing someone from a ticket in Halo will generate an email notification to anyone in the To, CC, or BCC field. This notifcation will include links to the ticket in the the Portal, not the Agent Application. This means that when an agent clicks a link in one of these notifications they may get a permissions error. You can either switch to the user portal view, or search for the ticket in the agent application.

BCCing somone sends an email notification with the ticket information, but doesn't grant access to the ticket in Halo. If the BCC'ed party doesn't already have access to the ticket they won't be able to see it in Halo.

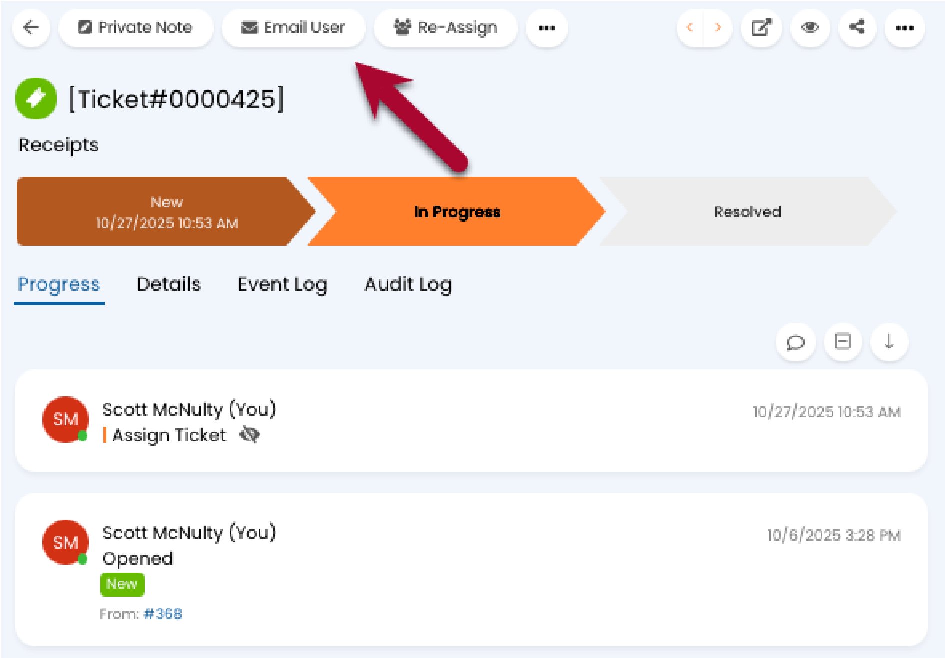
Before You Start

You will need the following before you can complete this task:

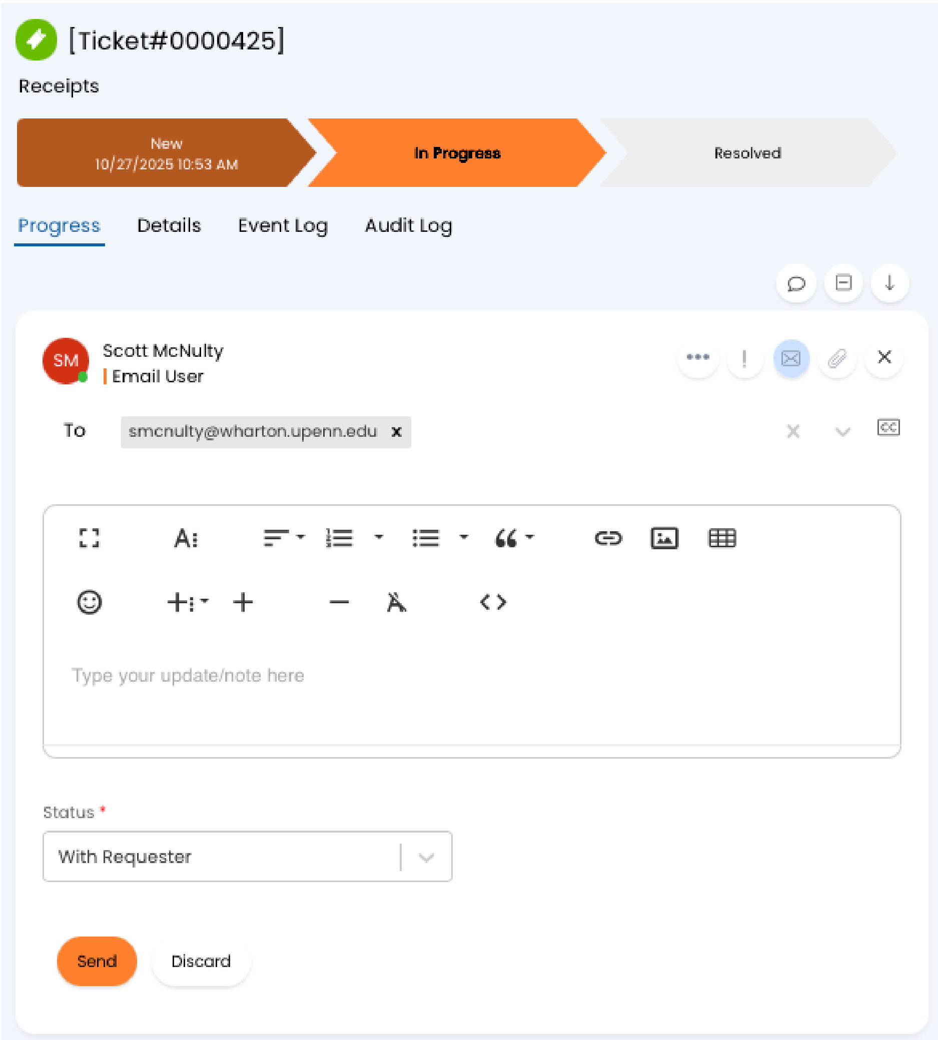
- An active Halo agent account
- Access to Halo tickets

1. Log in to Halo.
2. Select the proper module from the sidebar (We'll be using F&A for these instructions).


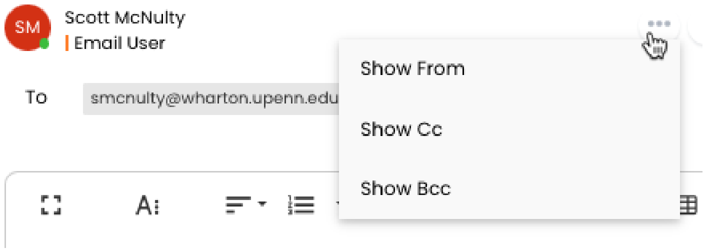
3. Click on the ticket that you need to email from.
4. Click the **Email User** button at the top of the ticket.



5. An email editor will appear in the Progress section of the ticket. This allows you to compose an email to the requestor. Type an email, as you would normally, using the text controls in the editor to format the text.

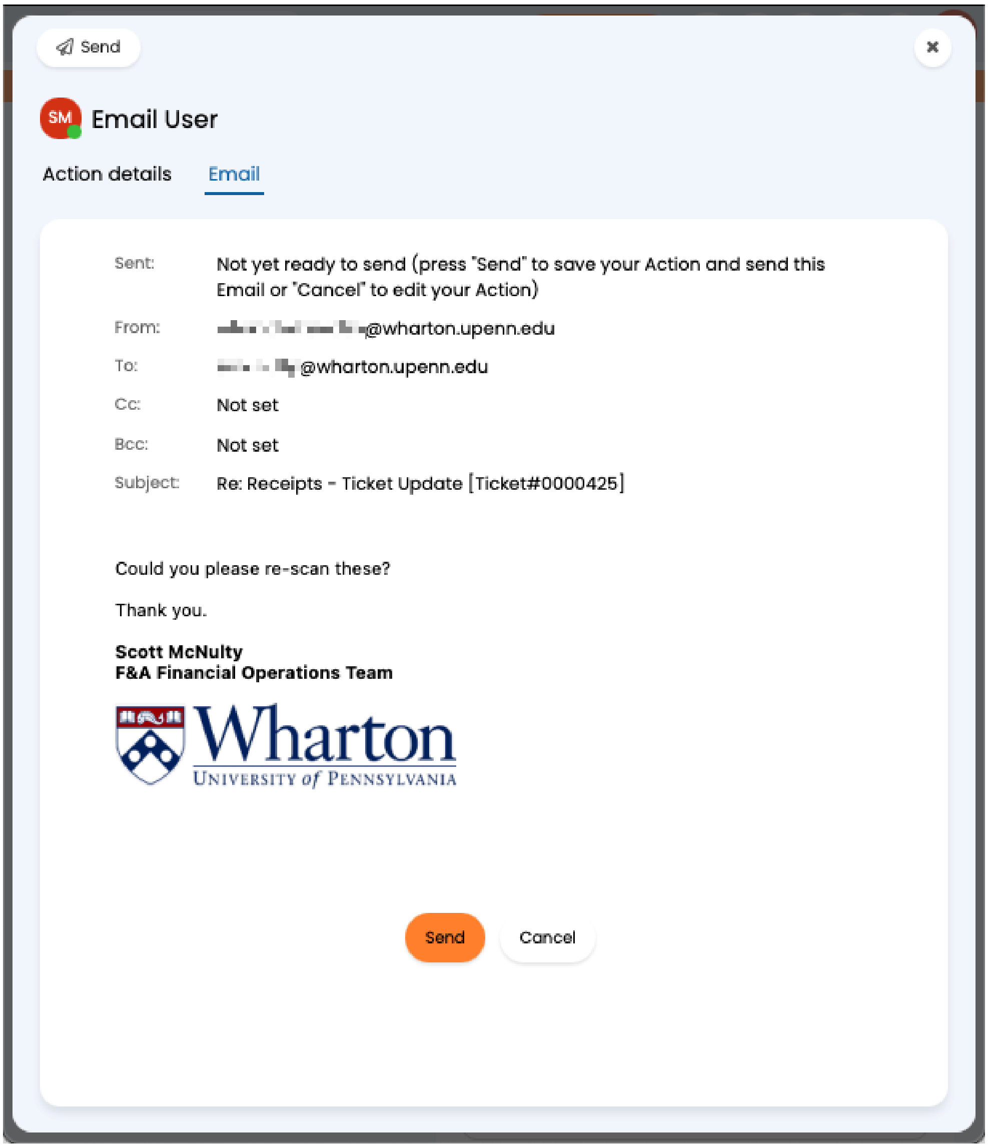


If you want to add a CC or BCC to the email click on the ... button and you can add both or either by clicking on **Show Cc or Show Bcc**.

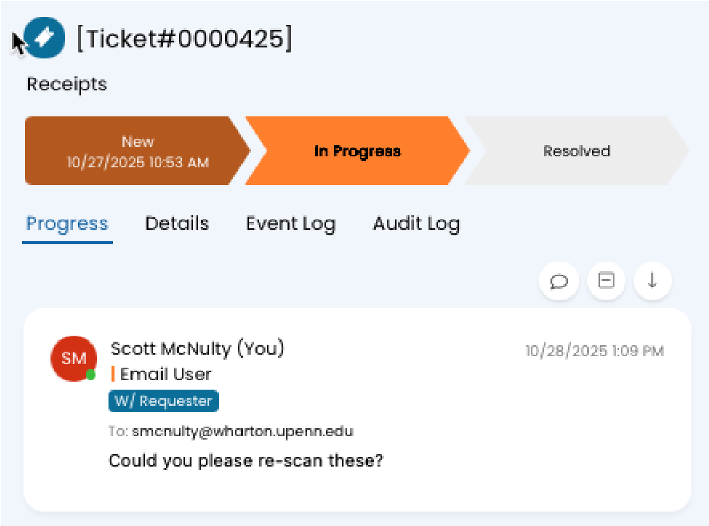


You'll need to enter an email address (or addresses) in either field.

6. Once your message, and any additional recipients, is set you'll need to select a Status for the ticket from the dropdown. By default the status will be set to With Requester, but you can change it if you would rather a different status.
7. Click **Send** and a preview of your message is displayed. Doublecheck the To, Cc, and Bcc lines.



8. Once you're happy with your message click **Send** in the preview and the email is sent to all the recipients and a copy is kept right in the ticket for tracking purposes.


[Ticket#0000425]
Receipts
New
10/27/2025 10:53 AM
In Progress
Resolved
Progress
Details
Event Log
Audit Log
SM
Scott McNulty (You)
Email User
W/ Requester
10/28/2025 1:09 PM
To: smcnulty@wharton.upenn.edu
Could you please re-scan these?

Financial Operations Ticket Statuses

Last Modified on 10/10/2025 3:49 pm EDT

Halo supports a large number of ticket statuses. These status serve as an indication of the current state of a ticket, and can act as triggers for workflows. This article lists the ticket statuses for Financial Operations tickets in Halo and gives a brief explanation for each status.

Before You Start

You will need the following before you can complete this task:

- An active Halo agent account
- Access to the Financial Operations groups in Halo

Statuses

The current ticket statuses for Finacial Operations tickets include:

- **New:** A new ticket, awaiting for an agent to be assigned.
- **Assigned:** The ticket has been assigned to an agent.
- **With Requester:** Awaiting input from the ticket requester (this can be manually triggered or as part of a workflow).
- **Updated:** The requester has provided an update and is awaiting an agent's response.
- **On Hold:** A ticket is placed on hold to indicate no action is required at the moment.
- **Re-Opened:** A previously closed ticket has been re-opened (usually by the requester).
- **Pending Approval:** The ticket is in a workflow stage and is waiting for approval to move to the next step.
- **Closed:** The ticket is closed. Either the issue has been resolved or help is no longer needed.

Canned Text in Halo

Last Modified on 11/07/2025 12:05 pm EST

Canned text in Halo allows you to quickly include saved text in a reply to a ticket (ZenDesk users: these are like macros in ZenDesk).

Examples of canned text include:

- A solution to a common problem.
- Frequently used instructions.

This article covers how to use canned text in Halo and how to created canned text of your own.

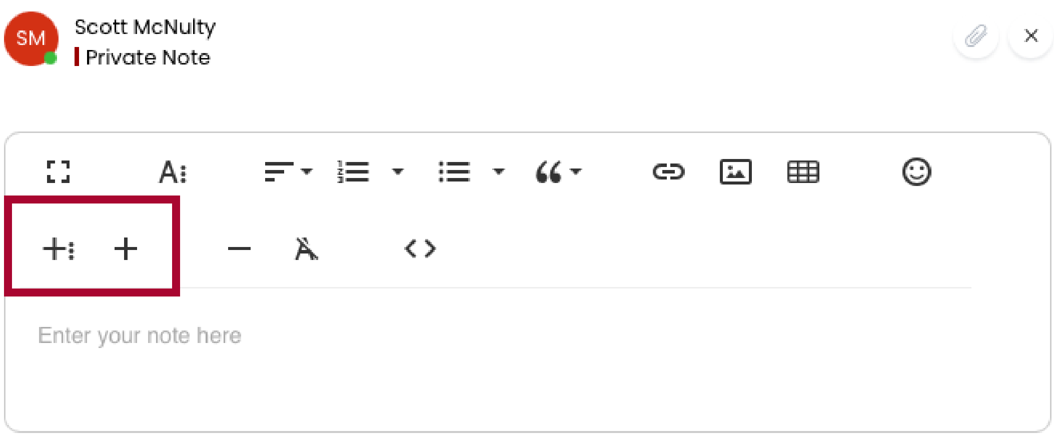
Before You Start

You will need the following before you can complete this task:

- An active Halo agent account
- Be logged into the Halo agent application

Inserting Canned Text

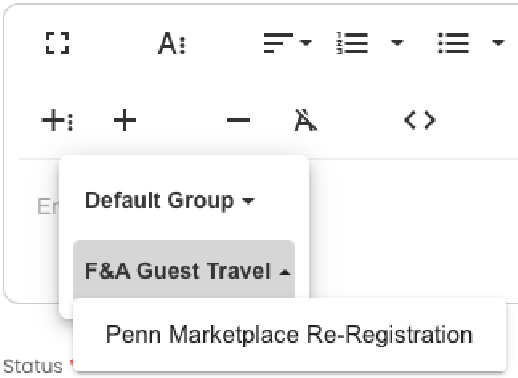
Canned text icons, the two plus signs highlighed below, are available on the Halo text editor when you're creating a private note or crafting an email reply.

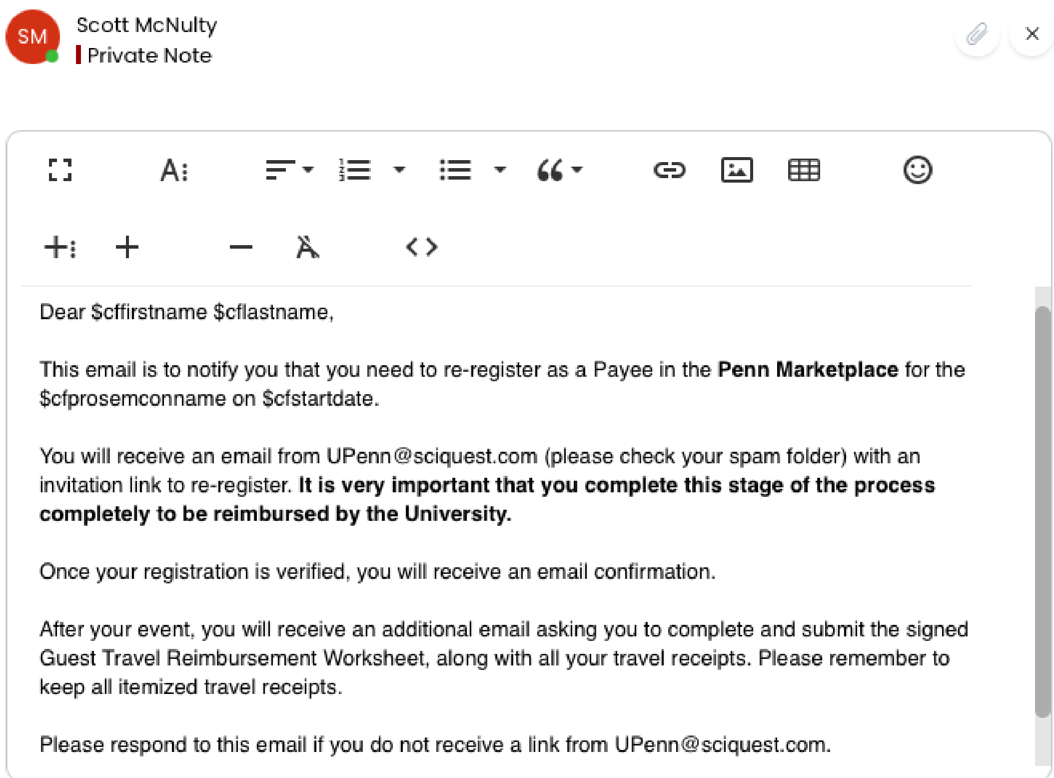


Clicking the first icon allows you to select some canned text you'd like to insert in your note. The canned text options are grouped to make it easier for you to find the right text. Click on the group name you're interested in and the canned text options in that group are listed.

Click on the text you want, in this case Penn Marketplace Re-Registration, and the text appears in the text editor.

You can edit the text as you normally would, or just send the message should the canned text cover all the information you need to include.





Canned text can include some text that beginning with a dollar sign ($). These variables which will be automatically populated with the right information related to the ticket that you are sending the canned text from (for example, $cffirstname will be replaced with the requesters first name).

Adding an Image to Canned Text

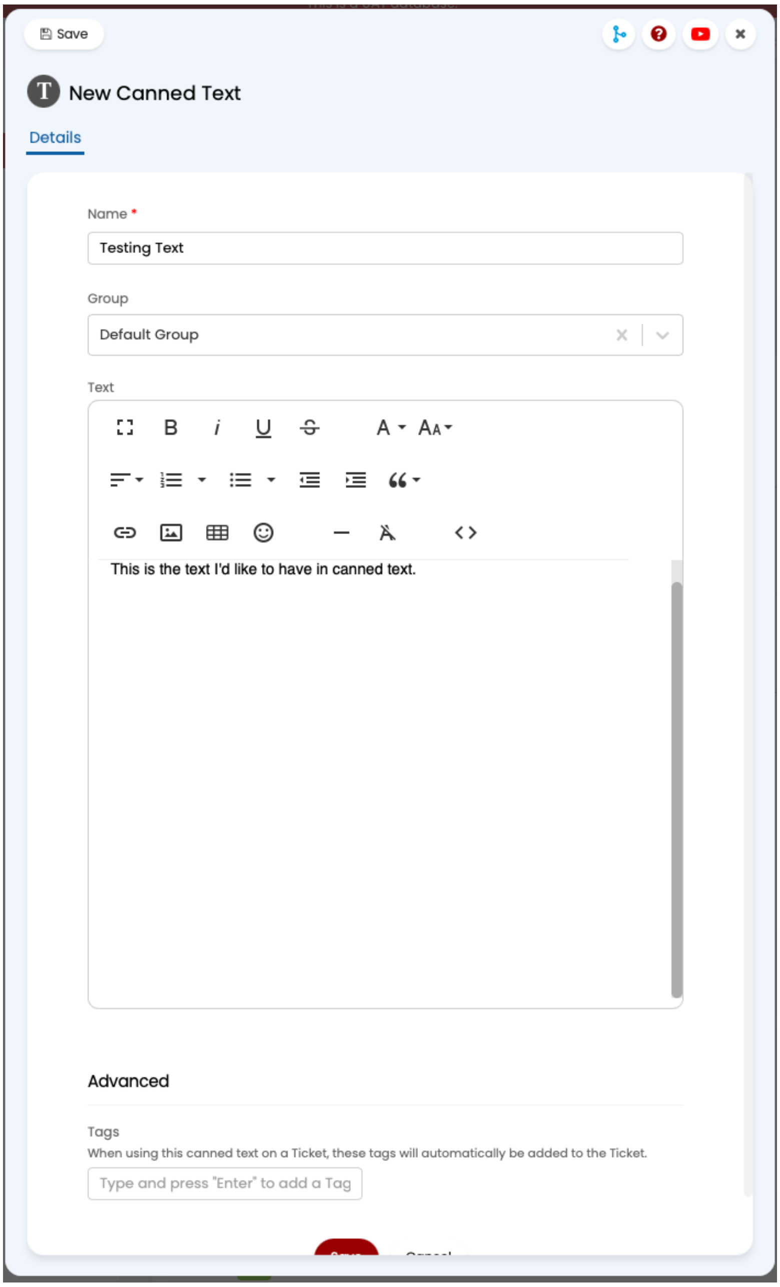
Once you've inserted your canned text of choice you can, of course, edit the text. You can also insert images, which can be handy when you need to include information from another system:

1. Once you've selected your Canned Text in the text editor click on the **Insert Image** icon.
2. Click on **Drop image** to open a file brower.
3. Find the image you'd like to include and click **Upload**.
4. The image is inserted into the text editor. You can now can edit the message. Click**Send** when you're ready to send your email.

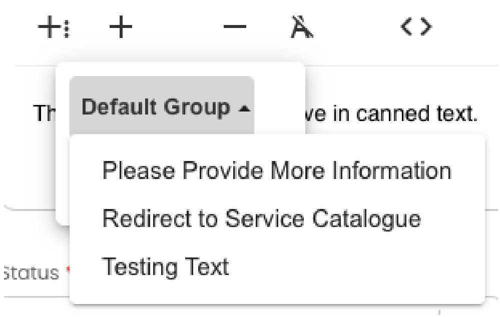
Creating Canned Text

Any text you put into the Halo text editor can become canned text by:

1. Enter some text into the Halo text editor (either for a private note or an email).
2. Select the text that you'd like to include in your canned text. You can select all of the text you've entered, or just part of it, but you must select something or else the canned text will be blank.
3. Click the **+** button on the editor's toolbar.
4. Fill out the New Canned Text form.



   a. Name: A name for the canned text. This will appear in the dropdown so make the name something meaningful.
   b. Group: Select a group from the dropdown.
   c. Text: The text you selected will already be in the text box. Edit it as you see fit.
   d. Advanced: Add a tag under Advanced if you'd like to automatically tag any ticket that uses this particular canned text.
5. Click **Save**.
6. Your new canned text will now appear in the group you selected.


Default Group
Th
ve in canned text.
Please Provide More Information
Redirect to Service Catalogue
Testing Text
Status

Followers and Following a Ticket

Last Modified on 01/22/2026 4:21 pm EST

There will be times when you want to be kept in the loop on a ticket that you aren't actively working on. Following a ticket in Halo BCCs you (or who ever you added to the follower list) on all public messages on that ticket.

This article covers how to follow a ticket, assign a follower to a ticket, and edit a ticket's followers.

Before You Start

You will need the following before you can complete this task:

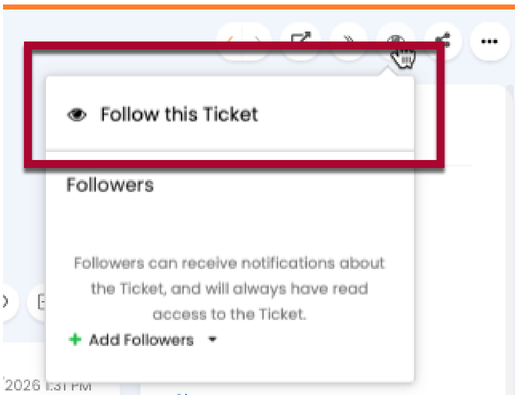
- An active Wharton faculty or staff affiliation
- You also need to be logged into the Agent Application to see tickets in Halo.

Follow a ticket

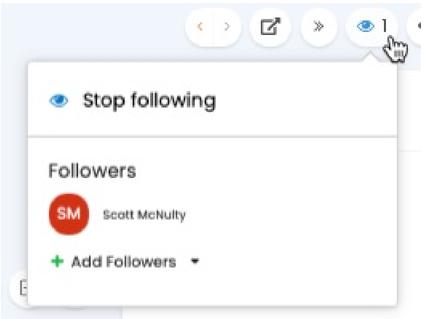
Adding yourself as a follower to a ticket is very easy:

1. Open the ticket that you'd like to follow.
2. Click the **Follow icon** at the top right of the ticket.

3. Click **Follow this Ticket**.



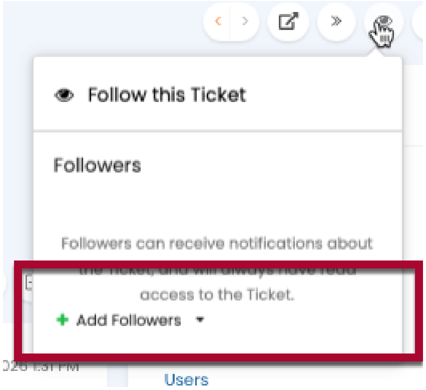
4. You're added to the follower list of the ticket and you'll be BCCed on any public messages sent via this ticket. Be aware that if you respond to one of those messages it will be a public as well.



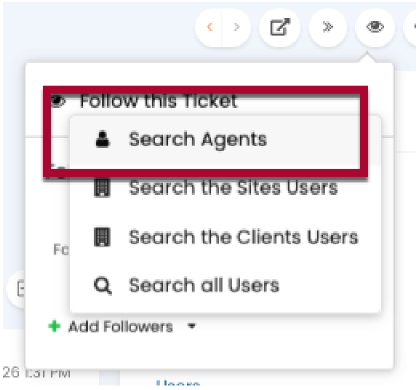
Making Someone else a Follower

1. Open the ticket that you'd like to have someone follow.
2. Click on the **Follow icon** on the top right of the ticket.

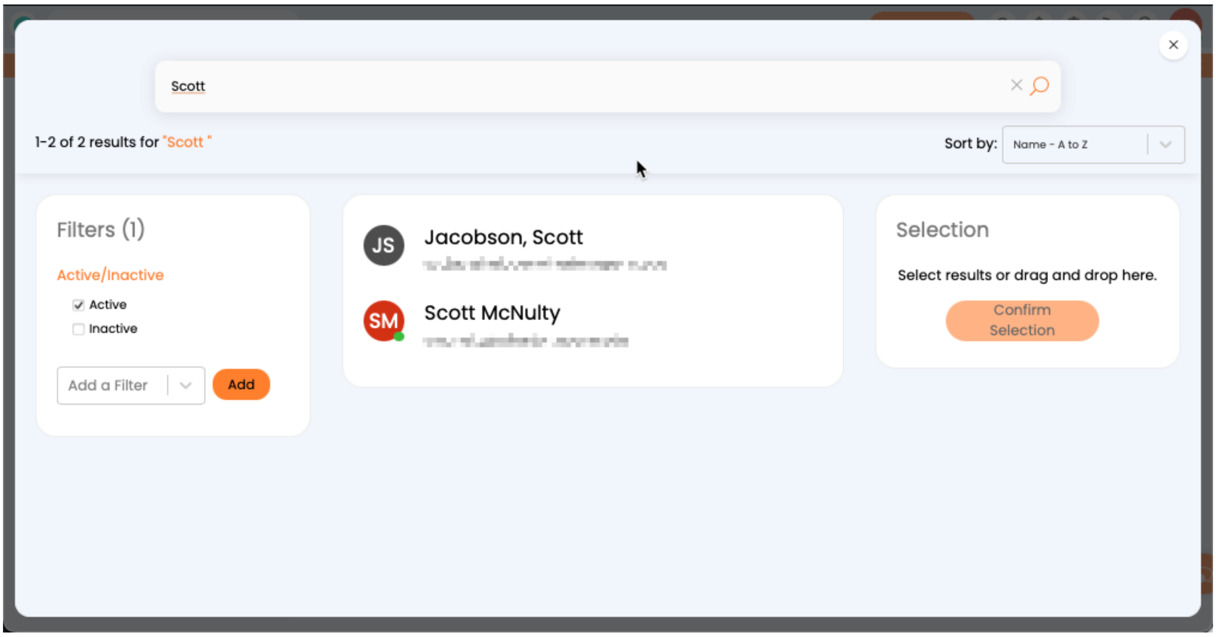
3. Click **Add Followers**.



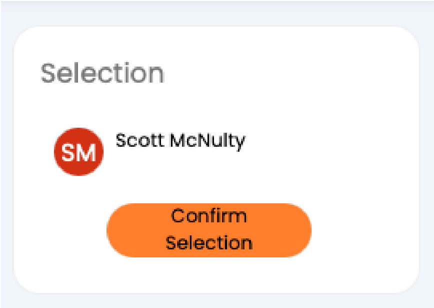
4. Click **Search Agents.**



5. Type in a name of an agent you'd like to follow this ticket (choose someone other than yourself).



6. Click the **name of the person** you want to add as a follower. You can also, at this point, add more people to your selection by searching for them and clicking on their names. Once you have all the people selected click **Confirm Selection**.



7. Hover over the eye icon to see that the new follower is listed in the Followers section. The followers will be BCCed on any public messages sent via this ticket. Be aware that any responses to one of those messages will be public as well.

Note: These directions assume you want to make another Halo agent a follower. Use "Search all users" option instead of "Search Agents" if you're trying to add a follower who isn't an agent.

Edit a Ticket's Followers

1. Open the ticket that you'd like to have someone follow.
2. Hover over the **Follow icon** on the top right of the ticket.
3. Click the **x** icon next to the follow you're like to remove. Or if you want to stop following a ticket, click **Stop following**.

4. The follower is removed.

Slack at Wharton Overview

Last Modified on 10/16/2025 10:09 am EDT

Slack at Wharton allows people to leverage all of Slack's great collaboration and communication features securely with:

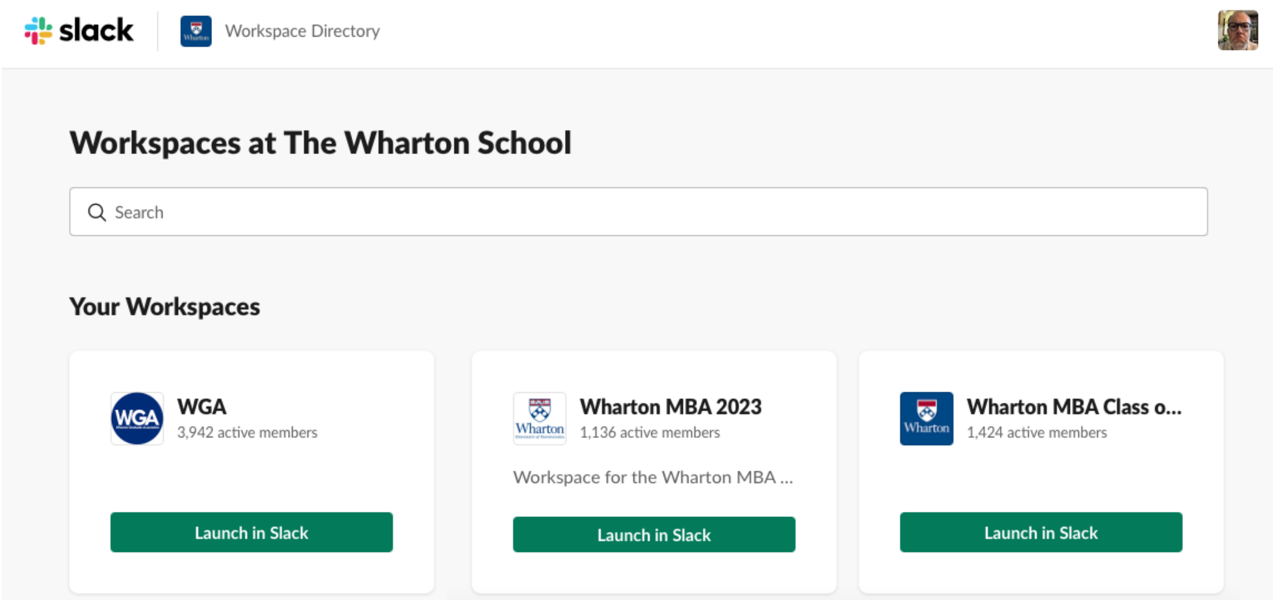
- PennKey login
- Unlimited message history
- Shared Channels
- A shared User Directory across all Slack at Wharton workspaces
- FERPA protections
- And more

How to Access

You can log into Slack at Wharton (using your PennKey username and password) here:

https://wharton.enterprise.slack.com

The workspaces you're a member of and those you can add yourself to will be listed when you log in. Click the "Launch in Slack" to access a workspace.



Request Access

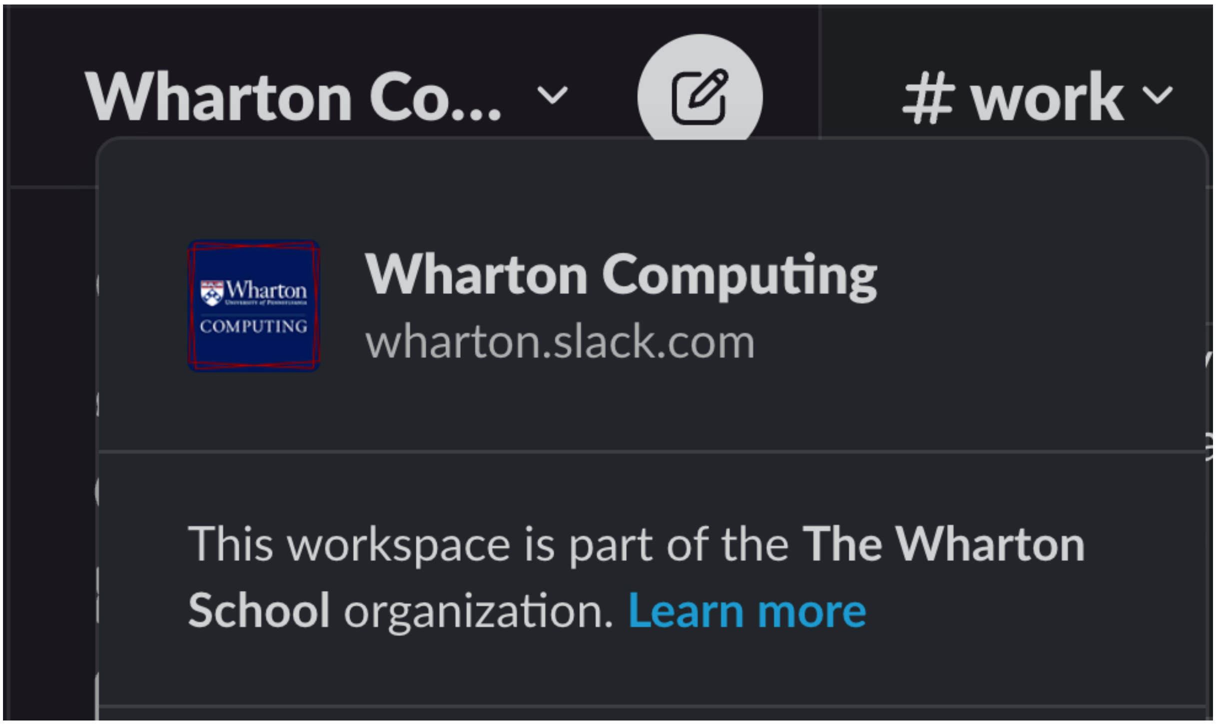
Email your Wharton Computing representative if you need access to a particular workspace hosted on Slack at Wharton. Please be sure to include the name/URL of the workspace.

Is my workspace part of Slack at Wharton?

If you aren't sure if you are in a workspace hosted by Wharton, you can check using either the browser or desktop client (this won't work with the mobile Slack app):

1. Log into the workspace via the Slack desktop app or in a browser.

2. Click on the workspace name in the upper lefthand corner.
3. A dropdown will appear. Your workspace is part of Slack at Wharton if you see “This workspace is part of the The Wharton School organization.”



Inviting Someone to Slack at Wharton

Last Modified on 04/13/2023 9:35 am EDT

All full-time Wharton MBA students, and some faculty and staff, have Slack at Wharton accounts.

Existing Slack at Wharton accounts can easily be added to Wharton-hosted workspaces and channels by any member. Any member can invite additional people to Slack at Wharton, but a Slack admin must approve these invitations.

When inviting someone to a Wharton Slack workspace or channel, you must use the correct email address. This article will show you how to:

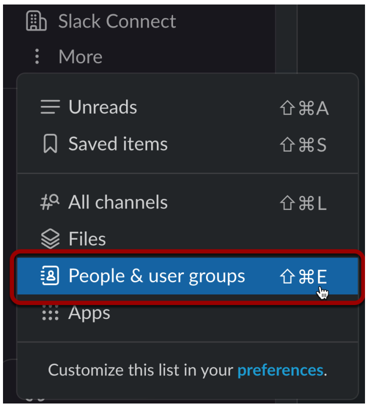
- Find out if someone already has a Slack at Wharton account.
- Determine which email address to use to invite Penn-affiliated people to workspaces and channels hosted by Slack at Wharton.

Finding the correct email address

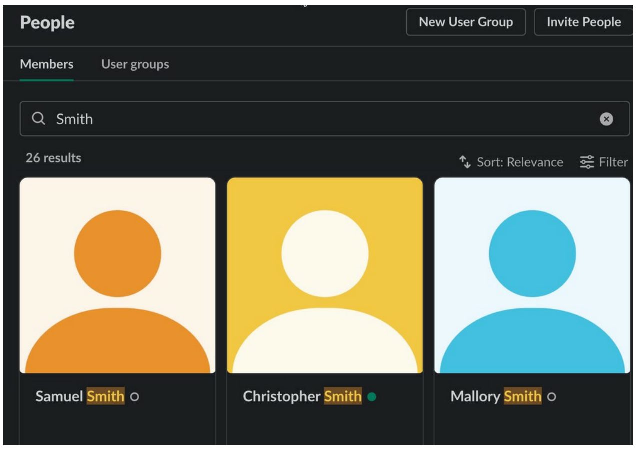
If you're inviting a Penn-affiliated person to a workspace/channel, it is essential to use the correct email address so that they can log in with their PennKey. First, you'll want to check if the person you invite has an existing Wharton Slack account.

Check the Wharton Slack Directory

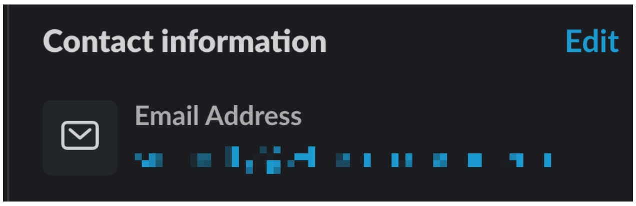
1. In a Wharton Slack workspace, click on **More** in the sidebar and then **People & users groups**.



2. Search for the person you want to invite to your channel/workspace.
3. Click on **the person you want to invite.**



4. Their profile opens on the right-hand side of your Slack app. Use the email address in the "Contact information" section to add them to the channel/workspace.



If the person you're looking for isn't in the search results, they probably do not have a Wharton Slack account. See the Check Penn Directory section below.

Check the Penn Directory

If the person you'd like to invite to your workspace/channel isn't in the Wharton Slack directory but is Penn-affiliated, your next step in determining which email address to invite is to search the Penn Directory.

1. Go to the Penn Directory but **do not log in**. You want to use the "Public view" of the directory.
2. Search for the person you'd like to invite to Wharton Slack.
3. Use the email address listed on their public directory page for the Slack at Wharton invitation. If instead of an email address listed, there is a note that says, "Log in to view email," you need to invite them using their @upenn.edu address which is "their pennkey"@upenn.edu.

Inviting People to Workspaces

Once you have the correct email for Wharton/Penn-affiliated people or any email address for a non-Penn person, you can invite them to your workspace.

All invitations must be approved, so your invite will not be automatically sent. A Slack admin may reach out with questions.

Follow the instructions for Pro, Business+, and Enterprise Grid plans listed here to invite members to a workspace.

Adding someone to a channel

Follow the "Add people to a channel" instructions from Slack to add someone to a channel in your workspace.

Search the Slack Directory by name, not email address, as the person you'd like to add may not be using the email address you'd expect.

DRAFT: Recommended Smartphone Apps

Last Modified on 08/27/2025 4:29 pm EDT

This article lists recommended smartphone apps for students, faculty and staff at Wharton. It applies to both University-owned and personally-owned devices.

Students should start with Useful Mobile Apps at Wharton.

Recommended Apps

These apps are regularly used for work and learning at the university.

Security Solutions

	Students	Faculty	Staff
Penn 2-Step	✓	✓	✓
Duo Mobile	✓	✓	✓
LastPass			

✓
✓
✓
Sophos
✓
For personal machines
For personal machines

Remote Meeting / Teaching / Communications Tools

Students
Faculty
Staff
Office 365 - Apps
✓
✓
✓

Zoom
✓
✓
✓
Microsoft Teams
Not recommended for students.
✓
✓
Slack - department specific instructions
Available for MBA student members of WGA
✓
✓

Students
Faculty
Staff
Penn Box
✓
✓
✓
DropBox
✓
✓
✓
OneDrive
✓
✓
✓

Students
Faculty
Staff
Canvas
✓ See Instructions.
✓ See Instructions.
? Academic Staff?
Mersive Solstice
✓
✓
✓

Human Resources Tools:

Students	
Faculty	
Staff	
Workday	
✓	
✓	
YouDecide	
✓	
✓	

Campus Safety / Alerts

Students
Faculty
Staff
Penn Directory
✓
✓
✓
UPennAlert Info
✓
✓
✓
Penn Guardian

✓
✓
✓

IT Tools:

Students
Faculty
Staff
Speedtest by Ookla
✓
✓
✓

Browsing

Students
Faculty
Staff
Chrome - Sign in and enable 2 step
✓
✓
✓
Any other recommended browsers?

General Recommendations

Backup to the Cloud – iCloud or Google Cloud should be configured to back up all of your data.

Physical Security – All mobile phones provided to staff and faculty by the University must have a sturdy case that covers the corners of the devices. A label should be affixed to the device with contact information. Each device should have a warranty 3-year Apple Care or Equivalent. These recommendations are also a "best practice" for students.

Encryption – All devices should have a password and be encrypted.

Loss of Device – Wharton recommends that “find my phone” be configured.

If a lost device contains university data, Wharton Computing should be notified so that we can assist in locating and remotely erasing the devices.

Notifications – We recommend that you add your phone number to the Penn Directory, and configure and activate PennAlerts for the phone.

Software and App updates – Update your Mobile Phone software and apps regularly, and always when a critical fix is released.

Personally-owned Mobile Phones

Wharton Computing can assist with installing certain Penn-related software, such as Duo Mobile, AirPennNet, and Guardian, on personal phones. If you plan to seek help with us, make sure to keep your old phone and schedule an appointment with us; typical configurations can take an hour or more.

Passwords

Before asking us for help you must know your password and pin number.

Upgrading your Phone

Transitioning to a new phone can be time consuming so please check with Wharton Computing to make sure someone is available to help you transition to a new phone. Plan to stay and work with us to configure the device, since we'll need to confirm your preferences and passwords. We are not able to configure phones without you present.

Recycling your Phone

When you no longer need your phone, erase it and return it to the store or ask us for help recycling it. Technology must never be placed in the trash at the University.

Phone Purchasing Recommendations

We recommend purchasing a recent Apple (preferred) or Android smartphone. Other devices are not tested to work with Wharton Resources. Students should see the Mobile Device Buying Guide.

Discount:

***We need to have something about O365 on personal phones. ***

University-owned Mobile Phones

This section is for staff and faculty who have University-provided phones. The phone is to be used primarily for university business. If you need to do personal business on the phone or use it primarily for personal pictures and email you should acquire an additional personal device. Wharton Computing is not required to back up personal information from phones.

Please speak with your Business Administrator to confirm that you have enough budget for a phone and if you are eligible for the reimbursement of phone charges. Wharton Computing does not authorize purchases or reimburse for services.

Upgrading your Phone

If your University-provided device will no longer accept security updates or run current apps we will ask you to replace it. You must keep your old phone until you have completely transitioned to the new phone so that information and settings and passwords can be observed and moved to your new phone. You need to know all of your passwords. Transitioning to a new phone can be time consuming so please check with Wharton Computing to make sure someone is available to help you transition to a new phone before purchasing it. We do not know your preferences or all of your passwords so you will need to stay and work with us to configure the device.

Recycling your Phone

When you no longer need your phone, you may keep it as an unused spare. Once you are confident that you don't need it as a spare he phone should be erased. You may offer it to the department to be reallocated or kept as a spare. If the phone is not needed in the department you may return it for credit or if the phone is obsolete return it to the department for recycling. Technology Purchased by the university must never be placed in the trash.

Phone Purchasing Recommendations

We recommend purchasing a recent Apple (preferred) or Android smartphone. Other devices are not tested to work with Wharton Resources.

Security / Updates

All devices must have passwords and be encrypted. Wharton requires that "find my phone" be configured. If a device is lost, Wharton Computing should be notified so that we can assist in locating and remotely erasing the devices. You should regularly update your Mobile Phone

Required Software

Wharton Computing will install Duo Mobile, AirPennNet, Antivirus solution, Guardian, remote management / inventory software and Zoom.

LastPass Migration to Dashlane - Technical Details

Last Modified on 04/22/2025 6:03 pm EDT

This article supplements the main announcement about migrating your LastPass account to the new Dashlane password management service. We recommend you start with University Retires LastPass Password Manager, and use this article if you run into trouble with those directions or if you need a more in-depth understanding of the nuances around the migration. This article repeats some of that information, and may be too much information for most people.

Types of University Accounts

There are several types of accounts.

LastPass Enterprise accounts

Enterprise Accounts include the option to create shared folders, which many teams use to share access credentials for software and other sensitive information. Only some Wharton staff and some faculty have LastPass Enterprise accounts. If you have a LastPass Enterprise account:

LastPass Premium personal accounts

Premium Accounts are personal LastPass accounts created for individual and personal use, taking advantage of the University's premium level of service. Various members of the University community have been eligible for a LastPass Premium account. If you have a LastPass Premium account, please see below for details:

> **Note**: The instructions provided by Dashlane say that disabling 2FA / two-factor authentication is required for the direct import to work. However, in testing, both Wharton Computing and ISC users have successfully imported their LastPass credentials with 2FA enabled. Using the same browser that you have the LastPass browser plugin already installed, or a LastPass session already running, should eliminate the need for disabling 2FA.

If you need to migrate a LastPass Shared folder: Dashlane Premium is probably not the right choice for you. Dashlane Premium does not allow for the ability to share password folders or collections. You can share individual password items, if that is sufficient for your purpose.

Further documentation is available at ISC's Dashlane documentation site.

LastPass Linked Account Users

This section applies to enterprise users who have linked their LastPass accounts to their personal accounts only.

Some users have their personal LastPass accounts to their Enterprise accounts. For example, jwharton@wharton.upenn.edu could have as Wharton enterprise account, and link their personal account under the email jwharton@gmail.com. This gives users the advantage of having all of their passwords, for both business and personal use, accessible through the LastPass app, browser plugin, etc, through their single Enterprise login. You can check if you have any linked account settings enabled in the menu :

LastPass Free Account

If you don't fall into any of the account types above, you likely have a free LastPass account and won't be affected by this migration.

Migration Options

This chart reviews in depth the various options you have available, and reasons for choosing each option.

Current Last Pass Feature/Function Usage	**Option 1: Keep LastPass Free Personal Account**	**Option 2: Migrate to Dashlane Premium**	**Option 3: Migrate to Dashlane Business Plan**
LastPass account only for personal use	x		
Keep and use shared folders in your LastPass account.	x		x
Make use of premium features of password manager.		x	x
Wharton faculty or staff, and a current member of the Wharton LastPass Enterprise account.		x	x

Current Last Pass Feature/Function Usage	Option 1: Keep LastPass Free Personal Account	Option 2: Migrate to Dashlane Premium	Option 3: Migrate to Dashlane Business Plan
Use LastPass premium account to store University credentials or to collaborate and share passwords with other University employees.			x
Share credentials or access shared credentials with other Dashlane Business users.			x

Migrate to Wharton's Dashlane Business Plan

Dashlane Business accounts allow for the option to share credentials with other users and other advanced features.

Migrating a LastPass Shared folder (LastPass Enterprise users only)

You **must** export a .csv file of passwords from LastPass and then import the file directly into Dashlane. This has the downside of creating a plaintext .csv file containing passwords but allows for the export and transfer of any passwords a user had access to in LastPass, including from shared password folders, so care is required to ensure protection of your credentials.

When migrating a Shared LastPass folder: We recommend appointing **one** person that manages your Shared LastPass vault to be designated the **owner** of -- and thus responsible for -- the migration of the LastPass vault to a Dashlane collection (what a shared folder is called in Dashlane), then assigning shared access rights after the migration.

Always share collections with full “Manager” permissions, and add passwords with “Full” edit rights, so that even if the original creator loses access to their Dashlane account, subsequent managers can still retain full access to the shared folder.

Renewing LastPass Premium

If your LastPass Premium access expires before September 26, you should receive an email from LastPass about 2 weeks before your expiration date with the subject “Another year of LastPass, free!” Look for this email in your @upenn.edu account, and follow the instructions to open a link and renew access. (Be sure to use a browser that is set up to use your LastPassPremium account.)

LastPass Support has assured Penn that Premium Account users can continue to renew their LastPass license before September 26, so you should have full premium support until then. **After September 26, accounts may transition to free status so we recommend preparing in advance.**

Notes on Migrating Shared Folders

- **Sharing permissions from LastPass are NOT retained**. The person doing the sharing will have to reassign permissions. We recommend sharing with Manager permissions (for collections) and Full Access (for each credential) so Dashlane users can manage collections that are shared to them.
- **Nested folders get separated** out into their own collections. Either flatten your LastPass folder structure before the migration, or be prepared to deal with many Collections.
- **The import process may fail to import all shared folder/collection relationships**. We recommend uploading one shared Lastpass folder at a time by splitting it up into multiple CSV files so that you can verify the data you are uploading one collection at a time.
- **Credentials are** ALWAYS tied to the original account that created it. To share a password, you must:
    - create the password in your OWN personal login
    - add it to a shared collection

Always share collections with full “Manager” permissions, and add passwords with “Full” edit rights, so that even if the original creator loses access to their Dashlane account, subsequent managers can still retain full access to the shared folder.

Optional Actions:

Request a Dashlane Group to manage your shared passwords: You can request the creation of a Dashlane group to help manage your shared passwords. Members of a Dashlane group can share logins, Secure Notes, and secrets with other members of the group. See Dashlane's information on managing Dashlane groups. If you would like to create a Dashlane group or update the membership of a Dashlane group, please contact your Wharton Computing representative.

Lock down access to LastPass shared folder: Once you have migrated your collections to Dashlane, you can lock down access to your old LastPass shared folders to Read-Only access so that your team no longer makes edits and changes to the old LastPass shared folder.

Questions?

If you have trouble figuring out what kind of account you have, or need help with the migration process, please contact your Wharton Computing representative.

For more information on Dashlane, see ISC's website.

MyWharton

Last Modified on 11/03/2025 11:45 am EST

Before You Start

MyWharton is available for Executive MBA, MBA, Undergraduate, and PhD students. Select staff will have access, as well. MyWharton access is granted in late summer before student arrival on campus, is accessed via PennKey login, and is available for up to 90 days following graduation.

MyWharton (https://mywharton.wharton.upenn.edu/) provides a central location for all the information students need and makes it available on any device. This new version has been redesigned to incorporate student input and feedback from staff members who interact with students daily.

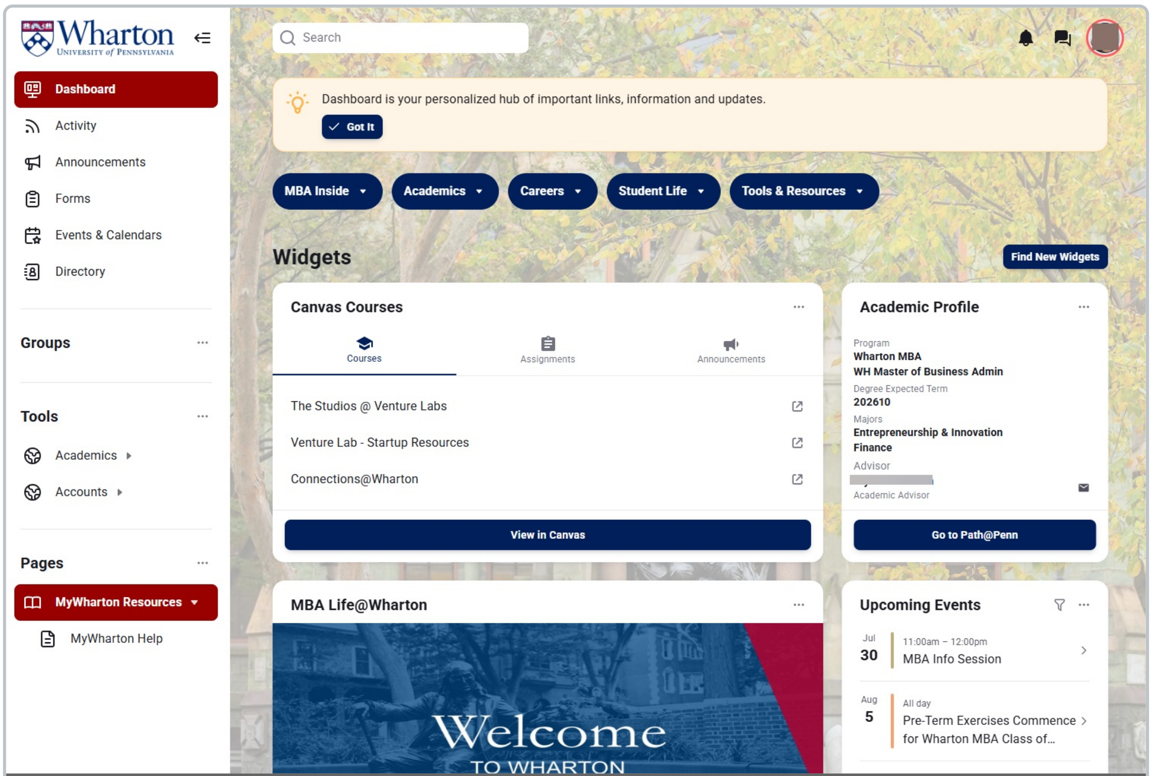
The new MyWharton leverages the Pathify platform, the leading solution for student portals in education, and provides a more personalized portal experience.

This article will be regularly updated with links to new features as we continue to update MyWharton. Check back regularly for updates, or subscribe to this article for email notifications.

Overview of the MyWharton Update Project

The new MyWharton portal aims to provide a student-focused, flexible, and easily manageable platform integrating existing systems like Canvas, and allows for development of custom widgets to integrate most other data available.

The first version using the new platform launched in late July 2025, with subsequent phases adding features and functionality.



MyWharton Home

MyWharton Features

Highlights include:

- Dashboard - the MyWharton Homepage, everything you need to know to manage your school life.
- Widgets - live within the Dashboard and are used to quickly access information about the events and information you need most.
- Events and Calendar - explore what is happening around Wharton, add events directly to your calendar, and reserve on-campus space.
- Directory - locate and connect with your classmates quickly and easily.
- Personal Settings - let you manage the information you share and the notifications you receive from MyWharton.
- Tools - a searchable collection of links to useful student resources.

Installing the Mobile App

To install the mobile app, see Useful Mobile Apps at Wharton.

Note: If you installed the "legacy" MyWharton app before **July 24 2025**, you need to uninstall it, restart your device, and search/download the MyWharton app again.

If you are using the old MyWharton app, nothing will load and you'll see a spinning wheel.

Questions?

Contact Wharton Client Support Services for assistance or visit us in person in SHDH.

MyWharton - Dashboards and Widgets

Last Modified on 08/12/2025 10:43 am EDT

MyWharton (https://mywharton.wharton.upenn.edu/) provides a central location for all the information students need and makes it available on any device. Dashboards and Widgets are key features of the portal -- use them to make MyWharton your own.

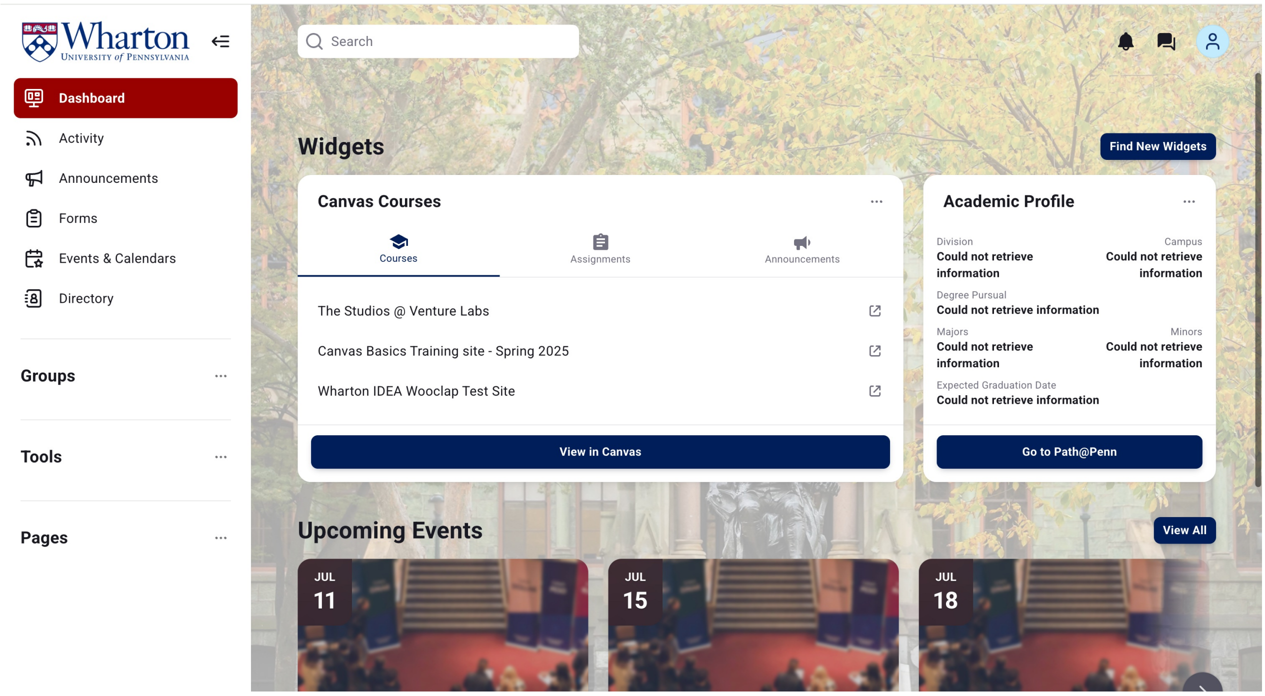
This article guides you through the steps to configure them. See our Overview article for more information.

Before You Start
MyWharton is available for Executive MBA, MBA, Undergraduate, and PhD students. Select staff will have access, as well. MyWharton access is granted in late summer before student arrival on campus, is accessed via PennKey login, and is available for up to 90 days following graduation.

Dashboard

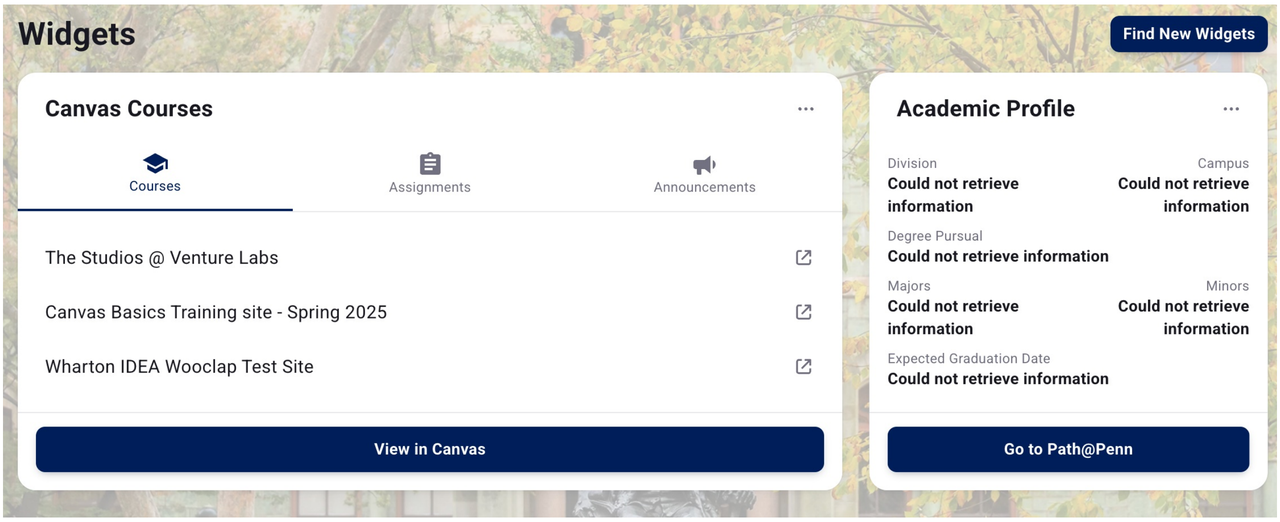
The MyWharton Dashboard is your personalized landing page where you can access key tools, updates, and information relevant to your student life. Think of it as your home base—it brings together everything from important announcements and quick links to upcoming events and academic resources.

When you log into MyWharton, the Dashboard is the first thing you'll see. The Dashboard contains a **Search** function at the top of the screen with **Navigation** options on the left sidebar. The main frame of the Dashboard is comprised of Widgets, explained below in this article.



Widgets

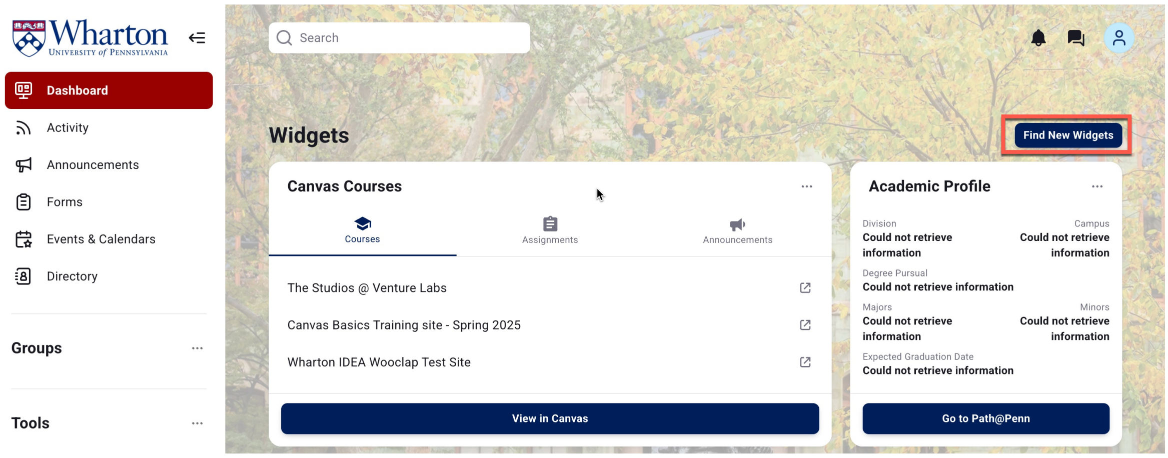
The Dashboard is made up of different sections called Widgets. Widgets are the building blocks of your MyWharton Dashboard and each serves a specific purpose.

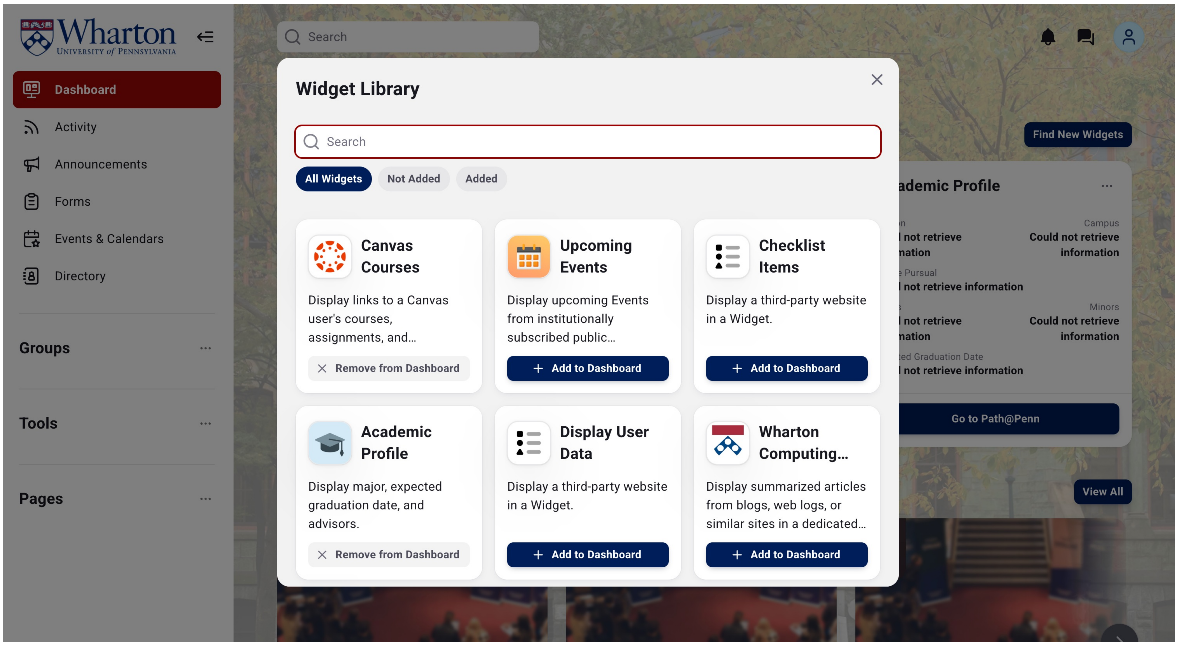


Widgets are used to quickly access various tools within MyWharton and serve specific purposes such as displaying events, your calendar, messages, Canvas content for your courses, or other academic information. Some widgets are interactive, letting you perform actions like checking off to-dos or viewing your course assignments, while others are informational.

Adding New Widgets

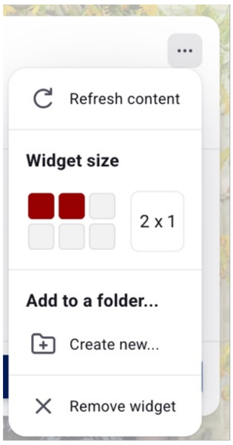
You can add new Widgets to your dashboard by selecting **Find New Widgets** in the top right corner of the Widget window.





Resizing and Arranging Widgets

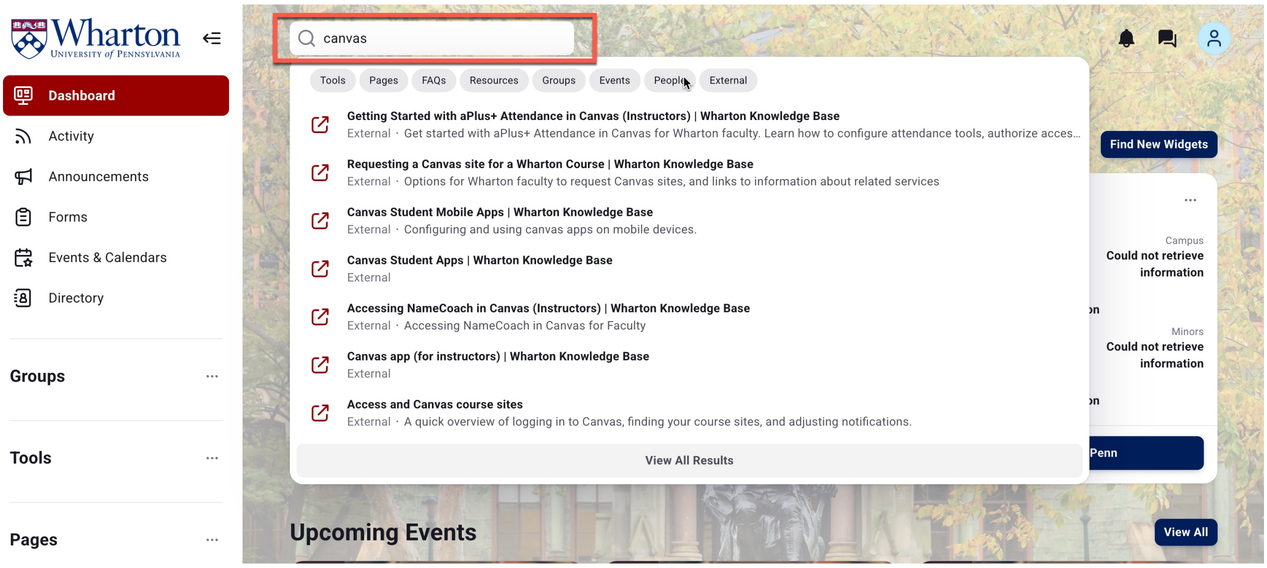
Widgets can be resized and organized into folders. **Select the three dot menu** at the top right of the widget to modify it.



Search

A key feature of the MyWharton dashboard is **Search**. Search is a universal function which returns users and resources within MyWharton as well as select external databases such as the Wharton Knowledge Base.

Any search result labeled as **External** just means the webpage is outside of the MyWharton platform, but all search results should be specific to Wharton and Penn.



Questions?

Contact Wharton Client Support Services for assistance or visit us in person in SHDH.

MyWharton - Directory

Last Modified on 11/04/2025 12:51 pm EST

MyWharton (https://mywharton.wharton.upenn.edu/) provides a central location for all the information students need and makes it available on any device. Use the Directory feature of MyWharton to find and favorite your Wharton and Penn colleagues.

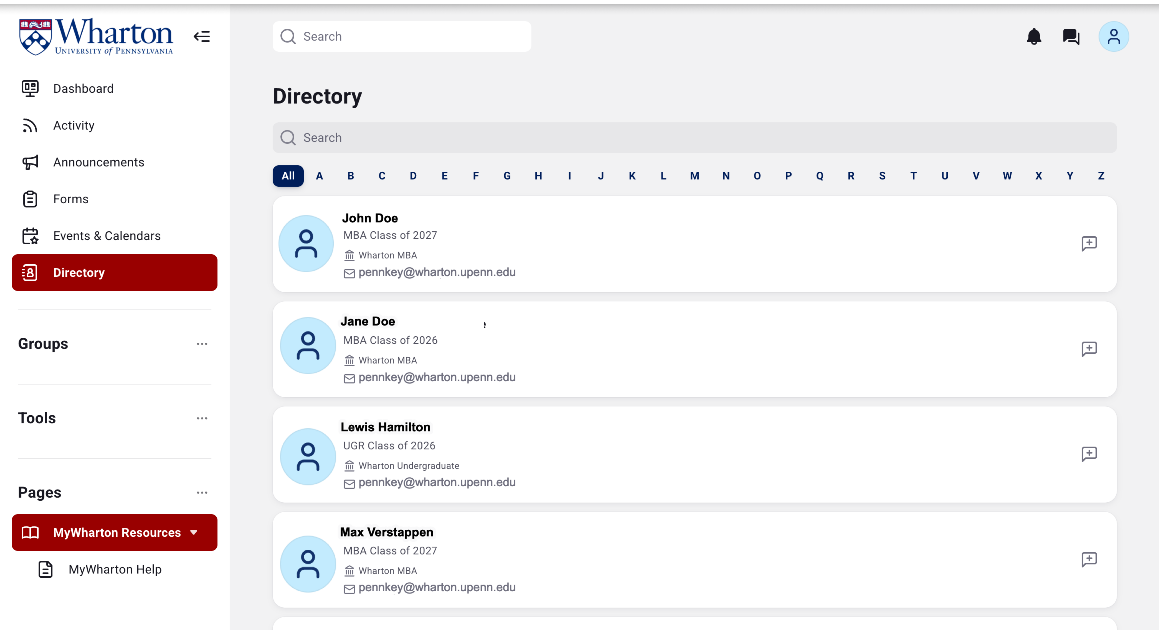
This article guides you through the steps to configure them. See our Overview article for more information.

Before You Start
MyWharton is available for Executive MBA, MBA, Undergraduate, and PhD students. Select staff will have access, as well. MyWharton access is granted in late summer before student arrival on campus, is accessed via PennKey login, and is available for up to 90 days following graduation.

Overview

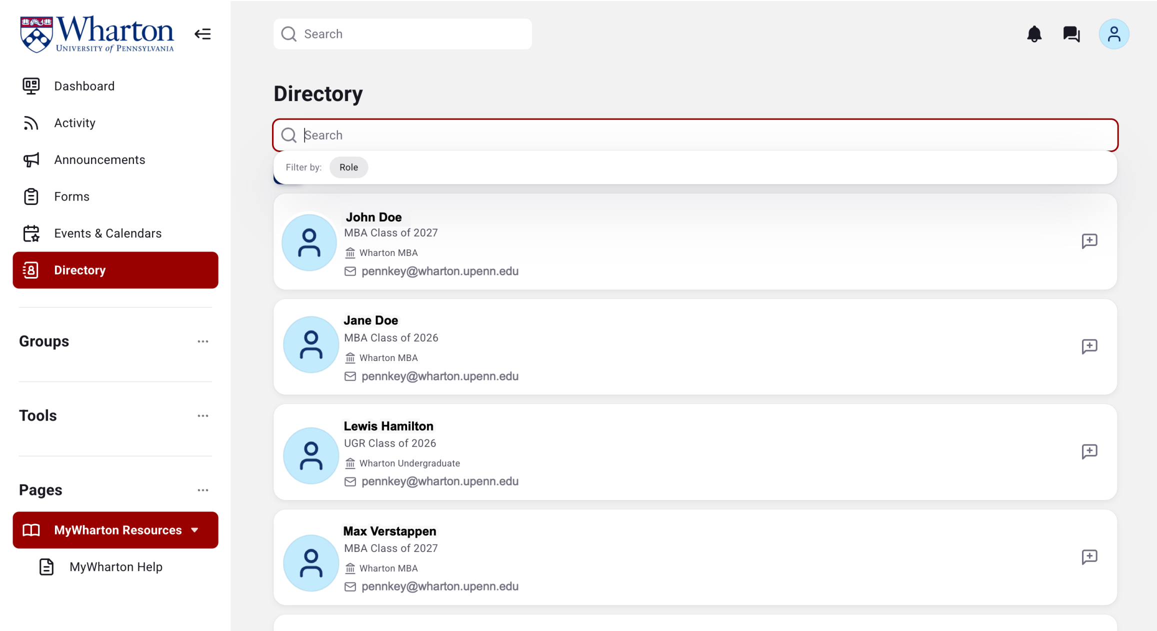
The Directory in MyWharton is a centralized tool that helps you find and connect with members of the Wharton student community. It is accessible through the main navigation menu on the left side navigation bar.

The MyWharton Directory is more customizable than the other Penn Directories such as MyPenn. An advantage of using the MyWharton Directory is the ability to search based on biographical information, and connect directly with peers within the application.



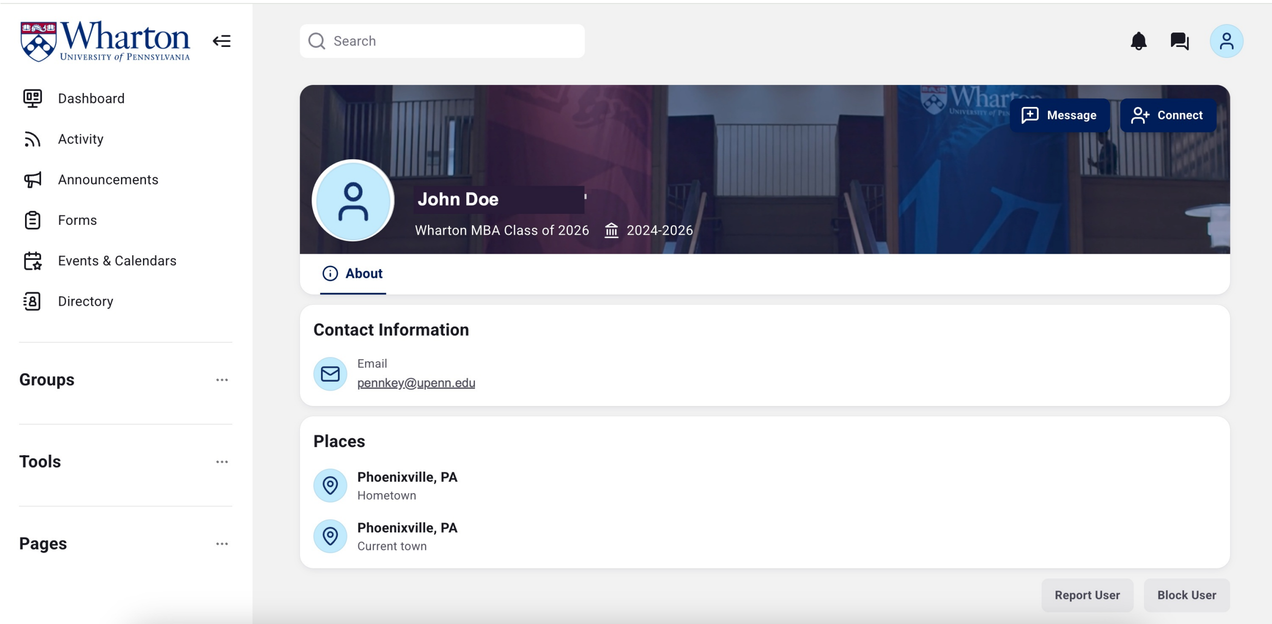
Search

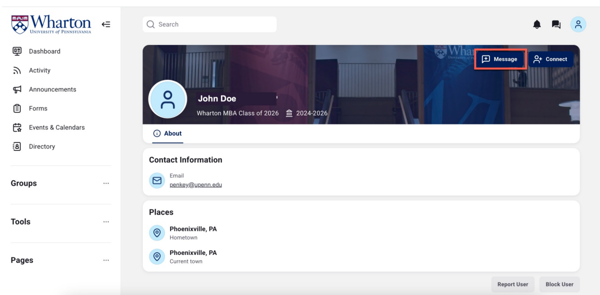
The **Search** feature of the Directory lets you search by **name**, **program**, and several other dimensions. It allows you to view basic profile information such as **email addresses, work history**, **educational history** and **biographical information**, depending what your fellow students have entered into their profile. You can filter by role to find students in a specific program and class year.

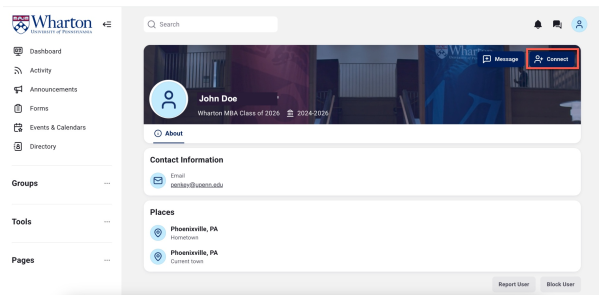


Profile

An individual's Profile will contain as much information as they upload. From a Directory page you can choose to Message or Connect with the individual. You can manage your own profile within MyWharton.







Instructions for managing your MyWharton Profile can be found in our article MyWharton - Account Settings, Profiles, and Notifications.

Questions?

Contact Wharton Client Support Services for assistance or visit us in person in SHDH.

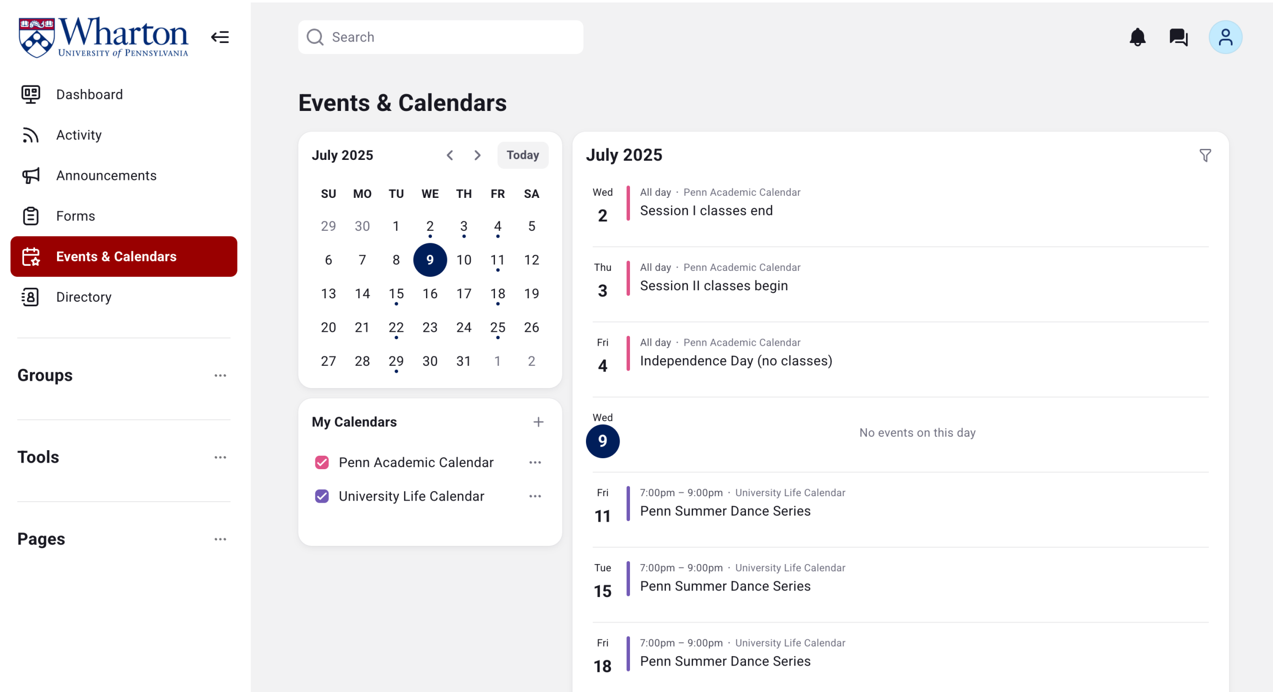
MyWharton - Events and Calendar

Last Modified on 11/10/2025 1:07 pm EST

Before You Start
MyWharton is available for Executive MBA, MBA, Undergraduate, and PhD students. Select staff will have access, as well. MyWharton access is granted in late summer before student arrival on campus, is accessed via PennKey login, and is available for up to 90 days following graduation.

MyWharton (https://mywharton.wharton.upenn.edu/) provides a central location for all the information students need and makes it available on any device. Events and Calendar provide a central place for you to track your schedule and plans

You can access Events and Calendars in MyWharton via the left navigation bar.



Calendar

Calendars in MyWharton help you stay informed and organized by bringing together campus activities, academic deadlines, and personal schedules in one convenient place.

By default, MyWharton will display the Penn Academic Calendar and University Life Calendar. You can adjust which calendars are displayed by either toggling checkboxes or by adding additional calendars that are available to you and add more via **selecting the three dot menu** in the top right corner. You also have the option to add these calendars to your personal Google or Apple calendars!

Adding a calendar to the native Apple Calendar

1. From the MyWharton app or website, **click** the **three dots menu** on the calendar you would like to add and select **Copy iCal feed URL**. You will see a pop up in the lower left letting you know that feed URL has been successfully copied
    1. **For iOS and iPadOS devices:**

    1. **Open** the calendar app
    2. **Tap** the **calendar icon** on the **bottom right**
    3. Scroll down and tap **Add Calendar**, then tap **Add Subscription Calendar**
    4. **Paste** the copied feed URL and tap **Find**
  2. **For MacOS devices:**
    1. **Open** the calendar app
    2. In the menu on the top left, go to File and select New Calendar Subscription
    3. **Paste** the copied feed URL and select **Subscribe**

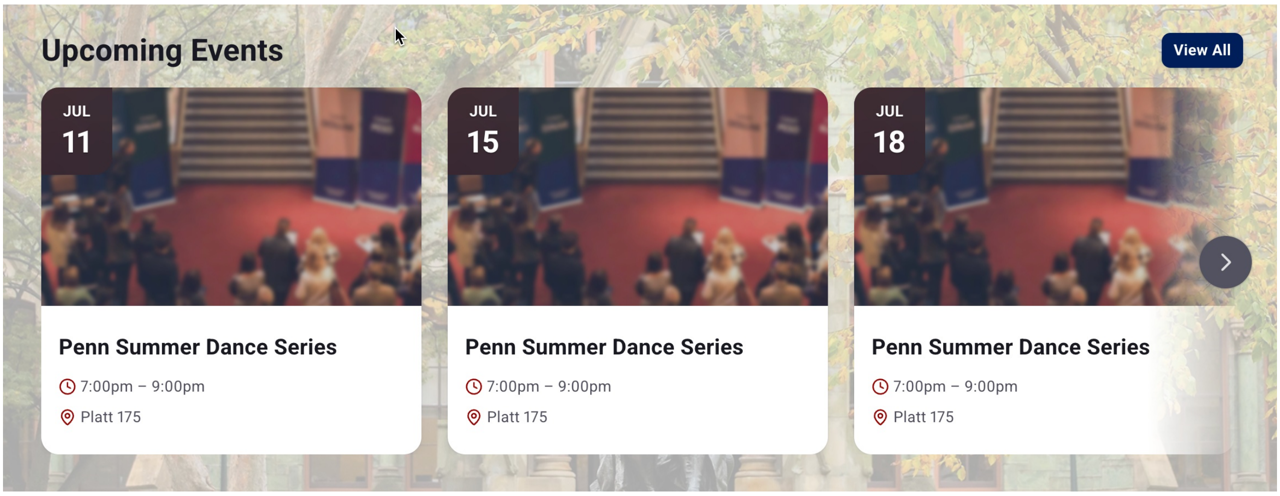
Adding a calendar to the Google@Wharton calendar

1. From the MyWharton app or website, **click** the **three dots menu** on the calendar you would like to add and select **Copy iCal feed URL**. You will see a pop up in the lower left letting you know that feed URL has been successfully copied
  1. For Android devices:
    1. Make sure the Google Calendar app is installed
    2. **[Need someone with an Android device to list steps]**
  2. For Windows or Mac PCs:
    1. Navigate to the Google Calendar website and login with your PennKey credentials
    2. Click the + symbol next to Other calendars on the lower left and select From URL
    3. Paste the copied feed URL and click the Add calendar button

> **Note:** If a calendar does not have the option to copy its iCal feed URL (for example the Penn Academic Calendar), you will need to go that calendar's source and copy the feed URL to add it to your personal Apple or Google calendar.

Events

Events are displayed in the Upcoming Events Widget on your home Dashboard -- from club meetings to registration dates and wellness events, . Click on **View All** to go to the Events & Calendars page or use the arrows to navigate your upcoming events. Click on any event to view more information and get information on how to register.



Questions?

Contact Wharton Client Support Services for assistance or visit us in person in SHDH.

MyWharton - Personal Settings

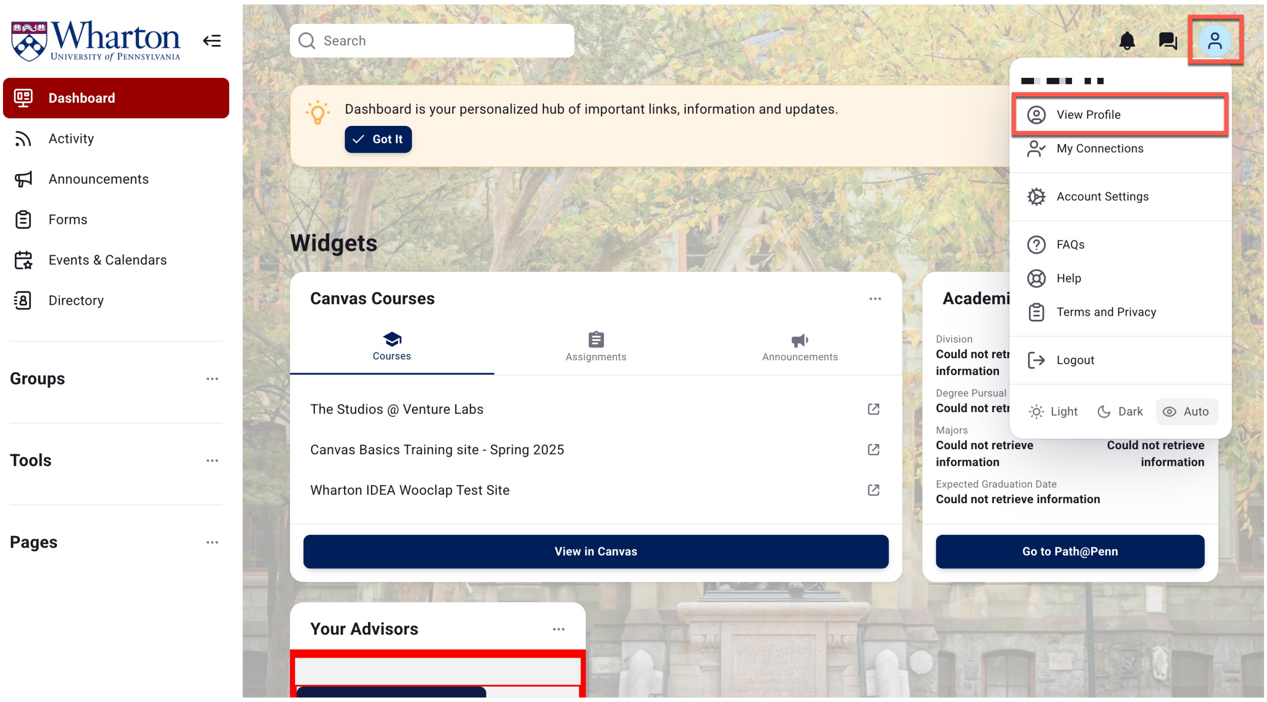
Last Modified on 11/04/2025 12:55 pm EST

MyWharton (https://mywharton.wharton.upenn.edu/) provides a central location for all the information students need and makes it available on any device. This article details how to manage your Profile and Account Settings.

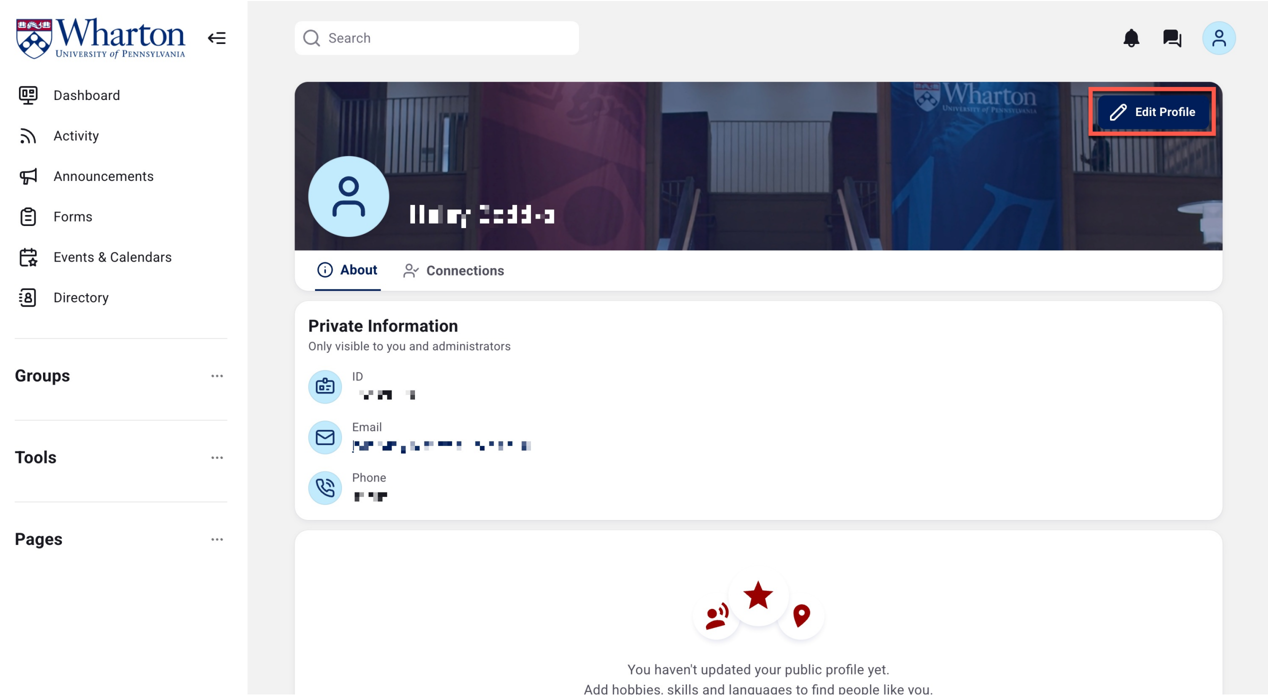
Before You Start
MyWharton is available for Executive MBA, MBA, Undergraduate, and PhD students. Select staff will have access, as well. MyWharton access is granted in late summer before student arrival on campus, is accessed via PennKey login, and is available for up to 90 days following graduation.

Managing Your Profile

You can access your profile settings by **selecting your picture** in the top right corner and selecting **View Profile.**



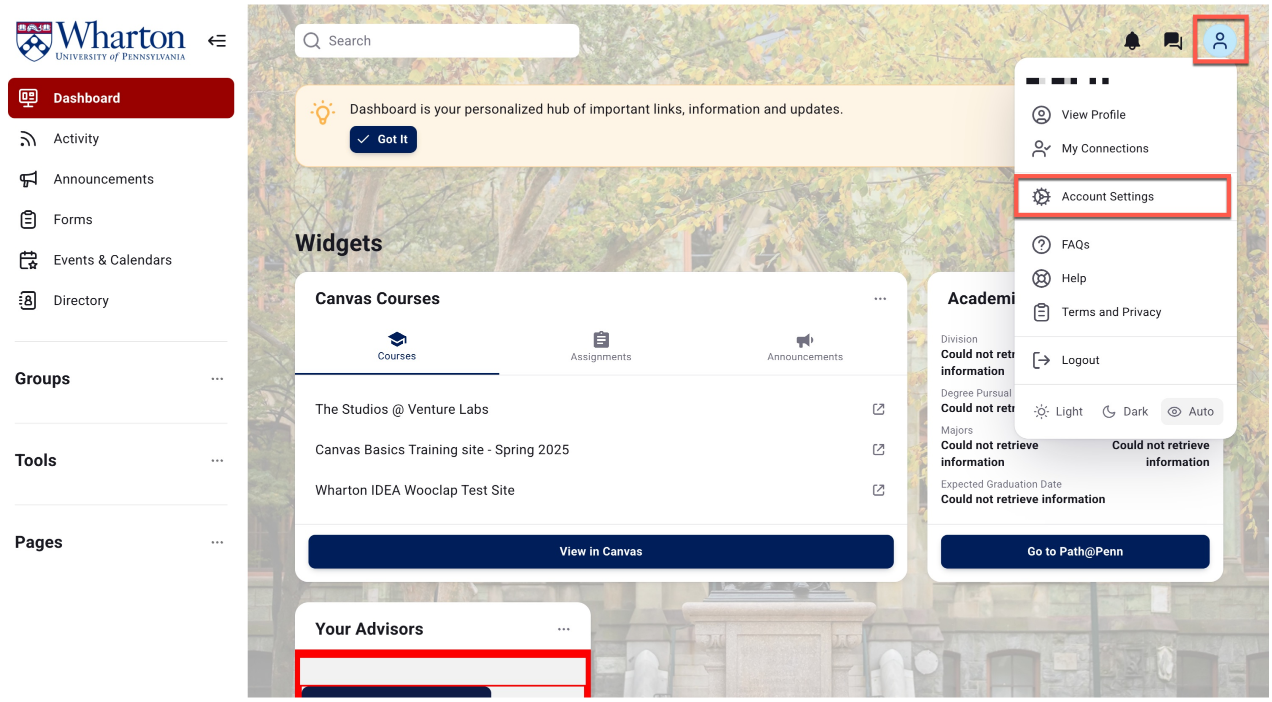
Select **Edit Profile.**



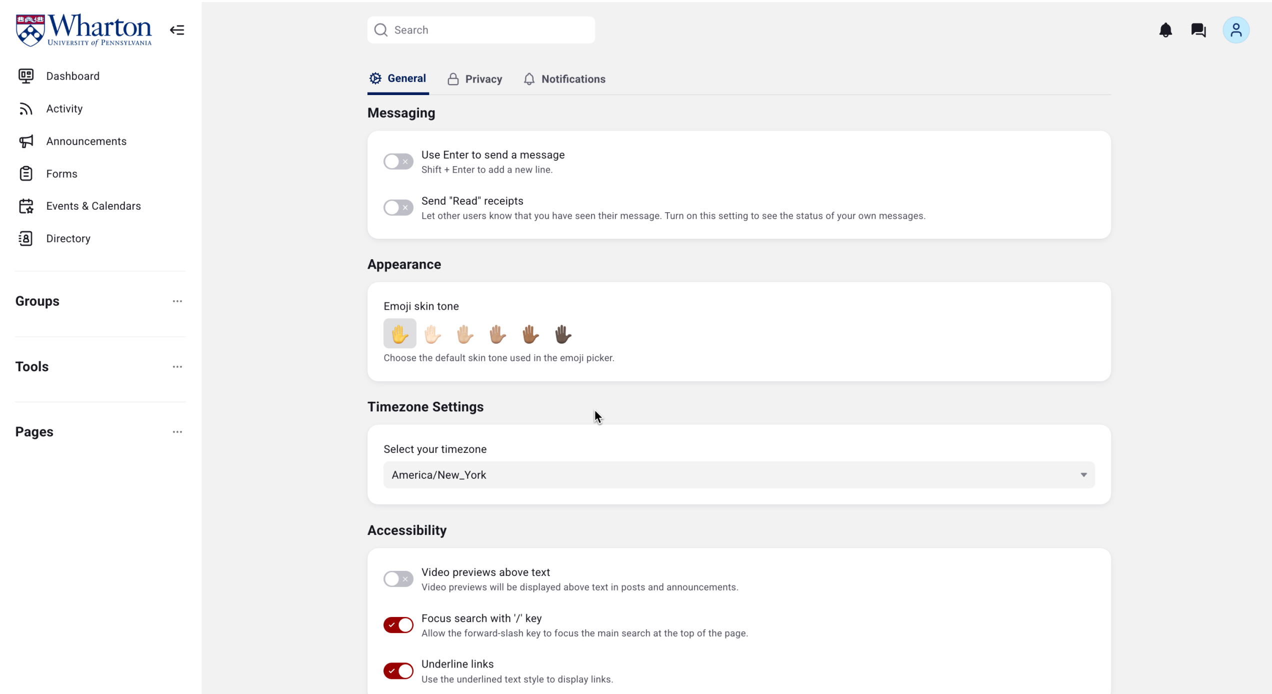
From here, you can fill out a variety of biographic information that will be viewable and searchable by other MyWharton users. Select **Read More** to see the editable sections.

Account Settings

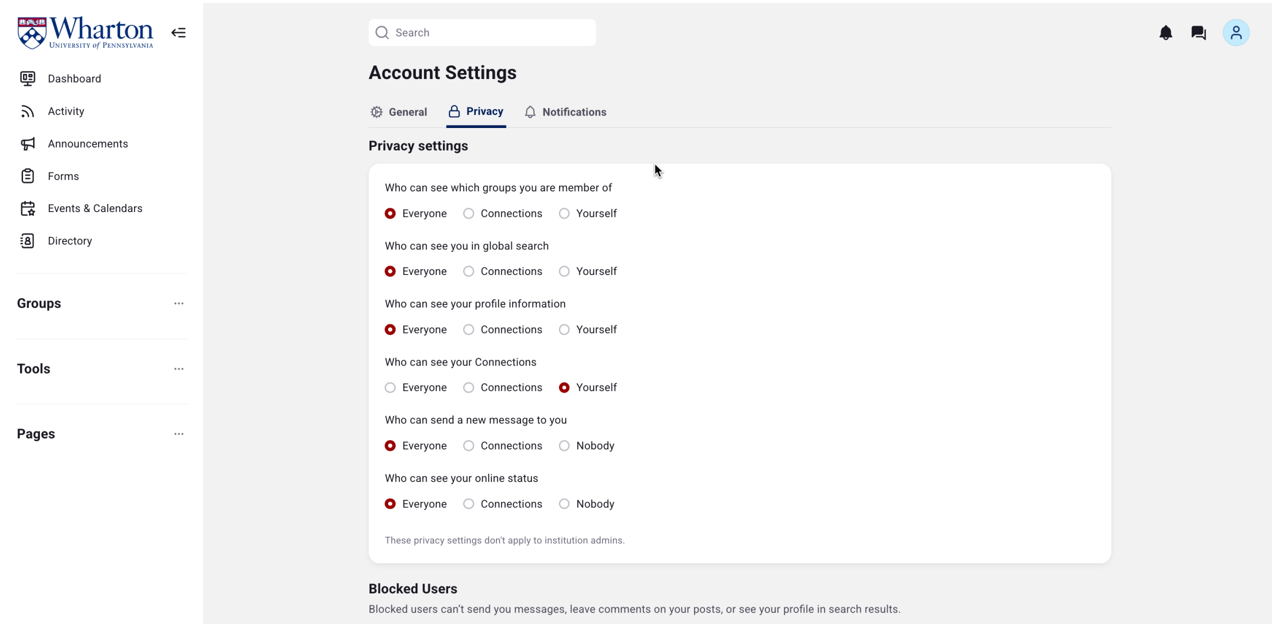
Your account settings allow you to manage your privacy, dial up or down all kinds of notifications, change accessibility settings, and set your timezone. You can access your profile settings by **selecting your picture** in the top right corner and selecting **Account Settings.**



General Settings include options for messaging, emoji appearance, timezone, and accessibility.



Privacy Settings let you control which let you control what information is visible to others in features like the Directory or Communities as well as who can interact with you.



Notifications

Notifications in MyWharton help you stay on top of important updates without being overwhelmed. You can choose how you'd like to receive alerts—via email, mobile push, or within the platform—for things like new messages, upcoming events, or announcements. Notification preferences are customizable, so you can adjust the type and frequency of alerts to match your needs and avoid unnecessary distractions.

Notification Settings are extensive, and can be viewed within the MyWharton Platform.

Questions?

Contact Wharton Client Support Services for assistance or visit us in person in SHDH.

MyWharton - Tools

Last Modified on 08/12/2025 10:46 am EDT

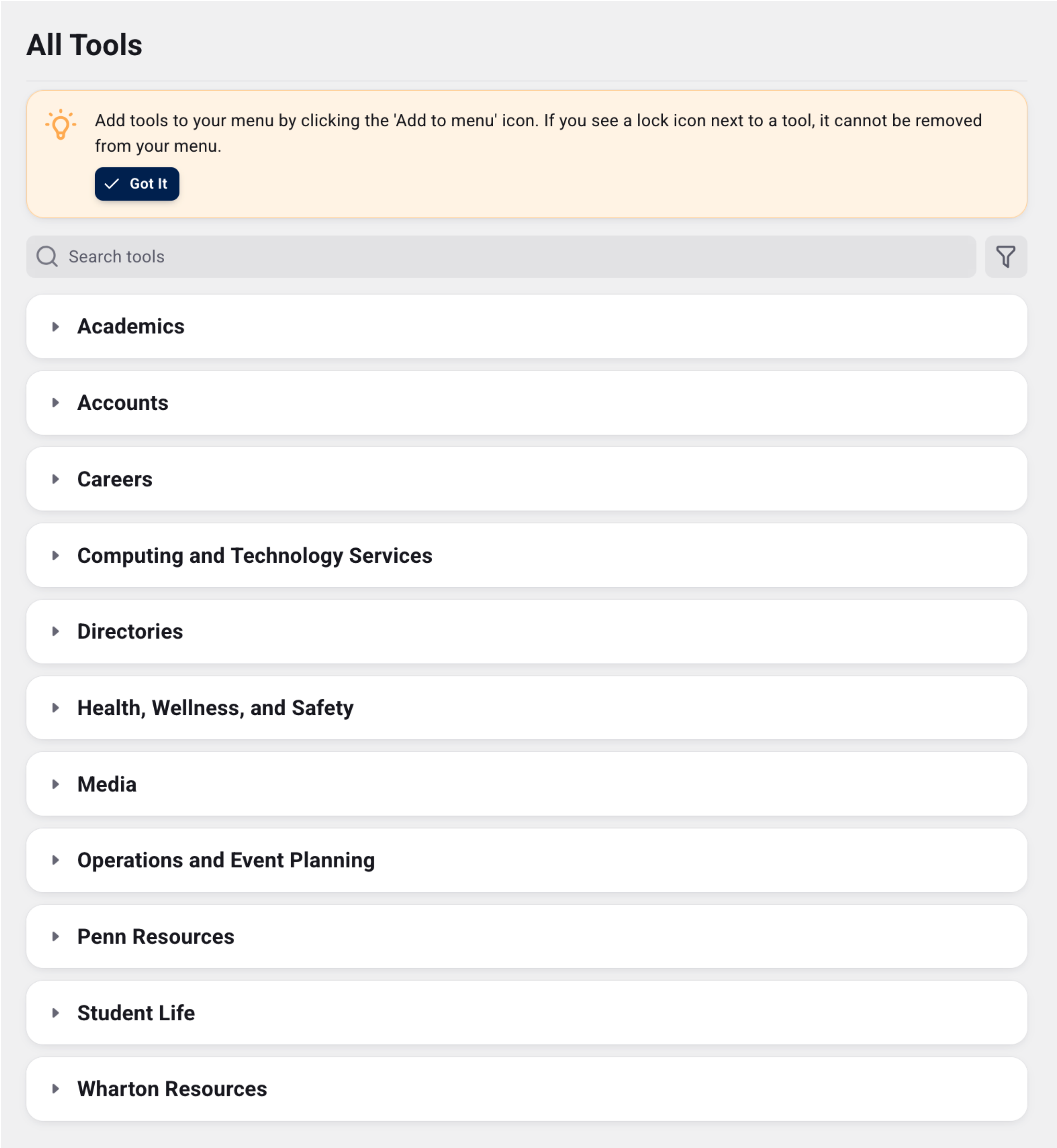
MyWharton (https://mywharton.wharton.upenn.edu/) provides a central location for all the information students need and makes it available on any device. **Tools** are another great feature of the portal -- find all the links you could possibly need.

Before You Start
MyWharton is available for Executive MBA, MBA, Undergraduate, and PhD students. Select staff will have access, as well. MyWharton access is granted in late summer before student arrival on campus, is accessed via PennKey login, and is available for up to 90 days following graduation.

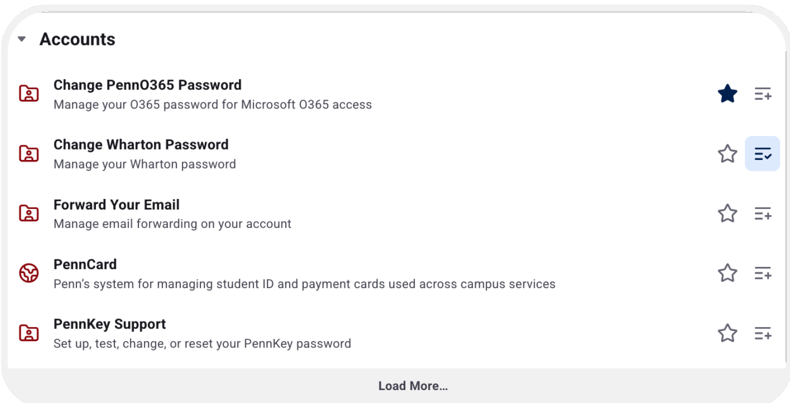
Tools

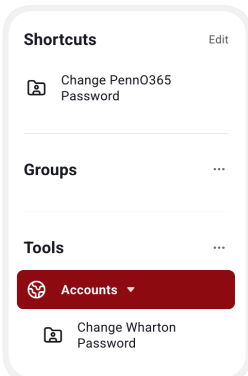
The MyWharton Tools section provides quick access to the systems and resources you use most often as a student. Whether it's checking your email, accessing your learning management system, viewing your transcript, or logging into financial aid, Tools brings everything together in one convenient location. Many institutions customize this area based on your role or program, so the tools you see are tailored to your academic experience.

There are a ton of **Tools** listed by default, so you can use the **Search tools** function to find the one you're looking for.



You can also add a Tool to Shortcuts or to the Tools Menu





Click the star icon to add to **Shortcuts** or the add to menu icon to show it in the **Tools** menu, as seen above. If there are any Tools you think are missing, please let us know!

Questions?

Contact Wharton Client Support Services for assistance or visit us in person in SHDH.

Using Files in MyWharton for WEMBA

Last Modified on 08/01/2025 5:49 pm EDT

Program files are made available to WEMBA students via libraries in the **Files tab** of MyWharton. Students will only see the libraries that they have access to, which can be controlled by groups or down to the individual level. WEMBA Community managers have the ability to create new libraries, add folders, and upload files for students.

Before You Start

You must have WEMBA Community Manager privileges to add Files in MyWharton.

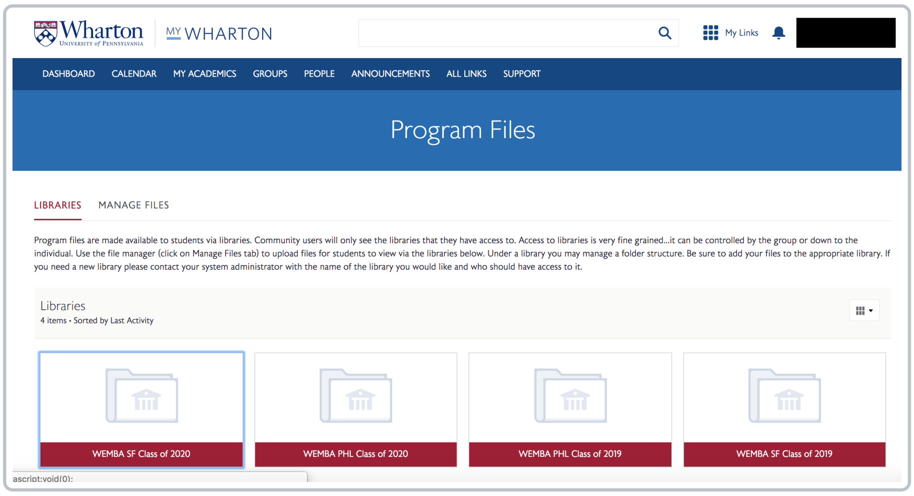
- **Contact** mywharton-support@wharton.upenn.edu with access questions.

Using Files in MyWharton

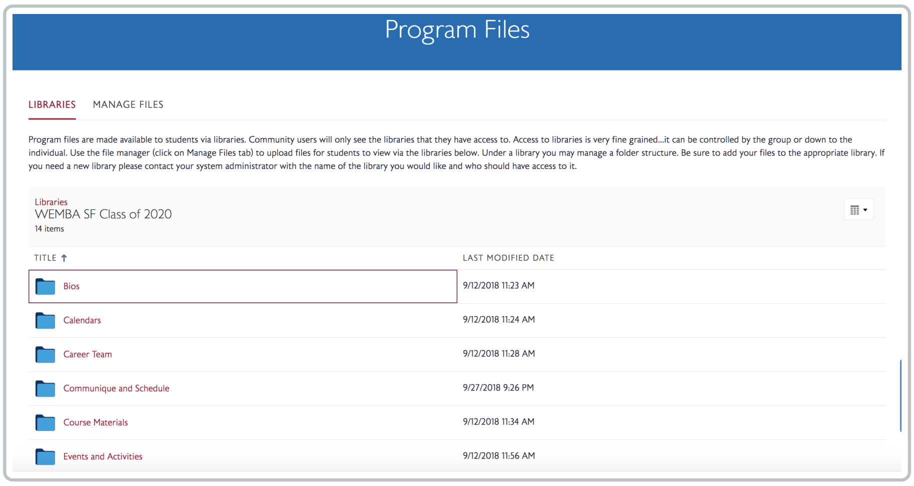
Follow the instructions below to access and manage files for WEMBA students.

When posting a file to a group in the group feed you will be able to select files from your libraries.

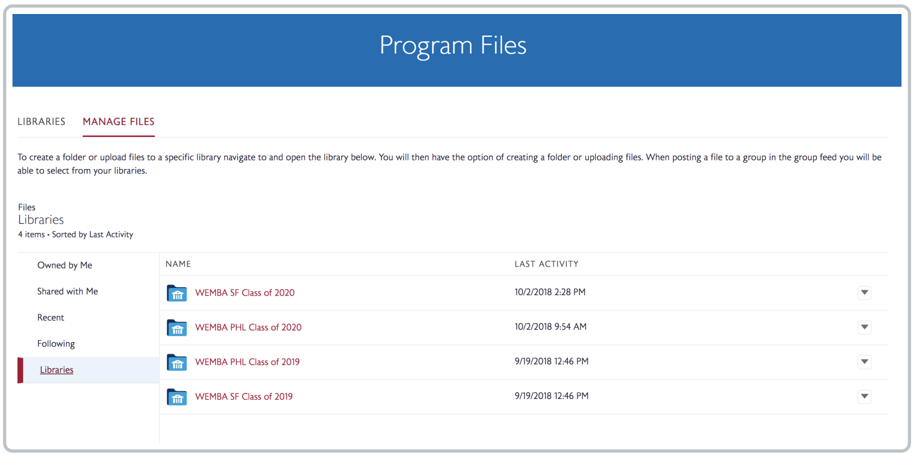
1. Login to **MyWharton Community** and click on the **Files** tab. Once there, you'll see a list of the libraries that you have access to. If you don't see the Files tab in your navigation bar yet, go to the following URL after logging in: https://mywharton.wharton.upenn.edu/s/files.



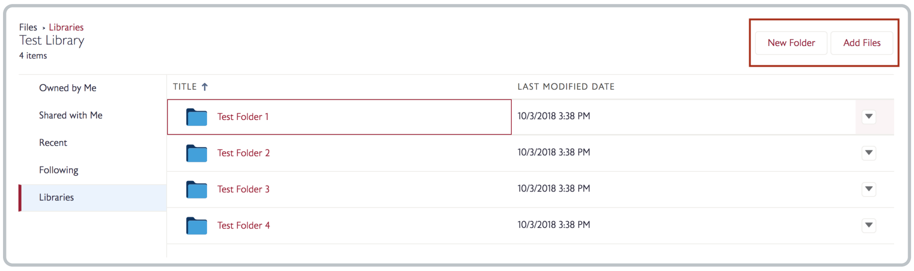
2. Click on the name of a library to access the folders and files contained inside.



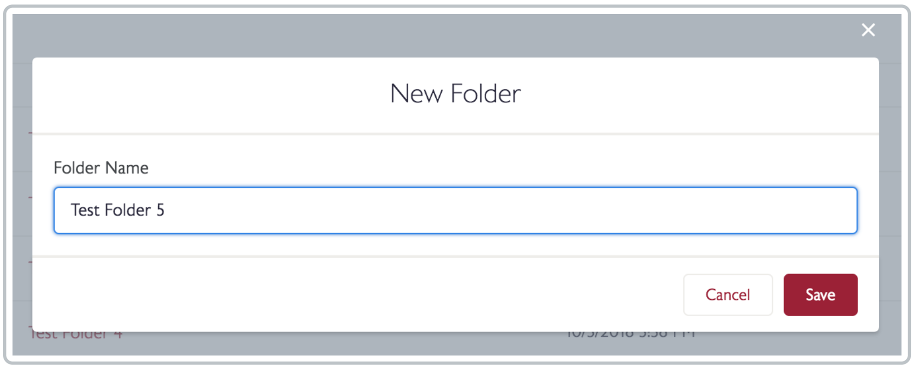
3. If you want to upload files for students to view, click on the **Manage Files** link.
4. Click on **Libraries** and then choose the appropriate library where you would like to upload the files.



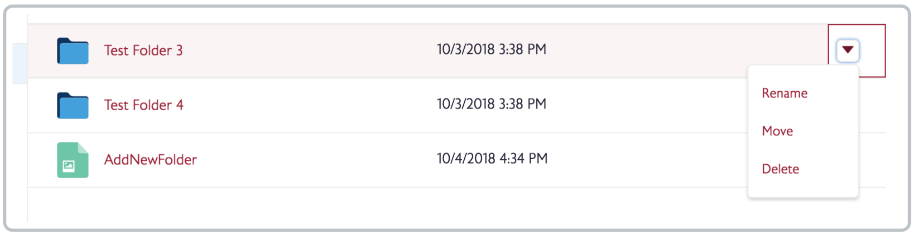
5. Once inside the library of your choice, click the **New Folder** or **Add Files** button to add new folders and files.



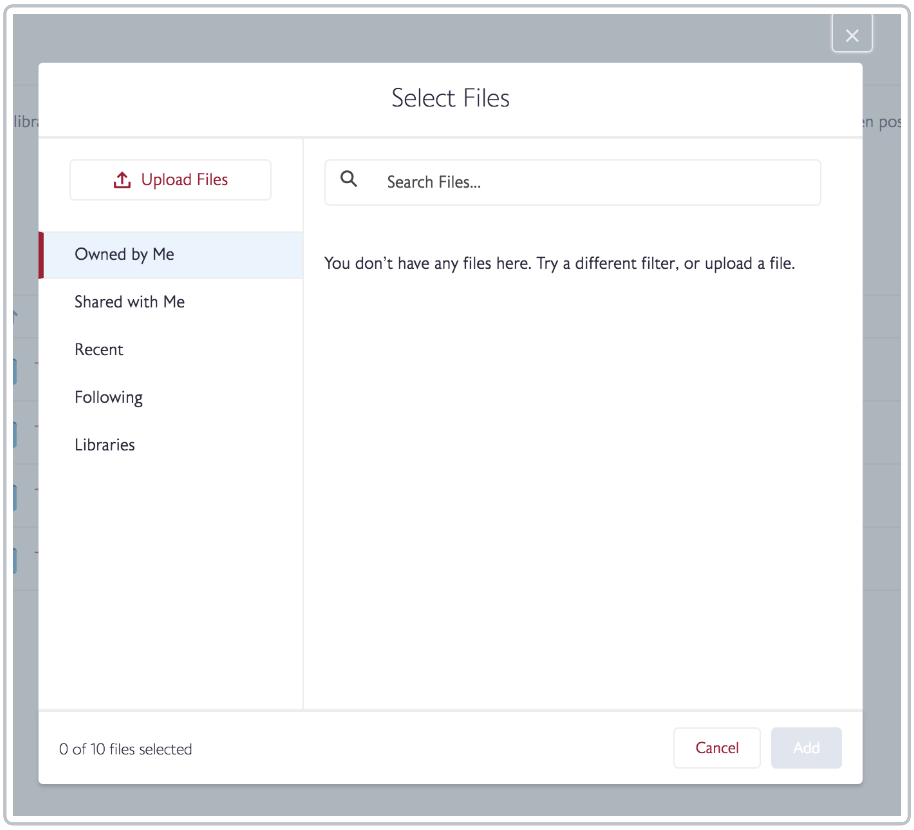
6. Create a name for New Folders and click **Save**.



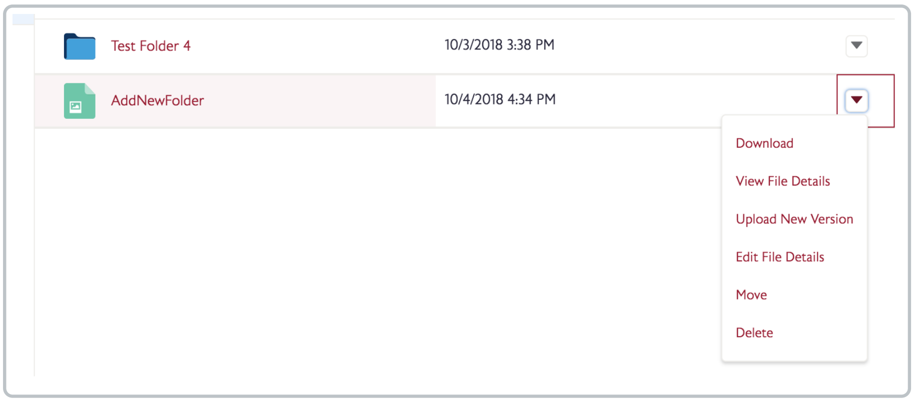
7. After a folder has been added, you have the option to **Rename, Move, or Delete** it by clicking the triangle button.



8. You can either add files owned by you, shared with you, recently viewed files, files that you are following, or files from other libraries. You can also **Upload Files** from your computer. Choose a file or multiple files and click **Add** and then **Done** once the files finish uploading.



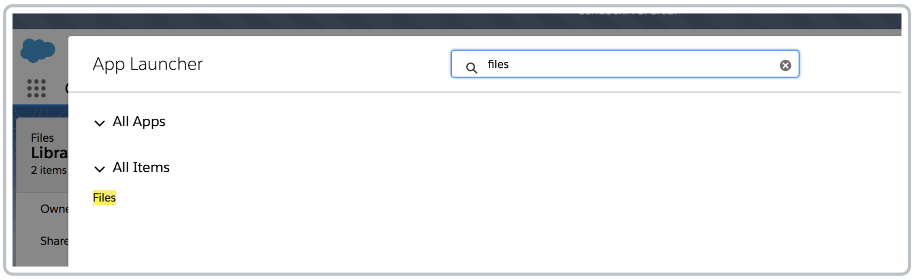
9. After a file has been uploaded to a library, you have the option to **Download, View file details, Upload a new version, Edit file details, Move files, or Delete the file** by clicking the triangle button. *Note: Deleting a file removes it from any records or posts that it's attached to.*



Creating a New Files Library

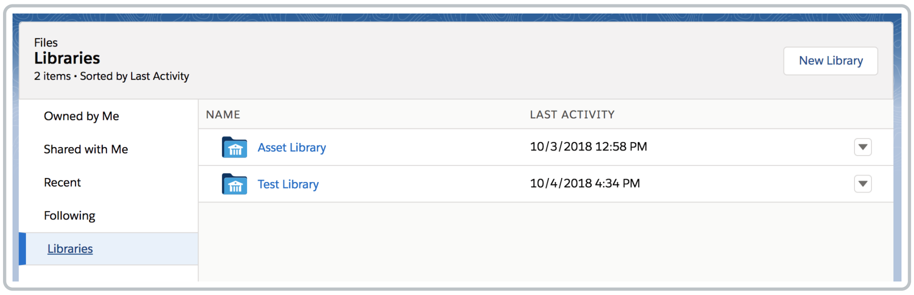
New libraries will only have to be created during those few times of the year when new classes of students matriculate.

1. Log in to the **Wharton Salesforce instance** (https://wharton-hub.my.salesforce.com/) and search for **Files** in the app launcher and then click on it.

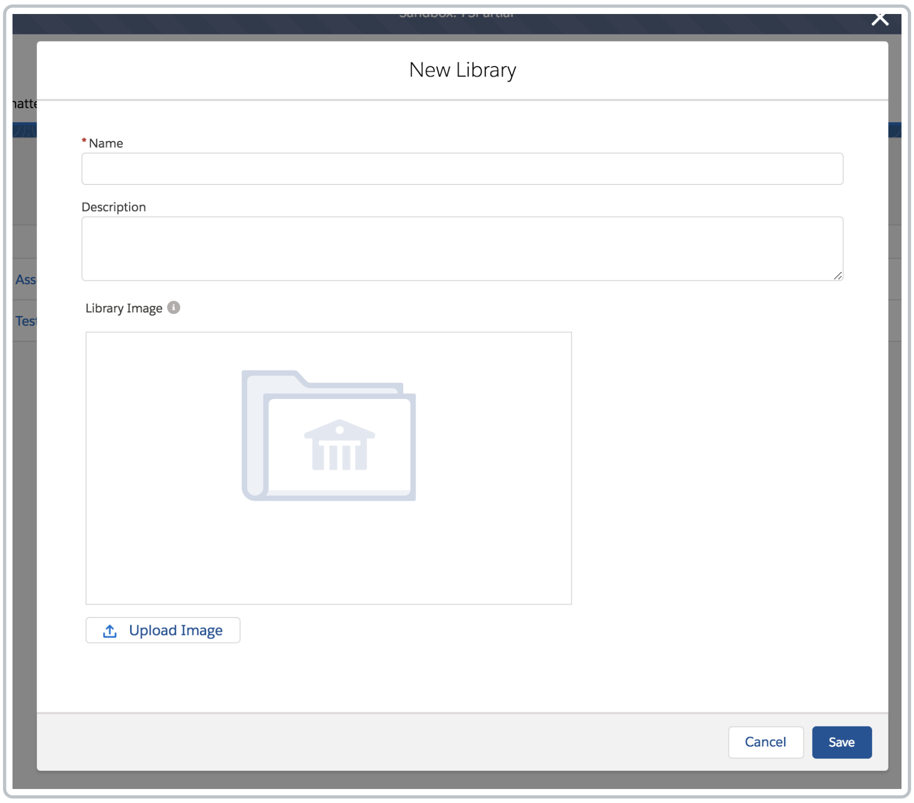


2. Once inside the Files app, click on **Libraries** and you'll see a list of the WEMBA libraries that you have access to:

> These libraries pictured below are what Wharton Computing employees see, but if you are a WEMBA Community Manager, you'll see a list of WEMBA libraries

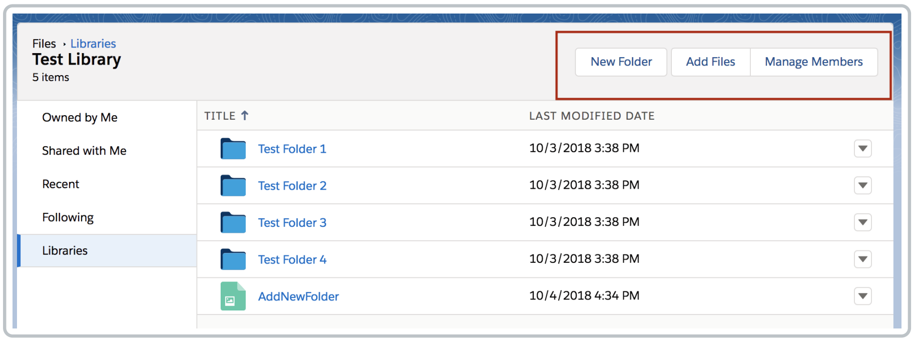


3. Click on **New Library** and give it a Name, Description, and Upload an Image to serve as the Library's icon if you'd like (*Note: Images are not necessary but if you submit one make sure it has a 16:9 aspect ratio*) and then click **Save**.

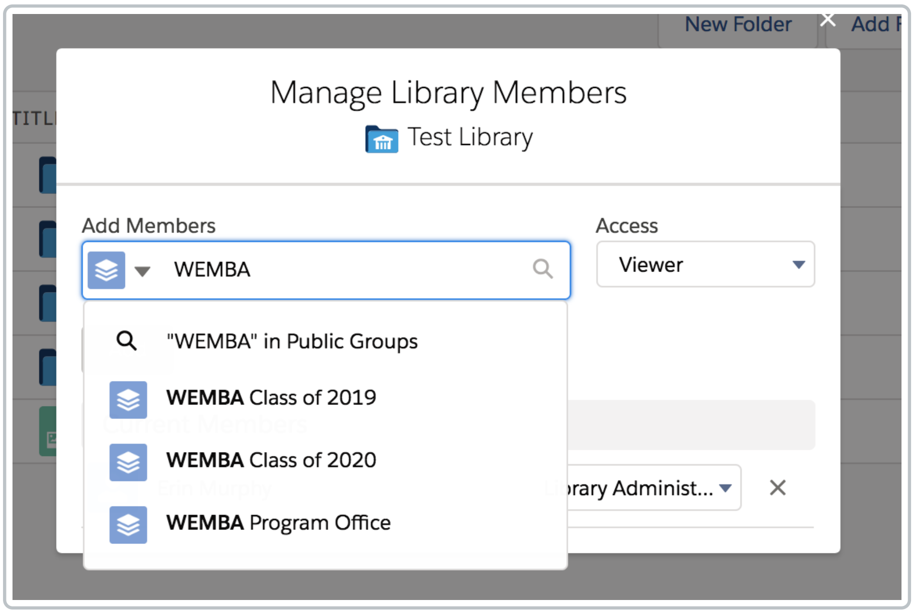


4. Once you add a new library, you can **add folders and files** much like in the front-end of MyWharton, but you

also have the additional option to **Manage Members** which lets you set permissions of who can view the library.



5. Once you are in the library of your choice, click **Manage Members** and you can search for the various WEMBA groups that should have access and select "Viewer" to give them permission to view files and folders and then click **Add**.



Questions?

Contact: MyWharton Support

Email: mywharton-support@wharton.upenn.edu

MyWharton Guide

Last Modified on 08/01/2025 5:40 pm EDT

About MyWharton

MyWharton (my.wharton.upenn.edu) provides a central location for all of the information students need and makes it available on any device. It has been designed from the ground up with student input and in partnership with staff members who interact with students daily.

Getting Started with MyWharton

To access MyWharton:

1. Go to my.wharton.upenn.edu
2. Log in with your PennKey and password.

All Undergraduate, MBA, and WEMBA students as well as certain staff designated by each department have access to MyWharton. If you cannot log in, contact:

- **Students**: http://computing.wharton.upenn.edu
- **Staff**: mywharton-support@wharton.upenn.edu

Depending on which program and role you are in, MyWharton will function slightly differently. Choose your affiliation below for customized instructions on getting started with MyWharton. Note the access date for your particular user type:

MyWharton for UGRs 
MyWharton for MBAs 
MyWharton for WEMBAs 

Installing the Mobile App

Choose your device below to install the MyWharton app on your mobile device. MyWharton mobile allows you to access the same features as the website and also includes persistent login and notifications.

MyWharton App for iOS Devices
MyWharton App for Android Devices

Need Help?

Students: Wharton Computing Student Support

Staff: MyWharton Support

MBA MyWharton Features Overview

Last Modified on 08/01/2025 5:38 pm EDT

This is an overview of the MyWharton Community interface for MBA students and staff.

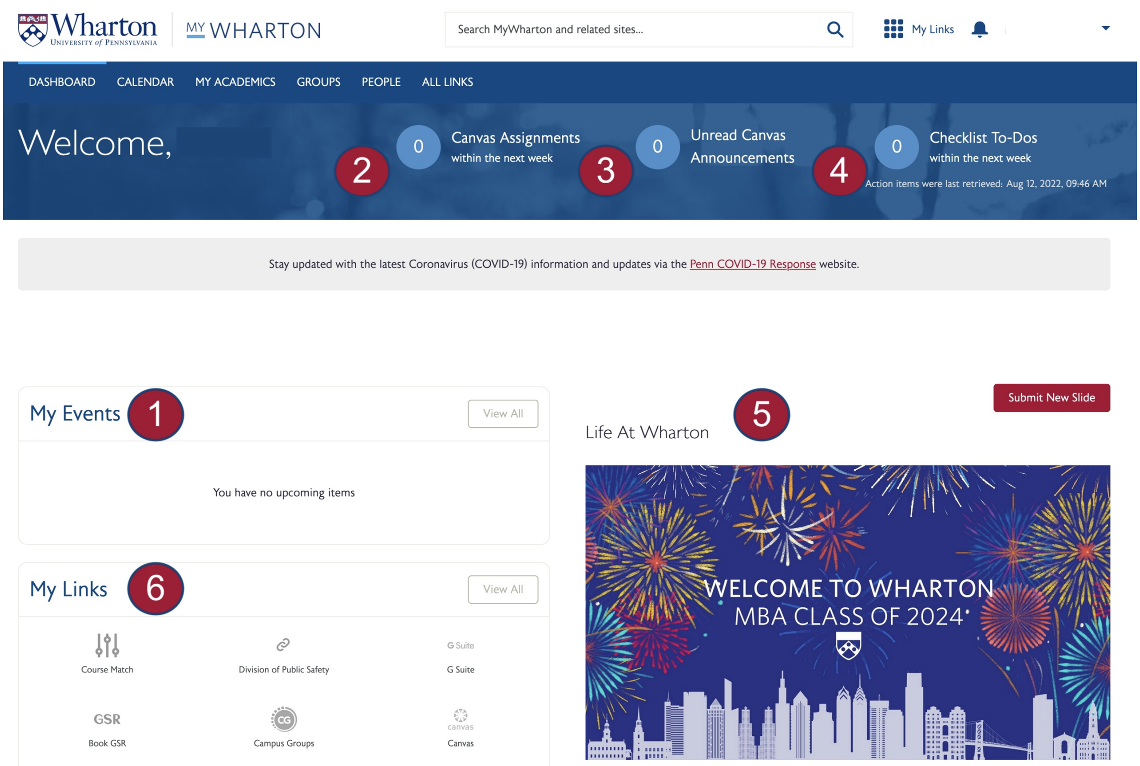
Before You Start

All MBA students and some MBA staff should have access to MyWharton. If you cannot log in, contact:

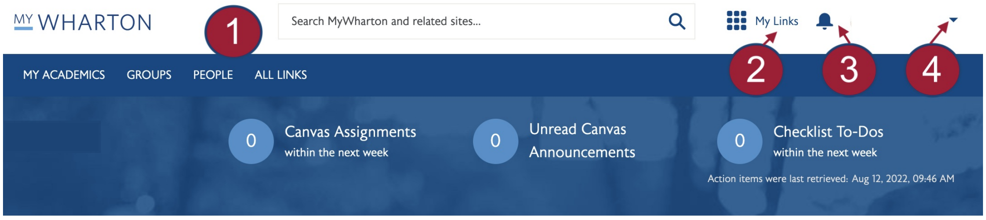
- **Students**: http://computing.wharton.upenn.edu
- **Staff**: mywharton-support@wharton.upenn.edu

Dashboard

The MyWharton Dashboard aggregates data and provides links to other areas of MyWharton and Penn/Wharton sites. The numbers on the screenshots correspond to the numbers in the listed items below each image.



1. **My Events –** Includes events for clubs you are a member of or other groups you have joined, along with personalized events (courses, appointments, GSR reservations) and events you create in MyWharton.
2. **Canvas Assignments –** number of assignments due in the next week; links to Canvas dashboard .
3. **Unread Canvas Announcements** – number of unread announcements; links to Canvas dashboard.
4. **Checklist To-Do's** – number of items due in the next week; links to Checklist app.
5. **Life at Wharton** – display of featured events around the school.
6. **My Links -** Links you have favorited will appear here for easy access.

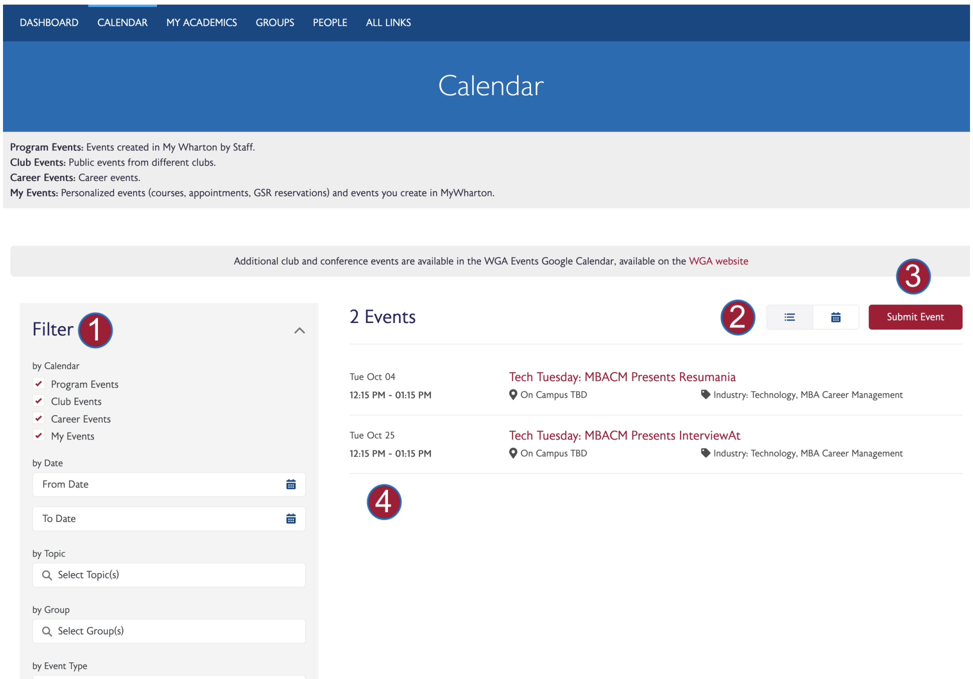


From the Dashboard page you can also do the following:

1. **Search MyWharton** and related sites for relevant content including help articles.
2. **Personalize your My Links** section to quickly access your favorite student resources.
3. **View Notifications** about important news & notices.
4. **Customize your Profile and Settings** by clicking on your name.

Calendar

The Calendar page allows MBA students to submit events, search and filter, bookmark, and add events to external calendars (e.g., Outlook, Gmail, etc.). The numbers on the screenshot correspond to the numbers in the listed items below.



1. **Filter** – search for events by date range, topic, group or event type, and different calendar types:
    - **Wharton Events** – Includes your Class, Cohort, and/or Cluster group events, along with school-wide events and public events hosted by clubs you are not a member of.
    - **My Calendar** – Includes events for clubs you are a member of or other groups you have joined, along with personalized events (courses, appointments, GSR reservations) and events you create in MyWharton.
        - Classes for the current term and next term (automatically added; changes reflected within 24 hours)
        - Appointments from CampusGroups, and CareerPath (automatically added; changes reflected within an hour)
        - On-Campus Recruiting Interviews from CareerPath (automatically added; changes reflected within 24 hours)

        - Bookmarked events you have chosen to display from Wharton Events and/or Important Dates calendar (students need to select "Display" on an event detail)
        - Events students have created in MyWharton
        - GSR reservations (automatically added)
        - ***Note:*** *Employer Information Sessions and Workshops (from CareerPath) and Campus Group events that a student has RSVP-ed to* ***will not*** *automatically be displayed on My Events (students will need to bookmark the event from All Events to add it to My Events)*
    - **Important Dates** – Displays key dates set by the MBA program
2. **Views** – list view or calendar view (use calendar view to see past events)
3. **Submit Event** – MBA students can submit events to the MyWharton calendar; any events created in Campus Groups will be synced up to MyWharton based on permissions -- e.g., private events will only be viewable by group members in MyWharton but public events will be viewable by all MBAs in MyWharton)
4. **MyWharton Calendar Feeds** – links to a Calendar Feeds page where students can subscribe to or import events from their MyWharton calendar

Academics

The Academics page aggregates all of the relevant resources for courses including a link to set up appointments with an academic advisor.

- **Current Term | Next Term** – displays registrations for current/next term or a link to Course Match if the student is not registered (changes to registration will be reflected within 24 hours)
- **Academic Advisor** – displays the student's Academic Advisor
- **Featured Links** - provides other course-related links depending on the student type (e.g., Canvas, Course Match, Wharton Course Catalog, etc.)
- **Degree Information** – displays degree, major, minor, and expected graduation

Groups

The Groups page allows students to view past and present groups, request to join groups and view groups that they belong to. Groups are managed by MyWharton Community Managers.

Multiple Views of Groups

- **My Groups** – displays the groups the user belongs to (default view)
- **All Groups** – displays all groups that have been added to MyWharton

Group Types

- **Private** – Visible to all community users but users must be group members to view discussions. Users must request to join.
- **Public** – Publicly available to all community users. Users can view discussions without being a member. Anyone can join.
- **Unlisted** – Hidden from community users. Users must be invited by the Group Owner or Admin.

Click into a specific group to:

- See group details and members
- Manage notification preferences
- View group activity feed and related content posted for that group

- View related content, such as files, upcoming events, and the latest news and notices

People

The People page allows students to search the directory of current students and staff as well as a link to MyPenn for Alumni. From a user's profile, you can follow or direct message them in MyWharton.

- **Profiles of active users** – search by name, program, hometown, company, or industry; includes current students and staff
  - You can follow or message a user from their profile; you can also see posts they have made in the community in the activity feed below their profile
- **Link to MyPenn for Alumni**

All Links

The All Links page allows students to organize links to resources across Penn and Wharton.

- Links to resources across Wharton and Penn
- Users can toggle the heart icon next to links to add it to their **My Links box**

Support

The Support page contains knowledge articles for students to browse frequently asked questions to help navigate their Wharton experience. Users can also find a list of topics relevant to their program, along with related content and discussions.

- Users can follow topics or ask questions about topics to the community

Questions?

Contact:

Staff : MyWharton Support: mywharton-support@wharton.upenn.edu

Students: Wharton Computing Student Support: support@wharton.upenn.edu

Undergraduate MyWharton Features Overview

Last Modified on 08/11/2025 3:59 pm EDT

This is an overview of the MyWharton Community interface for UGR students and staff.

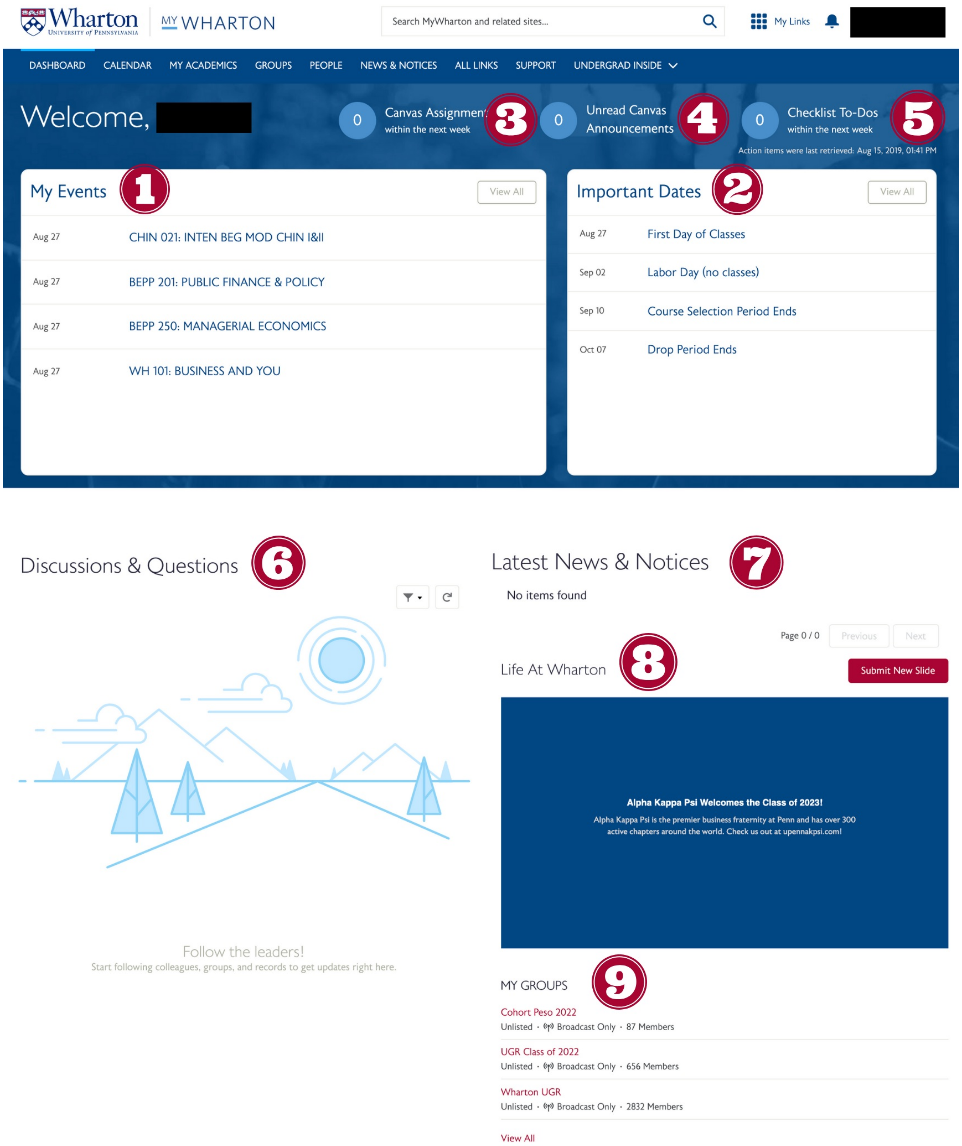
Before You Start

All UGR students and some UGR staff should have access to MyWharton. If you cannot log in, contact:

- **Students**: support@wharton.upenn.edu
- **Staff**: admin-support@wharton.upenn.edu

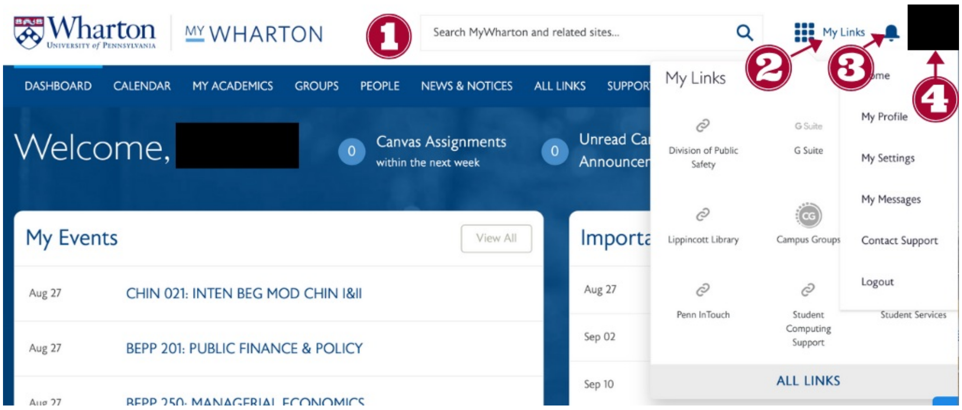
Dashboard

The MyWharton Dashboard aggregates data and provides links to other areas of MyWharton and Penn/Wharton sites. The numbers on the screenshots correspond to the numbers in the listed items below each image.



MyWharton Dashboard Screenshot Explained:

1. **My Events –** displays events for clubs you are a member of, or other groups you have opted in to, along with personalized events (such as courses, appointments, GSR reservations)
2. **Important Dates –** upcoming important dates (determined by staff)
3. **Canvas Assignments –** number of assignments due in the next week; links to Canvas dashboard
4. **Unread Canvas Announcements –** number of unread announcements; links to Canvas dashboard
5. **Checklist To-Do's –** number of items due in the next week; links to Checklist app
6. **Discussions & Questions –** personalized activity feed; contains posts from Community Managers for UGR students
7. **Latest News & Notices –** 3 most recent news & notices posts
8. **Life at Wharton –** display of featured events around the school
9. **My Groups –** list of groups or clubs that the user is a member of (see Groups section below for details)

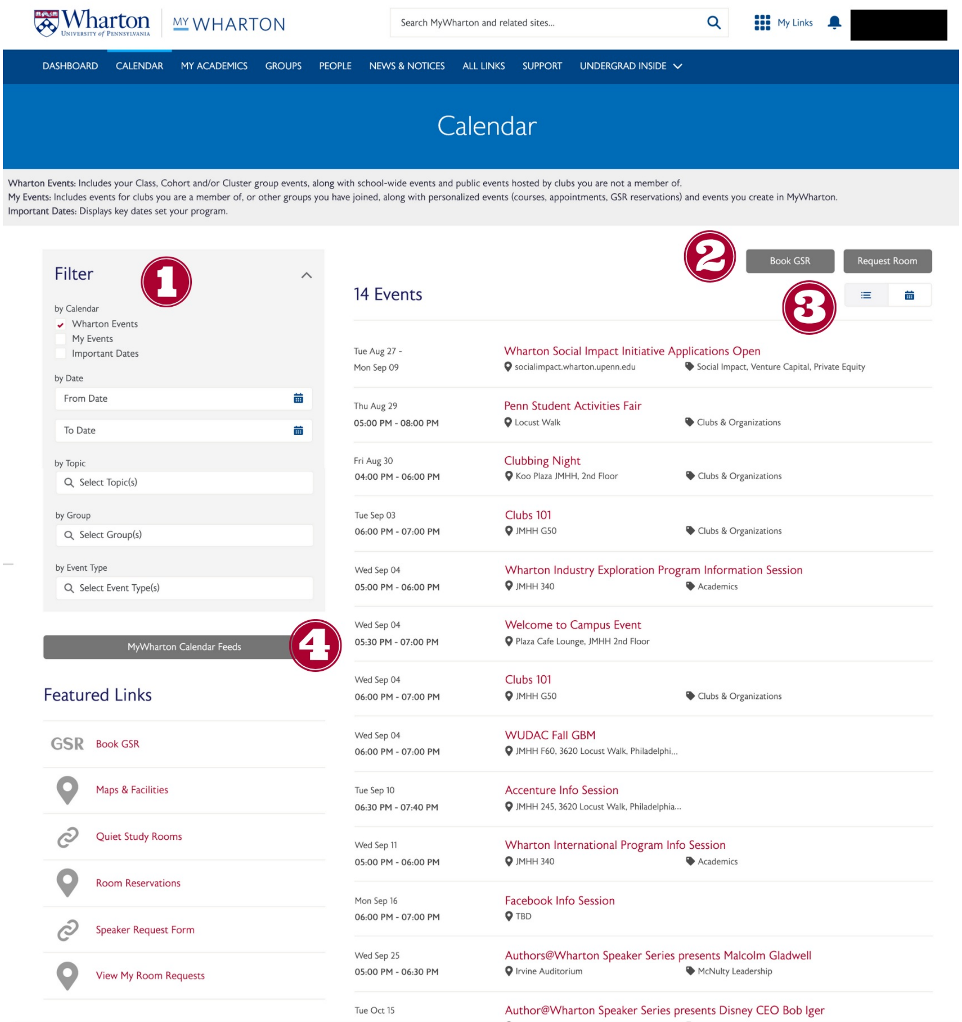


From the Dashboard page you can also do the following:

1. **Search MyWharton** and related sites for relevant content including help articles.
2. **Personalize your My Links** section to quickly access your favorite student resources.
3. **View Notifications** about important news & notices.
4. **Customize your Profile and Settings** by clicking on your name.

Calendar

The Calendar page allows students to search events, bookmark events, request rooms, book GSRs, and add events to external calendars (e.g., Outlook, Gmail, etc.). The numbers on the screenshot correspond to the numbers in the listed items below.



1. **Filter –** search for events by date range, topic, group or event type, and different calendar types:
   - **Wharton Events –** Includes your Class, Cohort and/or Cluster group events, along with school-wide events and public events hosted by clubs you are not a member of
   - **My Calendar –** Includes events for clubs you are a member of, or other groups you have joined, along with personalized events (courses, appointments, GSR reservations)
   - **Important Dates –** Displays key dates set by the UGR program
2. **Book GSR** links to the GSR reservation system and **Request a Room** links to Operations Room Request form for students.
3. **Views –** list view or calendar view (use calendar view to see past events)
4. **MyWharton Calendar Feeds –** links to a Calendar Feeds page where students can subscribe to or import events from their MyWharton calendar

Academics

The Academics page aggregates all of the relevant resources for courses.

- **Current Term | Next Term –** displays registrations for current/next term (changes to registration will be reflected within 24 hours)
- **Degree Information –** degree, major, minor, and expected graduation year; dual degree information not included in MVP
- **Featured Links** - provides other course-related links depending on the student type (e.g., Canvas, Penn Academic Calendar, Syllabi, Wharton Academic Departments, Wharton Course Catalog, Wharton Research

Centers)

Groups

The Groups page allows UGR students to view the active groups that they belong to. Groups are managed by UGR MyWharton Community Managers.

Click a group name to:

- See group details and members
- Manage notification preferences
- View group activity feed and announcements posted for that group

People

The People page allows students to search the directory of current students and staff as well as a link to MyPenn for alumni.

- **List of active users** – search by name, home town, profile, or industry;
- **Link to MyPenn for Alumni**

News & Notices

The News & Notices page displays all news and notices from groups that a student belongs to and allows them to search and filter.

- Displays news and notices for all groups user is a member of
- Search news and notices by title
- Filter news and notices by topic or group

All Links

The All Links page allows students to organize links to resources across Penn and Wharton.

- Links to resources across Wharton and Penn
- Users can toggle the heart icon next to links to add it to their **My Links box**

Support

The Support page contains knowledge articles for students to self-service frequently asked questions and other logistical details to help them navigate their Wharton experience.

Questions?

Staff: admin-support@wharton.upenn.edu

Students: support@wharton.upenn.edu

WEMBA MyWharton Features Overview

Last Modified on 08/01/2025 5:47 pm EDT

This is an overview of the MyWharton Community interface for WEMBA students and staff.

Before You Start

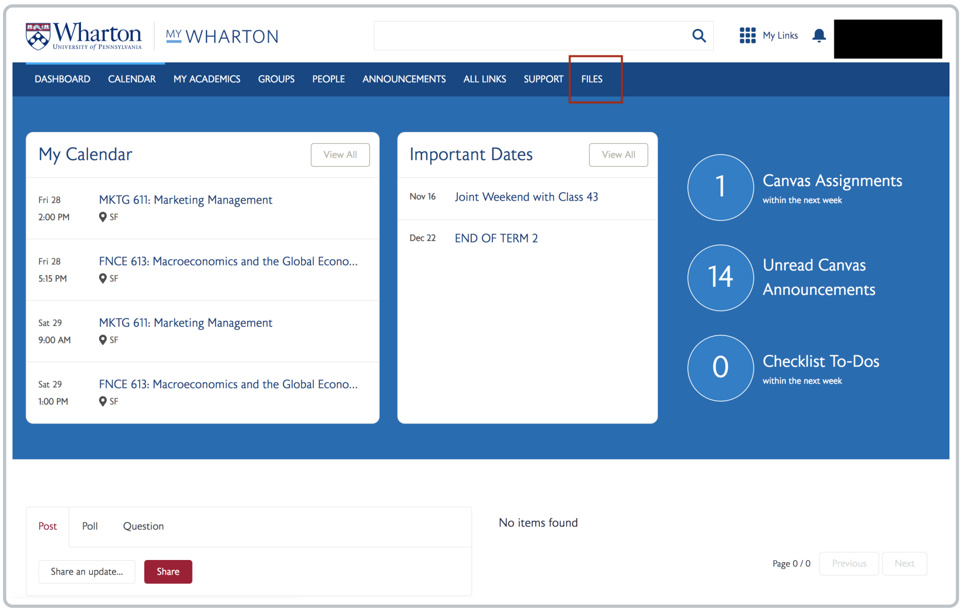
- You need a MyWharton Community account to access the interface. If you cannot log in, contact:
    - **Students:** support@wharton.upenn.edu
    - **Staff:** admin-support@wharton.upenn.edu

MyWharton Interface Overview

Dashboard

The MyWharton Dashboard aggregates data and provides links to other areas of MyWharton and Penn/Wharton sites.

- **My Calendar** – upcoming personalized calendar items (see Calendar section below for details)
- **Important Dates** – upcoming important dates (determined by staff)
- **Canvas Assignments –** number of assignments due in the next week; links to Canvas dashboard
- **Unread Canvas Announcements** – number of unread announcements; links to Canvas dashboard
- **Checklist To-Do's** – number of items due in the next week; links to Checklist app
- **Activity Feed** – personalized activity feed; contains posts from WEMBA Community Managers
- **Announcements** – 3 most recent announcements
- **My Groups** – list of groups that the user is a member of (see Groups section below for details)
- **Files** - Contain important files that are relevant to each student's WEMBA program.



Calendar

The Calendar page allows students to search events, bookmark events, book GSRs, and add events to external calendars (e.g., Outlook, Gmail, etc.).

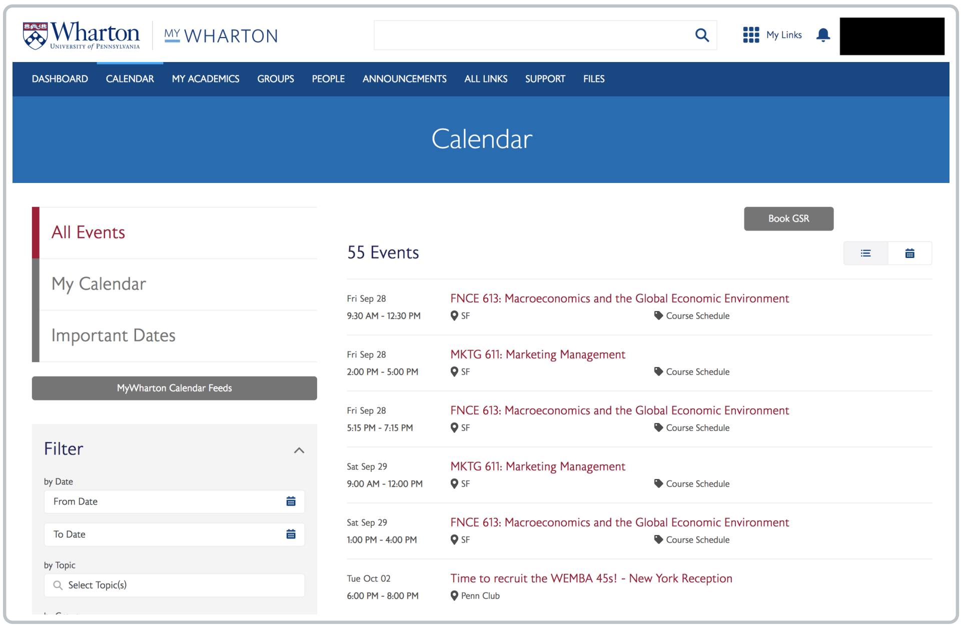
> **Note**: If you want to **request a room or submit an event**, please contact your class manager.

Different calendar view options

1. **All Events** – displays all events for WEMBA students
2. **My Calendar** – displays personalized events for the user, including:
    - Classes for the current term and next term (automatically added; changes reflected within 24 hours)
    - Appointments from CareerPath (automatically added; changes reflected within an hour)
    - Bookmarked events (user has to manually bookmark events from the All Events section)
    - GSR reservations (automatically added)
3. **Important Dates** – determined by WEMBA staff

Other Page Features

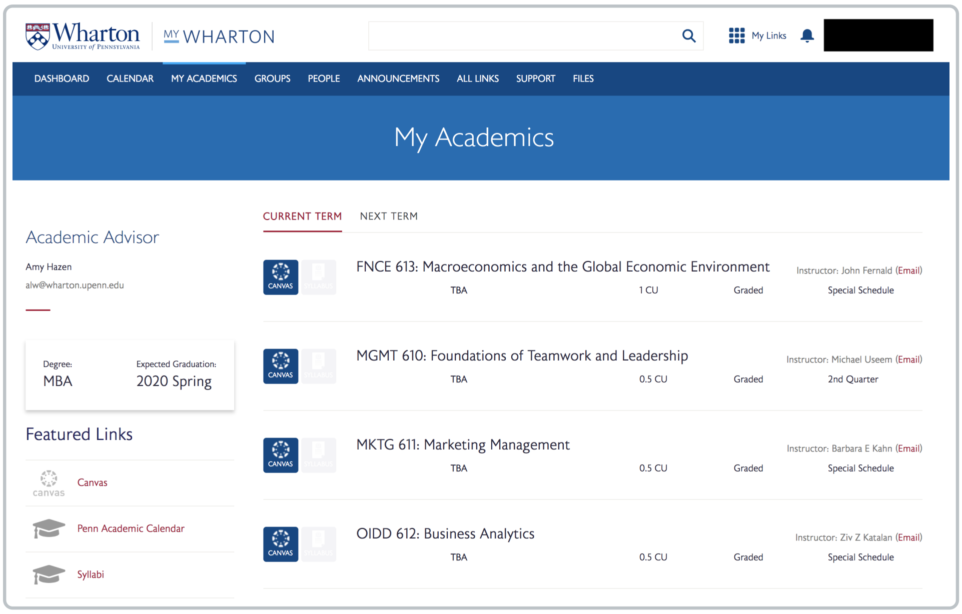
- **Filter** – search for events by date range, topic, or group
- **Views** – list view or calendar view (use calendar view to see past events)
- **Book GSR** – links to the GSR reservation system
- **MyWharton Calendar Feeds** – links to a Calendar Feeds page where students can subscribe to or import events from their MyWharton calendar.



Academics

The Academics page aggregates all of the relevant resources for courses.

- **Current Term | Next Term** – displays registrations for current/next term (changes to registration will be reflected within 24 hours)
- **Class Manager** – displays student's class manager contact information
- **Degree Information** – displays degree, major, minor, and expected graduation;
- **Featured Links** - provides other course-related links depending on the student type (e.g., Canvas, Penn Academic Calendar, Syllabi, Wharton Course Catalog, etc.)

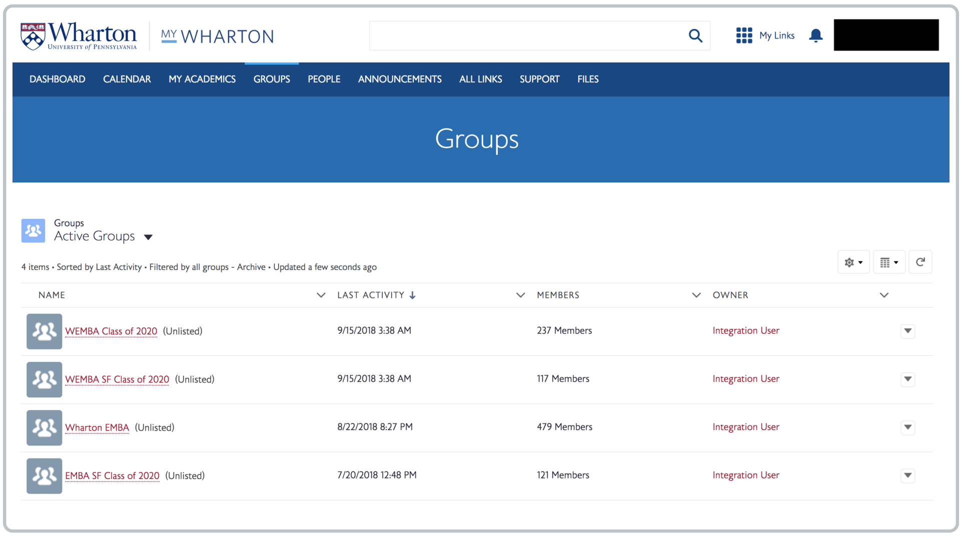


Groups

The Groups page allows students to view groups that they belong to. Groups are managed by MyWharton Community Managers.

Click into a specific group to:

- See group details and members
- Manage notification preferences
- View group activity feed and announcements posted for that group



People

The People page allows students to search the directory of current Wharton students and staff as well as a link to MyPenn for Alumni.

- **List of active users** – search by name, home town, profile, or industry; current students and staff
- **Link to MyPenn for Alumni**

News & Notices

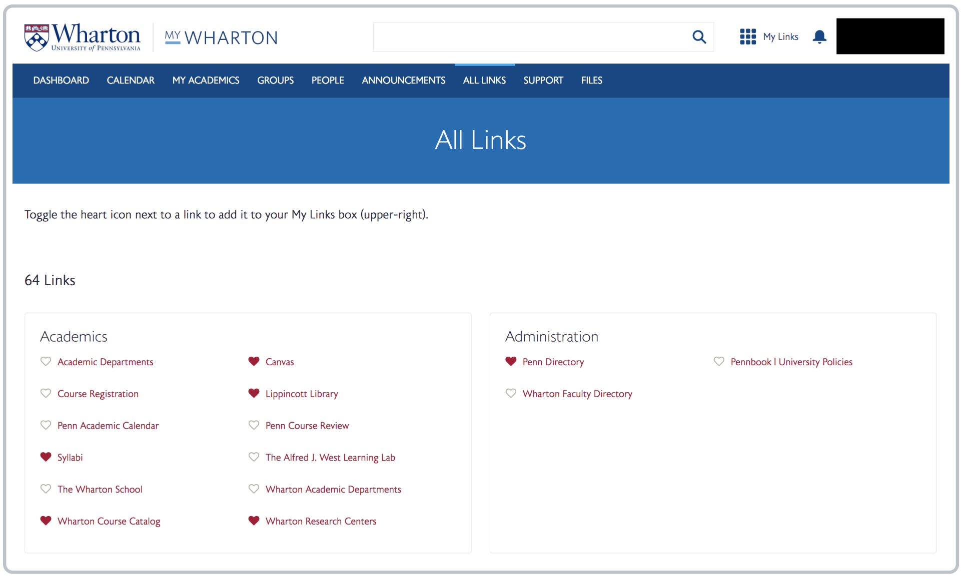
The News & Notices page displays all announcements from groups that a student belongs to and allows them to search and filter.

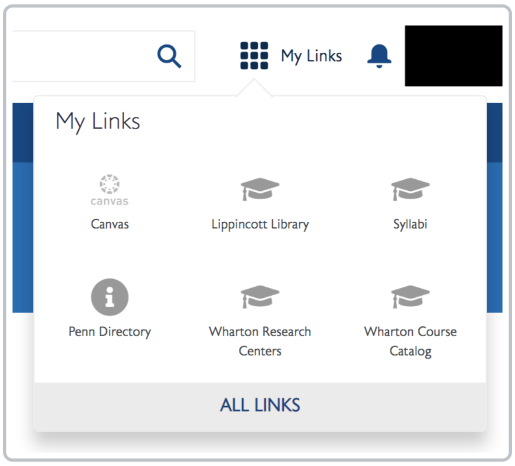
- Displays announcements for all groups user is a member of
- Search announcements by title
- Filter announcements by topic or group

All Links

The All Links page allows students to organize links to resources across Penn and Wharton.

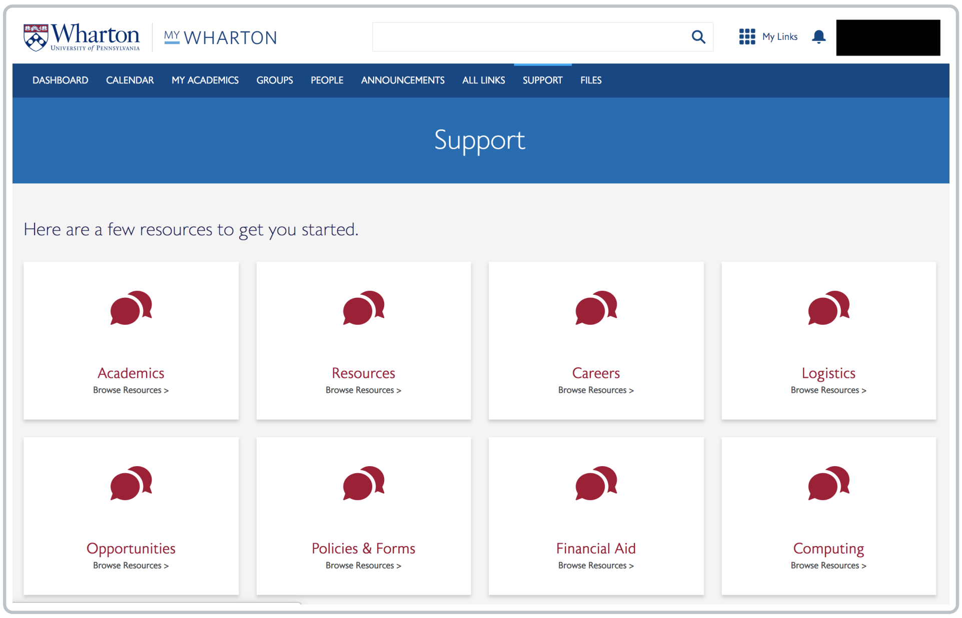
- Links to resources across Wharton and Penn
- Users can toggle the heart icon next to links to add it to their **My Links box**





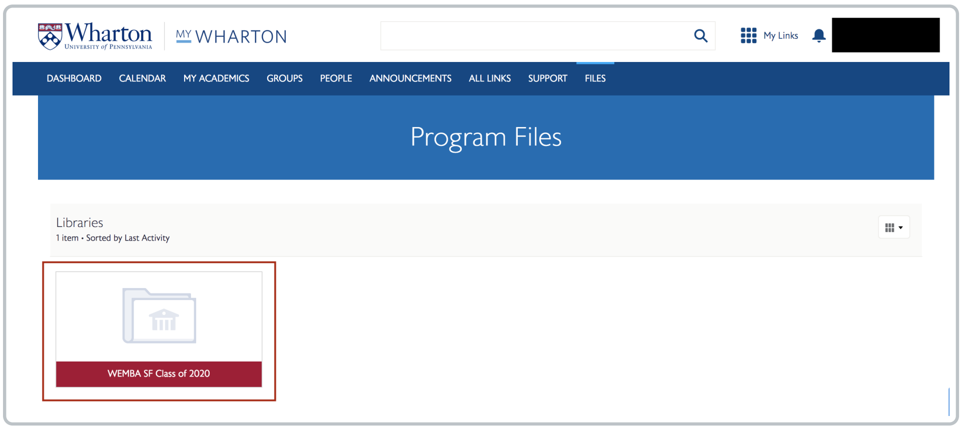
Support

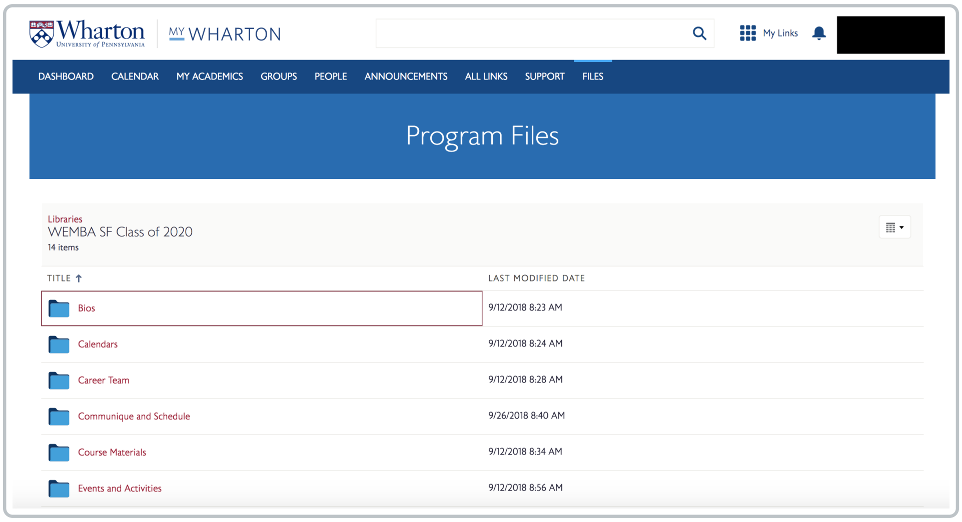
The Support page contains knowledge articles for students to self-service frequently asked questions and other logistical details to help them navigate their Wharton experience. The support page will have slightly different topics depending on student type.



Files

The Program Files page contains important files that are relevant to each student's WEMBA program.

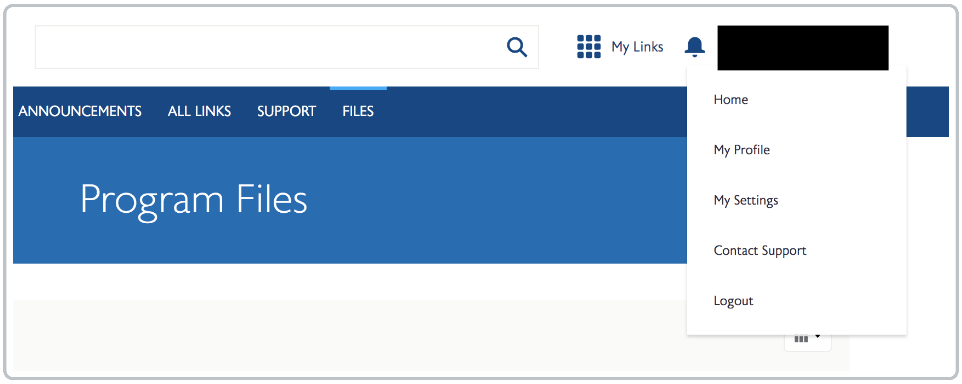




Top Navigation

The Top Navigation displays across all pages in MyWharton Community.

- **Search** – will return results across MyWharton and all Wharton WordPress sites
- **My Links –** links favorited by the user; GSR link will be preset for all users
- **Notifications (Bell) –** notifications for direct messages, user comments, liking comments, and other communication-related events.
- **User Profile Menu**
    - Home
    - My Profile – edit profile information, view groups, upload files, followers/following
    - My Settings – set notification preferences
    - Contact Support
    - Logout



Questions?

Staff: admin-support@wharton.upenn.edu

Students: support@wharton.upenn.edu

MyWharton for MBA Students

Last Modified on 08/01/2025 5:46 pm EDT

Before You Begin

All MBA students and some MBA staff should have access to MyWharton. If you cannot log in, contact:

- **Students**: http://computing.wharton.upenn.edu
- **Staff**: mywharton-support@wharton.upenn.edu

About MyWharton for MBAs

MyWharton provides a central location for all of the information students need and makes it available on any device. It has been designed from the ground up with student input and in partnership with staff members who interact with students daily.

Setting up MyWharton for MBAs

If you are new to MyWharton, check out the action-items below. Review our MyWharton interface overview, subscribe to calendar feeds to get events in your personal calendar, follow your favorite topics, manage notifications to get alerts about what's most important to you, and customize your MyLinks feature for quick access to your favorite Wharton/Penn apps and websites.

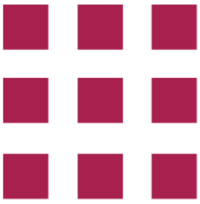
Review MyWharton Overview

Subscribe to Calendar Feeds

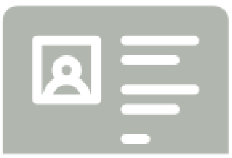
Follow Topics

Manage Notifications

Customize MyLinks



Update Profile



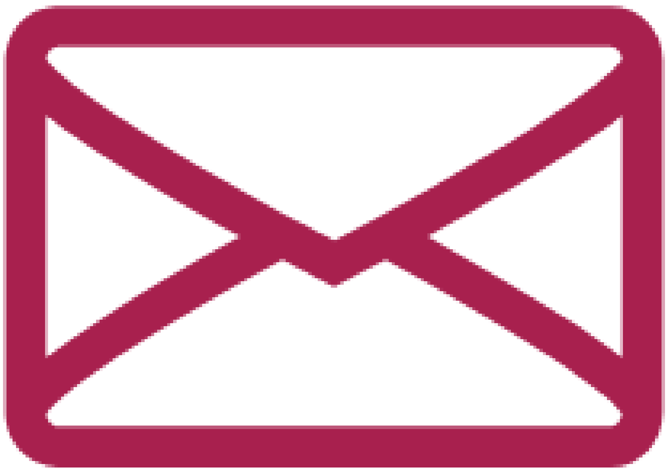
Using MyWharton on a Day-to-Day Basis

MyWharton can help you with daily tasks including reserving Group Study Rooms (GSRs), finding and submitting events, and interacting with fellow students and program office staff through chatter and direct messaging.

Reserve GSRs

Submit & Delete Events

Send Direct Messages



Install the Mobile App for Push Notifications

To install the app, **choose your device below to install** the MyWharton app on your mobile device. MyWharton mobile allows you to access the same features as the website and also includes persistent login and notifications.

MyWharton App for iOS Devices
MyWharton App for Android Devices

MyWharton FAQ for MBAs

Need Help?

Students: Wharton Computing Student Support

MyWharton for UGR Students

Last Modified on 08/01/2025 5:43 pm EDT

Before You Begin

All Undergraduate students should have access to MyWharton. If you cannot log in, contact: admin-support@wharton.upenn.edu

- **Students**: http://computing.wharton.upenn.edu

About MyWharton for UGRs

MyWharton provides a central location for information students need and makes it available on any device. It has been designed from the ground up with student input and in partnership with staff members who interact with students daily.

Setting up MyWharton for UGRs

Review our MyWharton interface overview, subscribe to calendar feeds to get events in your personal calendar, reserve Group Study Rooms (GSRs), customize MyLinks for quick access to your favorite Wharton/Penn resources, submit events through CampusGroups that will sync with the MyWharton calendar, and manage notifications to get alerts about what's most important to you.

MyWharton UGR Overview
Calendar Feeds 
Reserve GSRs 

Customize MyLinks
Submit Events via CampusGroups
Manage Notifications

Installing the Mobile App

Choose your device below to install the MyWharton app on your mobile device. MyWharton mobile allows you to access the same features as the website and also includes persistent login and notifications.

MyWharton App for iOS Devices
MyWharton App for Android Devices

MyWharton FAQ for UGRs

Need Help?

Students: Wharton Computing Student Support

MyWharton for WEMBA Students

Last Modified on 07/08/2021 10:11 am EDT

Before You Begin

All WEMBA students should have access to MyWharton. If you cannot log in, contact:

- **Students**: http://computing.wharton.upenn.edu
- **Staff**: mywharton-support@wharton.upenn.edu

NOTE: This page is under construction and will be updated as we make ongoing changes to MyWharton based on feedback. All changes to the interface are documented in our Release Notes.

About MyWharton for WEMBAs

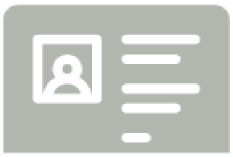
MyWharton provides a central location for all of the information students need and makes it available on any device. It has been designed from the ground up with student input and in partnership with staff members who interact with students daily.

Getting Started with MyWharton for WEMBAs

If you are new to MyWharton, check out the action-items below. Review our MyWharton interface overview, subscribe to calendar feeds to get events in your personal calendar, follow your favorite topics, manage notifications to get alerts about what's most important to you, and customize your MyLinks feature for quick access to your favorite Wharton/Penn apps and websites.

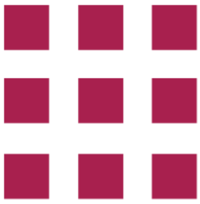
Review MyWharton Overview (Currently Being Updated)
Subscribe to Calendar Feeds 
Access Files

Update Profile



Communicate with Chatter

Customize MyLinks, Notifications, & Topics



Install the Mobile App for Push Notifications

To install the app, choose your device below to install the MyWharton app on your mobile device. MyWharton mobile allows you to access the same features as the website and also includes persistent login and notifications.

MyWharton App for iOS Devices
MyWharton App for Android Devices

MyWharton FAQ for WEMBAs

Need Help?

Students: Wharton Computing Student Support

MyWharton - Tasks

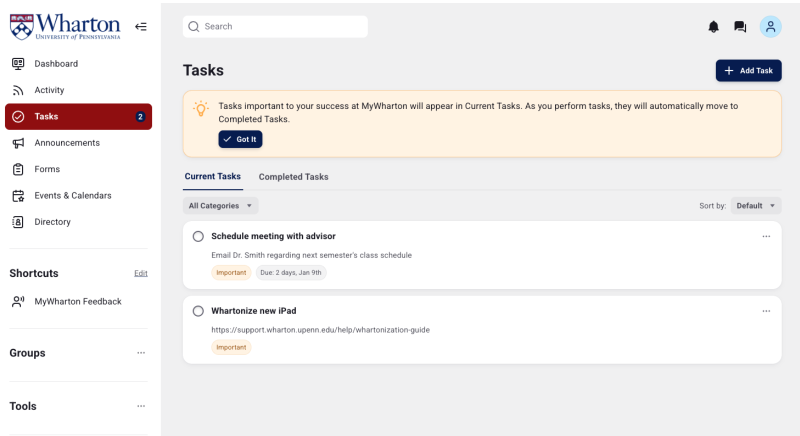
Last Modified on 01/12/2026 2:21 pm EST

MyWharton (https://mywharton.wharton.upenn.edu/) provides a central location for all the information students need and makes it available on any device. The **Tasks** module allows you to keep track of personal goals and support.

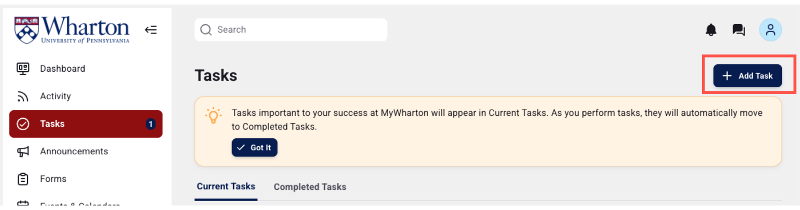
Before You Start
MyWharton is available for Executive MBA, MBA, Undergraduate, and PhD students. Select staff will have access, as well. MyWharton access is granted in late summer before student arrival on campus, is accessed via PennKey login, and is available for up to 90 days following graduation.

Tasks

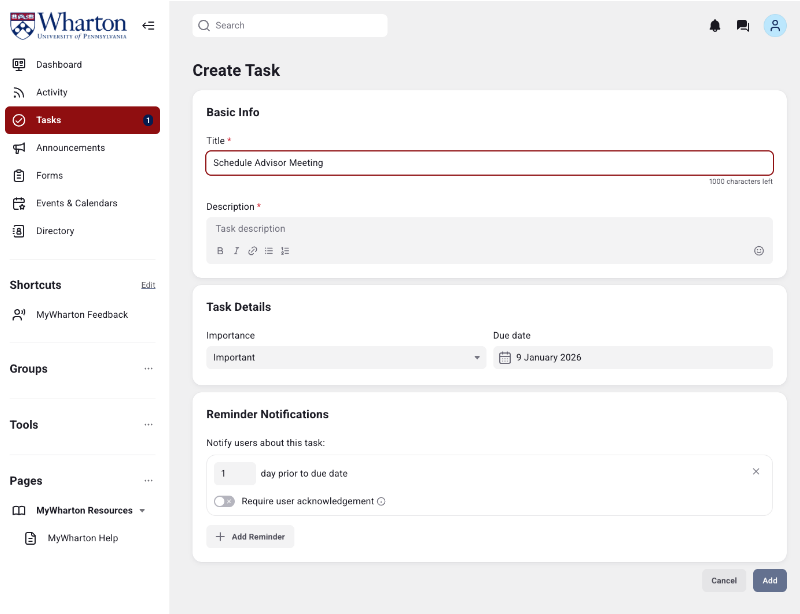
The MyWharton Tasks module allows you to input personal to-dos. You can add deadlines and set notifications specific to your task.



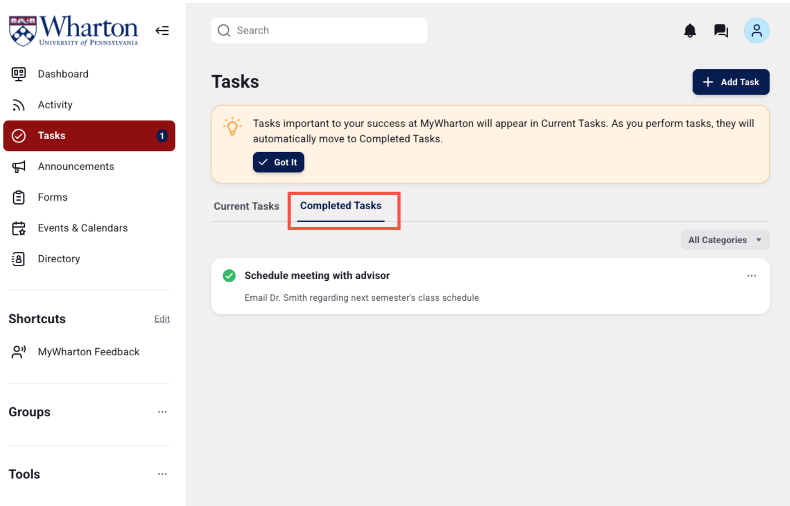
Select "Add Task" to create a new to-do.



When creating a Task, you can add a due date and set a reminder notification



Completed Tasks are automatically moved a separate section



Questions?

Contact Wharton Client Support Services for assistance or visit us in person in SHDH.

Club Websites and Club Email Account Information (Students)

Last Modified on 10/09/2024 12:00 pm EDT

In this article, you can find out how to set up an email account and website for your Wharton club.

Before You Start

You might need one or more of the following before you can complete this task:

- Google@Wharton account

If CampusGroups fails to load in your browser repeatedly, please let us know so we can track its performance.

Setting up an Email Account For Your Club

To obtain an email account on Wharton's servers for your club, send an email to support@wharton.upenn.edu, including the following information:

- **Preferred email address for account.** The username has to be between 9 and 20 characters. It cannot contain any special characters.
- **Email Display Name** (this appears when sending emails)
- **Full Names and Wharton email addresses for administrators** These users will be administrators to the account, and will be responsible for adding additional users, and transferring ownership when graduating.

Note: The email address and display name must match the name of the club and the club must already exist in CampusGroups. If the club name is exceedingly long, abbreviations are acceptable to use so long as they match the club name.

Student Club Websites

Certain clubs have access to the Campus Groups application, a one-stop location for managing all aspects of student club activities. For more information, see below.

Eligibility

To see whether your club is eligible for a Campus Group, see this list:
https://groups.wharton.upenn.edu/club_signup

How-to Information

For clubs and other student organizations using CampusGroups, use the CampusGroups Help Center to browse their knowledgebase of help and how-to articles.

Specific Issues

For more specific issues, use the CampusGroups Contact Us form.

Questions?

Contact: Wharton Computing Student Support

Email: support@wharton.upenn.edu

Using the CampusGroups Calendar for MBA Co-Curricular Events

Last Modified on 10/09/2024 11:57 am EDT

Instructions on how to use the CampusGroups calendar to find and register for MBA Co-Curricular Events.

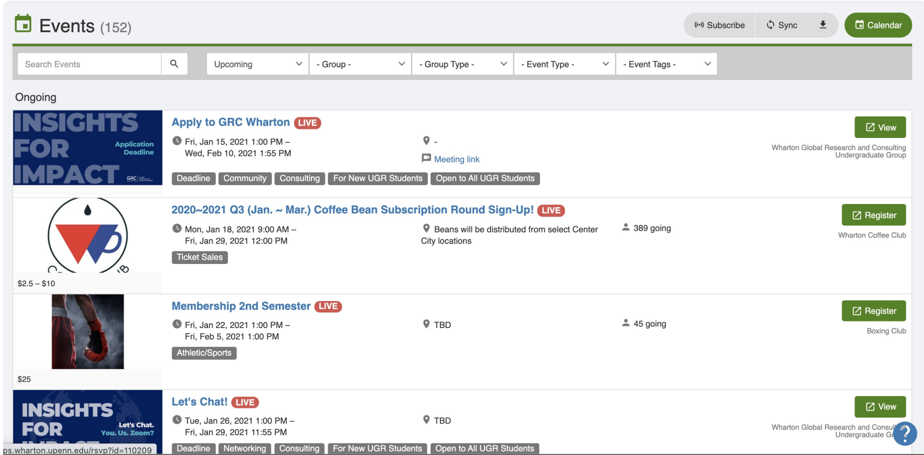
Before You Start

You will need the following before you can complete this task:

- Your PennKey username and password

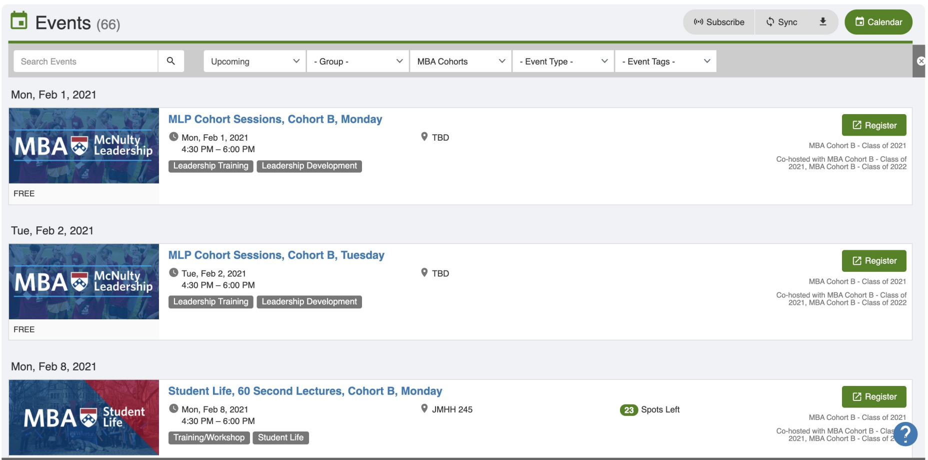
If CampusGroups fails to load in your browser repeatedly, please let us know so we can track its performance.

1. **Log in** to groups.wharton.upenn.edu with your PennKey credentials.
2. **Click the calendar icon** in the top right corner of the page.



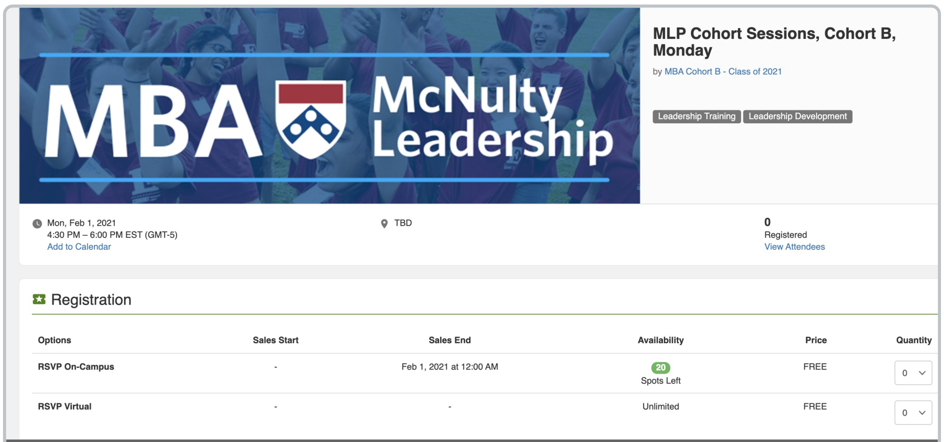
CampusGroups Events Calendar

3. **Search** for events or **filter** by **upcoming/past events**, **club or group nam**e, **group type**, **event type**, or **event tags**. If you want to find events for the Leadership and Student Life departments, you can search for**Group Type "MBA Cohorts."**



Calendar Displaying MBA Cohorts Events for Cohort B Student

4. Click the **Register** button to the right of the event name. Choose your quantity and RSVP type and click **Register** again.



Online Registration Example for McNulty Leadership Program Cohort B Session

5. **Add the event to your Google calendar** once you receive the registration confirmation email. You'll receive an event reminder the day before your scheduled event.

Questions?

For questions about your CampusGroups account:

- Contact: computing.wharton.upenn.edu
- Email: support@wharton.upenn.edu

If you experience an error in the CampusGroups website:

- Contact: https://help.campusgroups.com/en/
- Email: support@campusgroups.com

Qualtrics Account

Last Modified on 01/08/2026 5:14 pm EST

Qualtrics can help you create and distribute business/customer surveys, collect results, and analyze results. Full-time Wharton faculty, staff, and students are eligible for a Qualtrics account as long as their PennKey account remains active (student access ends following graduation).

Before you start you will need:

- An active PennKey Account

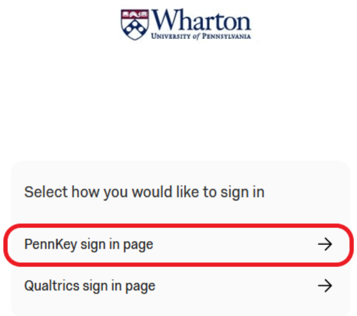
On **July 24th, 2023** we migrated PennKey Qualtrics accounts to SSO Login. If you had an account prior to that date and used a password to log in to Qualtrics, you should now select **PennKey sign in page**. All of your work will appear just as it had prior to the migration.

If you manage an account that is not connected to a PennKey, such as a service account or departmental group account, select **Qualtrics sign in page** and use the same username and password as before.

Creating an Account

To sign up for a Qualtrics account, follow the instructions listed below.

1. Go to https://wharton.qualtrics.com
2. Click the **PennKey sign in page** option.



3. Read and accept the Terms of Service.

Did you know that Penn and Wharton each have a Qualtrics site? While you can use your PennKey credentials to log into either https://wharton.qualtrics.com or https://upenn.qualtrics.com, the two accounts are entirely separate. We recommend that you stick with one site. But if you do have work on both, you can share with your other account via survey collaboration. Collaboration options (between multiple accounts or with colleagues) are built in to every survey, but only the survey owner may extend an invite to collaborate.

Account Support

If you need help with your account, contact the Wharton Computing Student Support Team or your departmental IT representative or email qualtrics-support@wharton.upenn.edu for assistance.

Getting Started with Qualtrics

Qualtrics has robust documentation that can help you with any questions you may have. If you're new to Qualtrics you should check out their series of Basic Feature Overviews which show you how to do common tasks and will save you some frustration.

Graduating Students

Undergraduate and MBA students should expect their accounts to be deleted after graduation. To save your work from disappearing forever, you must export your surveys and response data before graduation. If you also worked at Wharton while studying, and created surveys as part of your job, see the Departing Staff section, too.

Graduating PhD students can continue using their accounts as they transition to postdoc or faculty positions. Reach out to our support email address if you have any concerns.

Departing Staff

If you created surveys as part of your job, make sure to transfer ownership of those surveys before you leave. To transfer, email qualtrics-support@wharton.upenn.edu and let us know who should receive your surveys.

Departing PhDs, Postdocs, and Faculty

If your career takes you to another institution, the Wharton Qualtrics surveys and response data you generated can follow you. Contact Qualtrics directly to request a User Move, or email qualtrics-support@wharton.upenn.edu and we'll get the process started.

Qualtrics Support

For questions on how to use the software, system outages, or user interface questions, contact Qualtrics Support directly during their business hours (11am-10pm EST):

Phone: 800.340.9194

Website: https://www.qualtrics.com/product-support/

Setting Qualtrics Up for PennKey Authentication

Last Modified on 12/08/2023 3:34 pm EST

Wharton's Qualtrics is now enabled for SSO authentication. This means not only that you can use PennKey to log into the Qualtrics application, but also that you can require survey respondents to log in using PennKey. This article outlines how to set that up.

Before You Start

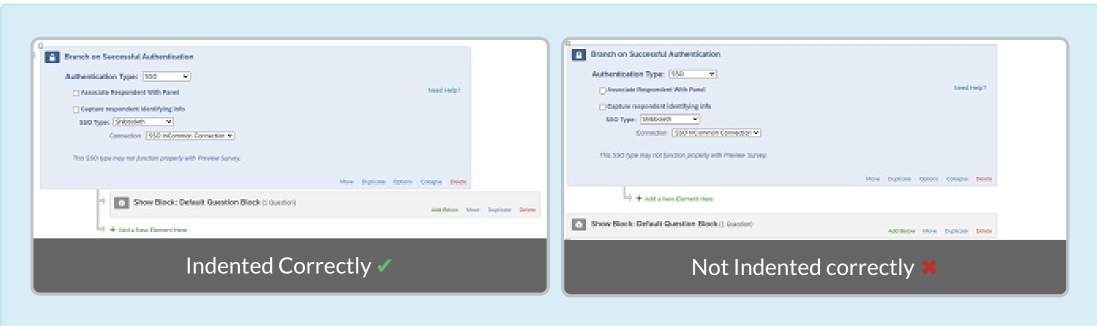
You will need the following before you can complete this task:

- Wharton Qualtrics Account
- Edit access to the survey you want to add authentication to.
- Familiarity with "Survey Flow" options in Qualtrics.

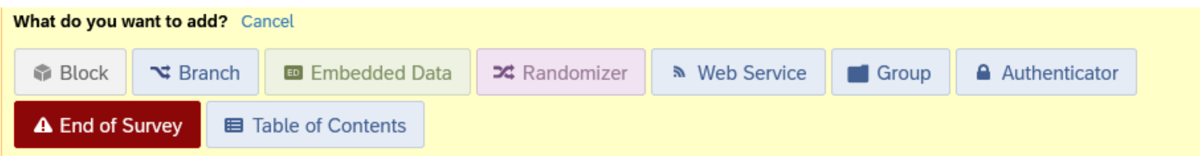
Adding Basic PennKey SSO Authentication

To add authentication, you'll need to use the Survey Flow options in Qualtrics.

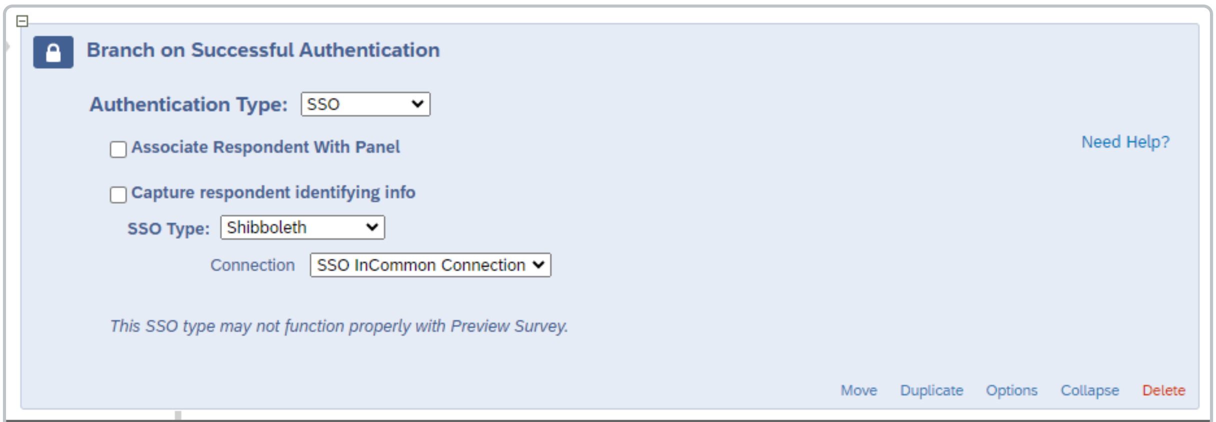
1. Open your survey for editing.
2. In the Survey Flow, **add a new element** above the section that you want to be authenticated. All sections that you want included in authentication must be **indented** below this element.



3. Choose **Authenticator** as the Type of Element.



4. Settings should be as follows:
   Authentication Type = **SSO**
   SSO Type = **Shibboleth**
   Connection = **SSO InCommon Connection**

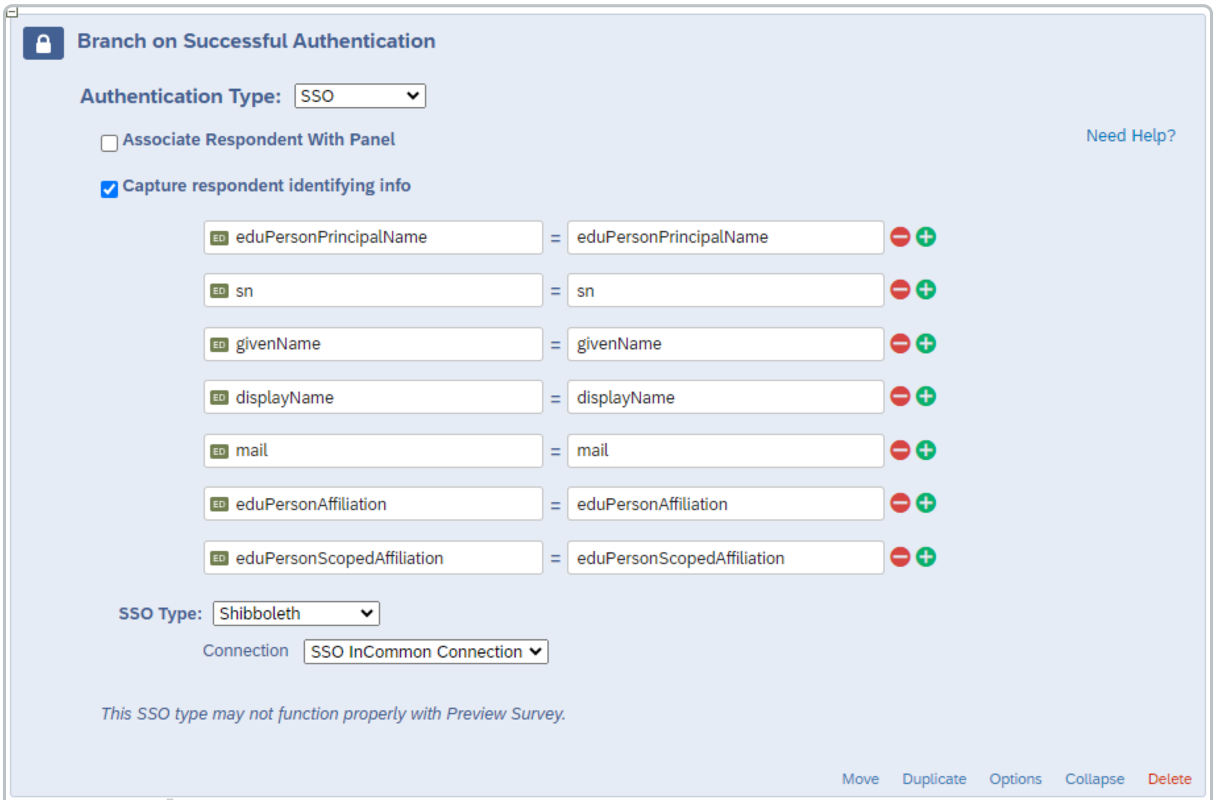


Basic PennKey Authentication Setup

Adding PennKey SSO Authentication with Respondent Info

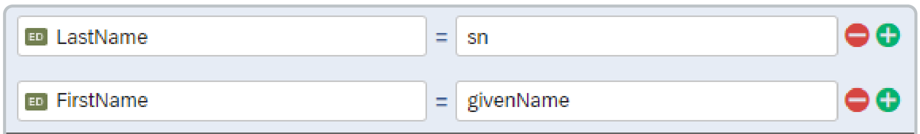
Certain information about your respondents is stored along with PennKey Authentication. This data includes name and email address, among others. Rather than prompt respondents to enter any of these fields, you can include them automatically by following these instructions:

1. Follow the instructions for adding basic PennKey SSO Authentication.
2. Update the Authenticator settings by checking **Capture respondent identifying info** and adding any option as shown. Entries are case-sensitive.



PennKey Authentication Setup with Respondent Info

The above identifying information will be available in your survey as embedded data. If you prefer, you can rename the fields by changing the values on the left-hand side, for example:



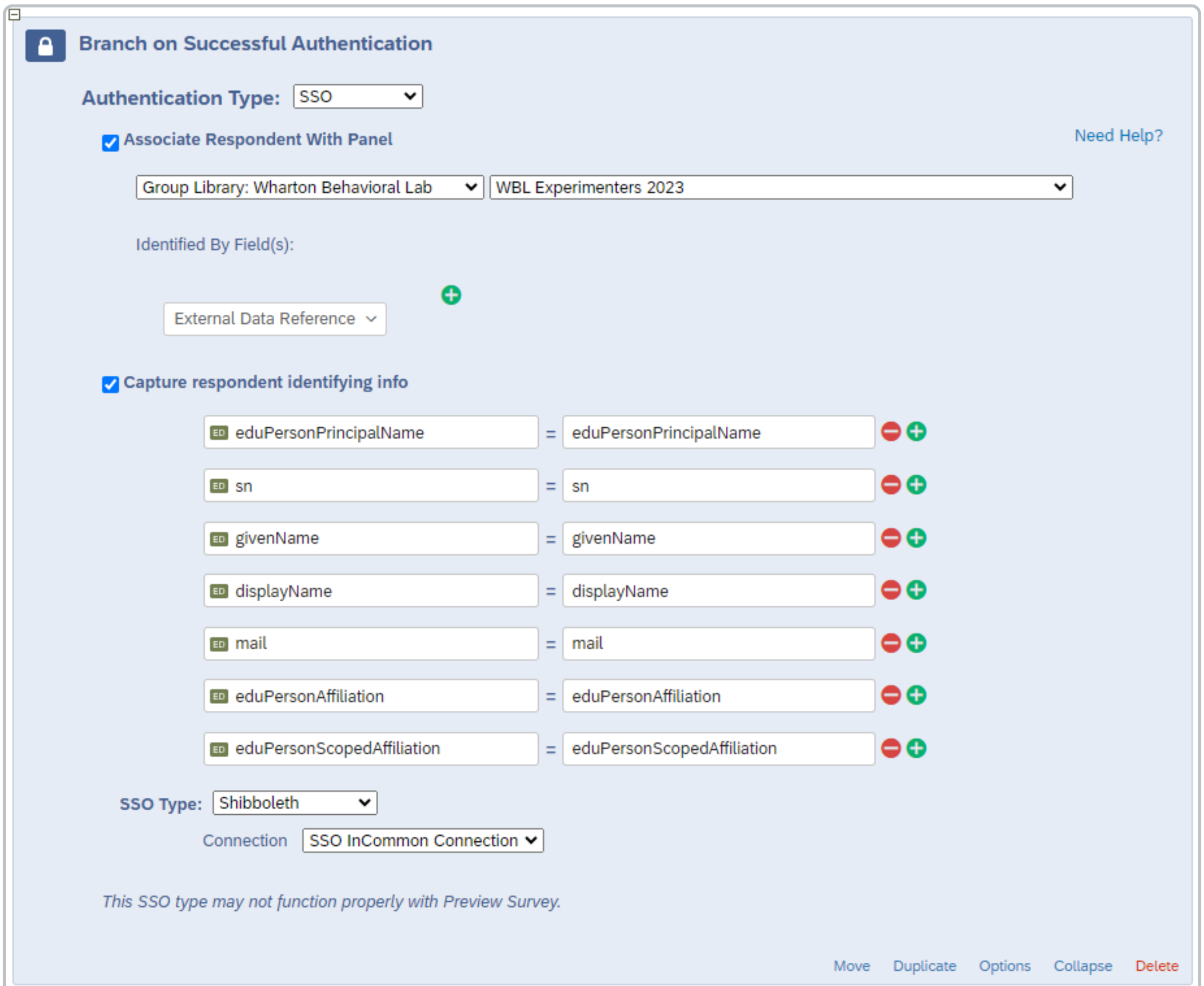
Changing Embedded Data field names

You can read more about the definitions of these fields at EDUCAUSE.

Adding PennKey SSO Authentication with Panel Association

You can further restrict access to your survey by pre-selecting authorized Penn-affiliated respondents and saving them in a Qualtrics Contact List (a.k.a. Panel). You can also prefill other known information, for example, graduation year.

1. Follow the instructions above for adding basic PennKey SSO Authentication .
2. Optionally, capture respondent identifying info.
3. Create a contact list containing PennID (**pennkey@upenn.edu**) in the **ExternalDataReference** column and any other data you wish to include in additional columns.
4. Update the Authenticator settings by checking **Associate Respondent with Panel**, selecting your Contact List, and chose External Data Reference under **Identified By Fields(s)**.



PennKey Authentication Setup with Panel Association

Advanced Authentication Options

Click on **Options** to see what authentication options are available. Most importantly, select whether you want to permit respondents to be able to complete the authenticated section more than once. You may also want to reload any previously saved progress for a returning respondent.

Testing your Survey

Especially when using panel associations, we highly recommend that you thoroughly test. You can create test contact lists to simulate both successful and unsuccessful authorization using your own PennKey (invite colleagues to help you test, too). Make sure to change back to the "real" contact list before distributing your published survey.

Questions?

Contact your Wharton Computing Representative for help with this feature of Qualtrics.

Accessing Wharton Research Data Services (WRDS)

Last Modified on 04/02/2025 2:03 pm EDT

The Wharton Research Data Service (WRDS) is a web-based business data research service. It was developed at Wharton in 1993 to support our faculty's research and is now also used by many other institutions.

Register for a WRDS Account

Full-Time Wharton Faculty, Staff, and Students

Full-time Faculty, Staff, and Wharton Undergraduate, Masters, and PhD students can register for a WRDS account using the instructions below. Student accounts close 2 years after registration; however, undergraduate students who are still actively affiliated with Penn/Wharton continue to have access during the terms in which they are enrolled.

Use these directions to register for your WRDS account:

Other Account Types

These types of accounts are available for those who aren't full-time Wharton Faculty, Staff or students.

- Faculty accounts are available to all standing permanent faculty of member institutions.

  Please note: Lecturers are not eligible for faculty accounts but may apply for a visitor account.

- Ph.D. accounts are available to all current Ph.D. candidates of member institutions.
- Research accounts are available to graduate and undergraduate students performing research for a faculty member.
- Staff accounts can only be requested by support personnel such as librarians and IT support staff of member institutions.
- Visitor accounts are available to visiting faculty (non-permanent or part-time position, or those on a limited appointment).
- Masters accounts are available to full-time masters students of member institutions.
- Class accounts are registered by faculty and are used to host access for students in a class. Each WRDS Class Account should correspond to a specific group of students enrolled in that course for a given semester (Ex. Acct1010, Fnce2050). Students will enroll via a class code, provided by the faculty.

Questions?

For login problems:

Students: contact Wharton Client Support Services.

Faculty: contact our Academic Representative (PennKey login required).

Staff: contact Administrative Support (PennKey login required).

All other support:

Contact the WRDS Team.

Preparing for Your Wharton Production Project

Last Modified on 01/18/2022 2:52 pm EST

Prepare for your Wharton Production project thoroughly by following our best practice guidelines below.

A video production environment can be intimidating to many presenters, particularly those who lack experience. Pre-production planning and preparation are the key elements to creating a successful, high-value presentation.

Whether it's being filmed in the studio or on-location, we highly recommend showing up with your content fully scripted and rehearsed. It is far easier to make adjustments to existing content than it is to write new copy on the spot.

Tell the production team as much about your project as possible. Not only will this help you translate your content into the video medium, but it will also allow the production team to make technical adjustments to better serve the project.

Create a Script or Outline

A fully scripted and rehearsed presentation or outline is required to be submitted to Wharton Production prior to your filming date. This will help keep the presenter focused and on-message, and it will give the crew points of reference to ensure that all aspects of the presentation are included in the final product.

Writing content in the studio or improvising material is strongly discouraged, is generally more laborious and has a higher rate of failure.

It is not recommended that you show up to a session without a well-rehearsed presentation.

Prepare

We strongly discourage last minute projects. These are frequently the types of projects that have a high rate of failure, or lack the high quality that our team is experienced in achieving.

If you show up to a session unprepared, the crew may elect to cancel and reschedule the session at a future time. This will ultimately save you time, and the end result will be a higher value production. In the event that a session fails due to performance issues, any studio setup and time will be considered billable.

Attire Guidelines

Don't wear clothing with tight patterns

Checks, hounds-tooth or pin stripes cause an optical illusion that looks bad on video.

Busy is bad

Don't wear clothing with bold patterns or geometric shapes. The audience will watch your clothes instead of you.

Colors to Avoid

Avoid wearing black, white, deep purples, bright orange or bright reds. These colors can cause problems on video.

For dress shirts, avoid bright white if possible

Solid-color shirts are best: blue, beige, off-white, etc. If you wear a bright white shirt or blouse, make sure to wear a darker jacket over it.

Jewelry

Watch out for jewelry that reflects light or makes noise, like bangles.

Eyeglasses

Wear them if you need them to see or if that is how people will recognize you. If your lenses are very shiny, the crew may adjust their position to avoid unwanted reflections.

Makeup and Hair

Just like how actors wear makeup on screen or stage, you may want to touch up your appearance and reduce perspiration. You may want to bring a handkerchief or tissues to dab perspiration during breaks. Avoid vivid red lipstick or lip gloss; stick to softer tones and dab lips with a little powder.

If you'll be wearing a tie, simple is best

Bring several options. Avoid complex patterns, thin lines, or bright reds and oranges.

Dress for your Skin Tone

For those with darker skin-tones, avoid wearing white or very light colors. If they do, their shirts will glow when you set the camera to expose the face properly.

Extremely light-skinned talent should avoid black or very dark clothing. A black shirt will become a formless hole in the video, because it will have to be very dark if you set the camera so that the skin tone is properly exposed.

Shooting on Green Screen

DO NOT WEAR GREEN.

Questions?

Contact: production@wharton.upenn.edu

Wharton Production Services

Last Modified on 05/08/2024 1:31 pm EDT

Article redirects to Wordpress site.

Submitting a Production Request

Last Modified on 06/21/2024 2:12 pm EDT

Follow the instructions below to submit a formal request for Wharton Production services (studio and on-location shoots, webinars, podcasts).

Use the Class-Tech form to request help with technology in classrooms (projectors, installed recordings, doc cams, etc.).

Step-by-Step Guide

Before You Start

You will need the following:

- PennKey Username and Password
- Budget Code from your Business Administrator (Department or Project)
- Tentative Request or Project date

1. Navigate in your browser window to the room request app: https://apps.wharton.upenn.edu/roomrequest/prod/start/ (PennKey login required).
2. Enter your Contact Information (this should already be entered for you automatically) and all other relevant information in the field, including Department and Additional Contact.
3. Choose whether or not you are submitting on behalf of a student organization.
4. Enter your departmental budget code.
5. Scroll down to "Production Services". Select from one of the three options and fill out as much information as possible. If you are unsure of your needs, keep in mind most of our projects will require additional consultation with the Wharton Production team.
6. If this project requires a room assignment, select "yes" and fill out the remainder of the field.

   Note: The majority of our projects do not require a room assignment, including projects taking place in the Wharton Production Studio.

7. Click "Save".

If the "Save" button does not appear you may need to fill out at least one field under "Associate An Event". After the button has appeared, you may delete the information if it is not relevant. Requested dates can be changed later if needed.

Tip: Can't find your event in the "associate an event" section? Click "Tips to find your event" for help.

*****Be aware this is a *REQUEST ONLY*****

Wharton Production will contact you to confirm the date, time, and all other technical details.

If you don't hear from us within 24 hours, please contact us directly at production@wharton.upenn.edu.

Questions?

Please contact the Wharton Production Team for help.

Email: production@wharton.upenn.edu

Video Submission Guidelines for the Non-Professional

Last Modified on 06/13/2023 2:14 pm EDT

This guide is intended for those who do not have access to a professional videographer and are recording videos to upload to a website or Canvas room.

Preparing to Record

Recommended recording devices

- HD Camcorders
- iPhone or similar up-to-date mobile device
- DSLR cameras with video functionality

Lighting

- Your set-up should be in a well-lit area with the light source somewhere **behind the recording device**. If the light source is behind ***you***, it will cause a silhouette effect.

Environment

- Make sure to set your mobile device on something steady rather than completely going handheld (a gorilla pod or tripod adapter would be ideal).
- Shoot somewhere indoors, preferably in a private room without other conversations in the vicinity or background noise. A more interesting location is fine if it is quiet.

Recording

Recording Resolution

- All videos should be HD quality, with a resolution of at least 1920 x 1080. (16:9, minimum 1080p).
- Mobile device video must be shot horizontally, not vertically.

Audio

- If you are filming this on your own with a mobile device, and do not have access to a microphone set up, we recommend using Apple ear buds with mic/mouthpiece, or something very similar. If you have no choice but to use the internal mic of your phone or camera, it is OK. Just be sure to speak loud enough to pick up decent sound, and that the room you choose has little to no background noise, echo, or overwhelming HVAC room hum.
- Don't worry about speaking too slowly or too fast. Instead, focus on being clear and concise.

Next Steps

Uploading Files and File Format

- Submit videos through Dropbox or a similar file sharing tool. The recommended file formats are H.264, .mov or .mp4 file.

Using Videoconference Tools to Record (Zoom)

- **Zoom:** See this broad overview of Zoom that includes Recording FAQs

Editing Your Own Videos

iMovie (for Mac users) and Movie Maker (for PC users) are the two most common free editing tools.

- **iMovie tutorial:** Apple iMovie Support Page and a Getting Started Guide
- **Movie Maker:** A useful video tutorial can be found here.
- For a list of editing software, with brief descriptions, see Alternative Free Editing Software
- For Staff or Faculty who are using Panopto and wish to record and edit themselves using the web-based editor, see this step-by-step guide: Editing Files in Panopto

Questions?

Contact: production@wharton.upenn.edu

AWS Tagging Schema

Last Modified on 01/28/2025 11:53 am EST

Resources in AWS Linked Accounts can be tagged for security and budget reasons. Some other tags can be used that will help Wharton Computing troubleshoot problems with your AWS resources. These tags are listed here.

Before You Start

You will need the following before you can complete this task:

- An AWS Linked Account

Tag Name Case Sensitivity

Tag names are case-sensitive. 'Owner' is a different tag from 'owner'. Tags that do not have the proper case -- 'Owner', 'Project', 'Budget' -- are treated as improperly tagged.

Suggested Tags

All resources can be tagged; not just instances. An associated Elastic IP and the interface it is on can be tagged.

All Resources

Key	Value Example	Description
Owner	johnfaa	This should be a valid Pennkey. This will help provide ownership of resource.
Project	essi_mysqlproject, essd_quakernet	This should be preceded by the abbreviation that identifies the group, so that the uniqueness of the name does not have to be enforced at a global level. This will follow the naming scheme that has been started for Slack. Use an underscore between the group name and the name of the project.

Key	Value Example	Description
Budget	000-0000-1-000000-5223-7311-1234	The budget code associated with an account, including hyphens.
Name	hostname, ec2_jenkins	Used to better identify resources.

EC2 Instance suggested tags

Key	Value Example	Description
Owner	lyrasvtg	This should be a valid Pennkey. This will help provide ownership of resource.
Project	essi_mysqlproject, essd_quakernet	This should be preceded by the abbreviation that identifies the group, so that the uniqueness of the name does not have to be enforced at a global level. This will follow the naming scheme that has been started for Slack. Use an underscore between the group name and the name of the project.
Budget	000-0000-1-000000-5223-7311-1234	The budget code associated with an account, including hyphens.
Name	hostname, ec2_jenkins	Used to better identify resources.

Key	Value Example	Description
Patch Group	windows_prod, windows_dev, rhel7_prod, al2_dev	Used to tie in systems manager and patch manager for orchestration of patching or configuration.

Additional Suggested Tags

Resources can also have the following tags, which may help with troubleshooting.

Key	Value Example	Description
Environment	dev, stage, prod, test	Used to help distinguish between environments. Added dimension to help address cost and supportability
OS	windows-server-2016, rhel7	The operating system, if applicable.
Priority	I, ND, NBD	i = immediate, nd = next day, nbd = next business day. Tthis helps identify business criticality.
Notification Team	core-services@wharton.upenn.edu	Who or what team should be notified for this resource.

User-created Tags

Users can create any other tags they would like to use. AWS Guidelines and limits on Tags are available here: https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/Using_Tags.html#tag-restrictions

Questions?

Contact: Infrastructure & Services.

Email: infrastructure-support@wharton.upenn.edu

Research

Last Modified on 02/14/2024 1:44 pm EST

Faculty Offboarding To-Do List

Last Modified on 08/18/2025 6:12 pm EDT

Before You Start:

This article is for Faculty who are removing themselves from Wharton technology resources.

Contact Client Support Services with any questions.

Wharton Computing is here to ensure that your technology transition, whether you're concluding a teaching appointment or shifting roles, is as seamless as possible. We've created a checklist to help you manage your email, data, and account access, along with key dates to be aware of regarding account changes or closures.

Review Account Closing Dates

Your access to Wharton and Penn online services ends shortly after your Penn/Wharton appointment has concluded.

Prepare Your Email for Transition

Your O365 Wharton account (Microsoft Office, Email, OneDrive, etc.) access concludes on the date your PennID account is set to expire. Please consult with your Department Business Administrator to confirm your PennID expiration date.

1. Set a Change of Address Notice

Set an Out of Office message providing both your alternate professional email address and your personal email address.

2. Begin Forwarding

You may forward your Wharton e-mail to a personal account while your Wharton email is still active. Please contact Client Support Services for assistance.

3. Transfer Your Emails

Transfer your Wharton emails to a personal account. We suggest starting this process once the end date on your appointment has been confirmed. Please contact Client Support Services for assistance

Special Considerations for Office 365

We recommend signing out of Email / Office 365 **before your last day** so you have an opportunity to check and see if any important information will disappear. This gives you a little time to find out and take any steps necessary.

- Look at your phone and personal computer to verify that **contacts and calendars are NOT syncing** to Penn O365.
- Make sure everything you want to keep is **moved to a different account**, as that information will disappear when your account is turned off.

Manage Mailing Lists

Before you leave campus, unsubscribe from any mailing lists you're currently on. If you are the owner of a mailing list(s), identify and assign a new owner for the list. (Please contact Client Support Services for assistance if needed).

Unsubscribe

1. Navigate to the Mailing List App.
2. If prompted, **log in** with your PennKey credentials.
3. Choose the **My Membership** tab.
4. Click **Unsubscribe** for each mailing list.

Transfer Ownership

1. Navigate to the Mailing List App.
2. If prompted, **log in** with your PennKey credentials.
3. Choose the **List Ownership** tab.
4. Click **Edit List** for each mailing list.
5. **Add** any new owners and **remove** yourself.
6. Click **Submit Changes.**

Save Data You Want to Keep

Save data you'd like to keep before you lose access. Use these links to get started.

Wharton Google Drive

Canvas

Personal Network Drive and Locally Stored Data

Wharton University of Pennsylvania	
OneDrive & OneNote Office 365	
Dropbox Dropbox	
slack	
Additional Backup Options	

Physical Office (Computer, Phone, and Loans)

Cleaning out your office can loom large. Here are steps to help make it easier.

- **Phone -** Offer to assist with assigning the phone number back to the Business Administrator, delete your voicemails, and reset the greeting.
- **Office Computer** - Back up / remove all files from your office computer or any other device that belongs to Wharton and make sure they are returned prior to your departure.
- **Loans -** Please return all hardware loaner equipment.
- **Keys -** Please return any keys to the Business Administrator

Clean up your Personal Devices

When you leave Wharton, your permissions to use certain software changes. These steps will help you update your devices.

Remove or sign out of the following to prevent unpredictable errors later when your permissions are removed:

- **Network Services** - Global Protect, FortiClient, network printers, and network drives
- **Penn Security Software** - DuoMobile, Dashlane, Symantec, or Sophos
- **Penn Cloud Storage** - Penn Box, Penn DropBox, Penn OneDrive
- **Productivity Software** - Penn Office 365, Email, Contacts, Calendar
- **Meeting Software** - Zoom, Mersive Solstice, Slack, and Teams
- **Penn Specific Apps on Devices** - Penn Guardian, WorkDay, YouDecide

Website / Online Identity

Websites at Wharton are updated regularly. Take steps to ensure your information is up to date, and you have copies.

Faculty Photo: Make a copy of your Faculty profile picture from your Departmental web page profile.

Copy of Bio: Make a copy of your biography from the departmental website.

Teaching Resources

Once you leave Wharton, you may not have access to teaching resources you used while you were on campus.

- **Canvas Sites:** If you have taught classes, consider backing up Canvas sites you may need in the future.
- **Teaching Videos:** You may need teaching samples for a job search. Consider downloading a Panopto video of yourself teaching. Learn about how to access class recordings.
- **Teaching Evaluations:** Download and save any teaching evaluations. They can be found in the U@Penn Portal under **Student Advising & Admin Resources -> Faculty & Advisors -> My Course Evaluations**

Research Computing Resources

When your Pennkey expires you will no longer be able to access your Wharton HPC3 or Wharton AWS WorkSpace resources.

If you *do* have resources (code or data) on Wharton HPC3 or WorkSpace systems that you would like to keep, please take some time at your earliest convenience to copy it elsewhere, for example to your personal Dropbox, Box, or your new institution's computing resources. We recommend **rclone** for straightforward syncing to the cloud.

If you have questions or concerns, please let us know how we may assist.

Questions? Contact Us

If you have any questions regarding the contents of this article please contact Client Support Services.

Whartonization Guide: Start Here

Last Modified on 11/07/2025 8:04 am EST

Follow the instructions below to set up your laptops and mobile devices to assist you as a student in the Wharton environment. If you have any questions or prefer in-person help, email our Student Support team at support@wharton.upenn.edu.

Accounts (***Action Required***)

You must create your **PennKey** and **Wharton** accounts before you configure any of the services listed below.

After Creating your **PennKey**, it is strongly recommended to enroll in **Self-Service Password Recovery (SSPR)**. If you do not enroll, it will be **very** difficult to reset your password if you ever forget it.

Access to Wharton services are granted **over a period of time** after creating your **PennKey** and **Wharton** accounts. While some services will be available within a couple of business days, **others will not be available until the start of the semester.**

Create your account

Create your account

The Essentials

AirPennNet (WiFi)

Note: You can only set up your APN connection when on campus.

MacOS

Windows

iOS

Android & Chromebook

Antivirus

MacOS

Windows

Printing

Printing at Wharton is easy! For instructions on the various ways to print, please see the instructions below.

System Status

Subscribe to the System Status page for up-to-date notifications about student services.

Get Status Updates

Wharton-provided Software

Virtual Lab (Azure Virtual Desktop)

MacOS

Windows

iOS

Android & Chromebook

Solstice Screensharing in the GSRs

MacOS

Windows

iOS

Android & Chromebook

Zoom Meetings

MacOS

Windows

iOS

Android & Chromebook

Productivity Suites

Microsoft 365

MacOS

Windows

iOS

Android & Chromebook

Google Workspace

MacOS

Windows

iOS

Android & Chromebook

Email & Calendaring

Wharton Gmail

MacOS

Windows

iOS

Android & Chromebook

MyWharton Calendar Feeds

A new MyWharton version will be available starting in August 2025. We recommend checking back then for more information on configuring calendar feeds in the new app.

Additional Mobile Software

Required

MyWharton Mobile App

iOS

Android & Chromebook

More Information

See MyWharton Update.

Optional

MyPenn

MyPenn

iOS

Android & Chromebook

Required

Canvas Student

iOS

Android & Chromebook

Optional

CampusGroups

iOS

Android & Chromebook

Wharton Computing Student Resources

Cloud Storage Options

Dropbox	Google Drive	OneDrive	Penn + Box
Unlimited storage via Dropbox for Business	Unlimited storage via Google@Wharton	1 TB data storage through your Office 365 account	Unlimited storage and single sign-on using your PennKey

Security Software

Duo Mobile

- 2-Step Authentication tool
- Used for your PennKey credentials

Secure Share

- Secure document sharing service
- Documents will delete themselves automatically

Antivirus Software

Sophos Home

- Antivirus Software
- Recommended for MacOS, compatible with Windows 10 & 11

Windows Defender

- The default built-in Antivirus Software for Windows
- Recommended for Windows 10 & 11 machines

Wharton provides many services to aid both your productivity and security as a student.

Click here to see a list of the services available to you.

Tech Support

Wharton Computing Tech Center

Wharton
UNIVERSITY of PENNSYLVANIA

Support available via in-person (walk-ins & appointments), virtual meetings, phone, chat, and email!
Check our KnowledgeBase for list of services, troubleshooting guides, and much more.

Contact Us
Office: SHDH-114
Phone: 215-898-8600
Chat: computing.wharton.upenn.edu
Email: support@wharton.upenn.edu

Faculty Whartonization Guide

Last Modified on 01/30/2026 1:56 pm EST

To ensure your laptop and mobile devices are set up according to Wharton best practices, follow the steps below. If you have questions or would prefer in-person assistance, please contact our Support team.

Faculty use the Microsoft-based PennO365 for their Wharton email solution.

Accounts (***Action Required***)

- You must have an active **PennKey** and **Wharton** accounts before you configure any of the services listed below.
- After creating your **PennKey**, we strongly recommend enrolling in **Self-Service Password Recovery (SSPR)**. If you do not enroll, it will be **very** difficult to reset your password if you ever forget it.
- Access to Wharton services is granted gradually after your PennKey and Wharton accounts are created. While some services can take up to 72 hours to propagate access.

How to get a PennKey Account

Faculty Wharton accounts are created by Client Support Services Team. Your Wharton account will allow you to sign into various systems. Depending on the system, it can be your PENNKEY, PENNKEY@wharton.upenn.edu, or wharton\PENNKEY.

You will need to set a new password for your Wharton account. To do so, please use this link: https://apps.wharton.upenn.edu/iam/password/

The Essentials

AirPennNet (WiFi)

Note: You can only set up your APN connection when on campus.

MacOS

Windows

iOS

Android & Chromebook

Printing

Printing at Wharton is easy via standard Printing Access via Department Copier Access.

System Status

Subscribe to the Wharton System Status page for up-to-date notifications about Penn, Wharton services.

Wharton-provided Software

Solstice Screensharing in the GSRs

MacOS

Windows

iOS

Android & Chromebook

Zoom Meetings

MacOS

Windows

iOS

Android & Chromebook

Penn Office of Software Licensing

Software available through existing site or volume licensing agreements, or at discounted prices through preferred vendors, is offered via several outlets across the University.

OSL Penn Software Licensing

Productivity Suites (Microsoft 365 & Google@Wharton)

Microsoft 365 MacOS Windows iOS Android & Chromebook
Google Workspace MacOS Windows iOS Android & Chromebook

Email & Calendaring

Wharton Office 365 Outlook

Accessing Your Inbox and Calendar

Visit: outlook.office.com

Important note. You email address will be pennkey@wharton.upenn.edu but your username to sign will be pennkey@upenn.edu

Follow the Instructions at the Link Below

https://www.isc.upenn.edu/how-to/penno365-office-365-proplus

Teaching

IDEA Courseware Team

The Wharton Courseware team includes Instructional Design, Licensed Content, and Instructional Technology experts.

Courseware Request Form

or

Email Us!

Canvas Teacher App

[iOS]

[Android & Chromebook]

Simulations

The Learning Lab is always interested in working with faculty on new learning tools, so get in touch!

The Alfred West Jr. Learning Lab

Public Technology

Public Technology provides services in our buildings for the entire Wharton and Penn communities. On average, we perform 2300 recordings and work on 36,000 events per year. We encourage early planning and technology training to engender success. All technology in the rooms is available from the Wharton lectern to anyone who is Wharton-affiliated.

Cloud Storage Options

Dropbox

Unlimited storage via Dropbox for Business

Google Drive

Unlimited storage via Google@Wharton

OneDrive

1 TB data storage through your Office 365 account

Penn + Box

Unlimited storage and single sign-on using your PennKey https://www.isc.upenn.edu/pennbox

Information Security and Policies

Wharton Information Security Office

Information Security Best Practices https://www.isc.upenn.edu/security/staff
Phishing https://www.isc.upenn.edu/phishing-spear-phishing
Acceptable Use Policy https://www.isc.upenn.edu/acceptable-use-policy-electronic-resources

Recommendations for Travel: Travel Guidelines | Wharton Knowledge Base

Security Software

FortiClient VPN

- Securely connect to Wharton Computing Resources

GlobalProtect

Use while working off campus to:

- Securely connect to Penn Resources
- Global Protect offers additional security protections

Secure Share

- Secure document sharing service
- Documents will delete themselves automatically

Duo Mobile

- 2-Step Authentication tool
- Used for your PennKey credentials

DashLane

- Securely save your passwords

Google Authenticator

- 2-Step Authentication tool

Antivirus Software

CrowdStrike

University Owned Devices

- Unified Cybersecurity Platform
- Preinstalled

Sophos Home

Personal Devices

- Antivirus Software, free with a PennKey account
- Recommended for MacOS, compatible with Windows 11

Windows Defender

Personal Devices

- The default built-in Antivirus Software for Windows
- Recommended for Windows 11

Wharton Computing recommends ensuring Windows Defender is enabled.

1. Press the **Start** button and search for **Settings**
2. Navigate to **Update & Security** > **Windows**

Security > Virus & threat protection.	

Helpful Campus Links

Workday

- The University uses Workday for human resources, payroll, and job-related learning.

Campus Security

- The Mission of the University of Pennsylvania's Division of Public Safety is to enhance the quality of life, safety, and security of our community.

Penn Guardian

- Penn Guardian is an app that allows you to contact Public Safety and share information via phone or text message.

UPennAlert

We recommend setting up UPennAlert for SMS alerts about security issues on campus. Instructions are available here:
Faculty Staff Directions

Research Tools

Research Databases, Resources, and Surveys

AI at Wharton

- ChatGPT

- Microsoft Copilot

WRDS

- Web-based Business Data Research Service
- Access to over 250TB of data (financial statements, market data, ESG, marketing, economics, news, healthcare)

Library Resources

- Access to: the Wall Street Journal, Additional study spaces, Vitale Digital Media Lab, Bloomberg terminals in Lippincott, subscription data sources including Pitchbook, equipment lending

High Performance Computing

- The HPC Cluster is a flexible, cloud-based Linux cluster environment designed to support the school's academic research mission.

- The HPC runs a variety of research computing software tools.

Qualtrics Survey Software

- Allows you to easily create, distribute, and analyze surveys
- Create detailed reports based on collected data

Lippincott Library of the Wharton School

Resources for Faculty

Admin and IT Resources

Public Profile

Penn Directory If you'd like to customize your name as it appears in the PennDirectory, please use your PennKey credentials to sign into this site: Update Directory listings	
Academic Department Websites Your department coordinator can add you to the list of Faculty on the department website. You can edit your profile with the instructions here: Update Department Webpage Faculty Profile	

Departmental Resources

Be sure to reach out to the Academic Department Staff as soon as you arrive.

Academic Departments offer a variety of Information Technology resources please contact support@wharton.upenn.edu for more information.

Faculty Tools

Wharton provides many tools to aid your productivity as a Professor
Wharton Faculty Tools

Technical Support

Client Support Services

Wharton
UNIVERSITY of PENNSYLVANIA

Support available via email!

Check our KnowledgeBase for list of services, troubleshooting guides, and much more.

Contact Us:

support@wharton.upenn.edu
https://computing.wharton.upenn.edu

Caring For Your Laptop

Last Modified on 11/12/2025 5:48 pm EST

Laptops can be easily damaged and lead to the loss of important data or programs -- they can also be very time consuming and expensive to fix, so it's important you take great care in the usage, handling and transport of your laptop.

Below is a list of important tips for taking care of your laptop.

Keep it Dry and Clean

- Do not expose your computer to liquids or moisture.
- Be very careful when eating or drinking near your laptop.
- Do not expose your laptop to dirty or dusty environments.
- Try not to touch the screen (unless it is a touch screen laptop!), or splatter liquids, etc. near the screen.
- Do not use regular window cleaners to clean your laptop screen. You can purchase laptop screen cleaning kits from most computer supply stores.

Handle with Care -- It can break!

- Take care not to drop or place heavy objects on top of the laptop.
- Keep your laptop off the floor.
- Don't carry a laptop by its screen -- try to avoid touching the screen altogether.
- Do not place your laptop on uneven or unstable work area surfaces from which it could fall.

Keep It Cool and Neutral

- Do not expose your laptop to extreme heat (122°F, 50°C) or extreme cold (below 0°C, 32°F) or direct sunlight.
- Keep your laptop away from strong magnetic or electrical fields.

Protect It

Try to always carry your laptop in a backpack, carry bag, etc. with a protective pocket specifically made for laptops. Do not carry an unprotected laptop in your backpack along with your books etc. as they can be easily damaged while being carried around unprotected. If you must carry your laptop in an unprotected backpack, try to wrap it with bubble wrap, foam rubber, etc.

If you don't already have a backpack that has a protective pocket for laptops, we recommend that you purchase one. More information on protective backpacks can be found at:

Keep it Healthy

Faculty & Staff: University managed workstations are already protected, as a result you **DO NOT** need to install additional virus protection on your work laptop or try to encrypt your hard drive without involving your IT support team, which can be contacted here https://computing.wharton.upenn.edu/.

Install Virus Protection Software

Make sure you use Virus protection.

Encrypt your Hard Drive

Some computers have built-in functionality to encrypt your hard drive. This will ensure that your personal data is safe even if your device is physically stolen. Computers running Windows 11 Pro, Enterprise , and Education editions can enable BitLocker, and those running MacOS Lion or later can enable FileVault.

NOTE: It is ***very important*** when enabling device encryption that you securely store your recovery key. Having access to your recovery key means that you'll always have access to your data in case you are locked out.

Enable *Find My Device* for MacOS

Find My Mac & Find My iPhone are two services that apple provides to allow users to track the GPS location of their devices. Learn how to enable both of these services here.

Consider Buying a Security Cable

Security cables are essentially bike locks for your laptop. Devices compatible with security cables allow you to physically lock your device to a desk and require a user to unlock the cable using either a key or combination. Security cables can be bought from most computer supply stores.

Questions?

Students - Wharton Computing Student Support

Faculty - IT Representative

Staff - IT Representative

Virtual Tech Center Appointments (Students)

Last Modified on 02/21/2024 9:23 am EST

This article provides basic information as to why you might want to make an appointment with Student Support and what you should before you arrive for your appointment.

Student Support is the IT support provided for **Students**. If you are Faculty or Staff (pennkey required), please contact your respective IT representative.

Before attending a virtual appointment, ensure that you've activated your Wharton BlueJeans account and installed the BlueJeans application on your device.

Appointment Policies

- Problems that may take time must be scheduled **before 2 PM**. These include:
    - Virus Removal
    - Operating System Restore
- Corporate computers may be ineligible for service
- Student Support is not responsible for loss of data on any device

Before your appointment

These steps are important to follow before coming to your appointment. If they are not completed in advance of your appointment you may need to reschedule.

1. Back up important data prior to stopping in.
2. Save any open files before leaving your computer (we may need to reboot the machine).
3. Bring your laptop's charger (we may not have the right one).

Scheduling Your Appointment

Review the policies above to choose an appropriate time before clicking the button below to schedule an appointment.

Questions?

Contact: Wharton Computing Student Support

Email: support@wharton.upenn.edu

Technology Support Options (Students)

Last Modified on 09/26/2025 4:35 pm EDT

The following article outlines the various forms of IT support available to students.

If you are a Faculty or Staff (login required), please contact your Wharton Computing representative.

Wharton Computing Client Support Services

Wharton Computing supports research, instructional, student, and administrative computing at the Wharton School. Support for students is available in the following ways:

- Visit the Steinberg Tech Center located in Room 114 of Steinberg-Dietrich Hall ; Monday - Friday 9am - 5pm EST
- Call: 215.898.8600 (phone support available 24/7)
- Email: support@wharton.upenn.edu
- Online Chat/Website: https://computing.wharton.upenn.edu
- Virtual Appointments (login required)

College Houses and Academic Services Technology

Technology support for students living in the College Houses

- Website: https://support.collegehouses.upenn.edu

The Penn Tech Center (formerly the CRC)

The Penn Tech Center provides computing support services for Graduate and Professional students as well as for Undergraduate students who live off campus. This service is available to all Penn students, not just Wharton students.

- Visit: Room G-102 of the Van Pelt - Dietrich Library, 3420 Walnut Street ; Monday - Friday 9am - 5pm EST
- Call: 215-898-9720
- Email: techcenter@upenn.edu
- Website: https://techcenter.upenn.edu/support/home

Personal Computer Hardware Problems

The Wharton Student Computing team can help begin the diagnostic process of hardware problems. If the issue becomes too complex, we will work with you to identify the appropriate escalation and resolution for your problem.

Generally, we can:

- Perform initial diagnostic overviews
- Work with your vendor's warranty or tech support
- Help you install hard drives, memory, keyboards

Other local resources for helping you resolve hardware issues include:

- Phone Repair Philly (Computer Repair) (PC and Mac)
- Apple Store (Mac)

Laptop Buying Guide (Students)

Last Modified on 03/28/2025 1:52 pm EDT

Students should follow the recommendations below when purchasing a laptop to ensure it is optimized for the Wharton computing environment and course requirements.

Faculty purchasing laptops with departmental funds should contact their Academic Representative.

For mobile device recommendations see our Mobile Device Buying Guide

Laptop Recommendations

Wharton Computing does not recommend specific laptops for students. These guidelines should help you determine which type of laptop will best suit your needs in our computing environment. Consider Penn Computing's Laptop Purchasing Guide for configuration suggestions.

Purchasing a laptop warranty is highly recommended. Warranties support the repair or replacement of your laptop in the event of accidents or technical problems.

Students are able to purchase at educational discounts using the information at: https://www.business-services.upenn.edu/access-savings-technology

⚠ Laptops that have the new Snapdragon CPU are not compatible with a large number of software at Wharton. For this reason we do not recommend purchasing and/or using these devices at Wharton at this time either.

⚠ Similarly to Snapdragon CPU , Microsoft's new Surface Pro X also uses different CPU architecture (Qualcomm ARM processor) compared to some of the more traditional Surface devices. As a result the Surface Pro X currently features software compatibility limitations and for this reason we do not recommend purchasing and/or using these devices at Wharton at this time either.

Chromebook Considerations

While Chromebooks are an affordable alternative, they do not have the same functionality of a laptop running a full operating system such as Windows or MacOS. This means that your experience at Wharton can greatly vary depending on the system or service you are interacting with. For this reason, Wharton **does not recommend** purchasing a Chromebook.

If you're still thinking about purchasing a Chromebook, some things to consider are:

- Microsoft Office is only available via the web interface
- Solstice screen sharing is not supported
- VirtualLab is only accessible via web interface
- Lockdown browser may function in a limited capacity

Respondus Lockdown Browser is required for quizzes and exams by most faculty at Wharton. While Lockdown Browser is available from the Google Play Store, this version **does not support the calculator function**. If your professor did not enable the calculator directly within the exam itself, it will be unavailable for you to use during your quiz or exam.

Software Recommendations/Availability

	Windows	**MacOS**	**Chromebook**
Recommended Operating System	Windows 11 [6]	MacOS Sonoma 14.7.4	ChromeOS v121+
Productivity Software	• Microsoft 365[1]	• Microsoft 365[1]	• Office Online[5] • G Suite Apps
Security Software	Windows Defender	Sophos Home	Built-in
Printing?	✓	✓	• via Email Printing • via Public Computer
Virtual Lab/Vmware?	✓	✓	Web Client Only
Solstice Screencasting?	✓	✓	✗
Virtualization for Windows	N/A	• Virtual Lab/Vmware • Bootcamp[2] • Parallels[3] • VM Fusion[4]	✗

[1]*We recommend using either Microsoft 365 (available for free to all Penn students) or Office 2019 ProPlus.*

[2]*Bootcamp is not supported on Apple Silicon (M1) Macs. On Intel-based Macs, we recommend that you have at least 512GB of storage space if you plan to use Bootcamp.*

[3]*Windows 10 is not supported on Apple Silicon (M1) Macs. On Intel-based Macs, we recommend that you have at least 16GB of RAM if you plan to install Microsoft Windows 11 in Parallels. Windows 11 ARM is supported on Apple Silicon (M1) in Parallels.*

[4]*VM Fusion is not supported on Apple Silicon (M1) Macs. On Intel-based Macs, we recommend that you have at least 16GB of RAM if you plan to install Microsoft Windows in VMware Fusion.*

[5]*OneDrive app is available. All other Office products (Word, Excel, PowerPoint, etc.) are only accessible via web interface.*

[6] *Microsoft will officially end support for Windows 10 Home and Pro on* ***October 14, 2025****, meaning any devices still running that version of Windows will not receive security updates, feature updates, or technical support after that date.*

Software Purchases

Software needed for "Whartonizing" your computer is free and is available via download using the directions in Whartonizing Your Device.

Hardware Recommendations

When looking to purchase a new laptop, it may be hard to distinguish what makes one model better than another. In cases like these, it is often helpful to compare hardware specifications. See below for some tips on how to determine the difference in hardware specifications.

Hard-Drive *(a.k.a. Storage)*

Your hard-drive is where all your data is stored, from programs to personal files like documents and pictures. It also houses your Operating System (Windows or MacOS) which can sometimes take up to 30GB -- so keep this in mind when looking at storage sizes.

Hard-Drives also come in two types: HDDs and SSDs. SSDs are better with speed, durability, and longevity, but come at a higher cost. Our recommendation is to have at least a 1TB SSD. Use in conjunction with Cloud Storage Options to maximize productivity, performance, and durability of your data!

RAM *(a.k.a. Memory)*

RAM assists your computer's other hardware in order to run programs and especially helps if you plan to have multiple programs (or browser windows/tabs) open at once.

When it comes to RAM, the more the better. For general use, such asweb browsing, office work, and we recommend having a minimum of 8 GB of RAM. If you frequently multitask or run resource-intensive programs like video editing or even work with datasets, we recommend having a minimum of 32GB of ram as it will provide a smoother and more responsive experience when working with applications that demand more processing power and memory on your device.

CPU *(a.k.a. Processor)*

Your CPU handles all calculations your computer has to make, essentially making it the brain of your computer. CPU performance is measured by two factors: number of cores & clock speed (i.e. Dual Core @2.6GHz).

For CPU, the more cores the better. If you choose a CPU with more cores, it's okay if your clock speed is slower.

CPUs may also be listed by brand and model. In general, the higher model numbers are better*(i.e. i9 > i7 > i5* ***or*** *Ryzen 9 > Ryzen 7 > Ryzen 5).*

Remote Work Considerations

If you are working from home you might want to consider the following:

1. **Internet Service Provider**: If you are living off campus, speak to your internet service provider about setup and installation before moving into your new residence. On the day of service installation, give yourself plenty of time for equipment installation, configuring settings, and testing your wireless speeds and stability. On-campus students will connect to AirPennNet.
2. **Additional Equipment**: If you plan to use video conferencing services (e.g. Zoom) for classes, you might want to consider noise-canceling headphones. We recommend wired headphones to reduce the chance of losing connection during class, and you should also confirm if your laptop has a built-in microphone. Online courses are set up so that you don't need a printer, so it is a personal preference whether or not you'd like the ability to print course materials at home.
3. **Ergonomic Considerations**: If you are spending a lot of time at home, you may want to invest in a quality chair, desk, laptop stand, etc. to maximize comfort and support your body's needs (e.g., back and neck support).
4. **Designated Workspace**: If you have the available space, you can designate a specific workspace that is separate from the rest of your home.
5. **Consider Best Practices for Video Conferencing**:
    - Find a quiet area.
    - Mute your microphone at the start of a meeting.
    - Pay attention to your background and lighting.
    - Speak loud enough for your laptop mic or external mic to pick up sound.
    - If you are using a mobile device instead of a laptop, mount it on something to keep the video steady.

Note: All students with concerns about affording technology for remote learning can approach the Emergency and Opportunity Fund or Penn First Plus.

For more information, check out Working and Learning Remotely - Students, and Remote Working Checklist

Frequently Asked Questions

1. Can I use my company computer?
2. Can I use my current computer?
3. Which Smartphone will work best at Wharton?

Need More Purchasing Advice?

Wharton Computing supports research, instructional, student, and administrative computing at The Wharton School. Student Computing can help advise you.

- Visit: Steinberg Tech Center (Room 114 of Steinberg-Dietrich Hall)
- Call: (215) 898-8600 (support available 24/7)
- Email: support@wharton.upenn.edu
- Website: https://computing.wharton.upenn.edu

Student Support Quick Start Guide

Last Modified on 03/16/2021 2:09 pm EDT

The purpose of this Quick Start Guide is to provide direct links for the software needed during Whartonization.

Student Support highly suggests following through the full Whartonization Guide foundhere.

Quick Links for Windows:

1. AirPennNet
2. Windows Defender | Symantec Antivirus (64-bit)
3. Laptop Printer Drivers
4. VMware/Virtual Lab [Remote Connection to Virtual Computers]
5. Solstice (Wireless Screen Casting to GSR Monitors)
6. Office 365 Password Reset & Office 365 Login/Download
7. Calendar Feeds (MyWharton Calendar Feed)
8. G Suite Sync (For Outlook)
9. Wharton Computing Student Resources

Quick Links for MacOS:

1. AirPennNet
2. Symantec Antivirus (10.10 & Above)
3. Laptop Printer Drivers
4. VMware/Virtual Lab (Remote Connection to Virtual Computers)
5. Solstice (Wireless Screen Casting to GSR Monitors)
6. Office 365 Password Reset & Office 365 Login/Download
7. Calendar Feeds (MyWharton Calendar Feed)
8. Wharton Computing Student Resources

Buying Guide - Can I use my current / company computer? (Students)

Last Modified on 09/13/2023 1:47 pm EDT

This article attempts to answer two specific questions we often get from incoming Wharton students. See our full Laptop Buying Guide for complete information on buying a computer.

Can I use my current computer?

New Wharton students should consider purchasing a new computer, making sure it has a current and comprehensive warranty and sufficient support offerings. This increases the likelihood that the computer will not need to be replaced while you are a student.

If a new system is out of the question, an older computer may be adequate for temporary use. However, be wary of upgrading an old computer with a newer operating system; it can cause unexpected problems. We don't recommend upgrading Operating systems older than Windows 8.1 or Mac's Sierra, even if the computer's hardware will allow it.

We recommend that you carefully review the Buying Guide so that you understand the system features that will enhance your experience in Wharton's computing environment. After you have read this guide, you should be able to make an educated decision about whether or not your current system will meet your individual needs.

Can I use my company computer?

We don't recommend using a computer that has been used in a corporate or company environment. These machines prove problematic since differences between individual company configurations and the school's configurations cause conflicts that Wharton Computing Student Support is often unable to resolve. In many cases these machines need to be reformatted, and in most cases the employers have not provided the original Operating System disks for the computer.

These machines are not supported by Wharton Computing Student Support.

Questions?

Contact: Wharton Computing Student Support

Email: support@wharton.upenn.edu

Penn Educational Discounts for Technology Purchases

Last Modified on 09/19/2023 4:23 pm EDT

Computer Connection is **permanently closed** as of June 30, 2020. We strongly suggest that new orders for custom computers be placed directly with the manufacturer.

The Penn Computer Connection is the campus computer retail outlet for faculty, staff and students of the University. The store offers educational discounts on computers, hardware, software, accessories and supplies. The features, pricing, reliability and support options of the systems purchased through the Computer Connection exceed those typically offered by traditional retail outlets. See their website at http://cms.business-services.upenn.edu/computerstore/ for pricing and other information.

Faculty should contact their IT representative before making a purchase.

Hours and Location

Penn Computer Connection is conveniently located on Penn's campus on the second floor of the University Bookstore at 36th and Walnut.

Penn Computer Connection
University Square
3610 Sansom Street
Philadelphia, PA 19104-3298

Main phone: 215-898-3282
Departmental orders: 215-898-0889

Fax: 215-898-0647

View Larger Map and Get Directions

Check their website for up-to-date hours.

Mobile Device Buying Guide

Last Modified on 02/20/2025 2:48 pm EST

This guide will help you choose a smartphone or tablet that will work well in Wharton's online environment. It will help you configure your device to work with your Wharton email account, and with other Wharton-related mobile apps.

Faculty and Staff: Before you purchase, contact your IT Representative to confirm that the device you are considering will work best for your needs.

Steps for Purchasing a Mobile Device

1. **Choosing the right device:** There is a vast selection of smartphones and tablets to choose from, limited only by those that your mobile carrier provides. Before purchasing a device, we recommend you research product features, performance specifications, and user-submitted reviews. A positive or negative review could help determine which device is right for you.
2. **Choosing the correct data plan:** To access your Wharton email account on your phone you will need to purchase a data plan or have access to WiFi. We recommend that you speak with your mobile carrier about the types of data plans they offer in order to decide what would best fit your needs. Normal user activity involves:
    - Sending and receiving email
    - Web browsing
    - Calendaring, scheduling, and accepting appointments
    - Accessing useful Wharton applications, including online meeting software such as Zoom

Mobile devices that will best work with your Wharton email account

Wharton Computing does not recommend one specific brand of mobile device. However, the guidelines listed below should help you determine which type of device will best suit your needs. Both iOS and Android devices perform equally well within the Wharton environment.

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iPhone

The iPhone can:

- Sync email, calendar and contacts with your Wharton account.
- Connect to Penn's wireless network, AirPennNet, for Internet WiFi connectivity (requires iOS version 11 or later).
- Access Canvas course sites -- see what's new/what's due, subscribe to your Canvas calendar -- using the Canvas iPhone app. (Canvas requires iOS version 13 or later.)

Read More:

- iPhone/iPad for Google@Wharton
- Connecting to AirPennNet (follow this link on your iPhone)

Android Devices

Android devices, such as Samsung's Galaxy, can:

- Sync email, calendar and contacts with your Wharton account
- Connect to Penn's wireless network, AirPennNet, for WiFi connectivity (Android OS 2.1.x and later)
- Access Canvas course sites -- see what's new/what's due, subscribe to your Canvas calendar -- using the Canvas Android app (requires Android version 6 or later)

Read More:

- Email, Calendar and Contacts for Android (Google@Wharton)
- Connecting to AirPennNet (follow this link on your Phone)

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iPad (all versions)

The iPad can:

- Sync email, calendar and contacts with your Wharton account
- Connect to Penn's wireless network, AirPennNet, for Internet connectivity (iOS 11/iPad OS 11 and later)
- Access Canvas course sites -- see what's new/what's due, subscribe to your Canvas calendar -- using the Canvas iPad app. (Canvas requires iPad iOS version 13 or later)

Note: If you buy a tablet, we don't recommend using it as your primary device. While it can be useful as a way to access some of your course materials, you will still need to purchase a laptop or use the Wharton public computers to access certain programs that aren't available through tablets yet. However, many students have found the iPad to be useful in class and for accessing electronic course materials.

Read More:

- iPhone / iPad for Google@Wharton
- Connecting to AirPennNet (follow this link on your device)

Student Tech Center

Last Modified on 06/08/2023 3:30 pm EDT

Student Tech Center

Support is available via in-person (walk-ins & appointments), phone, chat, and email!
Check our KnowledgeBase for list of services, troubleshooting guides, and much more.

Contact Us

Office: SHDH-114

Phone: 215-898-8600

Chat: computing.wharton.upenn.edu

Email: support@wharton.upenn.edu

Remote Windows Setup

Last Modified on 08/14/2025 3:08 pm EDT

This article is intended for faculty setting up Penn-managed devices. This is a time-intensive process, and faculty should prepare accordingly.

Students should refer to the Whartonization Guide for support setting up their computers.

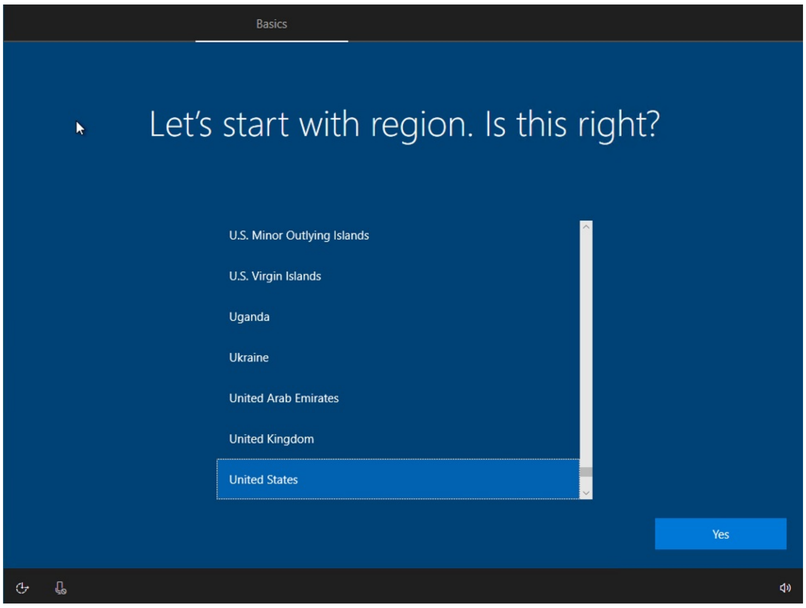
Staff should contact their Wharton Computing representative for help setting up their work computers.

NOTE: For faculty or staff new to Penn, please contact your support team for a more involved (and potentially multi-day) setup process.

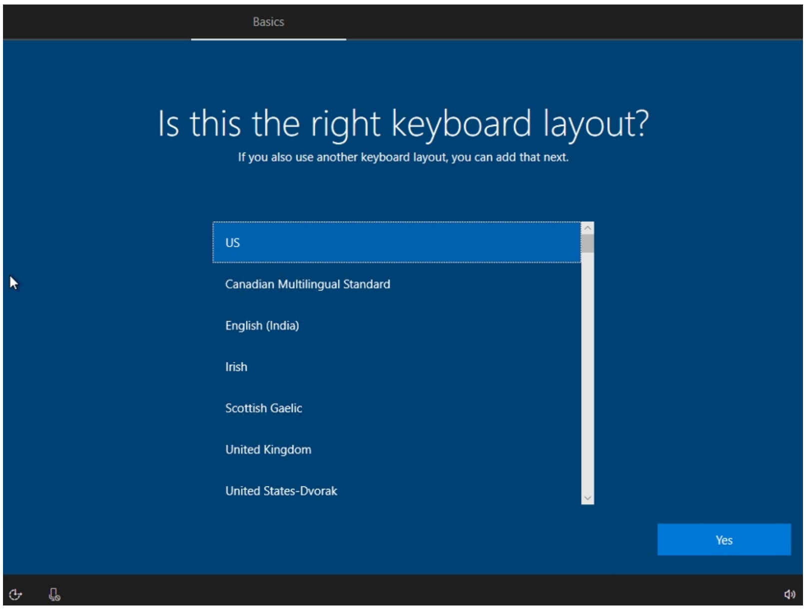
Individual Setup

These steps may not appear in the exact order due to operating system changes. For more assistance, contact your academic distributed representative (login required).

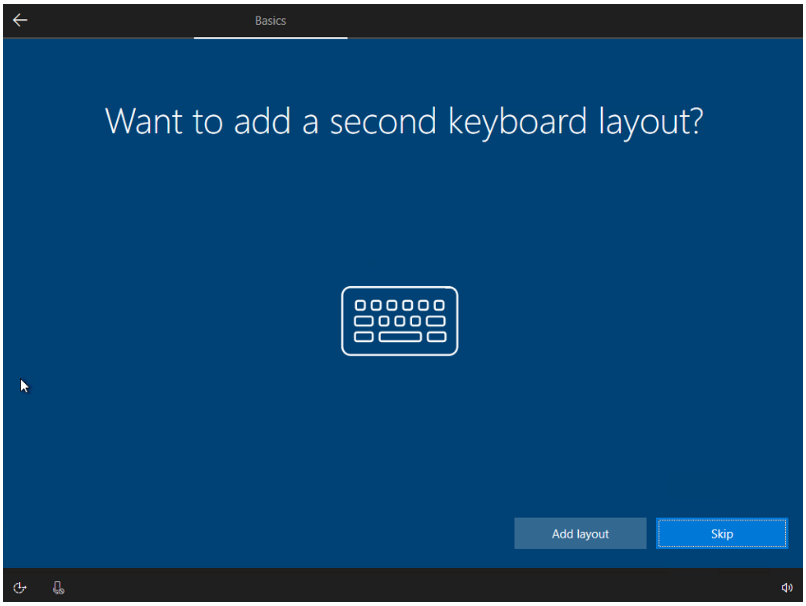
1. Turn on the computer, and wait for it to boot to the setup. Accept the default region and click **Yes** to confirm.



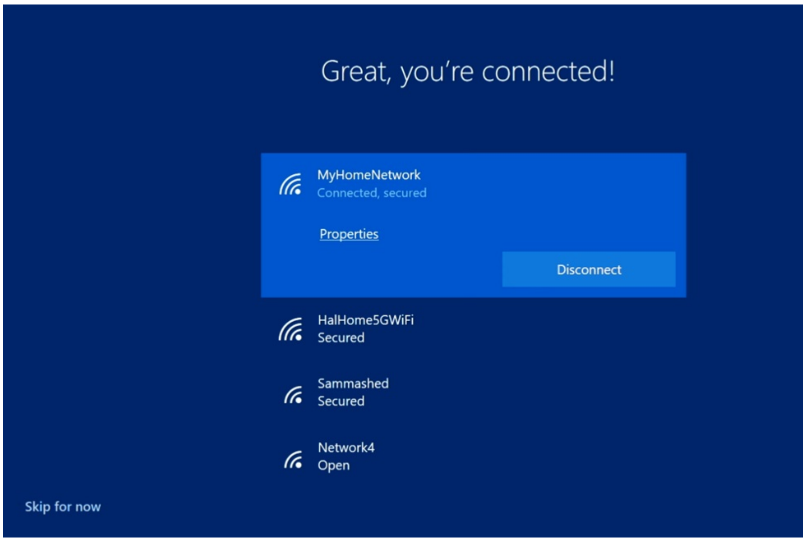
2. Choose the default keyboard layout. Click **Yes** to confirm.



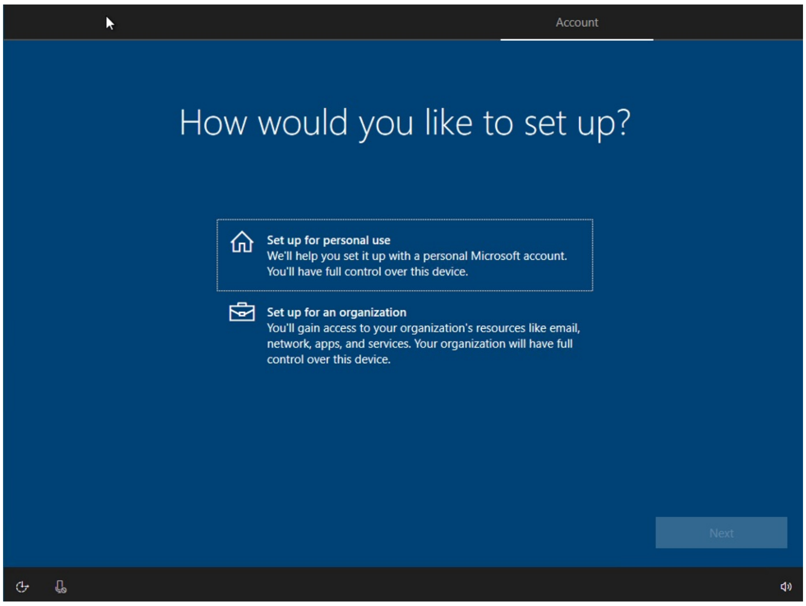
3. **Skip** the second keyboard layout.



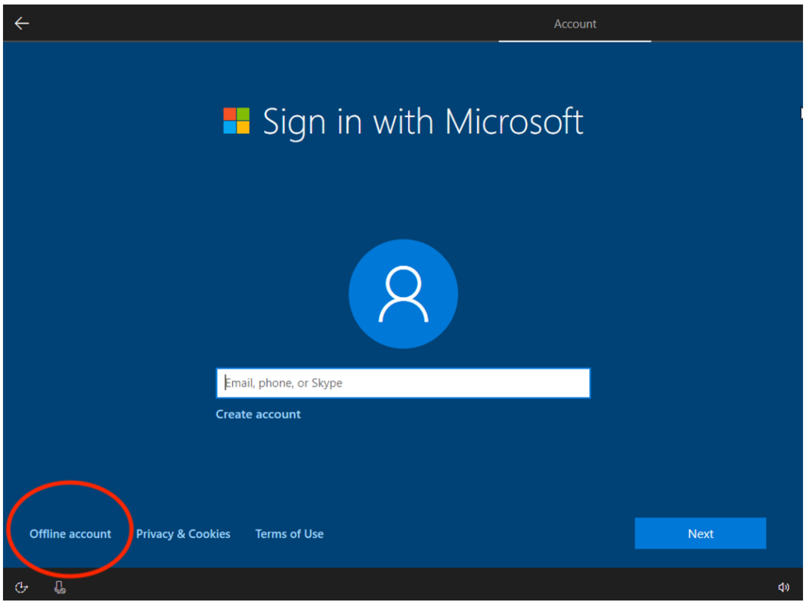
4. **Connect** to your home wireless network and enter your wireless **password** to connect.



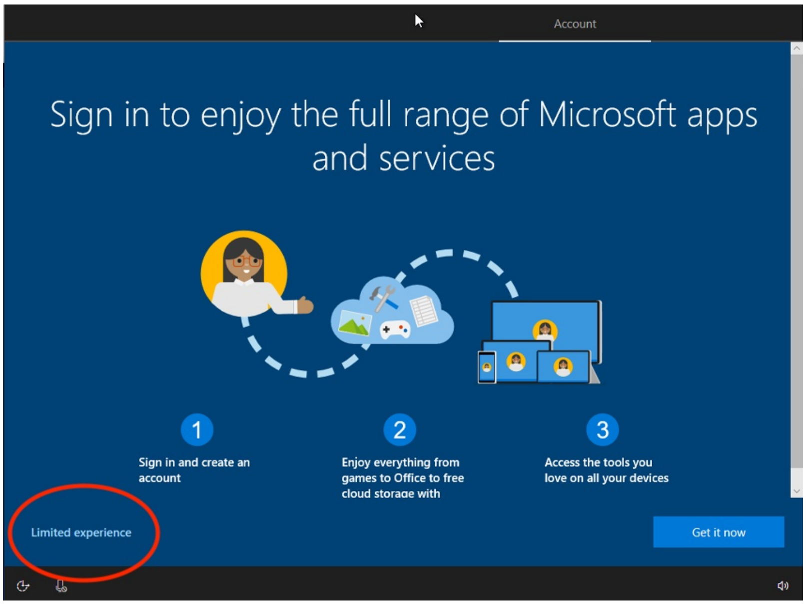
5. Choose Personal Use. Then click **Next**.



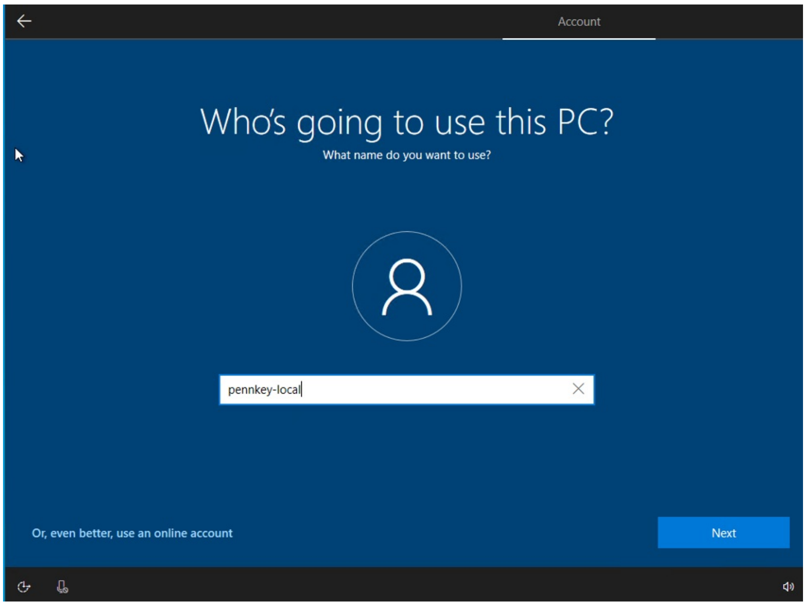
6. Do NOT sign in with Microsoft. Use **Offline account** in the bottom left corner.



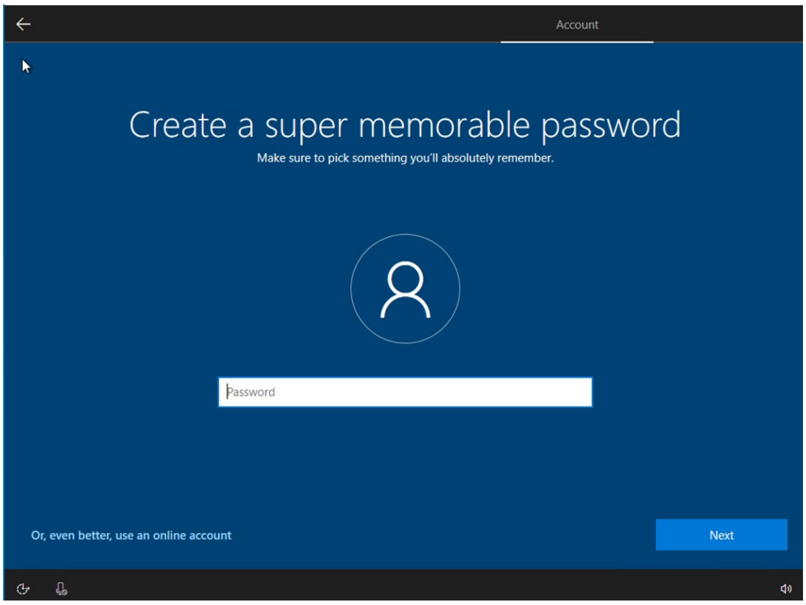
7. Use **Limited Experience** in the bottom left corner.



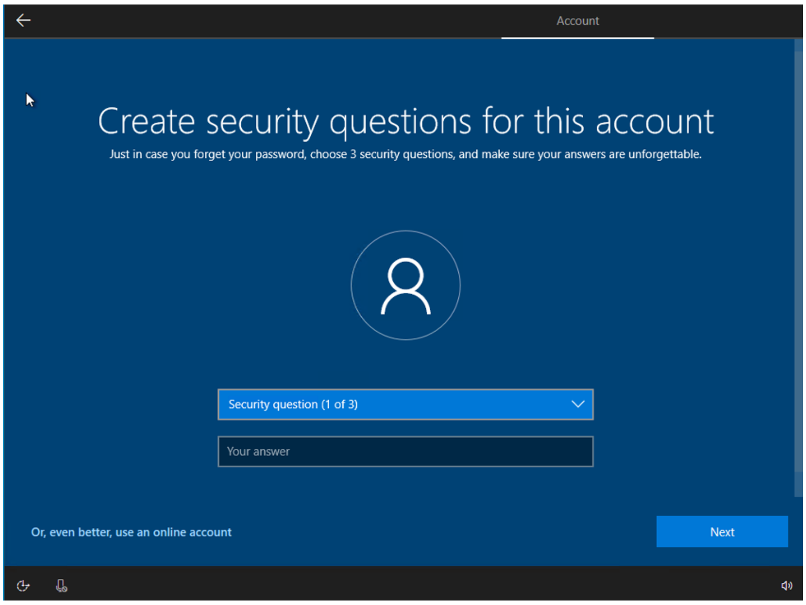
8. For the username, enter your pennkey, followed by "-local" (for example, if your pennkey were abc, enter "abc-local"), then click **Next**.



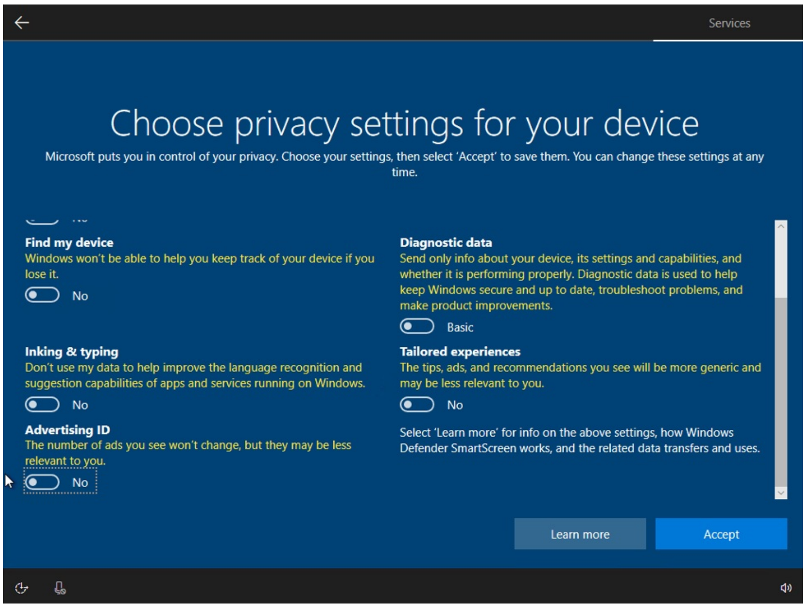
9. Enter a password, then click **Next**.



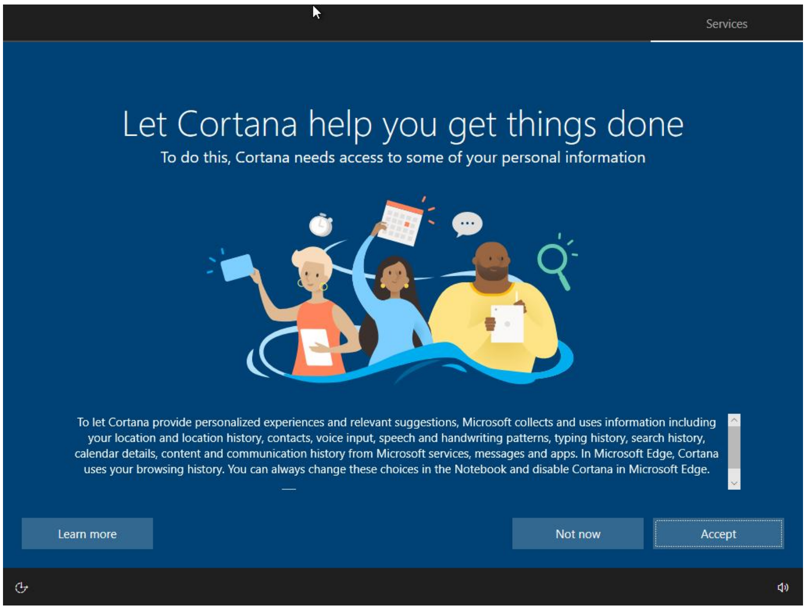
10. Answer security questions, then click **Next**.



11. Turn off all privacy settings. Click **Accept**.



12. If you would like to use Cortana, click **Accept**. Otherwise click **Not Now.**



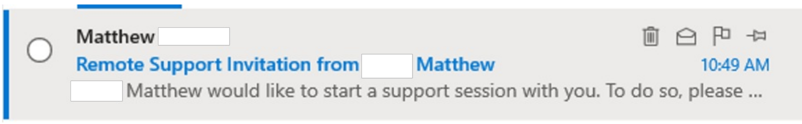
Remote Support Setup

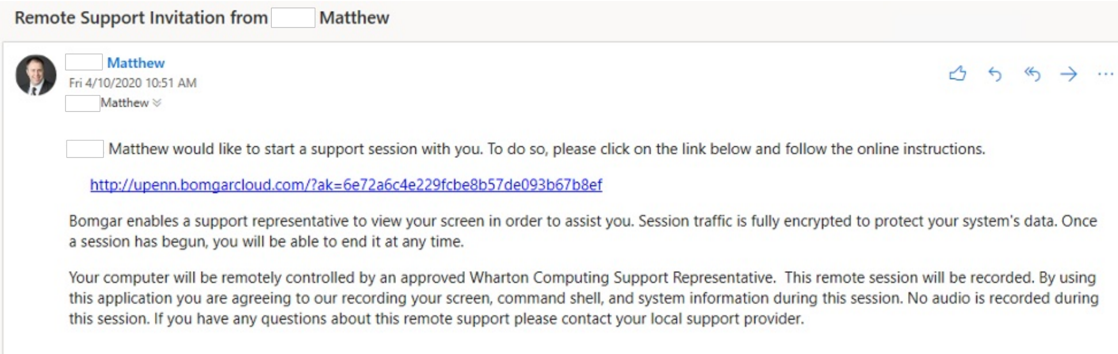
Your IT support representative will create an admin-local account on the machine and deploy software. You will need to help with the first part of this process, and it will take approximately 1-2 hours, depending on network speed.

1. Open your email in webmail - browse to https://outlook.office.com.
2. Log in with your Penn O365 credentials (**<pennkey>@upenn.edu**).

> Make sure it is <pennkey>@upenn.edu **NOT** <pennkey>@wharton.upenn.edu

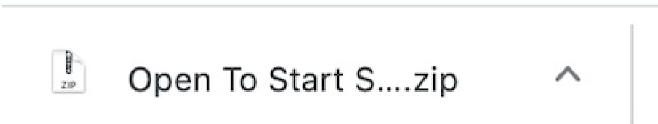
3. Contact Your IT Support Reps to remotely access your computer. They'll send you an invitation to join a remote session.
4. You'll receive a remote support invitation message, as below. Open it.



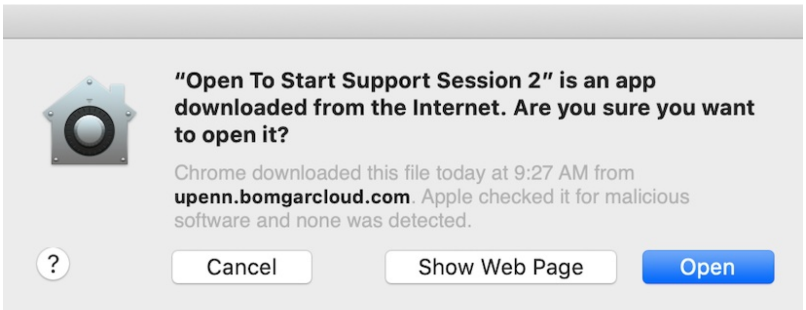


5. Click the link (as shown above) to download the file.

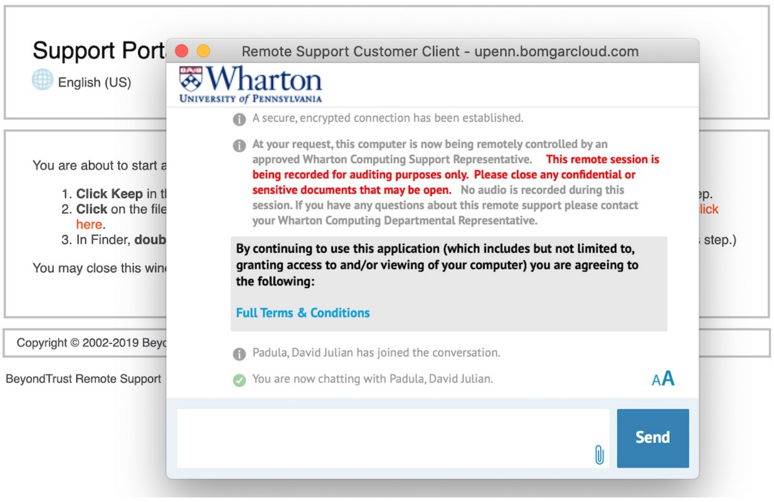
6. **Double-click** the zip file to open.



7. **Open** the support session.



8. Connect with your support representative.



9. Once the representative is connected, you'll be prompted for security permissions – say **Yes** to permit.

Once the account is made and the software has been installed, your IT representative will help you get your accounts set up (Dropbox, Box, Zoom, Adobe Acrobat, etc.). This part of the process will take some time, and you'll need to be available to help advise on your preferences.

Questions?

Contact your academic distributed representative (login required).

Updating Your Laptop

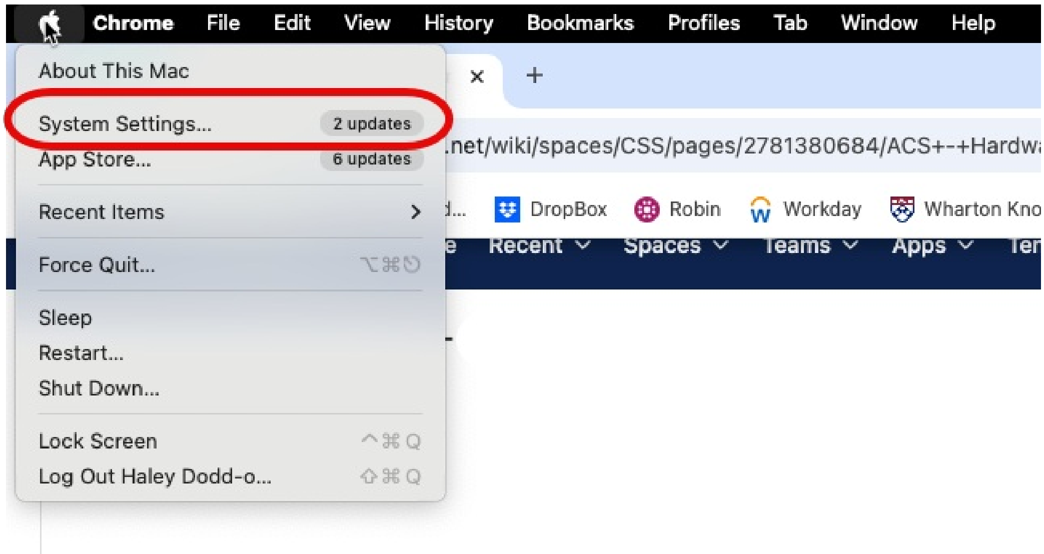
Last Modified on 03/07/2025 3:49 pm EST

DRAFT

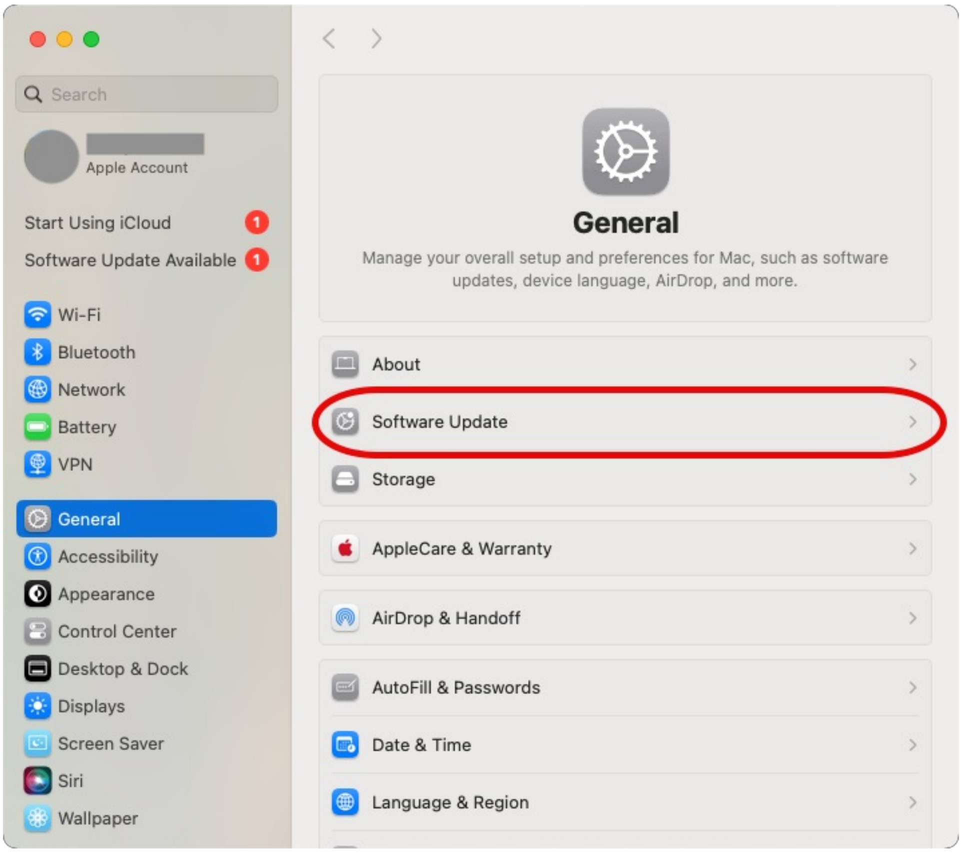
Keeping your machine up to date is critical to both the performance and security of your device. This article includes an overview of updating Apple, Dell, and Lenovo devices.

Apple

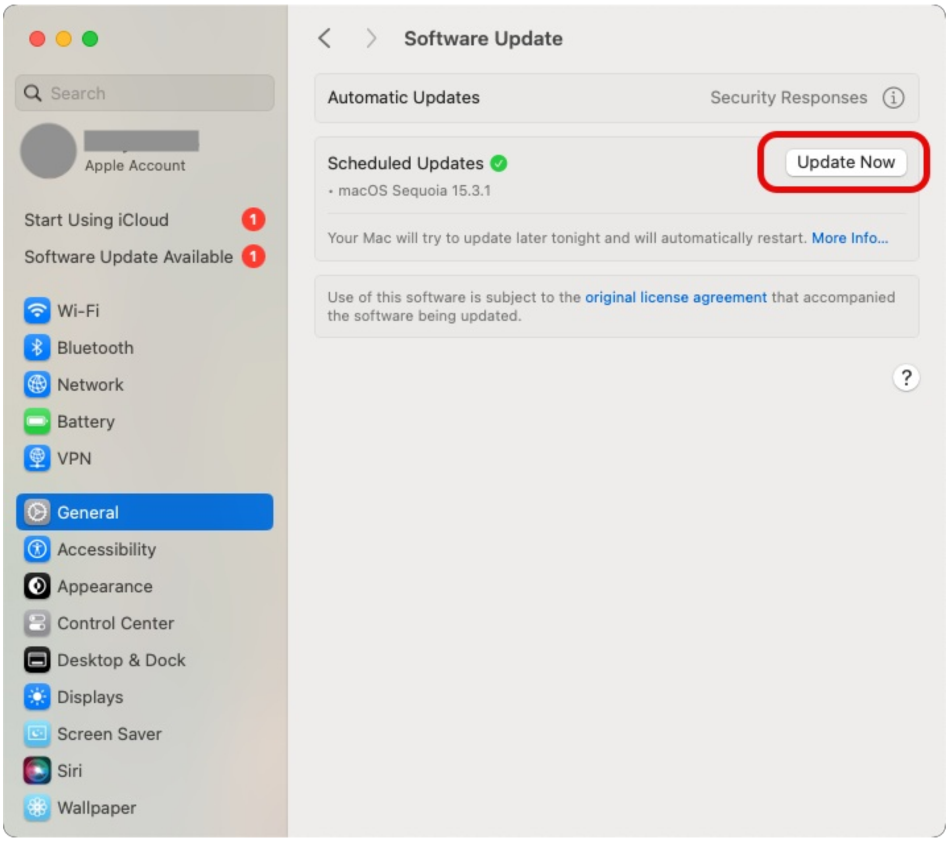
1. **Navigate** to the apple icon in the top left corner of your screen



2. Select "**System Settings**"



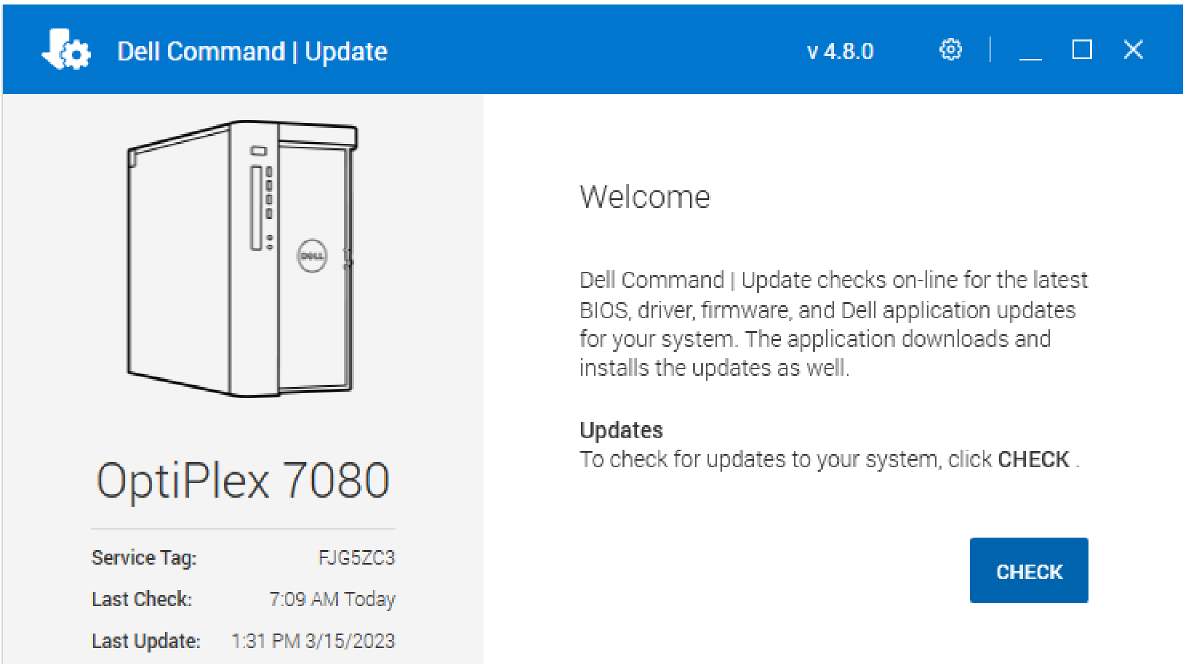
3. Select "**Software Update**"



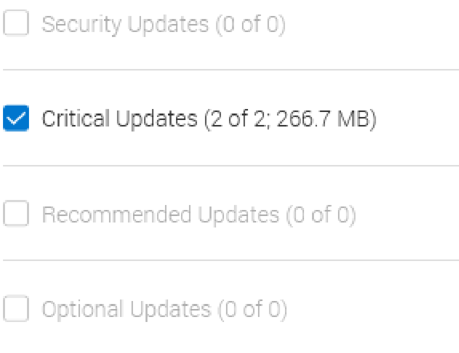
For more information see Apple's article on updating macOS

Dell

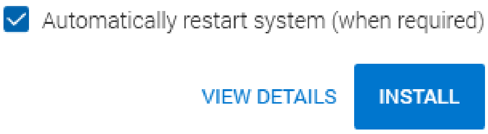
1. Open **Dell Command Update**



2. Check off all applicable updates



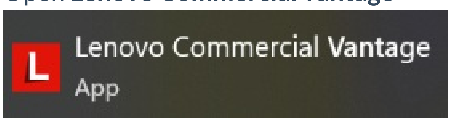
3. Select **Install** and agree to restart system



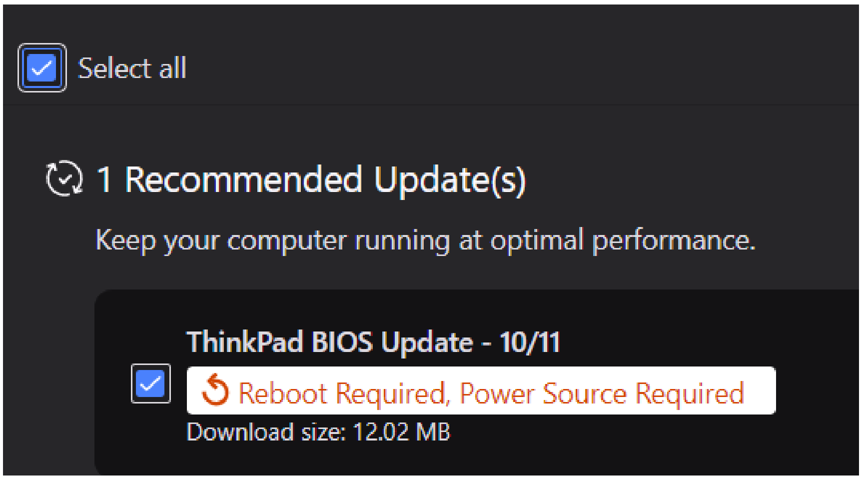
For more information see Dell's article on updating Windows OS

Lenovo

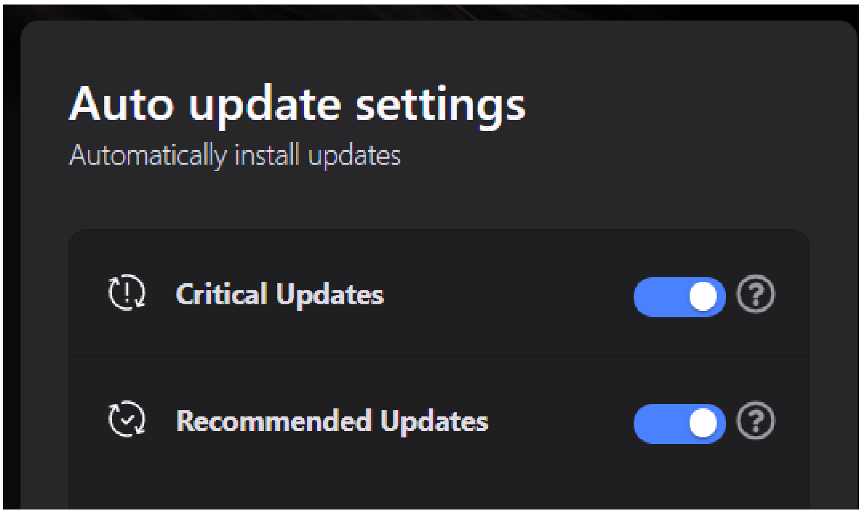
1. Open **Lenovo Commercial vantage**



2. Select **System Update**

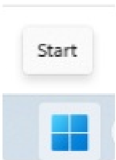


3. Check off all applicable updates

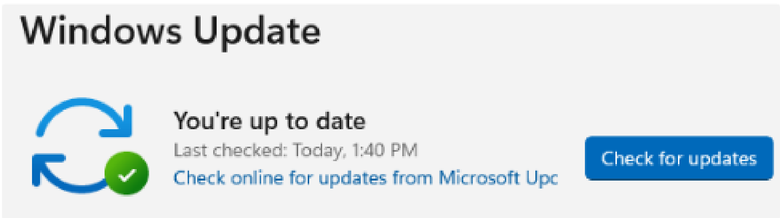


Windows

1. Select **Start** > **Windows Update**



2. Click **Check for updates** and update as appropriate



Questions?

Contact admin support (support@wharton.upenn.edu) with any questions about updating your machine.

Two-Step Verification (Google Accounts)

Last Modified on 01/29/2025 2:53 pm EST

The following article will outline the process of setting up Two-Step Verification for a Google account. Two-Step Verification is required for all Google@Wharton accounts that do not use PennKey authentication, and is heavily recommended for personal Google accounts.

If you sign in to your Wharton Google account with your PennKey, do not follow these instructions.

Before You Start (***Action Required***)

You must choose between **push notifications** or a **code generator** app before you can enroll.

For more information about choosing between Two-Step methods, see our Two-Step: Methods of Verification article.

Note: If your Wharton Google account was created **after December 2023**, this article does not apply to you.

Push Notifications: Android

1. **Open** the Settings app
2. **Tap** Accounts, and then Add Account
3. **Select** Google and then sign in

Push Notifications: iOS

1. **Open** the App Store
2. **Download & open** the Google App
3. **Sign in** with your Google account

Code Generator App

1. **Android:** open the Google Play Store
2. **iOS:** open the App Store
3. **Download** the Duo Mobile app

> **Tip:** The **Duo Mobile** app (used for PennKey two-step verification) can both push notifications and generate codes. Use one app for all your two-step needs!

Getting Enrolled

1) Enroll in Two-Step

2) Generate Backup Codes

Note: The Google Authenticator app is no longer supported for Google Two-Step. If you previously set up your Google account to use it for generating codes it will still work, but new accounts or individuals looking to change two-step verification methods will not be able to set it up.

Your sign-in settings don't meet your organization's 2-Step Verification policy

If you see this message when trying to login, you did not enroll in Two-Step verification during the 30 day window. Please contact your respective support agent (listed below) and submit a ticket.

Questions?

Students - Wharton Computing Student Support

Faculty - Academic Distributed Representatives (login required)

Staff - Administrative Support (login required)

Two-Step Verification (PennKey Accounts)

Last Modified on 08/22/2025 2:15 pm EDT

Two-Step Verification is a service that provides an added layer of protection for your accounts. After you log in with your username and password, you'll be prompted to verify your identity – the second step – using a device in your possession, such as a mobile phone.

Before You Start

Make sure you have the following before you start this task:

- an active PennKey account
- administrative access to your smartphone (if you plan to install the recommended smartphone apps)

Two-Step Required at Penn

Two-step verification is critical to account security and is required for all PennKey accounts.

For more information regarding various options for Two-Step, please see our Two-Step: Methods of Verification article.

Enrolling Your PennKey

Please visit the ISC Two-Step Verification: Enrollment Instruction web page for information regarding your Two-Step Verification enrollment.

Enrolling Your Google Account

If your account was created **before December 2023,** or you would like to enroll your personal Google account in Two-Step verification, please see our article here. Accounts created after December 2023 use PennKey credentials to access Google.

Account Recovery

If you have lost your phone or mobile device, you will need another way to get a passcode. For more information regarding account recovery, please take a look at our Two-Step: Account Recovery.

Questions?

Contact: Wharton Computing Client Support Services

Two-Step Verification: Start Here

Last Modified on 01/11/2024 3:10 pm EST

Two-Step Verification provides an added layer of protection for your online accounts. After you log in with your username and password, you'll be prompted to verify your identity – the second step – using a device in your possession, such as a mobile phone or an emailed code.

This article focuses on Two-Step Verification for PennKey and Google accounts, as all members of the Penn community have Two-Step Verification associated with their PennKey accounts, and students whose accounts were created before December 2023 have this service for their Wharton Google accounts. PennO365 accounts leverage PennKey's Two-Step Verification as well.

For more information regarding various options for Two-Step, please see our Two-Step: Methods of Verification article.

Before you Start

You will need one or more of the following before you can complete this task:

- An active account (e.g., PennKey, Google) that has not been enrolled in Two-Step Verification
- Administrative access to your smartphone (if you plan to install the recommended smartphone apps)

PennKey

Enroll in PennKey Two-Step

Full instructions found here.

Google

Enroll in Google Two-Step

Full instructions found here.

Questions?

Faculty & PhD Students (login required): Academic Distributed Representatives

Staff (login required): Administrative Support

Students: Wharton Computing Student Support

Two-Step: Methods of Verification

Last Modified on 01/12/2024 12:35 pm EST

There are many different ways to verify your identity using two-step verification - choose the one that's right for you! Your options may vary from service to service.

Faculty, Staff, and PhD Students

Contact your IT Support Representative for the best option to use with two-step verification.

Two-Step Methods: Key

Push Notifications - The best balance between security & convenience, just approve the push notification to sign-in!

Authenticator App - Use virtually any app available – this method generates a code every 30 seconds that you'll need to manually enter.

Physical Security Key - No need for a phone, just keep the FOB on your keychain for easy two-step verification on the go!

Voice or Text Message - The least secure form of two-step verification, receive a code via text or voice message. Make sure you have cell reception!

Two-Step Methods: Comparison

	Push Notifications (**Recommended**)	Authenticator App PennKey, Google[2]	Physical Security Key: PennKey	Physical Security Key: Google[2]	Voice or Text Message
Security Ranking (*e.g. #1 - most secure*)	#2	#2	#1	#1	#3
Usable w/o network?	✗	✓	✓	✓	✓
Usable w/o cellular?	✓	✓	✓	✓	✗
Usable w/o a phone?	✗	✗	✓	✓	✗
How to use	Approve a notification	1) Open an app 2) Copy & paste a code	Type in a 6-digit code	1) Plug-in via USB 2) Tap the key	1) Receive a text 2) Type in a code

Requirements	Duo Mobile Google Prompt[1,2]	Authenticator app (*i.e. Duo Mobile*)	N/A	$40 purchase	N/A

[1] See the *Before You Start* section about push notifications in our Two-Step Verification (Google Accounts) article.
[2] If your Google account was created after December 2023, this option does not apply to you.

Questions?

Students - Wharton Computing Student Support

Faculty - Academic Distributed Representatives (login required)

Staff - Administrative Support

Two-Step: Account Recovery

Last Modified on 03/06/2024 11:05 am EST

This article is meant to provide guidance if you're unable to access your account because of Two-Step Verification. Your options may vary from service to service.

Faculty, Staff, and PhD Students

Contact your Wharton Computing Representative for the best option to use for recovery.

New Device

If you've recently gotten a new device, and still have access to your old one, and are simply looking to reconfigure Two-Step, see Two-Step: New Phone/Device (Students).

Two-Step Verification is an important aspect of account security. However, whether you've lost your phone or simply no longer have access to your Two-Step device, recovery can be a confusing process. Here are some steps you can take to access your account.

PennKey and PennO365

DuoMobile PassCodes

If you have another device with the DuoMobile app installed, you can use it to generate a new passcode.

1. Launch **DuoMobile.**
2. Choose the **PennKey Account** (if you have multiple accounts).
3. Click **Show** to show the passcode. You may need to refresh your passcode.

If you don't have another device enrolled in DuoMobile, you can add it via theDuo Device Management Portal.

Voice or Text Message

If you have access to another device or phone, you can add it in theDuo Device Management Portal and configure it to call you with your passcode.

1. Choose **Add a device** in your Duo Device Management Portal.
2. Choose **Phone Number**
3. If it's a landline, check the box.
4. Next time you try to log in, you should be able to get a text/phone message to that device with a code.

Trusted Browser

When logging in to your PennKey, you have the option to trust a browser for 60 days. If you recall doing this, try logging in from that device/browser and then un-enrolling & re-enrolling via Duo Device Management Portal.

Two-Step Help Hotline

If you are unsuccessful using any of the above methods, the Two-Step Verification Code Hotline may be able to assist. The hotline can be contacted at (215) 746-2222 during business hours (Monday - Friday, 8:00 am - 6:00 pm EST).

Google

These steps only apply to students whose accounts were created **before December 2023.**

Backup Codes

If you generated a list of backup codes when first setting up Two-Step, you can use these instead of your device when prompted for a code. Keep in mind that each code can only be used once.

1. **Navigate** to https://accounts.google.com/signin
2. **Log in** with your **username & password**
3. **Enter** one of your **one-time use backup codes**
4. **Un-enroll & re-enroll** your **new two-step device**

Text Message

1. **Navigate** to https://accounts.google.com/signin
2. **Click Having trouble?**
3. **Click Get a verification code at** (***)***-****XX**
4. **Enter** the **code you receive**
5. **Click Next**

Trusted Device

When logging in with your Google account, you have the option to trust a browser. If you recall doing this, try logging in from that device/browser. If successful, go to your Google Two-Step settings and change your two-step device by **clicking Change Phone** under **Authenticator App**.

Contact your Wharton Computing Representative

If you cannot recover your accounts via the methods above, please contact the appropriate support team listed below ASAP.

Questions?

Students - Wharton Computing Student Support

Faculty and Staff - contact your Wharton Computing Representative.

Two-Step: Best Practices & FAQ (Students)

Last Modified on 01/16/2024 10:45 am EST

Two-Step Verification can be a complex service to set up and manage, especially as you begin to enable it for your various accounts. Below are listed some best practices as well as some frequently asked questions regarding the service.

Enroll in Two-Step

Access requirements: Active PennKey & Google@Wharton accounts

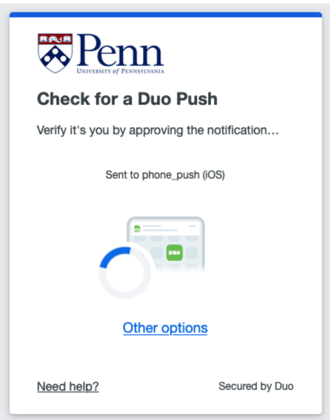
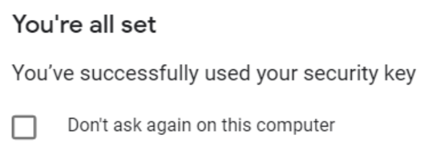
Choosing Your App(s)

See our Two-Step: Methods of Verification article to determine which Two-Step method/app is best for you!

Trusting Browsers

Trusting or **saving** a browser means that the next time you log in, you won't be prompted for a two-step code.

Only trust a browser on personal devices that you use frequently. Trusting a browser on a public machine leaves you open to identity theft and hacking. **This includes the option "Don't ask again on this computer."**

PennKey	Google@Wharton
	
Duration: 30 days	Duration: Does not expire
Revocable via Two-Step Management	Recoverable via Account Management

Backup Options

You should always have a second or third way to authenticate with Two-Step, in the case that your primary device is unavailable. This ensures that you'll never be locked out of your account. By default, *Text or Voice Message* is configured during initial Two-Step setup.

See our Two-Step: Account Recovery article for more information on supplementary ways to authenticate.

- **Backup Codes:**
  Backup codes are useful for when you don't have access to your primary Two-Step device. Having access to these codes will ensure that you always have access to your account.
  - *Pros*:
    - Always available
    - Can be stored in a personal account
    - No need for help from an Admin
  - *Cons*:
    - Limited-use
    - Must be stored in a secure & accessible location

- **Text or Voice Message:**
  - *Pros*:
    - Easy to setup
    - Can enter alternate phone numbers (i.e. family, friends, spouse, etc.)
  - *Cons*:
    - Must have cellular reception
    - Must be requested

Frequently Asked Questions

What are the different methods of verification that I can use?

Check out our Two-Step: Methods of Verification article!

What should I do if I don't get a push notification from DUO?

Open the app, tap on your account, and use the code provided.

Why is using push notifications better than receiving codes via SMS?

Receiving Two-Step codes via SMS is problemeatic for two reasons:

- you are required to have good cellular reception to receive the code. Push notifications don't require you to be connected to mobile data, you only need internet. This means that anywhere there's wifi, you can always get a code when you need one!
- codes sent via SMS can be compromised by man-in-the-middle attacks.

Can I use Two-Step without a network or mobile data connection?

Yes you can! Code generator apps, push notifications, and security keys all work without requiring a connection to the internet.

Can I use Two-Step without my phone?

Yes you can! You can use a Security Key, or a Hardware token, depending on which account you are logging into

Option	Description	Works With...
Security Key	• Purchase your own security key (e.g., YubiKey at Amazon, Yubico website) • Plugs into USB port on your device; click a button to authenticate. • Good backup option when traveling	• Google@Wharton [1] • PennKey • PennO365 • Others
Hardware Token	• Duo fob • SafeID fob (only previously registered) • Penn provides (Tech Center in Library)	• PennKey

[1] Google accounts created before December 2023

Questions?

Contact: Wharton Computing Student Support

Two-Step: New Device/Phone (Students)

Last Modified on 04/16/2025 5:40 pm EDT

This article provides guidance for students with new devices needing to reconfigure Two-Step for PennKey and Google accounts.

Faculty, Staff, and PhD Students

Use this page for self-service directions, or contact your IT Support Representative for the best option to enroll your new device.

Lost Device

If you no longer have access to your original two-step device (i.e., lost, stolen, or broken), then please follow the instructions in our Two-Step: Account Recovery article.

Before You Start

You may need the DUO Mobile app installed before you follow the instructions below.

Two-Step Verification is an increasingly important aspect of account security. However, sometimes, it might not be clear what to do if you have a new phone and need to update your Two-Step settings.

PennKey

1. On your laptop or desktop, navigate to Duo Device Management Portal
2. Log in with your **PennKey credentials**
3. Select a login method by clicking **Other options**
    1. Do not use **Hardware Token** as an option
4. Enter the **3 digit code** provided by the login method
    1. If using the same phone number but a different or new device choose for your # to be sent a call or text message
5. Choose **Add a device**
6. Follow the instructions to **install Duo Mobile** on your new device
7. Open **Duo Mobile** and either:
    - Approve the **push notification** OR
    - Enter the **3 digit code**
8. Congrats-- **Two-Step verification is now set up** on your new device!

Google

1. For logging into Google@Wharton accounts, setting up 2-step Verification is not necessary as signing in already prompts Single-Sign on with your Pennkey credentials.

Note: If your account was created **after December 2023**, these steps do not apply to you.

Questions?

Students - Wharton Computing Student Support

Faculty and Staff - contact your Wharton Computing Representative.

Two-Step Verification (PennO365 Email Accounts)

Last Modified on 11/14/2023 12:22 pm EST

Two-Step Verification for PennO365 email accounts provides an added layer of protection for your account. PennO365 accounts are now protected by the Two-Step Verification for PennKey. See our Two-Step Verification: Start Here to get started.

PennO365 Two-Step Verification uses the same technology as PennKey Two-Step Verification, so PennO365 will use your already-configured PennKey Duo app, or other code generator.

Troubleshooting

If you get an email on your mobile device that says **Your e-mail access has been blocked** follow these directions to remove/re-add your PennO365 account onto your device.

Questions?

Students - contact Wharton Computing Student Support.

Faculty and Staff - contact your Wharton Computing Representative.

Two-Step Verification (Chrome) DRAFT

Last Modified on 05/30/2023 4:43 pm EDT

Many Penn / Wharton websites use Google's Chrome browser, and you will often be prompted to save your password to Chrome. While we don't necessarily recommend that you rely on your browser to save your passwords (we recommend using a password manager like Last Pass), it's likely that at some point a password or two will get saved.

You can protect your personal information and passwords by turning on Google 2-Step in Chrome. This article outlines the process of setting up Two-Step Verification for a Chrome browser.

Enabling Two-Step Verification for Chrome

For instructions on how to enable 2-step verification for your Chrome browser, see https://safety.google/authentication/

Questions?

Contact your Wharton Computing representative with any questions.

Protecting Your Work (Students)

Last Modified on 04/02/2025 1:51 pm EDT

Whether you're on Wharton's Public Computers or your own computer, saving your work is very important. Any computer is susceptible to damages that could lead to data loss so backing up your work is highly advised. There are various ways to save and or back up your work.

Before You Start
You might need one or more of the following before you can complete this task:

- **Wharton account**
- **Public or personal computer**
- **PennKey account**

On Wharton's Public Computers

Before You Start

Lab computers automatically reboot every day at 3am.

Pay attention to any warning messages about rebooting -- this is a good time to save so you don't lose any work.

You can't save files locally.

Come prepared: bring a flash drive or use your preferred cloud storage service to save, or save to your MyWhartonDrive .

As You Work

Save e-mail attachments before editing them.

Save your document to either a flash drive or your MyWhartonDrive before editing. DO NOT open the attachment from your email and make changes – **you will lose your work.**

Save your work often.

Save as you're working! You also have access to 5GB of storage via your MyWhartonDrive (Y:). This save location is accessible from any lab or hallway computer, or from any web browser on or off campus. To learn more about your Cloud Storage Options, please see our article here.

TIP: Microsoft 365 web applications auto-save as you work. If you happen to be working in M365 consider using the web version of the application in question to better protect your work!

When You're Finished

Make sure you save your work.

Double-check that your work is saved either to a flash drive, your MyWhartonDrive, or a cloud storage service. For information about the different backup solutions available, see Backing Up: What Are the Best Solutions For You? **Regardless of where you save, make sure your data is intact and up-to-date at its new destination!**

TIP: Don't forget your flash drive when you leave. You might want to label it so it can be identified. If you do forget your drive, you can check with the security desk of the respective school building to see if it was turned in.

Sign out of the public computer.

Remember to log out of public computers. Why? If you forget to log off, **people could access your information on Canvas, MyWharton, or your email**. Single sign-on between these services is a convenience but requires caution when sharing computers. Public workstations are forced to logout after standing idle for 30 minutes, but do not rely on this, always log out!

At Home or on a Personal Computer

Have backups!

Don't wait until it is too late to make sure you have copies of any important documents or files! Laptops are not immune to theft, hardware failures, viruses, or corruption. It is very important to make backups of your files, pictures, videos, music, etc on a regular basis. For more information on backup solutions, see Backing Up: What Are the Best Solutions For You?

Protect Yourself with Antivirus

Viruses and other malware can sometimes steal or corrupt files stored in common user directories like Documents and Desktop. Protect yourself by using updated antivirus software and scan your device regularly. For more information on avoiding viruses, see Antivirus Software: How To Protect Yourself Against Viruses.

Questions?

Contact: Wharton Computing Student Support

Email: support@wharton.upenn.edu

Backing Up: What Are the Best Solutions For You? (Students)

Last Modified on 03/12/2025 2:23 pm EDT

Backing up your important documents and files is vital and there are various ways to do so. Computers will always eventually fail and often this will happen when you least expect it. We recommend backing up data **at least once a week.**

This article is intended for full-time Wharton students.

For more information on the differences between various cloud storage solutions, see Cloud Storage Options (Students & Staff).

Common Backup Options

Method	Description	Storage Space	Portability	Durability	Ease of Use	Archive Quality[1]
Flash Drive	Plug into any device with a USB port	1GB - 256GB	High	High	High	Medium
External Drive	Stores lots of data; semi-portable	128GB - 4TB	Medium	Medium	High	Medium
Cloud Storage	Always available online	Penn+Box: Unlimited OneDrive: 1TB Google Drive: Unlimited Dropbox: Unlimited	High	High	High	Penn+Box: Low[2] OneDrive: Low[2] Google Drive: Low[3] Dropbox: High
MyWhartonDrive (Y:)	Network storage provided by Wharton	5GB	Medium[4]	High	Medium[4]	Low[3]

[1]Archive quality denotes the ability of the media to be used as a long-term (many years or decades) archival medium for data.

[2]Your PennO365 account (including OneDrive storage and files) and Penn+Box account will be deleted **within 60 days after graduation**.

[3]Your MyWhartonDrive (Y:) and Google Drive will be deleted **1 year following graduation**.

[4]You can access your MyWhartonDrive (Y:) via any Wharton public computer or the vLab.

Additional Considerations

Flash Drives

- Convenient, but easy to lose.
- Works with any computer that has a USB port.
- Widely available for sale at sizes starting at 1GB.
- Also known as a thumb-drive, Jump Drive, or memory key.

External Drives

- There's a variety of inexpensive external hard drives available.
- Many external hard drives come pre-loaded with software to schedule automatic backups.
- Mac computers come with a program called *Time Machine*, which backs up up your data to another place on your hard drive.

Cloud Storage

- Your data is always available and is not reliant on physical media
- Some people have concerns about having their data stored in the cloud.
- For a list of options, see Cloud Storage Options.

MyWhartonDrive (Y:)

- This space is available from the Wharton computers, or online.
- This option is only available until **1 year following graduation**

Safe Storage Options

Last Modified on 08/14/2025 1:10 pm EDT

This article reviews ways to protect your external storage options (e.g. usb drives, external hard drives).

External & Portable Storage Media

Physical storage media that connects to a device using a USB port or other connectivity option -- such as external hard drives or thumb/flash drives -- are a convenient way to back up, move and store data. However, if you lose your media and it is accessed by the wrong person, it presents a security concern.

Encryption

While we primarily recommend using cloud storage to store and protect your data, there may be instances where external media such as a USB flash drive is needed. In these instances, we recommend encrypting your flash drive so that if you misplace it, no one will have access to the information it contains.

> **Note:** Many manufacturers offer hardware-encrypted flash drives. While more expensive than regular flash drives, these are a good option if you do not want to encrypt the drive yourself or do not have access to an OS that has software encryption.

Windows

If you have Windows 10/11 Professional, you can use **BitLocker** to encrypt your flash drive (or external hard drive). BitLocker allows you to choose whether to encrypt the entire drive (good for flash drives/external drives that are already in use) or used disk space (good for new flash drives/external drives that do not have any data on them). Media encrypted with BitLocker is readable on any Windows 10/11 computer regardless of whether the OS is the Home or Professional version.

> Note: When encrypting any media with BitLocker, it's a good idea to save/back up the recovery key to your Microsoft account in case you forget the password.

Mac

FileVault is Apple's encryption solution and offers a similar experience to Microsoft's BitLocker, however you cannot encrypt a flash drive (or external hard drive) that already has data on it as FileVault will require it **to be completely erased** before it can be encrypted. FileVault also does **not** provide a recovery key for encrypted external media, so make sure to securely store your password somewhere such as Dashlane. Media encrypted with FileVault is readable on any Mac running Mojave (MacOS 10.14) or higher.

> **Note:** If you encrypt an external device using FileVault, you will **not** be able to connect it to an AirPort base station for use with Time Machine. If enabling FileVault for your Startup Disk, it's a good idea to save your

recovery key to your iCloud account in case you ever forget your password.

Additional Considerations for Storage Media

1. Always keep your storage media in a secure place.
2. Physical storage media can be easy to damage or lose. Make sure you have backup copies of everything.
3. Storage media lost on the Wharton campus are taken to the lost and found and destroyed at the end of the year. Label your storage drive with your name and contact information in case it's found.
4. If using unencrypted media, you can follow these instructions from ISC to securely erase it.

If you are traveling with physical storage media, please read this guidance from ISC.

Questions?

For questions or advice on portable storage media, contact your Wharton Computing representative.

Group Study Room Policies

Last Modified on 09/18/2023 2:11 pm EDT

The Wharton One School Group, comprising students and administrators from the Graduate and Undergraduate Divisions, Wharton Computing, and Wharton's Operations group, established the policies for using Group Study Rooms (GSRs) in Huntsman Hall. The students and staff who worked on the project hope that these policies make it easy for everyone to use the Group Study Rooms and manage the allocation of unused rooms more efficiently.

About the Group Study Rooms (GSRs):

- View our instructions for reserving GSRs.
- You can connect your laptop to a GSR monitor using the monitor cables or connect wirelessly, depending on which GSR you use.
- If you have issues with the GSR, please see our troubleshooting article: Troubleshooting GSRs.

NOTE: Students from other schools at Penn taking a Wharton class cannot reserve GSRs in Huntsman Hall. However, GSRs, multi-media rooms, café study booths, and seminar rooms can be reserved at Van Pelt Library with a Pennkey (click here for more information).

Policies

For Group Use Only

Use of the rooms is reserved for **groups only**. Single individuals using a room (even with a reservation) will be asked to leave if a group wishes to use the room.

Reservations only via official websites

To guarantee a reservation for a room, you must use the online Group Study Room Scheduling System available through MyWharton and Spaces and the GSR Reservation Application. To log in to the scheduling website, you must be a full-time Wharton UGR, MBA, or Ph.D. student. More about Reserving a GSR.

Scheduling Options

To ensure access to as many students as possible, you can only reserve GSRs one week in advance in 30-minute time blocks for up to 90 minutes reserved at one time.

For example:

- You could reserve a room for one 90-minute time slot in a week
- You could schedule one 60-minute slot and one 30-minute slot in one week
- You could schedule three 30-minute slots in one week

Students can only have 90 minutes of their future reservations booked at any time. For example, if you have three 30-minute slots reserved, as soon as that first 30-minute reservation passes, you can reserve another 30-minute slot.

Use It or Lose It

Groups who have reserved a room must show up within 10 minutes of their scheduled time. They can lose their room reservation to another group if they don't.

Responsible For Your Belongings

Students are responsible for their personal belongings.

Windows and Doors Remain Unobstructed

Windows and doors are not to be covered over with paper or other materials.

Equipment in the Room

Students will be held accountable for the condition of the room and equipment. Usage will be monitored. The respective Student Affairs Office will assist in applying restrictions due to abuse.

Instant On-site Booking of Open Rooms

If you encounter an open GSR, you have a few options from within the GSR app:

- If the room is not currently scheduled, the GSR app will allow you to schedule the room following the instructions below.
- If the room is currently scheduled, the GSR app will display the name of the person who has the room scheduled and the reservation times.
- If the group shows up before their 10-minute grace period has expired, you must relinquish the room to them.
- If no one from the originally scheduled group shows up within 10 minutes, follow these instructions for "On-Demand" booking.

If a Group Study Room is empty (either because it isn't currently reserved or because the group that reserved it failed to show up), follow these instructions from within the GSR that you want to reserve:

1. **Log in** to the GSR computer.
2. **Go** to MyWharton.
3. **Go** to the Calendar or **My Links** and select **Book a GSR**.
4. If no one from the originally scheduled group shows up within 10 minutes, the GSR app will show an **On-Demand** button at the top, allowing you to take over their reservation.

Questions or Additional Issues?

Contact: Wharton Computing Student Support

Email: support@wharton.upenn.edu

Reserving Group Study Rooms (GSRs)

Last Modified on 09/18/2025 4:13 pm EDT

The Group Study Room reservation service is available to full-time Wharton students. Any member of your study group who is a full-time Wharton student should be able to make the reservation for the group. Full-time Wharton students can reserve **up to 90 minutes at a time** in a GSR. You can use your mobile device or your laptop to make the reservation.

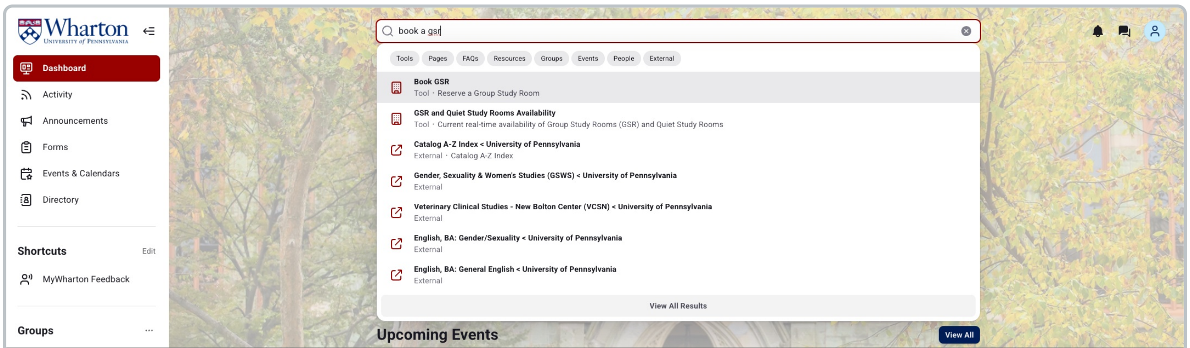
About the Group Study Rooms (GSRs):

- Please see the following article on proper usage of the GSRs: Group Study Rooms Policy.
- You can connect your laptop to a GSR monitor using the monitor cables or connect wirelessly, depending on which GSR you are using.
- **USB ports:** All GSR computers have USB ports for you to plug in a flash drive.
  - **All-in-One computers:** look on the left side of the computer, about 5 inches from the bottom.
  - **Desktop Computers:** these are stored in the cabinets along the wall. Open the cabinet and plug in the USB drive.
- If you have issues with the GSR, please see our troubleshooting article: Troubleshooting GSRs.
- **Reservations are limited to a total of 90 minutes at one time.** Once your total reservations reach 90 minutes, you won't be able to reserve anymore until one of your reservations has passed or been cancelled.

Students from another college at Penn taking a Wharton class cannot reserve GSRs in Huntsman Hall. However, GSRs, as well as multi-media rooms, café study booths, and seminar rooms, can be reserved at Van Pelt Library with a PennKey.

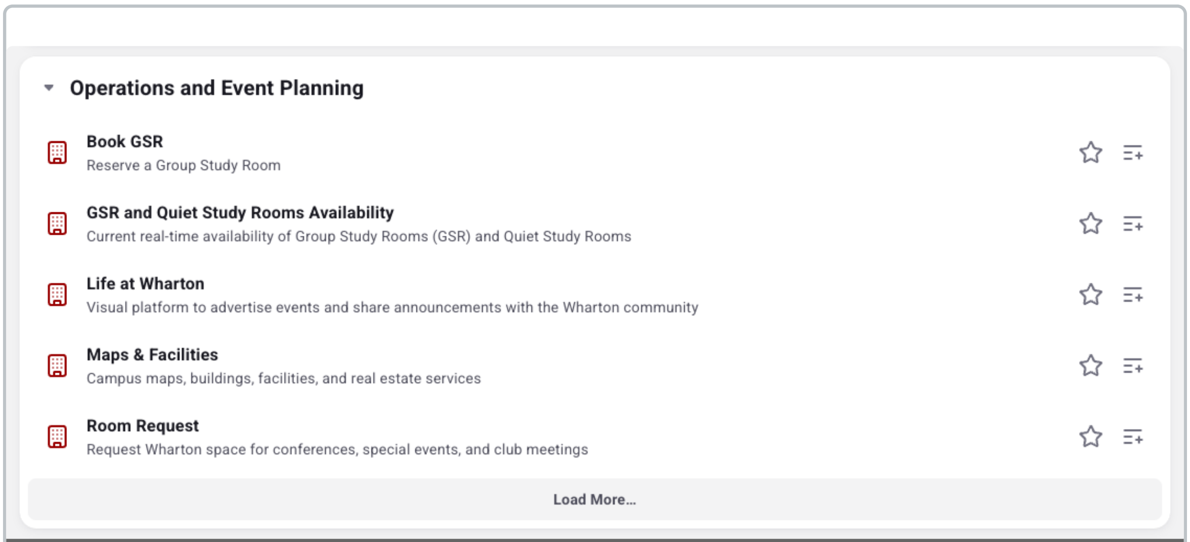
Reserving GSRs via MyWharton

1. Log into MyWharton https://mywharton.wharton.upenn.edu/ with your PennKey and password.
2. From the **Dashboard**, search for "GSR," "Book a GSR," or similar text and look for the **Book GSR** tool result.



Results when searching for GSR text in the Search Box

Optionally, you can navigate to the **Tools** section on the lower left side of the screen. The **Book GSR** tool will be located under the **Operations and Event Planning** section.



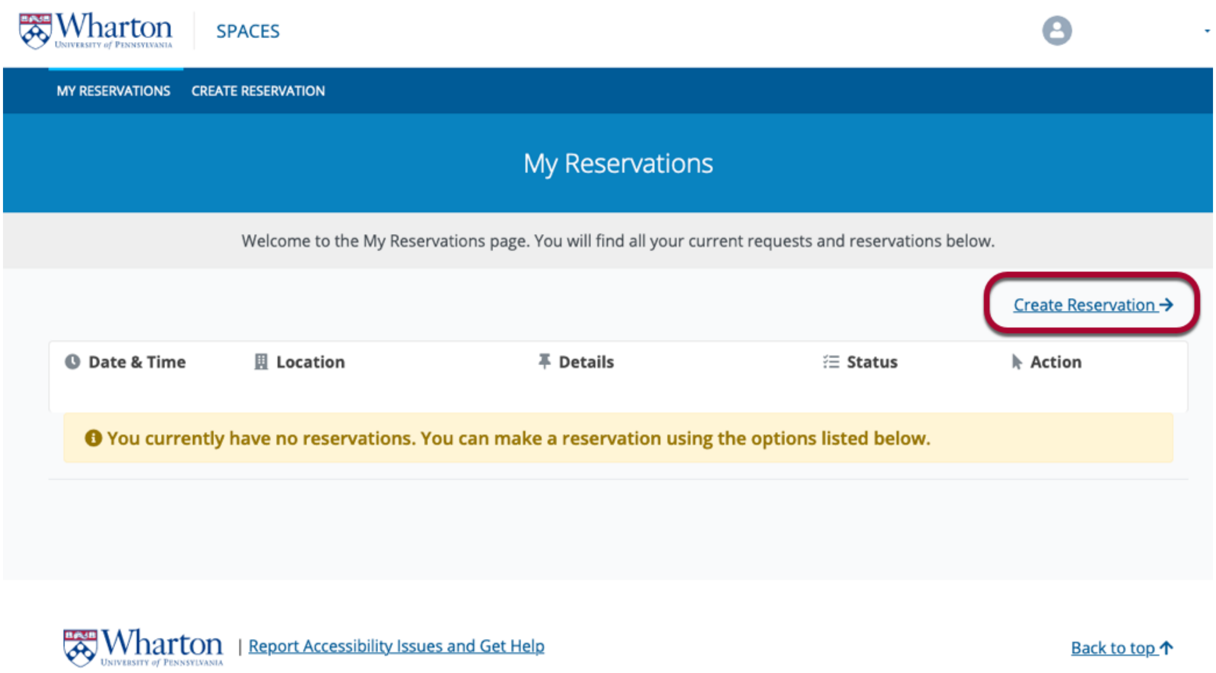
Book GSR tool in the Operations and Event Planning in the Tools section

TIP: We recommend adding the GSR tool to your shortcuts for easier access!

Using Spaces and the GSR Reservation Application

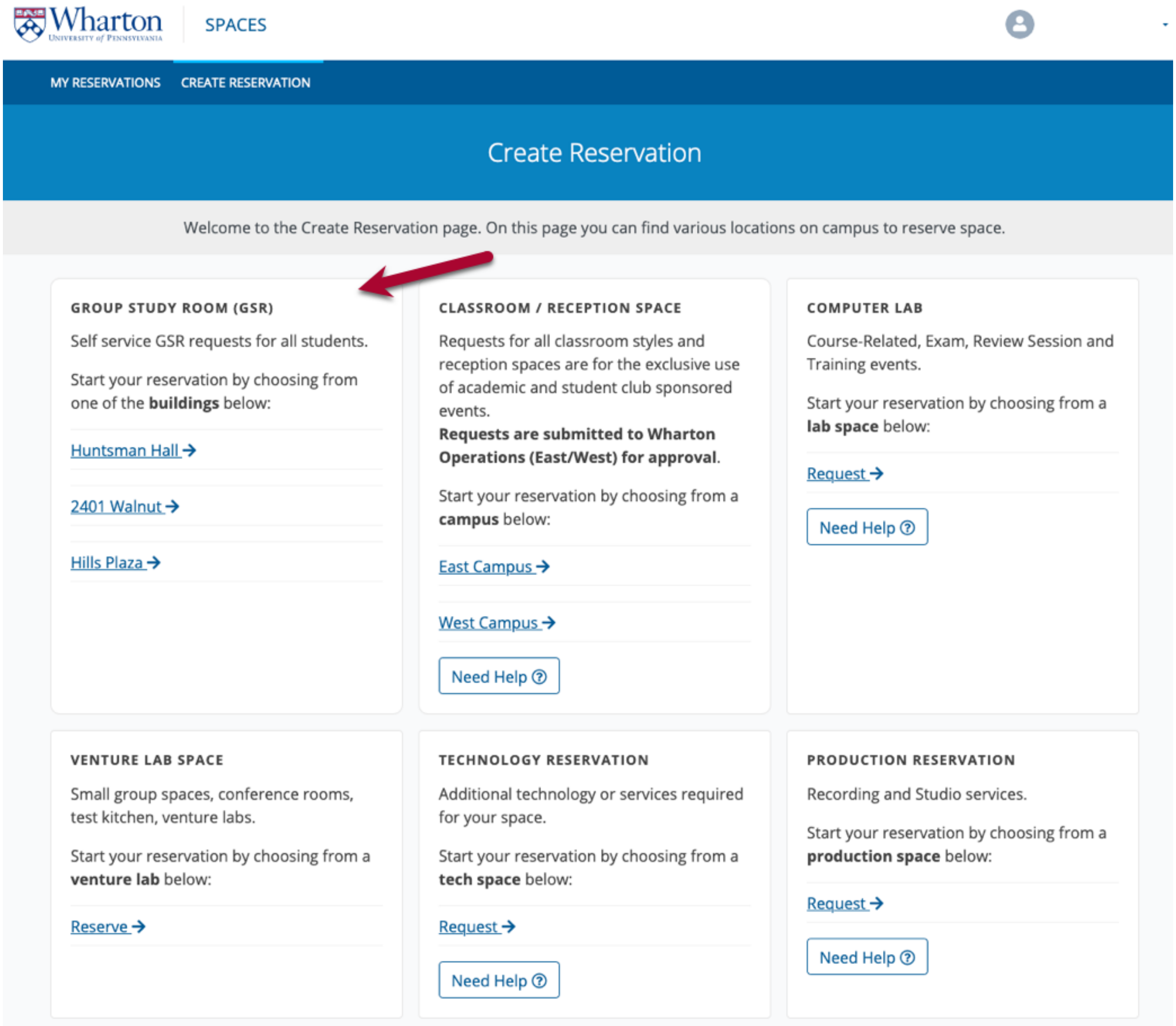
To book rooms on a mobile device, navigate to https://apps.wharton.upenn.edu/gsr and follow the same instructions as below.

1. Navigate to the Wharton Spaces application. The default view for the application is a list of all your upcoming reservations across all sources, including Group Study Rooms. To reserve a Group Study Room, click on **Create Reservation**.

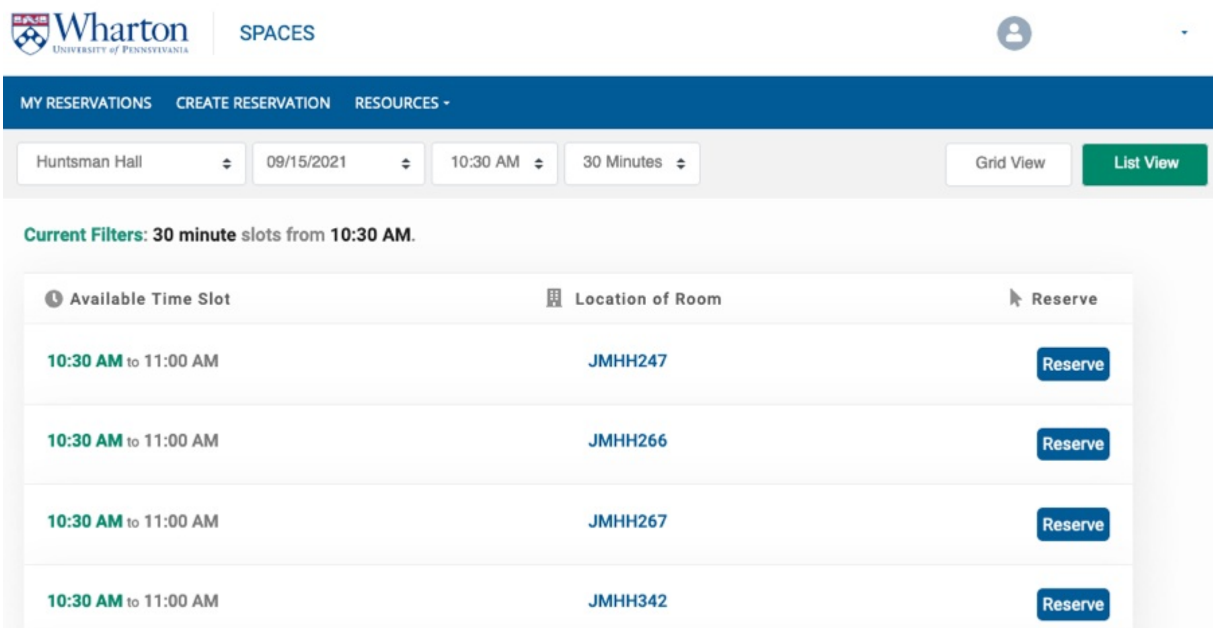


2. Find the GROUP STUDY ROOM (GSR) section towards the middle left of the Create Reservation page. Click on the **building name** where you would like to reserve a room. Depending on permissions, you may only see

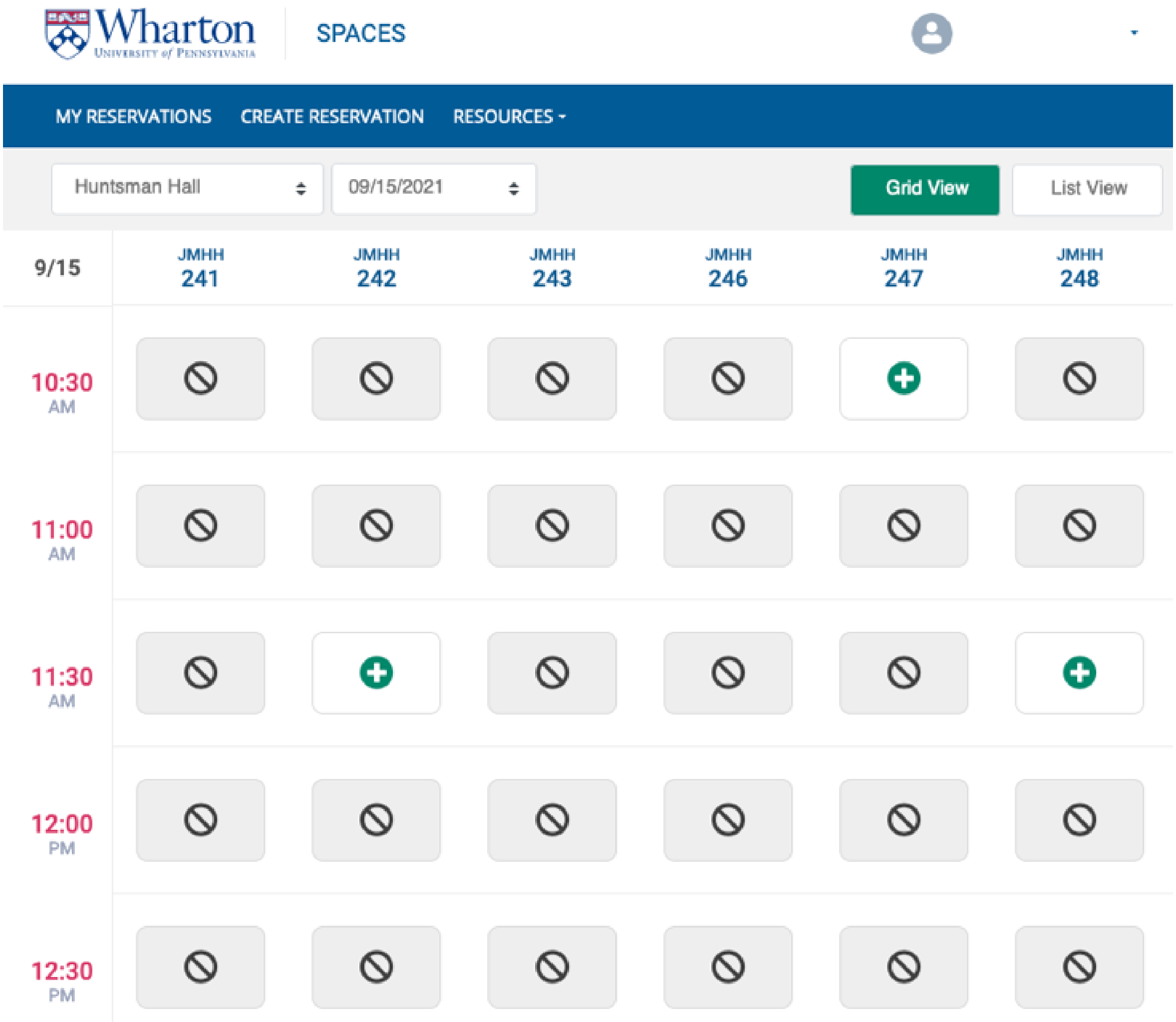
one or two buildings listed; these are the locations where you can reserve a room. Consult the rules for reservations for more information about permissions.



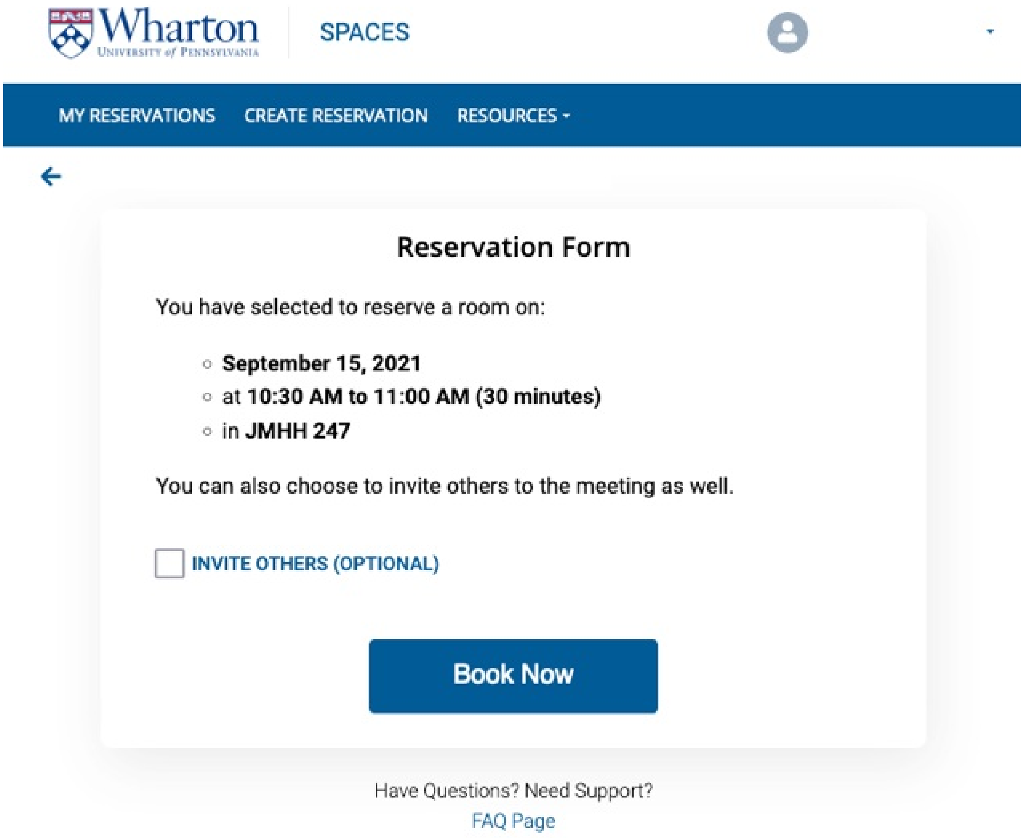
3. By default, you'll see the list view of all available rooms for the current day. To reserve a room, click the blue **Reserve** button. To switch buildings and/or date and time, use the drop-down inputs shown below.



Click **Grid View** to browse a grid of GSRs. Any available rooms are shown with a **+** (plus) sign and a green background; a circle with a slash icon on a grey background indicates that the room is unavailable at that particular time. Click on an available room to reserve it.



4. After clicking reserve, double-check the information is correct. You can forward a calendar invite to your friends by checking the **INVITE OTHERS** box and entering their email addresses.



5. Click **Book Now** to finish completing the reservation.

Questions or Additional Issues?

Contact: Wharton Computing Student Support

Email: support@wharton.upenn.edu

Reserving Group Study Rooms (GSRs) -- Wharton San Francisco

Last Modified on 09/25/2023 3:40 pm EDT

Wharton San Francisco campus has a number of Group Study Rooms (GSRs). Use these directions to reserve them ahead of time.

For help using the GSRs, see Using Group Study Rooms.

About the WSF Group Study Rooms (GSRs):

- You can sign into the local PC with your PennKey or connect your laptop to a GSR monitor using the monitor cables, or connect wirelessly.
- For technical issues with the GSR, please contact WSF IT Support at ww-itsupport@wharton.upenn.edu or call 415-267-6323.
- For problems with your account, contact Wharton Student Computing.

Students

WEMBA first-year students are assigned a GSR on class weekends. Second-year students do not have assigned GSRs, but they can use all of them, no need to reserve during the weekend. WEMBA students can reserve space through Open Space during the week.

Semester In San Francisco students can reserve space through Open Space during the week and use common space on WEMBA Weekends but can only drop into GSRs on the weekends when they are not being used (i.e. during class time). There are some GSRs reserved for SSF students during WEMBA weekends.

Alumni

Alumni are eligible to participate in the Open Space program, which provides a co-working space on campus at Wharton San Francisco.

Current Reservation Process:

- Book a GSR using Skedda
- Walk-ins are not permitted.
- Space is limited. We recommend that you book in advance. We take reservations 2 weeks out.

Questions or Additional Issues?

Contact: Wharton Computing Student Support

Email: support@wharton.upenn.edu

Using the Group Study Rooms (GSRs)

Last Modified on 12/06/2023 1:15 pm EST

The GSRs in JMHH (Huntsman Hall) and on the Wharton San Francisco campus are equipped with computers and screens to enable screen sharing and web conferencing. They are managed by a touchscreen mounted on the wall next to the screen.

Getting Started

1. Look for the touch panel next to the display -- wake the screen by tapping it.

2. Select a source to display on the room monitor. Wireless Presentation will be selected by default; if you want to display a different source or switch between sources, press one of the other source buttons.

    - **Resident PC:** the built-in public computer located in the GSR.
    - **Wireless Presentation:** opens Solstice Display to allow wireless sharing of personal devices.
    - **HDMI/VGA:** displays whatever device is plugged into the HDMI/VGA cables.

Wharton San Francisco: The WSF campus only has HDMI cables.

Basic Use

Resident PC

Log in with your PennKey credentials using the mouse and keyboard on the table.

Wireless Presentation

Follow the instructions in Casting your screen to the GSRs via Solstice

HDMI/VGA

The HDMI & VGA cables are mounted in the cabinet below the display on a retractable spool. if you are using VGA, be sure to plug in the audio jack as well. HDMI carries audio without the need for an additional connection. (Note: The WSF campus only has HDMI cables.)

Adjusting the volume

Use the **vol up**, **vol down**, and **mute** buttons in the top-left of the touch panel to control in-room volume.

Presentation timer

1. Tap **Presentation Timer** on the top of the touch panel.
2. Set the timer using the **Hours** and **Minutes** buttons.
3. Press **Start Timer** to begin the countdown.

Log out/shutdown

1. If you used the **Resident PC**, be sure to log out.
2. Unplug any cables from your laptop, and press the **retraction buttons** over the appropriate cable. ***Be sure to hold the end of the cable in your hand to retract it slowly, it will move quickly and may whip around if you don't.***
3. Press **System Shutdown** on the touch panel.

FAQ and Troubleshooting

If you are having trouble with one of the technologies in the room, see if your question is listed in our Troubleshooting GSRs article. If not, or the solution doesn't solve the problem, please submit a ticket to the Student Support Team.

Questions?

Contact: Wharton Computing Student Support

Email: support@wharton.upenn.edu

Troubleshooting Group Study Rooms (GSRs)

Last Modified on 05/11/2023 1:14 pm EDT

This article describes some common issues that students may encounter in Group Study Rooms (GSRs) and how to fix them or report an issue. If you are having trouble with one of the technologies in the room, see if your question is listed below. If not, or the solution doesn't solve the problem, please submit a ticket to the Student Support Team.

About the Group Study Rooms (GSRs):

- To read about reserving GSRs: Reserving Group Study Rooms (GSRs)
- Please see the following article on proper usage of the GSRs: Group Study Rooms Policy.
- You can connect your laptop to a GSR monitor using the monitor cables, or connect wirelessly, depending on which GSR you are using.
- To log into the GSR resident computer, you **must have active Pennkey and Wharton accounts**.
- **USB ports:** All GSR computers have USB ports for flash drives.
    - **GSR Resident Computers:** these are micro form-factor PCs mounted in brackets under the shelf beneath the monitor. Please do not unplug any of the USB connections already in place, as this may compromise in-room functionality.
    - **Charging ports**: with the exception of the center cluster of 4 USB ports (for keyboard and mouse use), the USB ports along the shelf under the monitor may be used for charging devices.
- **NOTE**: Students from another college at Penn who are taking a Wharton class **are not able to reserve GSRs in Huntsman Hall**. However, GSRs, as well as multi-media rooms, café study booths, and seminar rooms can be reserved at Van Pelt Library with a Pennkey (click here for more info).

Troubleshooting GSRs

I am not able to log in

If you are having trouble logging in, please review the following steps.

- Are you a full time Wharton student? GSR reservations are only open to full time Wharton students.
- Do you have active PennKey and Wharton accounts?
- You may need to change or reset your password.
- If these steps don't resolve the problem, submit a ticket with Wharton Student Computing.

The computer/monitor/mouse/keyboard is not functioning properly

Wharton San Francisco Students please contact **ww-itsupport@wharton.upenn.edu** or visit the I.T. Helpdesk if you need assistance with the equipment in a GSR.

If you are having trouble with a Group Study Room, here are some things to try:

- **Problems with Monitors**
    1. Unplug and reconnect the monitor.
    2. Turn monitor off and back on.
    3. Double-check that the Output switch (in the Computer Cabinet) is set to **1**.

- **Problems with Mouse/Keyboard**
  1. Shut down the Computer.
  2. Unplug and reconnect the mouse/keyboard.
  3. Turn the Computer back on.
- **Problems with Computer**
  1. Shut down and restart the computer.
  2. Doublecheck that the Output switch (in the Computer Cabinet) is set to **1**.

The whiteboard is missing markers

If the whiteboard markers are not in the room, send email to repair-it@wharton.upenn.edu

I can't lock the GSR using the combination keypad

When the GSRs were first built there was a swipe/combination locking system available to help manage the reservations. This feature has been disabled, since you can now reserve rooms online. If no one is using the room, it's available for anyone to walk in and use.

Troubleshooting Forum Level GSRs with Touch Panels

I walked into the room, and nothing is working

- Find the touch panel to the right of the display. Is it blank? Touch it, and the display should turn on.

The touch panel is on, but it's not responding when I press it

- The touch panel is likely frozen, and it will need to be addressed by a technician. You will need to find a new room to use, but we want to know you had a problem. Please let us know by submitting a ticket.

The touch panel says the display is warming up, but nothing's happening

- Check for a little light on the bottom right of the display. If the light is green, try clicking the mouse or pressing a key on the keyboard. The PC should come up within a second or two.
- If the light is red, the display didn't turn on. Press the **System Shutdown** button on the touch panel, wait a few seconds for it to shut down and return to the welcome screen, and press the touch panel again to turn the system on again. You can also try to switch between sources on the touch panel by pressing HDMI, wait a few seconds, then pressing Resident PC again.

My Laptop won't display

- Ensure that you've selected the correct source on the touch panel, either **HDMI** or **VGA**, and that it is plugged securely into your laptop.
- Unplug it, and plug it in again.
- If it still doesn't display, try the following:
  - **Mac**: it should be automatically detected, but you can select outputs by clicking on **System Preferences -> Display**.
  - **PC**: Look for the key with a picture of a monitor on it (usually F8). Press **Fn** and that key at the same time.

Troubleshooting Solstice Wireless Display in GSRs

Can't see the list of displays on my laptop/mobile device

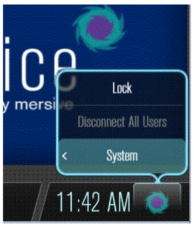
Open the app on your device, click the gear, then settings, and enter the name **solstice.wharton.upenn.edu**

Can't see the room you're in from your device

Make sure you are logged into the PC in the room and that Solstice Display is open. It may take a few seconds for your device to see the newly opened program.

Trouble scrolling when in Full Screen Mode

If you're in full screen mode, there is no way to scroll. You need to minimize or exit the system, choose a new screen, and then go back into full screen mode.



Screen displays sideways

If your screen displays sideways you'll need to rotate the picture within the photo app on your phone. This is a limitation of the software which we are hoping will be remedied in future releases.

Questions or Additional Issues?

Contact: Wharton Computing Student Support

Email: support@wharton.upenn.edu

Using Wharton Public Computers

Last Modified on 12/23/2025 5:00 pm EST

This article provides tips and tricks for using the Wharton public computers.

Before You Start

You will need one or more of the following before you can complete this task:

- A PennKey account
- A Wharton domain account

Public Computer Locations

- In-person access is available in Huntsman Hall, Steinberg Hall-Dietrich Hall and the Academic Research Building, Lauder Institute, Lippincott Library, Colonial Penn Center, Tangen Hall, and Robbins Hall.

  Check hours of building operation for availability

- Virtual access instructions

Huntsman Hall Computer Lab Hours

The computer labs in Jon M. Huntsman Hall (JMHH) are open anytime that the building is open (generally 7:00 AM - 2:00 AM every day during the school year, and 24 hours per day during reading days and final exams for the Fall and Spring semesters; Summer hours vary). (See Wharton Operations' building directory for a complete list of building hours.)

There may be times when one or more labs are closed for instructional use, but there will always be at least one lab available for student use.

Automatic Log Out from Public Computers

If you are logged into a Lab, Group Study Room, or Group Workstation computer on campus and have not touched the mouse or keyboard for 30 minutes, you will be automatically logged out.

There will be a 30 second countdown before you are automatically logged out during which you may move the mouse or type on the keyboard to prevent the automatic logout process.

Unable to Find MyWhartonDrive (Y:) on Public Computers

Note: This section applies to the Philadelphia campus. WEMBA SF students should contact the WEMBA Program Office for more information.

If you are logged into one of the Wharton Campus Computers, you should see your **(Y:)** drive – MyWhartonDrive – in the lower left corner of Window Explorer. If you do not see it, or if you see a question mark over the drive, then your account may require some adjustment. Please contact the Student Support Office to resolve the problem.

Students from other schools who are taking a Wharton Class will also have access to a MyWhartonDrive until their Class Account closes.

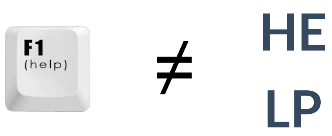
Public Computers: Saving Attachments

If you receive an error trying to download an attachment, make sure you are doing the following:

- **Use Firefox.** Internet Explorer will not allow you to save a file if you are using webmail on a public computer.
- **Save to MyWharton (Y:) Drive** or to a removable USB drive. These are the only two available locations for saving files locally, currently.

Excel Help Shortcut (F1 Key) Disabled on Wharton Public Computers

The F1 key is often used in Excel to access the Help menu. However, at times it can get in the way when you are trying to work quickly and use the F2 shortcut key. In response to student requests, Wharton Computing has disabled the F1 key on the Public computers. (You can still access Help from the software menus.)



Viewing and Editing a PDF File on Wharton Public Computers

When viewing a PDF there are many options: Adobe Acrobat Pro can be used, but requires a log in; most browsers (including Firefox, Chrome, and Edge) will display PDFs; Wharton public workstations also have SumatraPDF installed for a the default PDF viewer.

In order to edit a PDF, though, Adobe Acrobat Pro, MS Word, or another PDF editing program is required. Acrobat Pro is available on all *physical* Wharton public computers**see note* (FoxIT PhantomPDF is available as an alternative in the Virtual Lab). Other public access labs on campus may also have Acrobat Pro available for student use.

Printing PDF Documents

Sometimes PDF documents may take a long time to print. Try the following to improve the speed of printing:

1. Using Acrobat Reader, open the .pdf document.
2. Select **File → Print.**
3. From the the Advanced menu on the print dialogue, select **Print as Image**.
4. Send your document to **Print**.

This change can be made on both the public computers and on personal laptops. Once you have made the change, you then need to send a document to print, or the new configuration will not stick.

You can also print PDFs from a browser window. We recommend that you ***do not*** print PDF files from the SumatraPDF reader, however, as the quality is generally poor when sent from this application; it is intended only for viewing convenience.

Wharton Public Software

Click on the **Read More** to see what software is available on the Wharton public computers. If what you're looking for is not listed, you can also contact the Library to see if they can provide access to any additional software you require. All Wharton public computers are equipped with the latest versions of CrowdStrike, Java, and many frequently used language packs. In addition, they are equipped with the Productivity and Departmental Software listed below.

> **Note:** If you need to know the specific version of an application to verify compatibility, launch the application in question, go to the **Help** menu and select **About** <application>. For more help, contact Wharton Computing Student Support.

> **Note:** The university is not licensed to deploy Adobe products in virtual environments, so Acrobat Pro is ***not*** available in the Virtual Lab. Instead, FoxIT Phantom PDF is available in the Virtual Lab.

Frequently Asked Questions

Common Errors

Questions or Issues?

Contact: Wharton Computing Student Support

Email: support@wharton.upenn.edu

Bloomberg Terminals

Last Modified on 10/08/2025 5:24 pm EDT

Terminals are available for accessing the Bloomberg Financial Markets data services.

The Bloomberg terminals are solely for the use of accessing the Bloomberg Financial Markets data services. The terminals provide students with real-time data on the market, news, and the world.

These terminals are not typical Wharton Lab computers; they do not offer the same applications.

Logging In

There are two steps to logging into these worksations.

1. Log into the Bloomberg workstation in the same as you log into any other Wharton public workstation.
2. Use the login information available at the Bloomberg terminals to log into the Bloomberg service itself.

If you do not see the login information, contact Student Support.

Location of Bloomberg Terminals

Jon M. Huntsman Hall

- Forum Level, across from the entrance to the F75 Computer Labs.

Does not support the Bloomberg Excel plugin.

Alternatives

S&P Capital IQ offers an alternative to the Bloomberg Terminals. Capital IQ is a research tool available to full-time MBA students. It provides students with in-depth reports of information about the financial, analytical, and research of companies, markets, and industries. The S&P Capital IQ Excel Plug-in is not available on the computers in Huntsman Hall.

For more information on the Capital IQ, visit the Library's FAQ. If you choose to use the Wharton Research Data Service to access Capital IQ, please refer to the WRDS Account Guide in creating an account.

Sending a Fax at Wharton

Last Modified on 08/26/2022 1:38 pm EDT

The publicly available printers and copiers do not have the ability to send a fax. There are a number of nearby options for students who need to send a fax.

Options for Sending a Fax at Wharton

1. You can use the **Scan to Email** feature of the multi-function public printers **if you're sending to a Wharton email address**. See Public Resources for Print, Scan, and Copy for more information.
2. To send a traditional fax, visit Campus Copy at 3907 Walnut Street during their regular business hours.

Note: Campus Copy charges a fee for this service.

Charging your Devices

Last Modified on 06/12/2023 1:47 pm EDT

If you find yourself on campus without your chargers and low on battery, there are a few options for charging your devices.

Mobile Charging Stations

Wharton has 4 ChargeIt-Spot Stations that allow you to connect your mobile device to a charger and lock it for safe-keeping:

- **JMHH:** Printer Row, the ground floor Study Lounge, and the second floor hallway by the elevator and public workstations.
- **SH-DH:** Inside the Mack Pavilion foyer on the ground level.
- **Wharton San Francisco:** There is one charging station located outside the Administrative Offices next to GSR 620, and one station located by the windows in the reception area.

Laptop Charging Options

Students

Philadelphia Campus

The Student Support Office (SHDH-114) has a few of the more common laptop chargers available to students,*for use in the Support Office*, on an as-available basis. This service is available during theSupport Office's business hours.

San Francisco Campus

Wharton San Francisco students can check the IT Helpdesk for common laptop chargers available for students to borrow while on campus.

Faculty & Staff

Please contact your IT representative – see below for links including contact information.

Questions?

Faculty & PhD Students: Academic Distributed Representatives (login required)

Staff: Administrative Support (login required)

Students: Wharton Computing Student Support

Borrowing Computers and Video Equipment (Students)

Last Modified on 01/07/2025 9:01 am EST

Wharton students can borrow laptops and select other equipment/technology for free.

Loaner Laptops

Wharton Student Computing offers loaner laptops for Wharton students that need a laptop while theirs is either in the process of hardware repair, or they are currently purchasing a replacement due to hardware issues and do not have access to another machine. **The maximum loan time is five business days**, but in some circumstances *may* be extended if the student's laptop is still out for repair. Due to the limited resource pool, the Wharton Student Computing loaning program does not allow students to sign out laptops for other activities, however in some cases there may be consideration for special circumstances such as exam taking if there are available machines. Before a student may sign out a loaner, they must provide proof their current machine is being repaired or proof a replacement has been purchased. **A laptop cannot be borrowed if classes are not in session.**

Availability of loaner laptops is extremely limited. To request a loaner laptop, please email support@wharton.upenn.edu to see if any are available to borrow.

> Only current full time Wharton students may borrow a laptop. Penn students taking a Wharton class are not able to borrow a computer from Wharton Student Computing.

Penn Students

If you are a Penn student and are living in one of the college houses, College House Computing does offer a loaning program. For more information on borrowing a laptop, please visit the CHAS website.

Weigle Information Commons

WIC offers a wide arrange of equipment available to borrow from Laptops/MacBooks, laptop/MacBook chargers, computer cables, keyboards, mice, phone chargers, adapters, dongles, and much, much more. This service is available to all Penn students.

Vitale Digital Media Lab

You can also borrow a wide range of audio-visual equipment from theVitale Digital Media Lab in Van Pelt library. This service is also available to all Penn students.

Questions?

Contact: Wharton Computing Student Support

Email: support@wharton.upenn.edu

Life@Wharton / LCD Screen Help

Last Modified on 10/11/2023 1:55 pm EDT

The Life@Wharton module provides snapshots of life at Wharton. You can submit information for upcoming events and school-related activities to this channel; once your image is approved it will appear in MyWharton and on the LCD monitors throughout Huntsman Hall.

Slides for screens that display Undergraduate (UGR) content are approved by the Undergraduate Program, and slides for screens displaying MBA content are approved by the MBA program office.

Before You Start

You will need:

- An active Wharton Account
- Recommended Browsers: Firefox, Chrome, Safari, Edge

Life@Wharton Policies

- Slides must be submitted at least 3 days in advance.
- Only images for school-related activities, or related to "Life at Wharton" will be approved. This does not include material about personal activities or commercial enterprises.
- School administrators have the right to refuse any submission.
- For images advertising an event, there is a limit of one posting per event.
- There is a 2-week posting limit for Life@Wharton images.

Creating an Life@Wharton Image

Optimal Image size for Life@Wharton is 800 pixels wide by 450 pixels high, but up to 1280x720 should work. This size correlates to the standard widescreen format (16:9). There are many free photo editors available, such as Canva, that enable cropping and re-sizing or you can see our instructions below for creating a Life@Wharton image using PowerPoint. Things to keep in mind are:

- Uploaded images must be either .jpg, .gif, or .jpeg files.
- Please use RGB Color Mode. Photos cannot be in CMYK Color Mode.
- The file size must be less than 200KB.
- The file name can only contain letters, numbers and underscores. No spaces are allowed.

Creating a Life@Wharton Image using PowerPoint

Using PowerPoint is an easy way to create an image that is sized correctly for the LCD monitors around campus.

1. Open the Powerpoint file.
2. Click on the **Design Tab.**
3. Click on the **Page Setup** (or **Slide Size**) option to bring up the Page Setup dialog box.
4. From the **Slides Sized For:** drop down box select the **16:9** option and click **OK**.
5. Select **Save As → Other Formats**.
6. In the Save As dialog box pick a location, select **JPEG File** (***.jpg**) from the **Save as type**: dropdown box, and click the **Save** button.

This file can be uploaded to Life@Wharton and will automatically be sized appropriately to 1280 pixels by 720 pixels.

Wharton's Marketing and Communications division provides templates and other tips on presentations that may be useful:

- Digital Signage Templates
- Powerpoint Templates

Upload a Life@Wharton Image

1. Log into Life@Wharton .
2. Click **Create a New Slide**.
3. Select the channel you would like the slide displayed to. If you want to share your slide in multiple channels, you need to complete a separate submission for each channel.

Follow the onscreen directions to post your slide.

Once your image has been submitted, the appropriate administrators will be automatically notified for approval. If you haven't heard confirmation within 24 hours, you can reach out to:

- **MBA Students:** Contact the MBA Program Office for the MBA View and Milestones destinations
- **Undergraduate Students**: Contact the Undergraduate Program Office for the UGR View and Undergrad Web Site.

Delete or Change Life@Wharton Images

To delete or change an image, log in and select **My Slides** from the navigation bar. You will have access to edit or delete.

Troubleshooting Life@Wharton

- **Life@Wharton Image Does Not Appear**
  If you've submitted your image to Life@Wharton but it hasn't been posted after 24 business hours, contact the appropriate program office to request more information.
  - **MBA Students:** Contact the MBA Program Office for the MBA View and Milestones destinations
  - **Undergraduate Students**: Contact the Undergraduate Program Office for the UGR View and Undergrad Web Site.

Questions?

Staff: Admin Computing

Students: Wharton Student Computing

Penn Library Computing Resources

Last Modified on 03/12/2025 2:51 pm EDT

David B. Weigle Information Commons

Located on the first floor (west) of the Van Pelt Dietrich Library Center, the David B. Weigle Information Commons supports collaborative learning and group activities using the latest technologies. The Commons includes a variety of collaboration spaces including Group Study Rooms, Data Diner Booths, Alcove Meeting Areas, Seminar Room and the Vitale Digital Media Lab. The Commons uses many Web 2.0 technologies to connect with students and faculty. For more information go to: http://wic.library.upenn.edu/

Facilities

Weigle Information Commons (WIC) has the many facilities options for students, including:

- Group Study Spaces
- Teaching Spaces
- WIC Seminar Room
- Digital Media Lab
- Video Recording Studio
- **Butler Assistive Technology Room** (in Van Pelt Library)

For pictures and more detailed information, view the WIC website.

Software

WIC PC desktops and laptops have recently been imaged with common software. For a complete list contact WIC directly.

Equipment Lending Program

You can reserve videocameras, cameras, projection supplies, audio equipment, and certain technical accessories (such as a tripod or livescribe pulse pen) with the Vitale Digital Media Lab located in Weigle Information Commons, Van Pelt Library, 1st floor West.

For a complete list of items available in the lending program and to use the library's equipment reservation system, contact WIC directly.

Virtual Lab

The Penn Libraries has also deployed a virtual computer lab (vLab) for students to access software applications normally accessible in Library computer labs. Software includes in-demand titles that students can’t easily access by other means.

For more information, please visit the Penn Libraries Virtual Lab web site.

Online Digital Resources

Penn and Lippincott Library have a vast repository of digital resources. If you're looking for a catalog of databases to which Penn has access, please see the Penn Libraries Catalog.

Enroll in PaperCut with your PennCard

Last Modified on 08/29/2025 10:37 am EDT

To print from your laptop or mobile device, you'll need to use PaperCut, the printing software at Wharton. The PaperCut portal is where you can manage documents you need to print. After you upload your document, you can release it from a Wharton printer by authenticating with your PennCard.

Before You Start

You will need the following before you can complete this task:

- An active PennCard
- PennKey credentials
- Access to an on-campus public printer.

Get Started with PaperCut

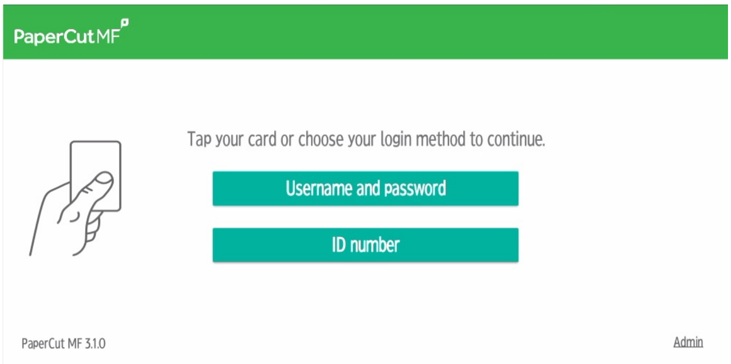
The first time you log into a PaperCut printer at Wharton, you must associate your PennCard with your user account. Once you have done this, you only need to repeat it if you replace your PennCard.

If you replace your PennCard for any reason, you will need to re-associate that card at a printer.

Associate your PennCard with PaperCut

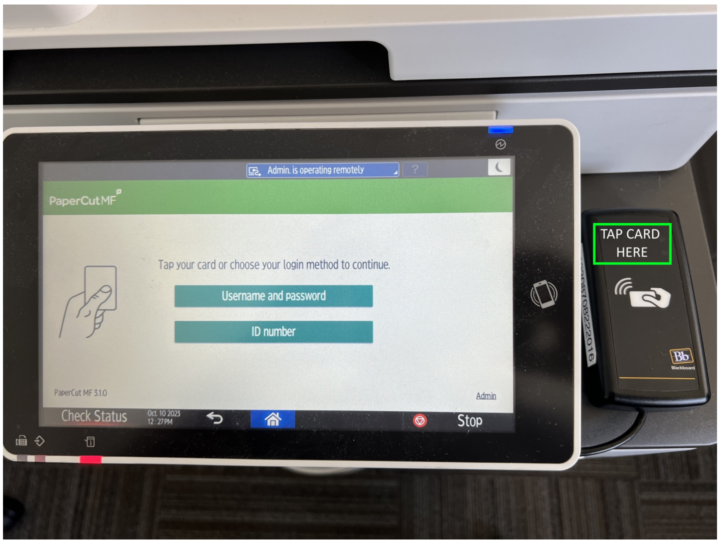
To associate your PennCard with your user account:

1. **Go to any Wharton printer**; you will see the PaperCut login:

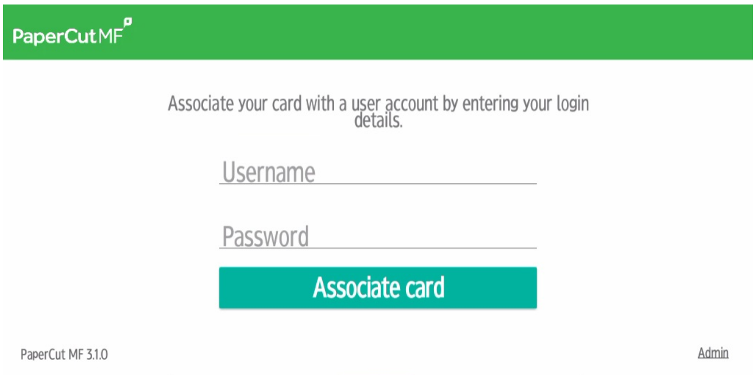


   (If the PaperCut login is not displayed, tap ***Login*** *at the top right of the panel, and it should appear.)*

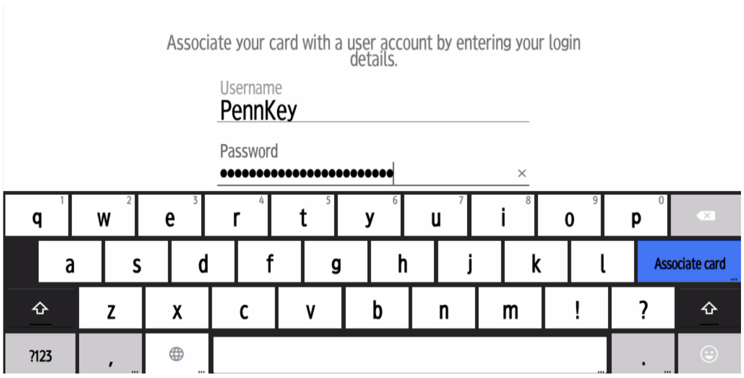
2. **Tap your PennCard** on the card reader (mounted beside the display):



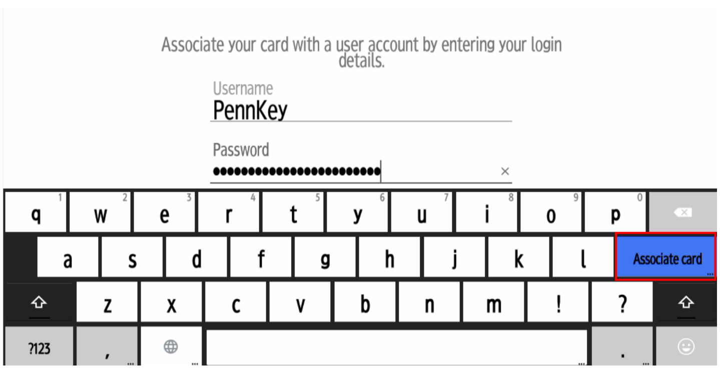
3. **You will be asked to associate your card with your account** by logging in:



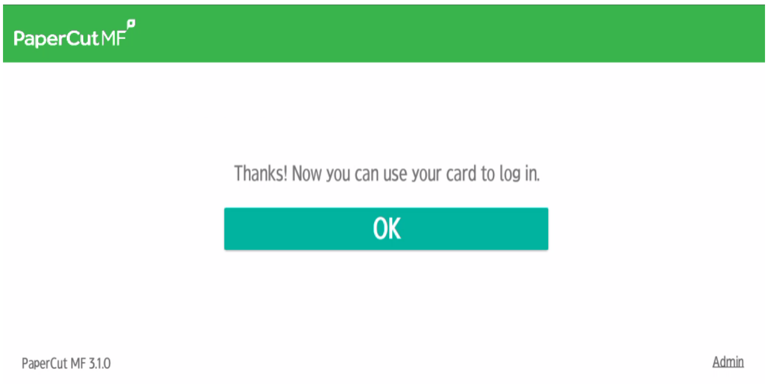
4. **Touch the screen** to bring up an on-screen keyboard, and **type in your *PennKey* username and Password**:



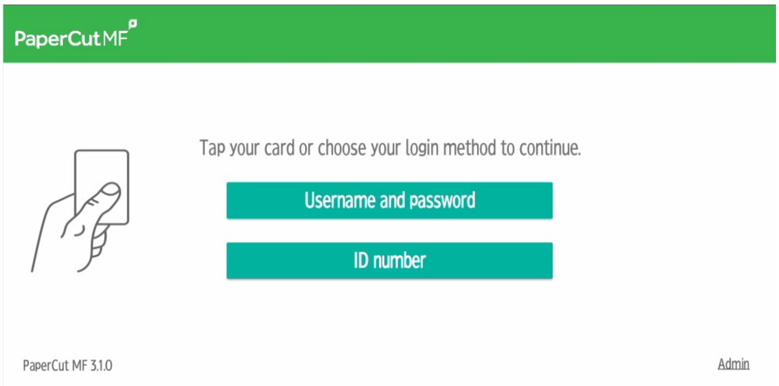
5. **Click the "Associate Card" button** on the right side of the on-screen keyboard:



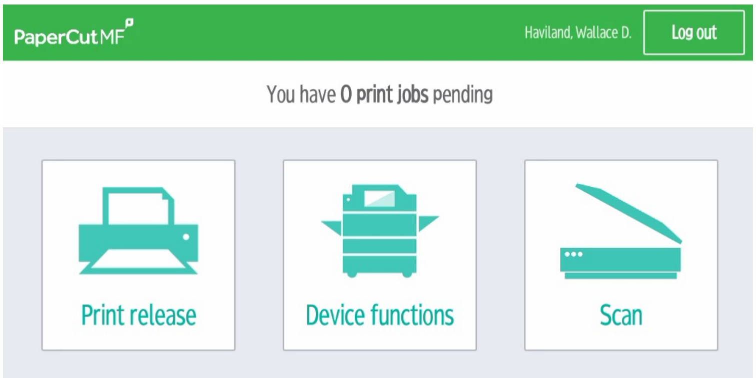
6. **Your account will be authenticated,** and you will receive an acknowledgement



7. **Hit OK,** and you will be returned to the login screen:



8. **Tap your card** again, and this time, you will be automatically logged into the Papercut app.



9. Your PennCard is now associated with all PaperCut printers at Wharton. You can now use it to log in with a single tap.

Questions?

Contact: Wharton Client Support Services

Printing from Laptop or Mobile Device

Last Modified on 08/25/2025 1:58 pm EDT

There are two ways to submit documents for print from a mobile device or laptop:

- Uploading directly to the **PaperCut Portal**
  - **Note:** The PaperCut Portal is only available from on-campus locations (connected to AirPenn-Net)
- Emailing a document to printthis@wharton.upenn.edu

Before You Start, you will need:

- Internet access
- Your PennKey username (the username before the "@" in your Wharton email address)
- An active PennCard
- A Wharton printing account with sufficient funds

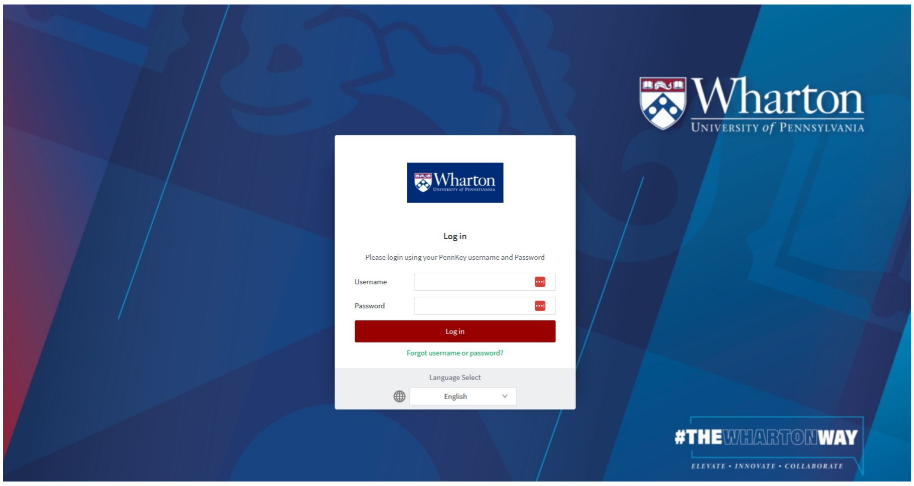
Your PennCard will need to be associated to your PaperCut account in order to release your print job. The steps for set up can be found in the Knowledge Base article titled "Enrolling in PaperCut with your PennCard".

PaperCut Portal

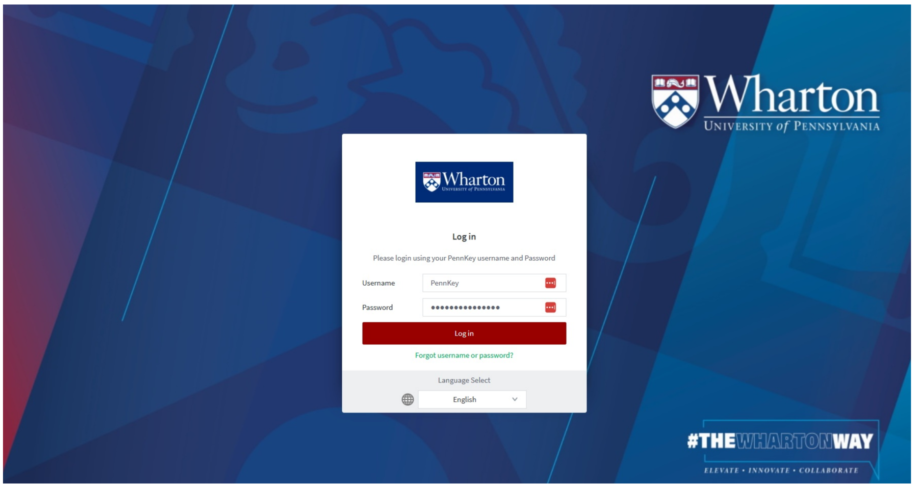
PaperCut is the software that runs our printing system. The "PaperCut Portal" is the place where you can manage your printing needs.

Logging into the PaperCut Portal

1. Go to whr.tn/print in a supported browser (recent versions of Chrome, Safari, Firefox and Edge).



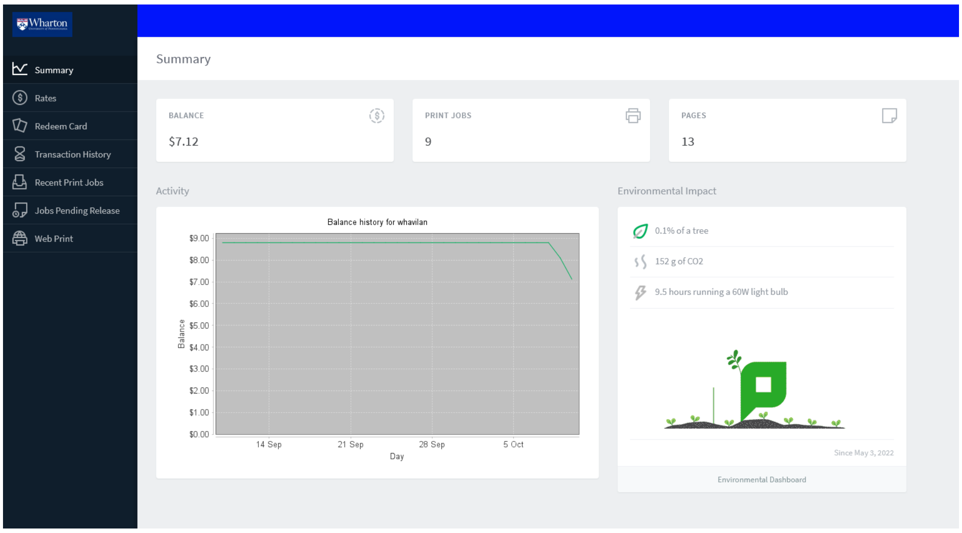
2. Enter your ***PennKey* Username** and **Password**.



3. Click **Log In**.

Once logged in **you will see information on your account** including:

- Your account balance.
- Your print documents and pages activity over time.
- The environmental impact associated with your printing activity.



Print Management Dashboard

You can also:

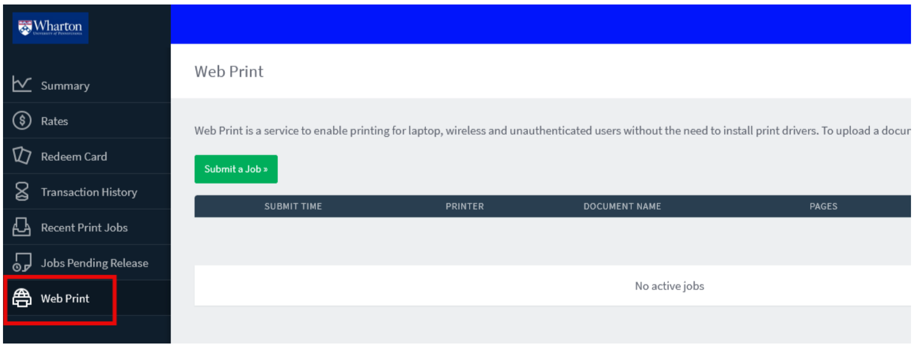
- **View additional details** on rates associated with different devices.
- Check your own transaction history.
- View recent and pending print jobs.
- **Upload jobs for release via Web Prin**t using the menu on the left.

Uploading to the PaperCut Portal

To print a file, you'll first need to upload it to PaperCut:

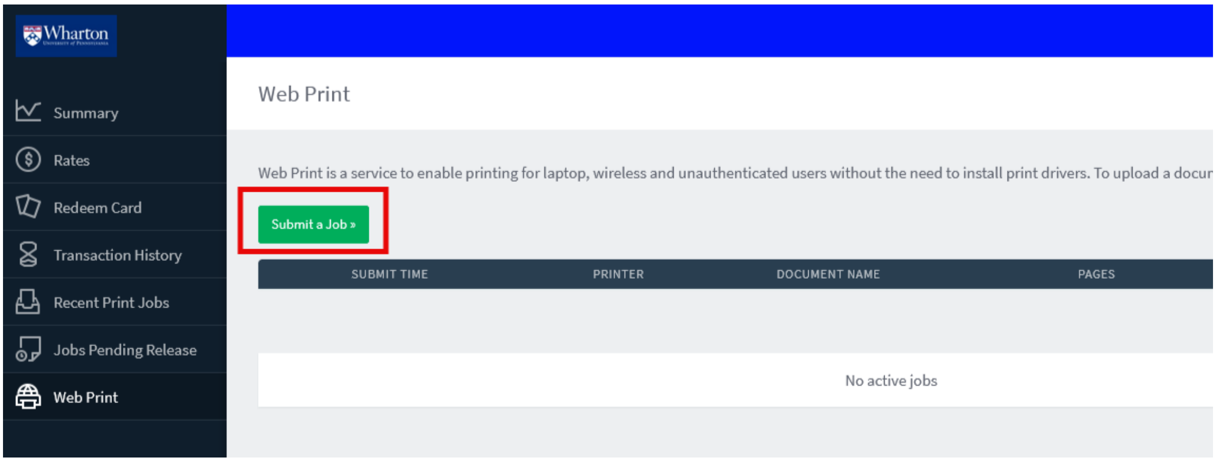
1. **Log in to** whr.tn/print as described above.

2. **Select Web Print** from the menu on the left.



3. Click **Submit a Job.**

4.

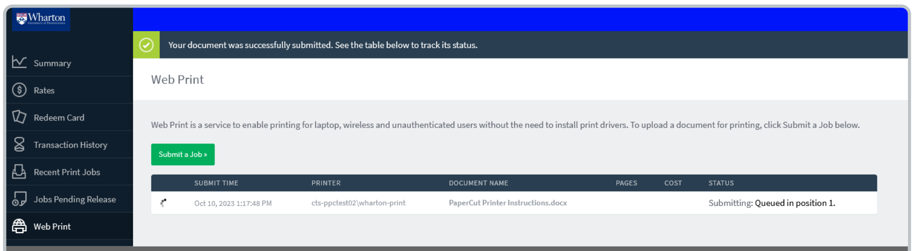


5. Click **Upload Documents.**

6. **Drag and drop any files** you wish to add to the queue into the field provided or click **Upload from Computer** and select your file(s).

7. Once all desired files are added, click **Upload & Complete.**

8. While the file is uploaded to the queue and rendered, **please remain logged in while the document is processed**:



Document being processed

9. When the document status shows as **Held in queue** it will be available to print from a PaperCut device:

SUBMIT TIME	PRINTER	DOCUMENT NAME	PAGES	COST	STATUS
Oct 10, 2023 1:18:59 PM	cts-ppctest02\Wharton-Print	PaperCut Printer Instructions.docx	2	$0.56	Held in a queue

Status of Held in a queue: Ready to Print

10. Once your documents have been uploaded and are in the queue, **please remember to log out.**

Email Printing

There are several stages to printing a document when you send it to print via Email.

Preparing your Document

1. Make any necessary formatting changes.
   - *e.g. multiple slides per page*
2. Export the document as a PDF.
   - *may be located under File > Print*
3. Follow the steps in *Printing a Document*, next.

Printing a Document

1. Attach your document to an email.
2. Send it to printthis@wharton.upenn.edu .
3. *Wait for the email response indicating that your print job has*

been received[1].

4. At this point your job is ready; you may proceed to a printer and release your documents[2] as normal.

Color & Duplex Settings

You can adjust Color and Duplex settings either

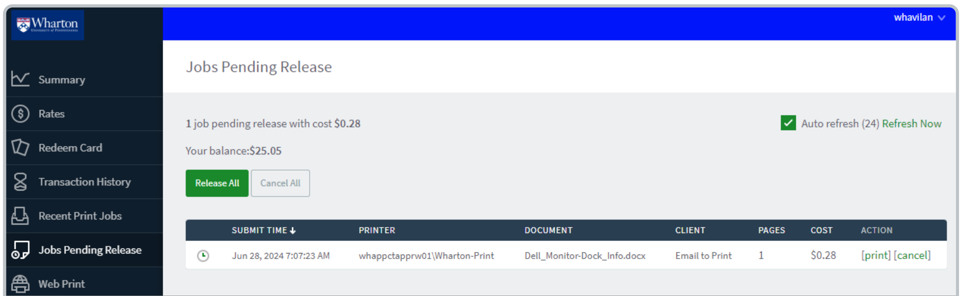
- in the document prior to sending, or
- set them at the printer when you release your documents.

[1]You must receive this email **before** going to the printer. The larger the attachment, the longer it will take to render and become available to print.

[2]The response will include a link you can use to log in (using your PennKey credentials) and view the job details. You can also use the PaperCut Portal to review the details about your job. *You do not need to open the link to release the job.* Once the email has been received the job should be available in your queue for printing.

Managing your Print Jobs

The PaperCut Portal **Jobs Pending Release** list is your hub for reviewing your print jobs, including those sent via Email Printing. This screen lists all of your pending print jobs (if you don't have any pending jobs, the list will be empty). You can follow the directions above to upload a file to print. In the screenshot below, there is one document that is pending.



Screen with One Print Job Waiting

Each job will show as a separate line item record; each record will have the following details:

- **Submit Time** shows the date and time the job was submitted (remember that jobs only remain in the queue for **up to 5 hours**, after which they are removed).
- **Printer** is the printer queue to which the job was submitted.
- **Document** is the document name, including the file type extension (PDF, DOCX, etc.).
- **Client** is the source from which PaperCut received the print job (Email to Print, Web Print, or a network connection).
- **Pages** is the number of pages in the document.
- **Cost** is the price of your print job with the selected Print Options. This cost is deducted from your Print Balance after it has been released at a printer (i.e., you'll only pay for jobs you've successfully printed).

There is also the option to cancel (delete) any or all print jobs held in your queue. (The "print" action can be ignored, as this is handled by releasing a job at the printer.)

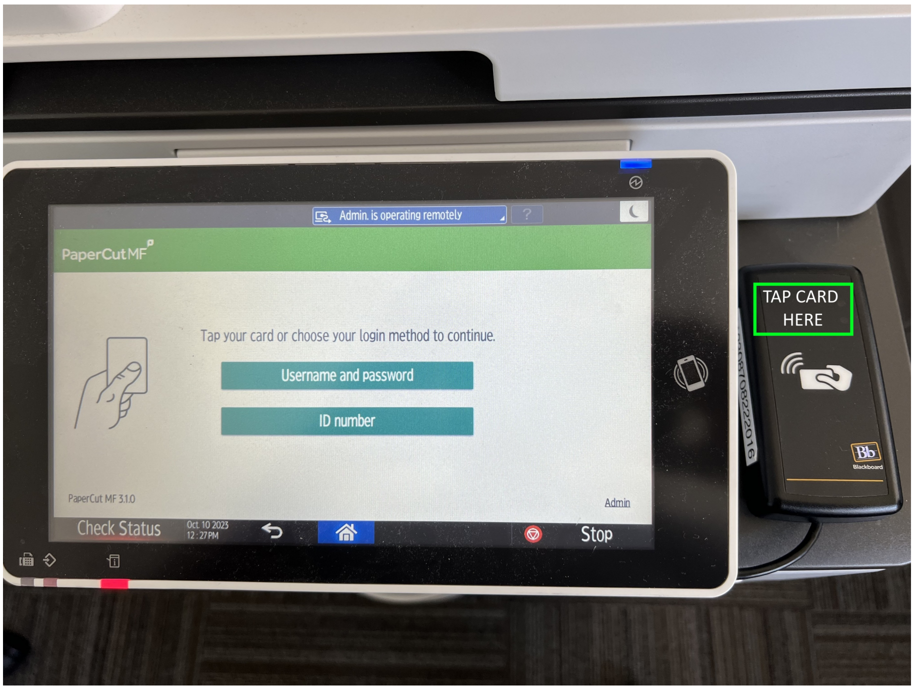
Your account balance is also visible on this screen. If you need to add funds, follow these directions.

Releasing documents for Print

A full description of printing options can be found in the articlePrinting at Wharton: Options, Locations, and Cost

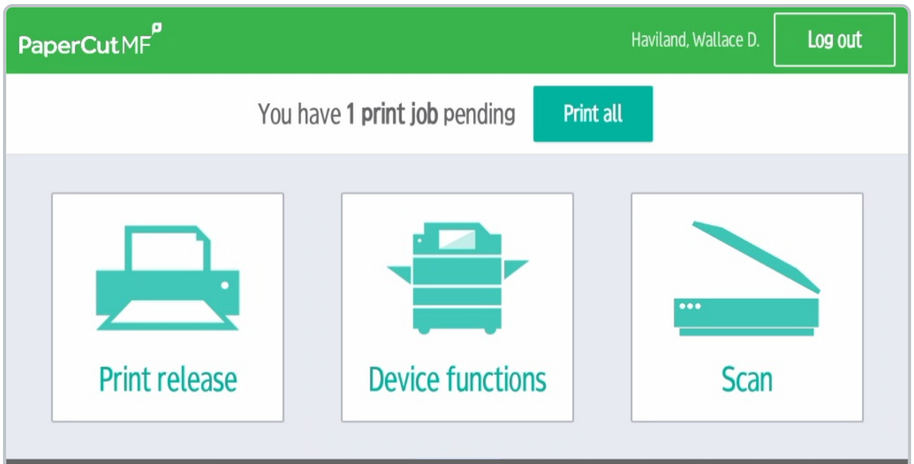
Reminder: Your **PennCard** is required to release your documents for print. The first time you print, you must associate your **PennCard** to your **PaperCut account**. Instructions for doing so can be found in the article Enrolling in PaperCut with your PennCard.

1. Go to the printer from which you would like to print. Each printer will have a Touch Panel and a Proximity Card Reader.
2. PapercutMF should be open on the printer display (if not, simply tap the PaperCutMF icon to re-launch it).
3. **Tap your PennCard** to the proximity card reader:



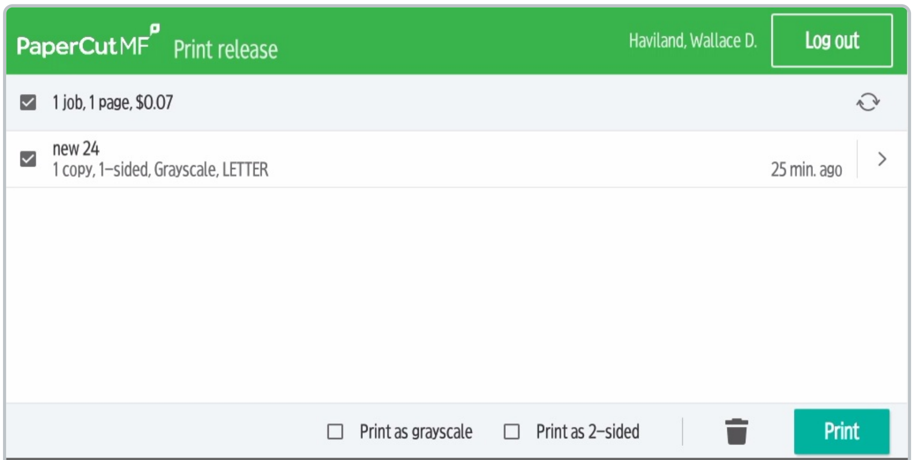
4. You should hear a **chirp** as the reader picks up the information from the card, and you will see a message that you are being authenticated.

5. Once authenticated, you will be at the PaperCut main screen:



PaperCut Main Screen

6. Click **Print release** and you will see a list of documents currently held in your queue.
7. **Select the document(s)** you wish to print, and then click **Print:**



List of Documents Ready to Print

   i. The **amount to be charged** will be displayed at the top left of the screen:

   ii. There are also options at the bottom of the screen to help reduce cost and environmental impact of the printing:
      - **Print as grayscale**
      - **Print as 2-sided**
      - **Delete** the job altogether from the queue

Additional Options

8. Once your job has printed, tap **Logout.**

Notes:

- **Associate your PennCard:** The first time you use a Wharton PaperCut printer -- and any time you get a new PennCard -- you will be asked to associate your PennCard with your account.
- **Time-Limit**: Documents sent to the print queues are held for 5 hours and can be released from any

printer.

- **Duplex Default**: Documents printed are duplex printed by default. To print single-sided, uncheck the "Print as 2-sided" option at the printer upon release.

Questions?

Student Tech Center

Wharton
University *of* Pennsylvania

Support is available via in-person (walk-ins & appointments), phone, chat, and email!
Check our KnowledgeBase for list of services, troubleshooting guides, and much more.

Contact Us
Office: SHDH-114
Phone: 215-898-8600
Chat: computing.wharton.upenn.edu
Email: support@wharton.upenn.edu

Printing from Public Computers at Wharton

Last Modified on 08/25/2025 1:59 pm EDT

Before You Start

You will need the following before you can complete this task:

- An active PennCard
- PennKey credentials
- Sufficient funds in either Wharton print credit or PennCash

This article provides information on using Wharton's public Workstations to print documents. To print from your laptop or device, see Printing from Laptop or Mobile Device.

Printing From a Wharton Public Workstation

Follow these directions to print to a Wharton printer from any public workstation. *(If you prefer, you can use the PaperCut portal to send your document(s) to print)*.

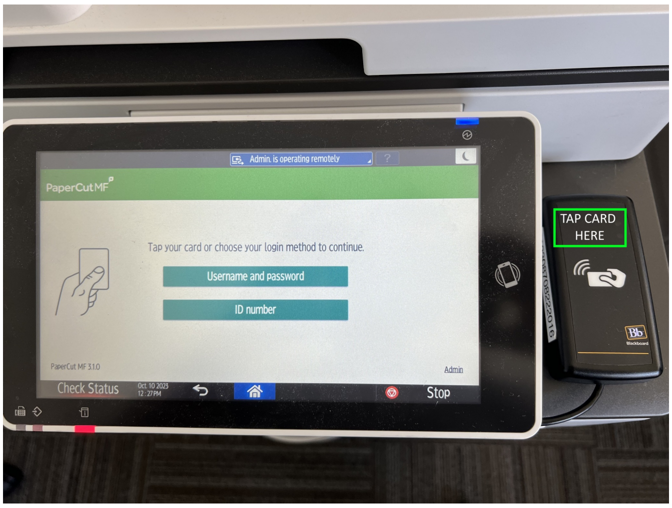
1. In your document, choose **Print** from the File menu.
2. Select the print queue: **Wharton-Print** on PrintAtWharton.
    - If the print queue is not available, from your desktop open the Printer Refresh folder and open the desired shortcut from there. This will connect the print queue, and it will appear as a choice in your print properties.
3. Click **Print** to send your job to the print queue.

Releasing a Document for Printing

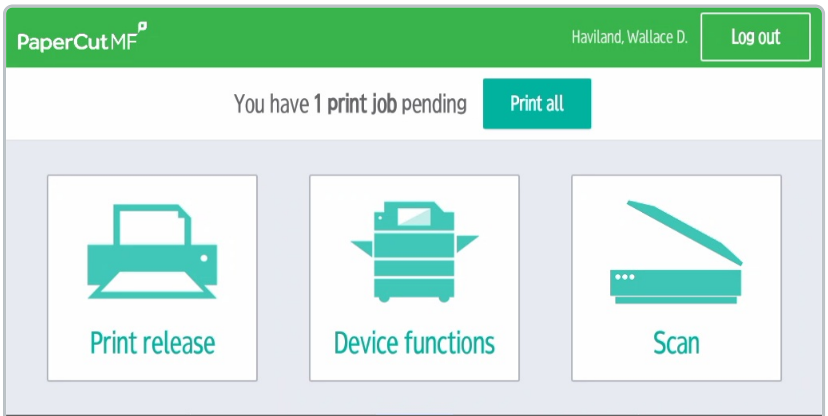
1. Go to the printer from which you would like to print.
2. Each printer will have a Touch Panel (in the red box) and a Proximity Card Reader (in the blue box):

Printer Login Screen and Card Reader

- PapercutMF should be open on the printer display (if not, simply tap the PaperCutMF icon to re-launch it).
- **Tap your PennCard** to the proximity card reader.

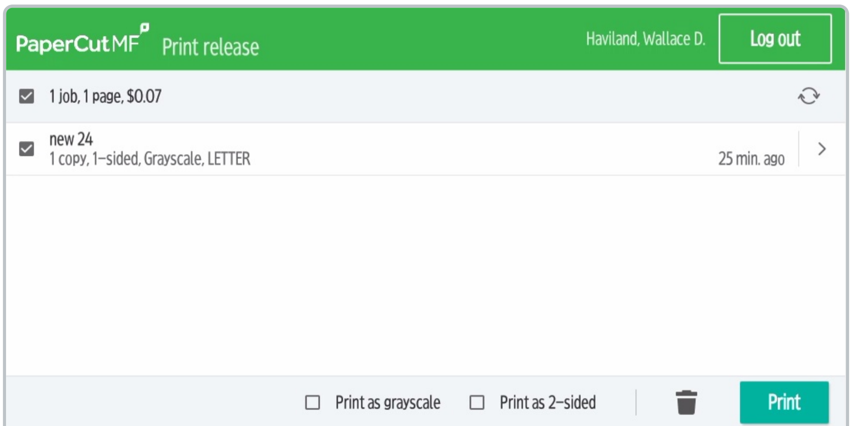


- You should hear a **chirp** as the reader picks up the information from the card, and you will see a message that you are being authenticated.
- Once authenticated, you will be at the PaperCut main screen:



PaperCut Main Screen

- Click **Print release** and you will see a list of documents currently held in your queue.
- **Select the document(s)** you wish to print, and then click **Print**:

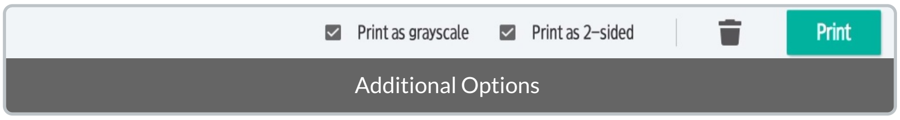


List of Documents Ready to Print

- The **amount to be charged** will be displayed at the top left of the screen:

- There are also options at the bottom of the screen to help reduce cost and environmental impact of the printing:

- Print as grayscale.
- Print as 2-sided .
- Delete the job altogether from the queue.



- Once your job has printed, tap **Logout** to log out of your account to finish printing.

Notes:

- **Associate your PennCard:** The first time you use a Wharton PaperCut printer -- and any time you get a new PennCard -- you will be asked to associate your PennCard with your account.
- **Time-Limit**: Documents sent to the print queues are held for 5 hours and can be released from any printer.
- **Duplex Default**: Documents printed are duplex printed by default. To print single-sided, uncheck the "Print as 2-sided" option at the printer upon release.

Printing at Wharton: Options, Locations, and Cost

Last Modified on 08/22/2025 1:55 pm EDT

This article provides information regarding the logistics of Wharton Printing.

Printer Locations

All public printers throughout Wharton are Ricoh Multi-function Devices (MFDs). They allow you to:

- Choose Black & White or Color
- Print Documents
- Make Copies
- Scan to Email (free)

Campus Building	Location in Building
JMHH Forum	Printer Row: F76-A, F76-B, F76-C Adjacent to Printer Row: F76-D
JMHH 2nd Level	Hallway: 279-B, C
JMHH 3rd Level	Hallway: 379-B, C
Steinberg Hall-Dietrich Hall (SHDH)	Ground Floor Lobby: 107-A, 107-B
Academic Research Building (ARB)	1st Floor Printing Area: 110-A 2nd Floor Printing Area: 210-A
Lauder Fisher Hall	2nd Floor Lauder Library: 203-A
Lippincott Library	VPL-201-A
Tangen Hall	2nd Floor: 200-A

Wharton Printing Account

To print or copy documents at Wharton, students will need a Wharton printing account with sufficient funds (Wharton print credits and/or PennCash).

- **Full-time Wharton MBA students** receive an initial free (& non-refundable) credit balance of $40. at the beginning of each semester.

- **Full-time Wharton UGR students** receive an initial free (& non-refundable) credit balance of $20. at the beginning of each semester.
- **Wharton MBA for Executives students** should contact their program office for information on print credit balances.

PennCash v. Wharton Print Credit

Wharton Printing credit (provided to Wharton students) is always used first -- your PennCash account will only be debited once your Wharton Printing credit is exhausted. Non-Wharton students taking a Wharton class have printing accounts that draw funds automatically from their PennCash account.

- **Add Funds**: You can add funds to your PennCash account online at the PennCash website.
- **Two ways to view your print balance**:
  - **Tap your PennCard** at one of the printers
  - Navigate to **MyWharton > Tools > Accounts > Print Credit Balance.** (Or search for "print credit".)

Graduating Students & Refunds

- **Wharton Printing Credit:** Non-transferable and non-refundable; carries over from semester to semester.
- **PennCash:** Upon graduation, any remaining PennCash funds will be reimbursed to you through your bursar's bill. Check your PennCash funds **here**.

Cost of Printing / Copying

	Black & White	Color
Single-Sided	$0.07	$0.28
Double-Sided Sheet (2 pages)	$0.10	$0.56
Scan-to-Email	Free	Free
Default Setting	Double-Sided	Single-Sided

Printing from a Public Workstation

To print to a Wharton printer from a public workstation, see Printing from Public Computers at Wharton.

Printing from a Personal Laptop or Mobile Phone

To print to a Wharton printer from your personal computer or mobile phone, see Printing from Laptop or Mobile Device.

- **Time-Limit**: Documents sent to the print queues are held for 5 hours and can be released from any printer.
- **Duplex by Default**: Documents are set to duplex print by default. To print single-sided, **select the single-sided option** from the print options before sending, or at the printer display panel when releasing.

Specialty Printing Needs

For specialty printing, such as bound course packs, bulk printing, large format, or specialty papers, there are several options around campus. Popular choices include Campus Copy on Walnut Street and UCS in Houston Hall, 3417 Spruce Street, Lower Level.

Name cards are available at UCS in Houston Hall for $1.50/card. Please call them at 215-558-6420 or email at customerservice@ucscopy.com two hours ahead, and they should be ready for pickup.

Questions or Issues?

Please see our Public Printing Troubleshooting guide here.

Public Resources for Print, Scan, and Copy

Last Modified on 08/22/2025 11:33 am EDT

Before You Start

You will need the following before you can complete this task:

- An active PennCard
- PennKey credentials
- Sufficient funds in either Wharton print credit or PennCash

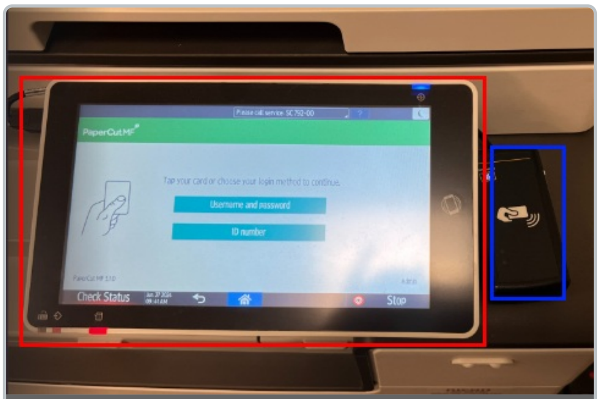
This article provides information on using Wharton's public Workstations to print, scan and copy. To print from your laptop or device, you'll need to use PaperCut, the printing software at Wharton. If you are new to PaperCut, see Using Wharton PaperCut for the First Time, below.

We recommend using the PaperCut portal for the best printing experience.

Printing From a Wharton Public Workstation

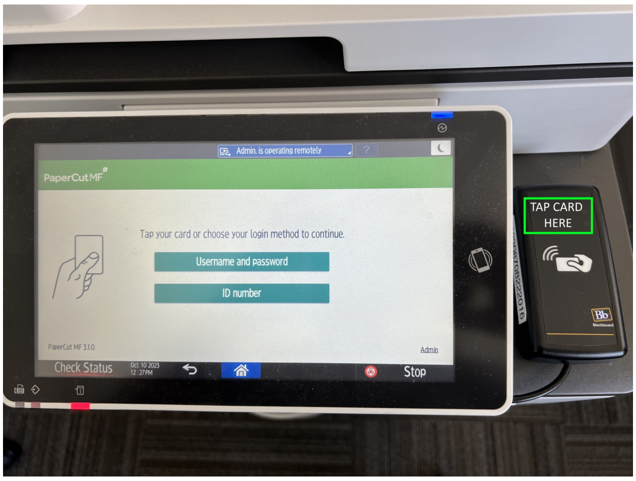
Follow these directions to print to a Wharton printer from any public workstation. *(If you prefer, you can use the PaperCut portal to send your document(s) to print)*.

1. In your document, choose **Print** from the File menu.
2. Select the print queue: **Wharton-Print** on PrintAtWharton.
   - If the print queue is not available, from your desktop open the Printer Refresh folder and open the desired shortcut from there. This will connect the print queue, and it will appear as a choice in your print properties.
3. Click **Print** to send your job to the print queue.
4. To release your document at the printer:
   - Go to the printer from which you would like to print.
   - Each printer will have a Touch Panel (in the red box) and a Proximity Card Reader (in the blue box):

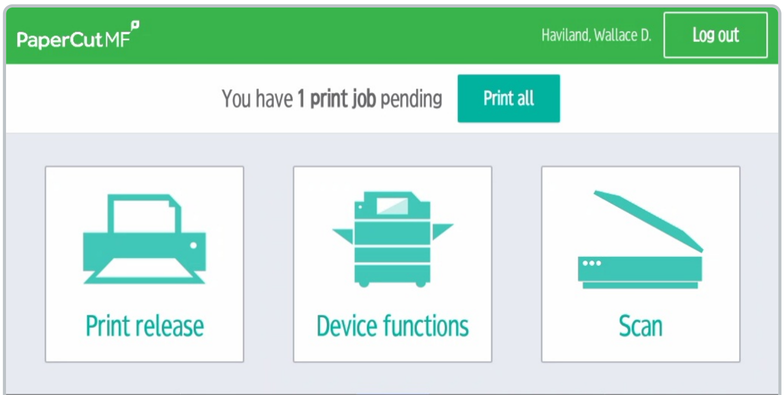


Printer Login Screen and Card Reader

   - PapercutMF should be open on the printer display (if not, simply tap the PaperCutMF icon to re-launch it).
   - **Tap your PennCard** to the proximity card reader.

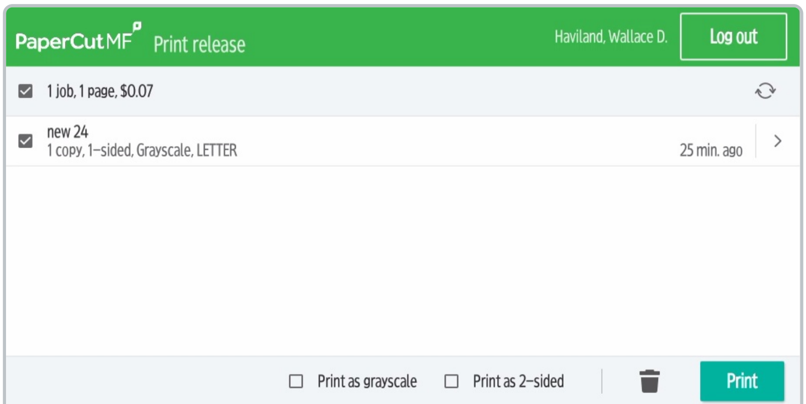


- You should hear a **chirp** as the reader picks up the information from the card, and you will see a message that you are being authenticated.
- Once authenticated, you will be at the PaperCut main screen:



PaperCut Main Screen

- Click **Print release** and you will see a list of documents currently held in your queue.
- **Select the document(s)** you wish to print, and then click **Print**:

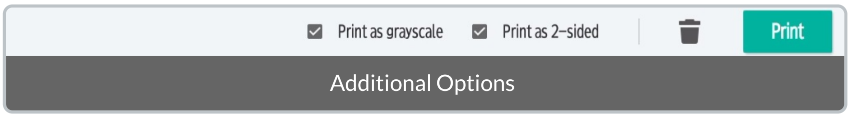


List of Documents Ready to Print

- The **amount to be charged** will be displayed at the top left of the screen:

- There are also options at the bottom of the screen to help reduce cost and environmental impact of the printing:
  - **Print as grayscale.**
  - **Print as 2-sided**.

- **Delete** the job altogether from the queue.



- Once your job has printed, tap **Logout** to log out of your account to finish printing.

Notes:

- **Associate your PennCard:** The first time you use a Wharton PaperCut printer -- and any time you get a new PennCard -- you will be asked to associate your PennCard with your account.
- **Time-Limit**: Documents sent to the print queues are held for 5 hours and can be released from any printer.
- **Duplex Default**: Documents printed are duplex printed by default. To print single-sided, uncheck the "Print as 2-sided" option at the printer upon release.

Copying and Scanning from Wharton's Multifunction Printers

This section applies to the Philadelphia Campus.
EMBA (San Francisco) students should contact the EMBA Program Office for login information.

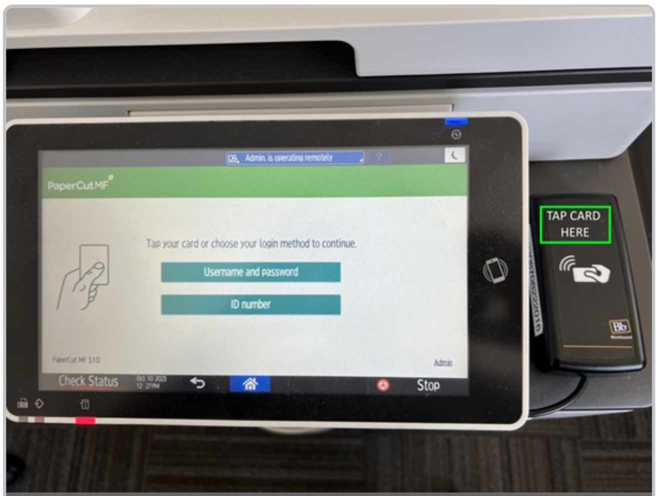
In addition to printing, Wharton's multifunction printers also allow you to make copies and scan images for sending via email.

Before you Start:

- Make sure the display panel on the printer is lit. If not, touch the panel to wake it up.

Copying

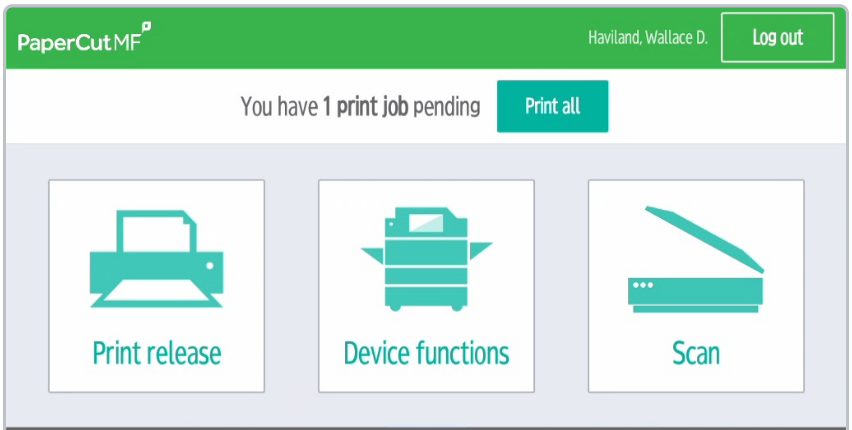
1. To make a copy of a document, log into the device by**tapping your PennCard** on the card reader mounted by the display:



PaperCut login screen and PennCard reader.

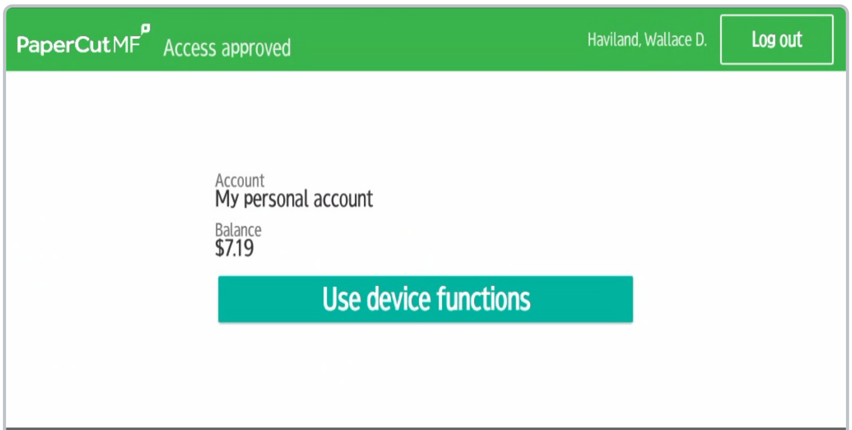
You should hear a **chirp** as the reader picks up the information from the card, and you will see the PaperCut main screen.

2. At the PaperCut main screen **click Device Functions**:



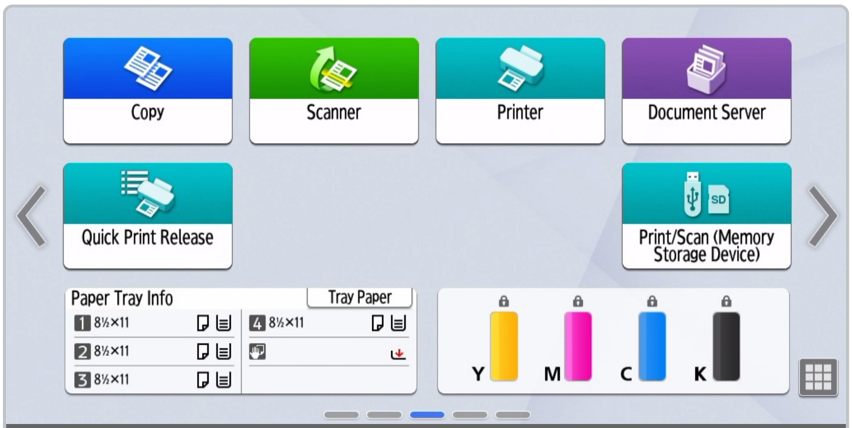
PaperCut Options

3. On the next screen, click **Use device functions**:



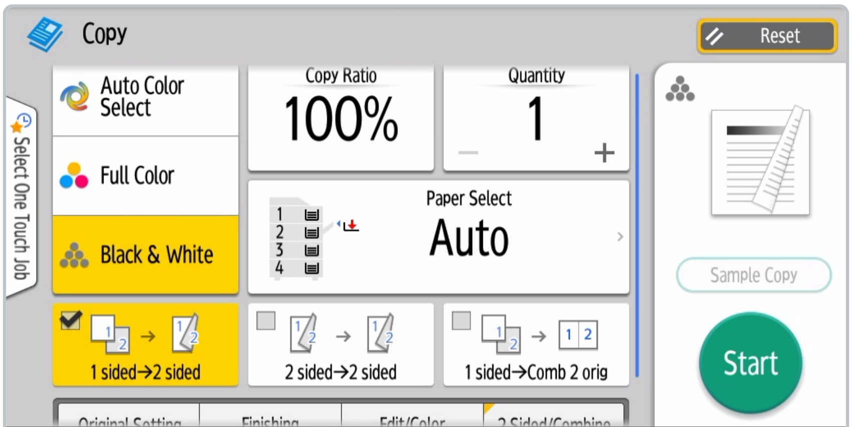
Use device functions screen

4. At this point **you will be taken out of PaperCut** to the device's native applications page:



All Options Available

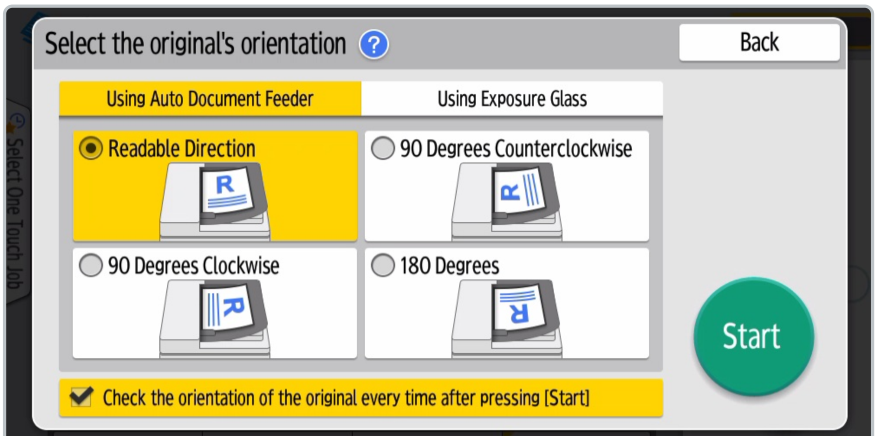
5. Click **Copy** and **select your desired settings** in the Copy interface:



Copy Options Screen

6. Once all options are set, **place the document(s) to be copied on the device** (either face up in the document feed tray, or face down directly on the glass) and click **Start**.

7. **Indicate the appropriate orientation** of the document in the Feeder or on the Glass:



Page Orientation Choices

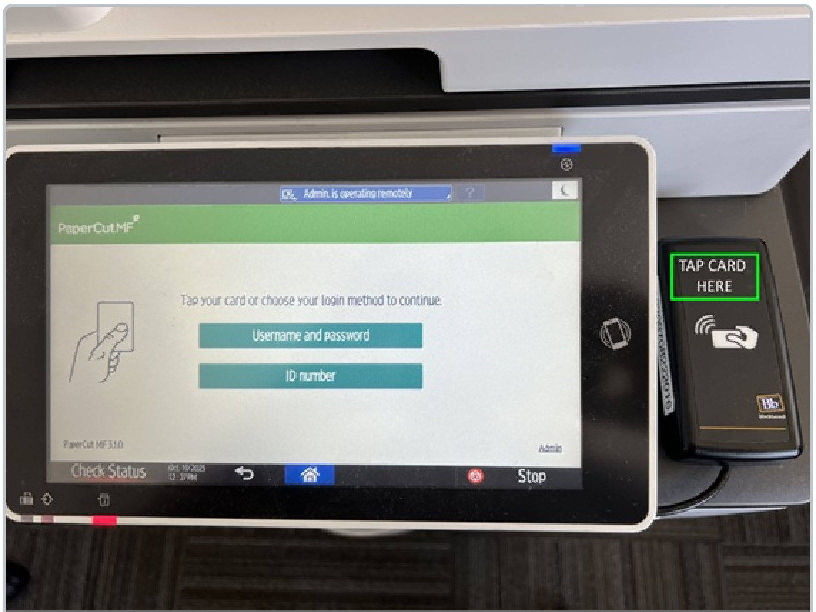
8. Click **Start** again, and a progress animation will be displayed as your copy job is processed.

9. Once complete, **you will be returned to the main Copy interface**.

10. Please be sure to click **Logout** to complete your interaction.

Scanning

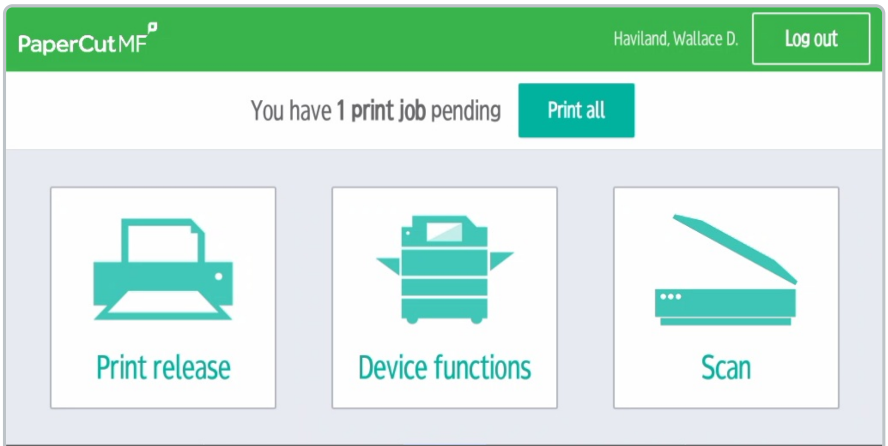
1. To scan a document to email, log into the device by **tapping your PennCard** on the card reader mounted by the display:



PaperCut login screen and PennCard Reader

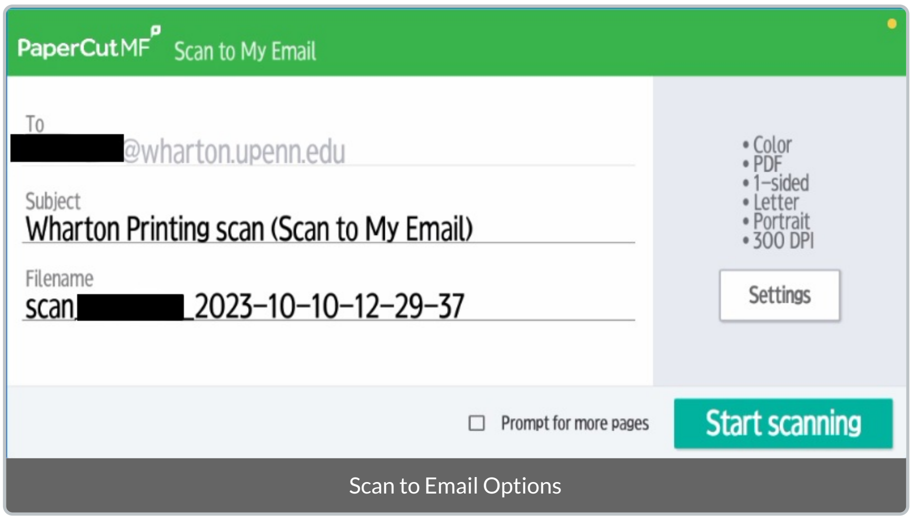
You should hear a **chirp** as the reader picks up the information from the card, and you will see the PaperCut main screen.

2. Click **Scan.**



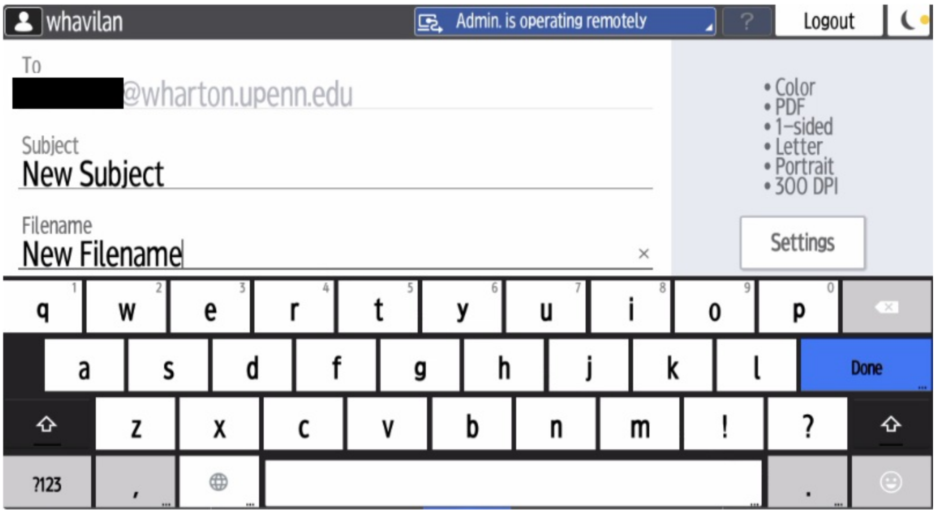
PaperCut Options

3. **You will see your email address** populating the “To” field, and default entries for “Subject” and “Filename”:

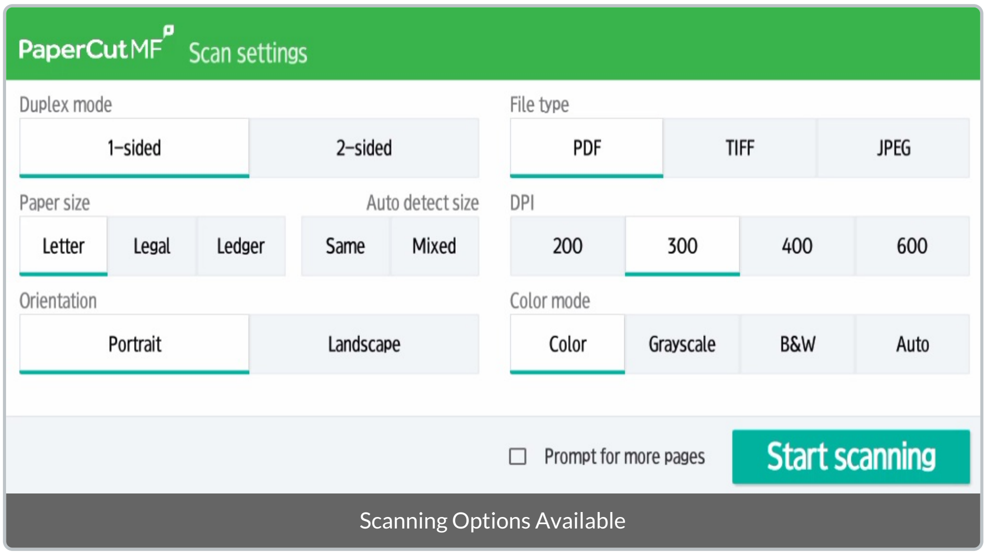


Scan to Email Options

4. “Subject” and “Filename” can be changed, simply **touch the display** and an on-screen keyboard will appear:



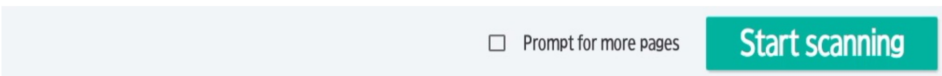
5. Click **Settings** on the right to select various options like Duplex, File type, etc.



Scanning Options Available

(***Note:*** *Wharton only stocks 8.5”x11” letter sized paper*.)

6. At the **bottom of this screen** there is also the option to **prompt for more pages** if a multi-page document is being scanned:



7. Once all options are set as desired, **place the document(s) to be scanned on the device** (either face up in the

document feed tray, or face down directly on the glass) and click **Start Scanning**. You will see messages that the document is Scanning, and then Sending.

8. Once the document is sent **you will be returned to the PaperCut home screen**.

9. Please be sure to click **Logout** to finish scanning.

Questions?

Contact: Wharton Computing Student Support

Print From Your Laptop to Wharton Printers

Last Modified on 08/22/2025 11:37 am EDT

Anyone with a Wharton printing account can configure their laptop to print to the Wharton printers. Printing via mobile devices is also available using the **PaperCut Portal**– see our article on mobile printing.

Printing From Laptops: while adding the Wharton printers directly to your laptop is possible using the instructions below, we do not recommend this option, as it has led to some lost print jobs in the past. We highly recommend using the PaperCut Portal to print.

Before You Start

You will need one or more of the following before you can complete this task:

- A personal computer running either Windows or MacOS
- Internet access
- PennKey credentials
- An active PennCard
- Sufficient funds in either Wharton print credit or PennCash

Adding the Print Queue

Before you can print, our print "queue" needs to be added to your device. This is a one-time step; once you've done this, you won't need to repeat it unless you remove it for some reason (like reimaging your machine.) The directions for both adding the print queue and printing are different for Windows and Mac.

Windows Configuration

These laptop configuration steps are supported for the most recent **Windows** versions. If you've already added the print queue, you can skip straight to **Send A Document to the Print Queue**.

1. Open the **Printers & Scanners** section in Windows (usually in Settings => Printers & Scanners).
2. Click **Add Device**.
3. Look for the option **The printer I want isn't listed** and click it to launch the **Add Printer dialog box**. (You may need to select the **Add manually** option.)
4. Click the radio button to **Select a shared printer by name** and enter the following: **\\PrintAtWharton\wharton-print**
5. Click **Next** and allow the printer to connect.
6. You should see a message indicating that you have successfully connected; click **Next** .
7. You may choose to print a test page by clicking the button, or simply click **Finish** .

Windows 10 Users: You may only see one printer in Devices and Printers after installing the new drivers. You should still see both print queues when you try to print a document.

Send A Document to the Windows Print Queue

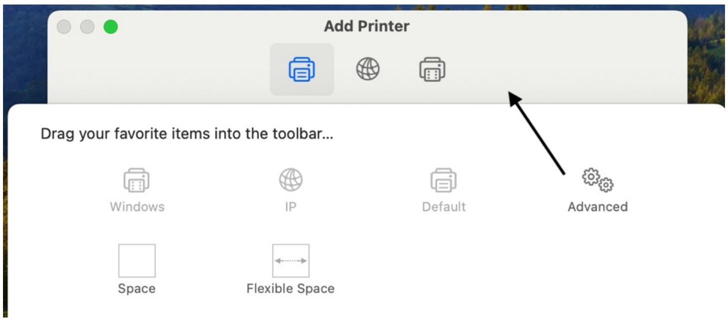
1. Send a document to the Print queue by **choosing File** > **Print**.
2. Adjust your printing settings.
3. **Select** the **Wharton-Print on PrintAtWharton** queue.
4. Click **Print** and the job will be sent to the Papercut queue.

Once you've sent it to the queue, see Print to a Wharton Printer (Windows and Mac)

Mac Configuration

These laptop configuration steps are supported for recent **Mac** versions. If you've already added the print queue, you can skip straight to **Send A Document to the Print Queue**.

1. Click the **Apple** menu and select **System Settings.**
2. Select the **Printers and Scanners** preference pane.
3. Click **Add Printer, Scanner, or Fax...** below the list of printers.
4. **Enable** the **Advanced tab** in the **Add Printer** dialog:
    1. **Hold down** the **Control Key** on your keyboard and **click anywhere on the toolbar** (Bar displaying printer icon, globe icon, fax icon).
    2. From the popup menu that appears, select **Customize Toolbar...**
    3. **Drag** the **Advanced** icon up to the toolbar and click **Done** to close the Customize Toolbar panel.



5. Click the added **Advanced** icon to switch to the Advanced tab and wait for it to appear.
6. Choose or enter the following settings:
    - Type: **Windows Print Server**
    - Device: **Another Device**
    - URL:
    - Name: **Wharton-Print** (or a similar descriptive name)
    - Location: **(Leave blank)**
    - Print Using: **Generic PostScript Printer**
7. Click **Add**.
8. You will get an **Installable Options** dialog box:
    1. Check the box next to **Duplex Printing Unit** (all Papercut printers have duplex units)
    2. Click **Continue**.
9. You may need to **restart** your Mac to finish the installation and setup process.

Duplex Printing

To enable your Mac to print double-sided, you need to **allow Duplexing**.

1. Open **System Settings** and click on the **Print & Fax** icon.
2. Select the **Wharton-Print** printer, and choose **Advanced.** (Duplex printing is not recommended for Color documents.)

3. Select the **Options** tab and check the **Duplex box.**
4. Click **OK** and **OK.**

Send a Document to the Mac Print Queue

1. Send a document to the Print queue by **choosing File** > **Print**.
2. Adjust your printing settings.
3. Select the **Wharton-Print** queue.
4. Click **Print** and the job will be sent to the Papercut queue**.**

Once you've sent it to the queue, see Print to a Wharton Printer (Windows and Mac)

Documents sent to the print queues are **held for 5 hours**.

Print at a Wharton Printer (Windows and Mac)

Once you've send your document to the print queue, use these directions to retrieve it from the printer.

1. Go to the printer you would like to print from. For a list of locations, see Printing at Wharton: Options, Locations, and Cost.
2. **Launch Papercut** if it is not already launched by touching the **Login** button at the top right of the display screen.
3. **Tap your Penn Card** on the proximity reader to the right of the display (you should hear the reader **chirp** as the card is read, and the green light will flash).
4. Click **Print Release.**
5. Select the document you want to print and tap the **Print** button. If there are multiple jobs in the print queue that you would like to print, you can select all of those documents and tap **Print**, or choose the **Print All** option.

TIP: Color vs Black & White and single vs 2-sided options can now be selected at the printer when releasing print jobs!

Questions?

Contact: Wharton Student Computing

Email: support@wharton.upenn.edu

Public Printing Tips and Tricks

Last Modified on 08/22/2025 11:36 am EDT

Wharton Computing strives to provide enough printers to accommodate student use, however there will be high-traffic times when you will have to wait in line, and times when there may be problems with a printer or a given job. These tricks should help you avoid frustration during the printing process.

Before You Start

You will need the following before you can complete this task:

- An active PennKey account
- An active PennCard with sufficient funds
  - This can include both Wharton printing credits & PennCash

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Quick Review

Your printing options at Wharton include the following:

PaperCut	Public Computers
• Go to the PaperCut Portal. • Log in using your PennKey username and Wharton Google password. • Upload your document.	Use the print queues available from the computers • \\PrintAtWharton\Wharton-Print

To release your print jobs at the Wharton printers:

1. Press **Login** on the touch screen.
2. **Tap your PennCard** on the card reader.
3. Select the documents you want to print and click the **Print** (or **Print All)** button. See Public Resources for Print/Scan/Copy for more information on printing.

General Tips

Check Your Print Balance

Make sure to check your printing account before you print to ensure you have sufficient funds. To check your balance, log in to MyWharton (Students) and click **Print Credit Balance** under **All Links**, or swipe your PennCard at one of the printers. If you are running low on funds, consider adding PennCash to your PennCard here: https://www.penncash.com/

Try Another Printer

If a document doesn't print the first time, it may be an issue with that specific printer. A different printer may solve your problems. If not, contact Wharton Student Computing -- knowing that you couldn't print to multiple printers may help us identify a problem print job.

Use Campus Copy

For any type of specialty printing such as poster board or business cards, visitCampus Copy at 3907 Walnut Street or UCS in Houston Hall!

Check Document Properties

Paper Size

Select **Letter** or 8 1/2 X 11 paper. Our printers are stocked with letter-sized paper, and any documents configured for a different size paper (A4, tabloid, or other non-standard size) may have problems printing.

Be Wary of "Print All"

If you select **print all**, be aware that problems with one job in a selection may impact your ability to print the rest of the jobs.

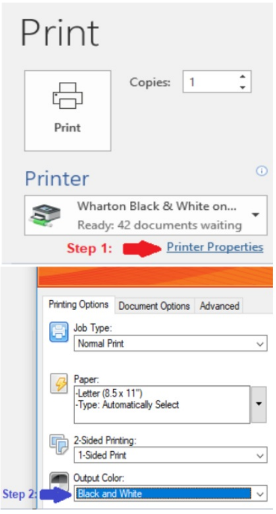
Use Print Preview

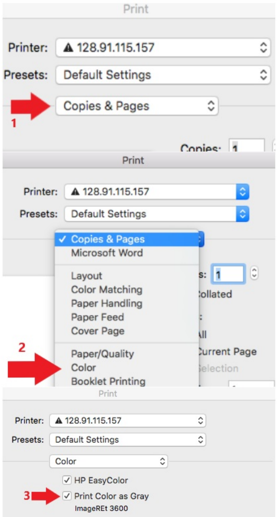
Use Print Preview (usually from the File menu in your application) to confirm the way your document will look before submitting your job. When you're ready to print, choose **Print** from the File menu and click the **OK** button. (The Print Preview choice isn't available in the Acrobat Print menu.)

Printing in Black & White

All Wharton Public Printers are now Multi-Function, Color devices. While they will default to printing in color, nevertheless, they can also all handle Black and White documents. To print in Black and White you may either select the **Grayscale** or **Black and White** option in the print properties of your document **before sending the job to the printer:**

Windows: MacOS:





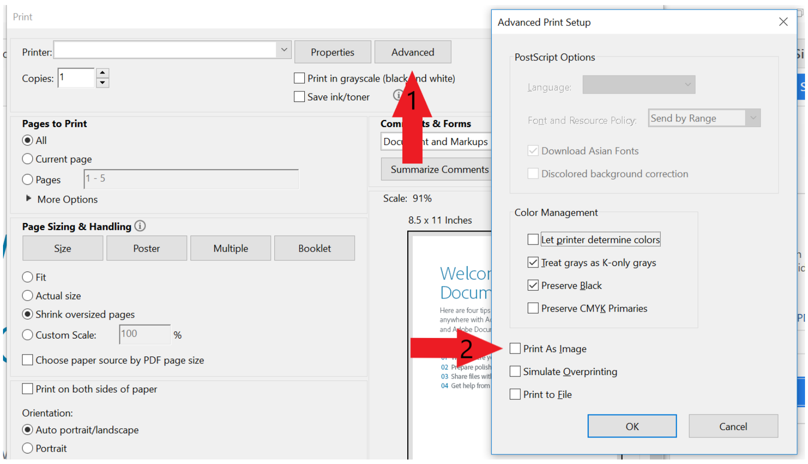
... or select **Print in Grayscale** at the printer when releasing:

NOTE: If you do not specify black and white as noted above, any pages containing color elements ***will be printed and charged as color pages***.

Printing PDF Files Using "Print as Image" Option

Printing a PDF file as an image simplifies the document being sent to the printer and can often bypass problems. This option is checked by default on our lab computers, but you can select it on your own computer:

From Adobe Reader, choose **Print** => **Advanced** => **Print as Image**.



Please note, this will only work if you open the file in Adobe Reader. The option is not available from Preview.

Printing from Excel

Make sure to specify the print area by using the **Set Print Area** command. If you format an entire column or row, the full spreadsheet may print even though it is blank. This will not show up in Print Preview, and you may print out hundreds of blank pages.

1. Find the **Set Print Area** command under **Print Area on the File menu**.
2. Click and drag to highlight the area you want to print.
3. Click on **Set Print Area**.

Wharton Printing for Specialty Jobs

For specialty printing, such as bound course packs, bulk printing, large format, or specialty papers, there are several options around campus. Popular choices include Campus Copy on Walnut Street and UCS in Houston Hall.

Questions or Issues?

See our Public Printing Troubleshooting article here.

Contact: Wharton Computing Student Support

Public Printing Troubleshooting

Last Modified on 08/22/2025 11:33 am EDT

This article covers some common problems and their solutions associated with Wharton public printers. If the solution to your problem isn't listed please reach out to the Student Computing team.

No Printers Available on Wharton Public Computers

If you don't see any printers in the Print Dialog box when printing from a Lab, Workstation, or GSR computer, try the following steps:

1. **Open** the **Printer Refresh** folder on the desktop and try launching the desired printer shortcut ("\\PrintAtWharton\Wharton-Print").
2. If Step 1 doesn't fix the issue, try **closing the application and reopening it**.

Billing & PennCard Errors

Individual Print Job Issues

Individual Printer Issues

Formatting Issues

Additional Questions or Issues?

Contact: Wharton Student Computing

Email: support@wharton.upenn.edu

Mobile Printing: Print from Mobile and Laptop

Last Modified on 08/22/2025 11:32 am EDT

There are two ways to print from a mobile device or laptop:

- Using the **PaperCut Portal**, which allows you to upload and print documents from your computer, laptop, or mobile device to a Wharton printer via a supported web browser (recent versions of Chrome, Safari, Firefox and Edge).
  - **Note:** The PaperCut Portal is only available from on-campus locations.
- Using **Email Printing**, which allows you to attach a document to an email for printing. Send that email to the proper address, and then release the document at any of Wharton's printers.

Before You Start

You will need the following before you can complete this task:

- Internet access.
- Your PennKey username (the username before the "@" in your Wharton email address).
- An active PennCard.
- A Wharton printing account with sufficient funds.

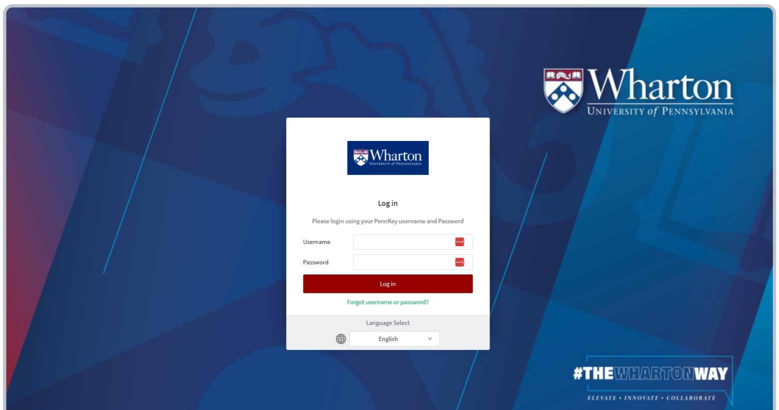
PaperCut Portal

PaperCut is the software that runs our printing system. Their "portal" is the place where you can manage your printing needs.

Logging into the PaperCut Portal

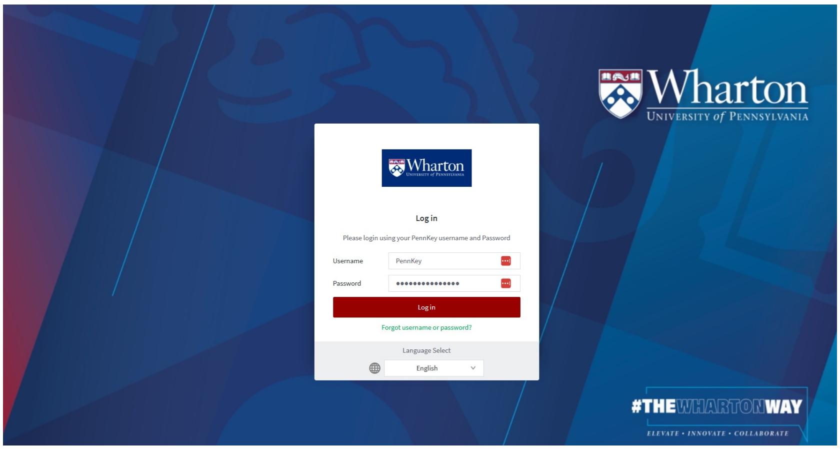
You must use your PennKey credentials to log into the PaperCut Portal.

- **Go to** whr.tn/print in a supported browser (recent versions of Chrome, Safari, Firefox and Edge).

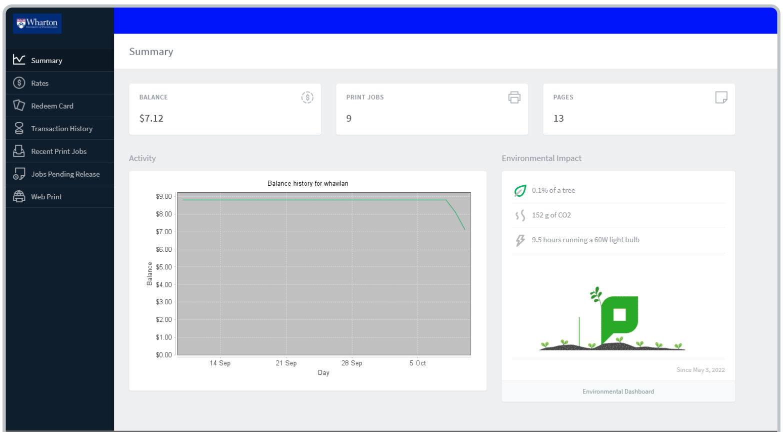


Login Screen for PaperCut Portal

- Enter your ***PennKey* Username** and **Password**.



- Click **Log In**.
- Once logged in **you will see information on your account** including:
    - Your account balance.
    - Your print documents and pages activity over time.
    - The environmental impact associated with your printing activity.



Print Management Dashboard

- **View additional details** on rates associated with different devices, check your own transaction history, and view recent and pending print jobs.

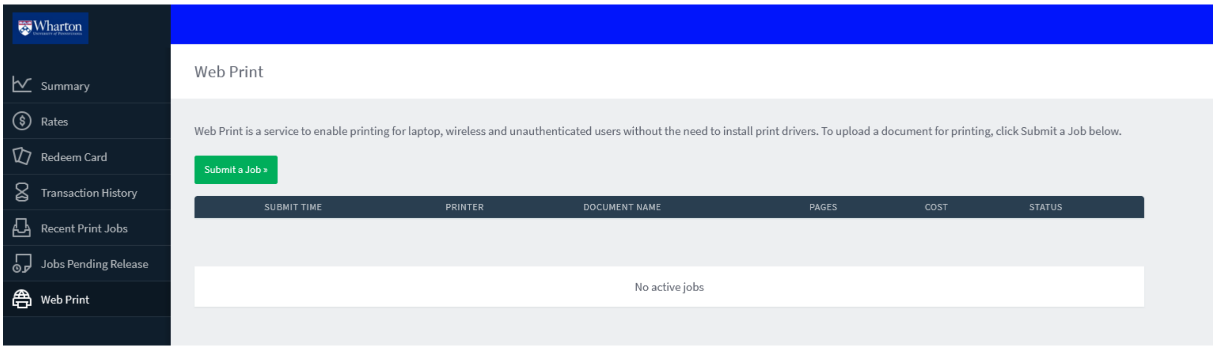
- **Upload jobs for release via Web Print** using the menu on the left.

Printing using the PaperCut Portal

To print a file, you'll first need to upload it to PaperCut:

1. **Log in to** whr.tn/print as described above.

2. **Select Web Print** from the menu on the left.



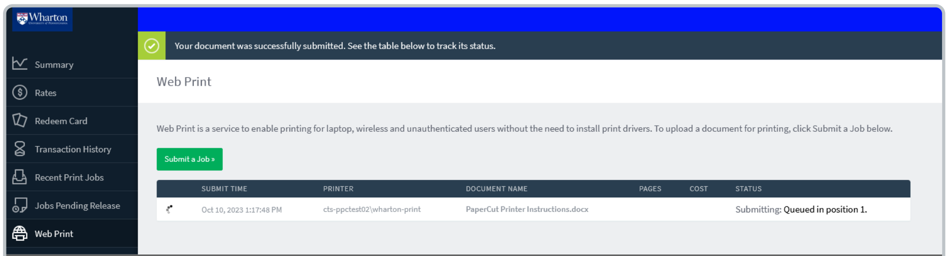
3. Click **Submit a Job**.

4. Click **Upload Documents**.

5. **Drag and drop any files** you wish to add to the queue into the field provided or click **Upload from Computer** and select your file(s).

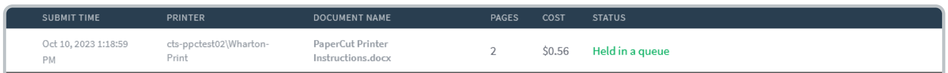
6. Once all desired files are added, click **Upload & Complete.**

7. While the file is uploaded to the queue and rendered, **please remain logged in while the document is processed**:



Document being processed

8. When the document status shows as **Held in queue** it will be available to print from a PaperCut device:



Status of Held in a queue: Ready to Print

9. Once your documents have been uploaded and are in the queue, **please remember to log out**.

10. Find the printer where you'd like to print, log in, and **release your documents**.

Email Printing

There are several stages to printing a document when you send it to print via Email.

Preparing your Document

1. Make any necessary formatting changes.
    - *e.g. multiple slides per page*
2. Export the document as a PDF.
    - *may be located under File > Print*
3. Follow the steps in *Printing a Document*, next.

Printing a Document

1. Attach your document to an email.
2. Send it to printthis@wharton.upenn.edu .
3. *Wait for the email response indicating that your print job has been received*[1].
4. At this point your job is ready; you may proceed to a printer and release your documents[2] as normal.

Color & Duplex Settings

You can adjust Color and Duplex settings either

- in the document prior to

sending, or
- set them at the printer when you release your documents.

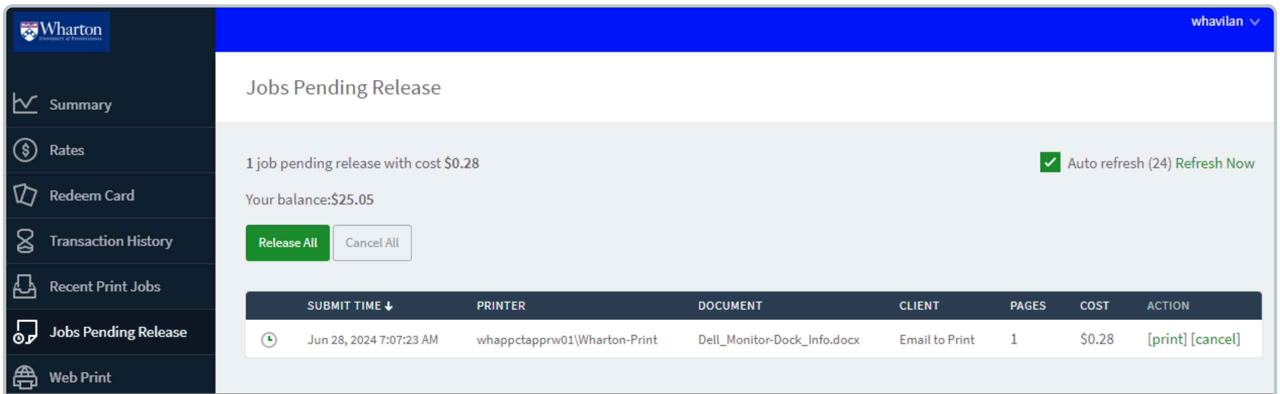
[1]You must receive this email **before** going to the printer. The larger the attachment, the longer it will take to render and become available to print.

[2]The response will include a link you can use to log in (using your PennKey credentials) and view the job details. You can also use the PaperCut Portal to review the details about your job. *You do not need to open the link to release the job.* Once the email has been received the job should be available in your queue for printing.

Managing your Print Jobs

The PaperCut Portal **Jobs Pending Release** list is your hub for reviewing your print jobs, including those sent via Email Printing. This screen lists all of your pending print jobs (if you don't have any pending jobs, the list will be empty). You can follow the directions above to upload a file to print. In the screenshot below, there is one document that is pending.

Refer to the Logging into PaperCut Portal section of this article for directions on accessing the PaperCut Portal.



Screen with One Print Job Waiting

Each job will show as a separate line item record; each record will have the following details:

- **Submit Time** shows the date and time the job was submitted (remember that jobs only remain in the queue for **up to 5 hours**, after which they are removed).
- **Printer** is the printer queue to which the job was submitted.
- **Document** is the document name, including the file type extension (PDF, DOCX, etc.).
- **Client** is the source from which PaperCut received the print job (Email to Print, Web Print, or a network connection).
- **Pages** is the number of pages in the document.
- **Cost** is the price of your print job with the selected Print Options. This cost is deducted from your Print Balance after it has been released at a printer (i.e., you'll only pay for jobs you've successfully printed).

There is also the option to cancel (delete) any or all print jobs held in your queue. (The "print" action can be ignored, as this is handled by releasing a job at the printer.)

Your account balance is also visible on this screen. If you need to add funds, follow these directions.

Questions?

Student Tech Center

Wharton
UNIVERSITY of PENNSYLVANIA

Support is available via in-person (walk-ins & appointments), phone, chat, and email!
Check our KnowledgeBase for list of services, troubleshooting guides, and much more.

Contact Us
Office: SHDH-114
Phone: 215-898-8600
Chat: computing.wharton.upenn.edu
Email: support@wharton.upenn.edu

Copying and Scanning at Wharton Printers

Last Modified on 08/22/2025 11:07 am EDT

Before You Start

You will need the following before you can complete this task:

- An active PennCard
- PennKey credentials
- Sufficient funds in either Wharton print credit or PennCash

Copying and Scanning from Wharton's Multifunction Printers

This section applies to the Philadelphia Campus.
EMBA (San Francisco) students should contact the EMBA Program Office for login information.

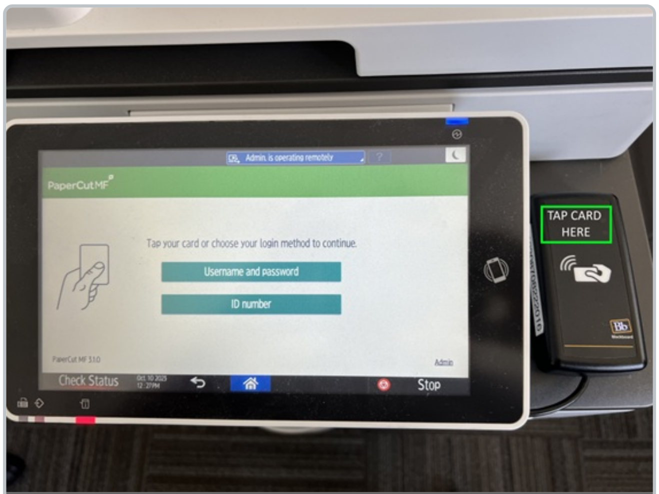
In addition to printing, Wharton's multifunction printers also allow you to make copies and scan images for sending via email.

Before you Start:

- Make sure the display panel on the printer is lit. If not, touch the panel to wake it up.

Copying

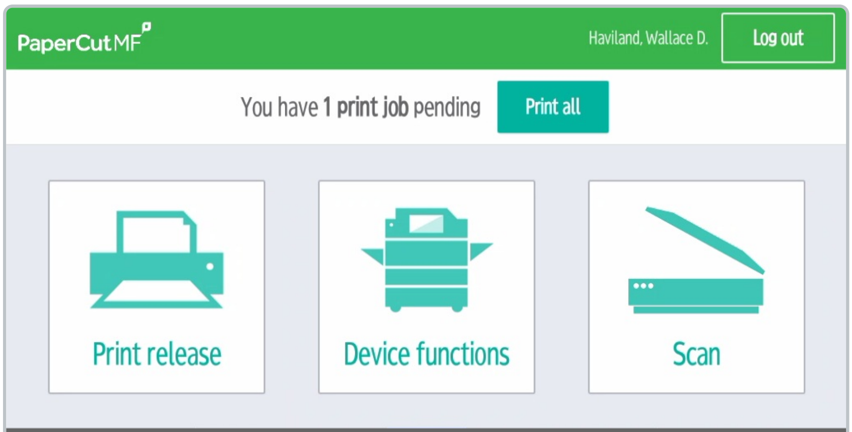
1. To make a copy of a document, log into the device by **tapping your PennCard** on the card reader mounted by the display:



PaperCut login screen and PennCard reader.

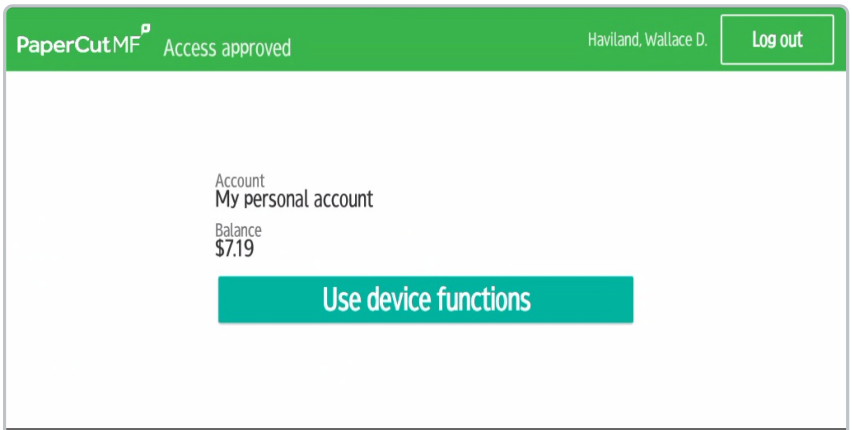
You should hear a **chirp** as the reader picks up the information from the card, and you will see the PaperCut main screen.

2. At the PaperCut main screen **click Device Functions**:



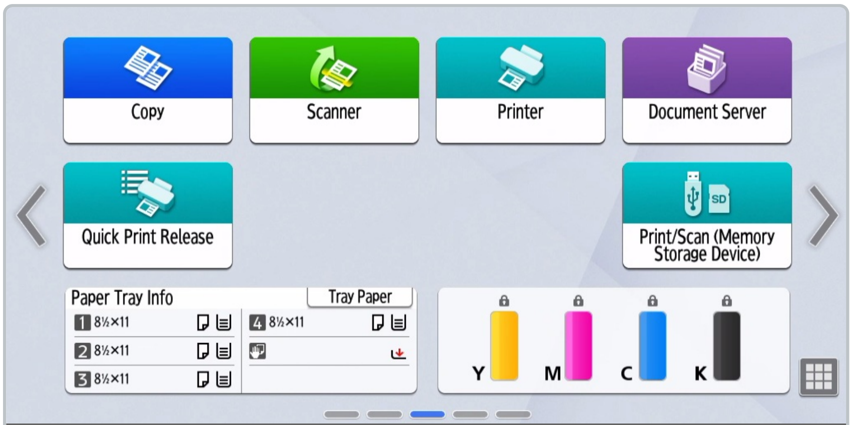
PaperCut Options

3. On the next screen, click **Use device functions**:



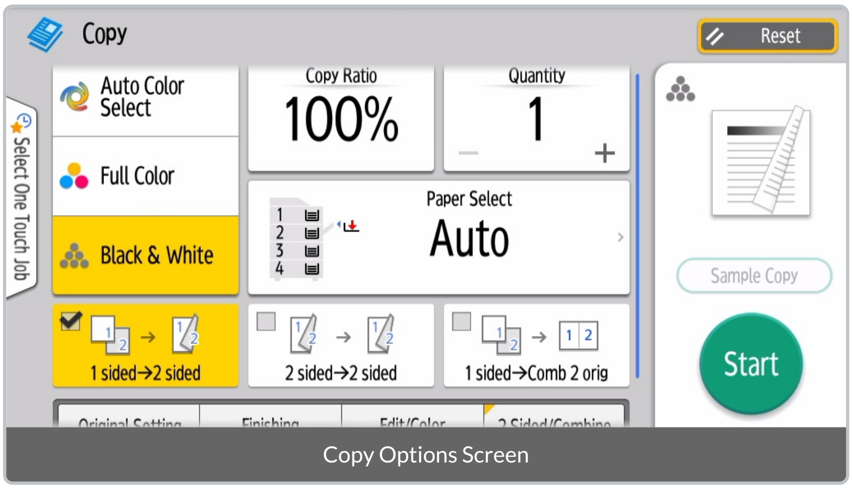
Use device functions screen

4. At this point **you will be taken out of PaperCut** to the device's native applications page:



All Options Available

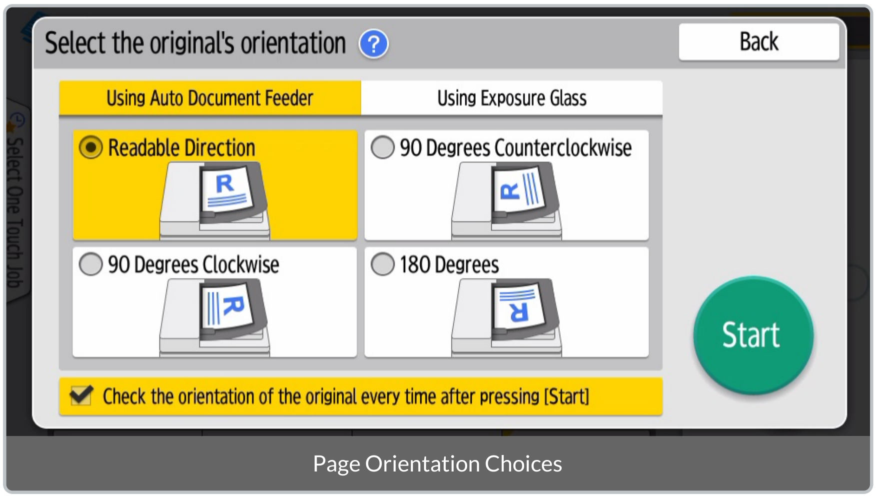
5. Click **Copy** and **select your desired settings** in the Copy interface:



Copy Options Screen

6. Once all options are set, **place the document(s) to be copied on the device** (either face up in the document feed tray, or face down directly on the glass) and click **Start**.

7. **Indicate the appropriate orientation** of the document in the Feeder or on the Glass:



Page Orientation Choices

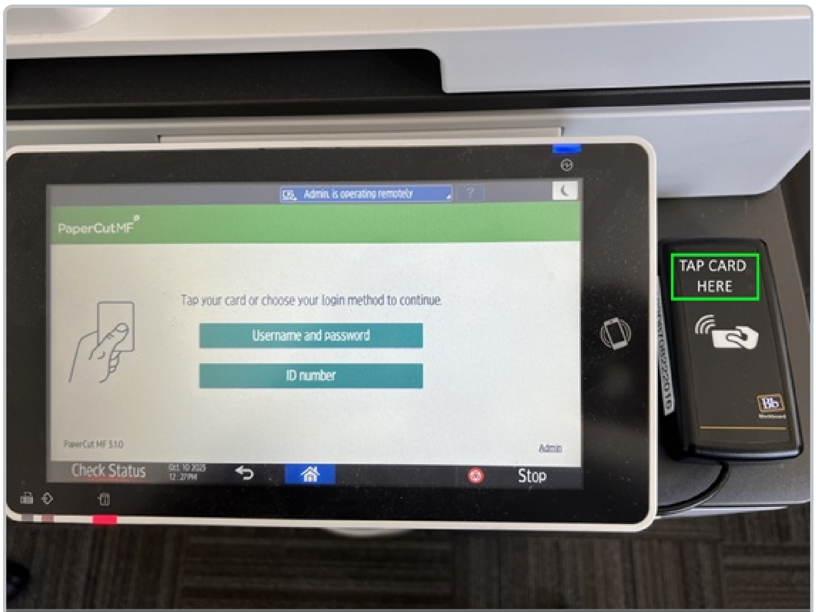
8. Click **Start** again, and a progress animation will be displayed as your copy job is processed.

9. Once complete, **you will be returned to the main Copy interface**.

10. Please be sure to click **Logout** to complete your interaction.

Scanning

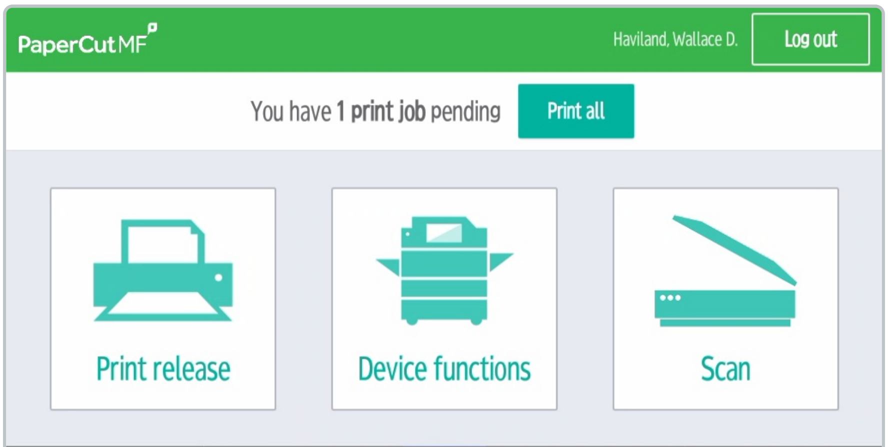
1. To scan a document to email, log into the device by **tapping your PennCard** on the card reader mounted by the display:



PaperCut login screen and PennCard Reader

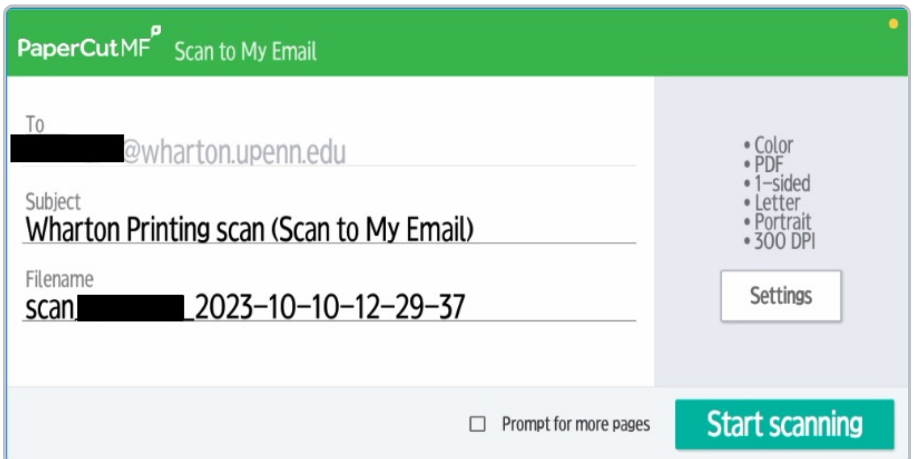
You should hear a **chirp** as the reader picks up the information from the card, and you will see the PaperCut main screen.

2. Click **Scan.**



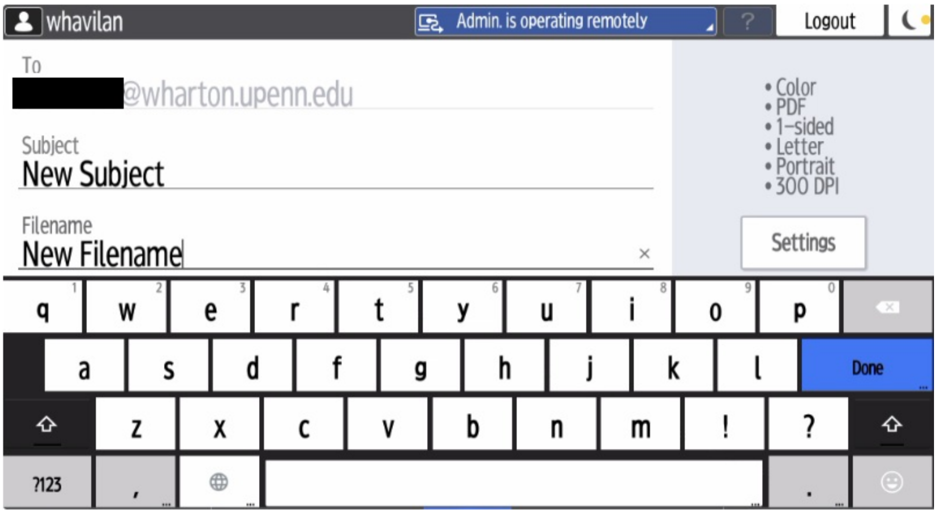
PaperCut Options

3. **You will see your email address** populating the "To" field, and default entries for "Subject" and "Filename"**:**

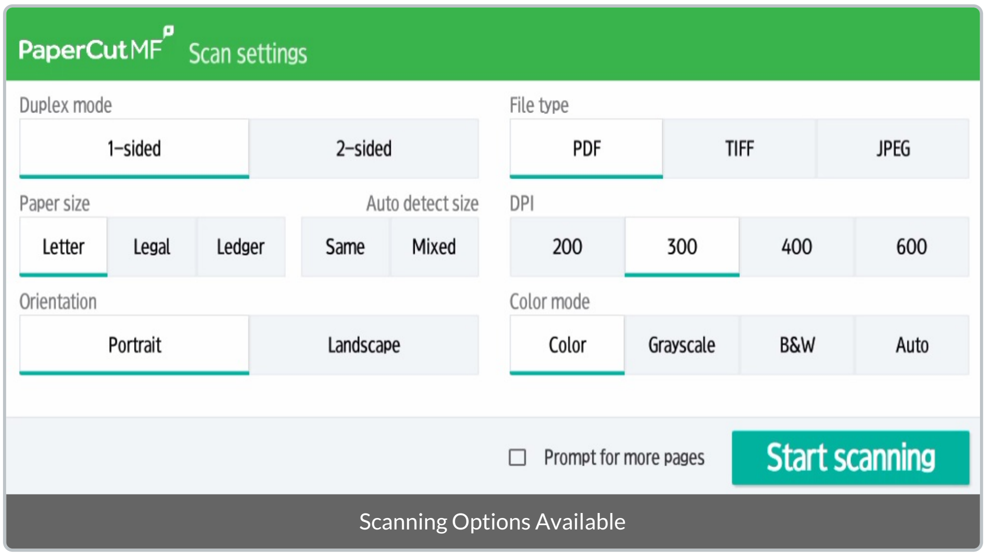


Scan to Email Options

4. "Subject" and "Filename" can be changed, simply **touch the display** and an on-screen keyboard will appear:

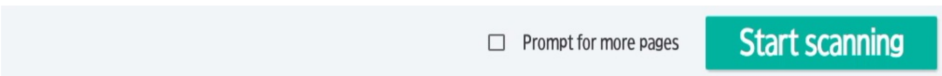


5. Click **Settings** on the right to select various options like Duplex, File type, etc.



(***Note:*** *Wharton only stocks 8.5"x11" letter sized paper*.)

6. At the **bottom of this screen** there is also the option to **prompt for more pages** if a multi-page document is being scanned:



7. Once all options are set as desired, **place the document(s) to be scanned on the device** (either face up in the document feed tray, or face down directly on the glass) and click **Start Scanning**. You will see messages that the document is Scanning, and then Sending.

8. Once the document is sent **you will be returned to the PaperCut home screen**.

9. Please be sure to click **Logout** to finish scanning.

Questions?

Contact: Wharton Client Support Services

Video Conferences

Last Modified on 01/29/2026 4:50 pm EST

We are aware that Zoom is rolling out changes to its interface that may affect some of our directions. We are working on updating these pages, but in the meantime you can visit Zoom's Release Announcement. Please reach out to Wharton Computing if you have any questions.

This article covers using video conferences for individual meetings and small group collaborations. To learn about using video conferences for teaching or learning within Canvas, see Video Conferences for Instruction.

Penn offers both Zoom and Microsoft Teams for video conferencing, but most classes will take place on Zoom. Teams is not covered in this article.

Before You Start
You will need the following before you can complete this task:

- An active PennKey account
- **Faculty and Staff:** admin access to your devices (to install the app)
  - Zoom is generally pre-installed on Wharton-provided laptops or desktops (but not on smartphones).

Zoom

Zoom is a cloud-based cross platform video conferencing service. Zoom makes it easy to collaborate with your colleagues, and can be started and joined via a PC, Mac, smartphone, or regular landline (audio only). Each meeting can accommodate up to 300 participants and supports recording of the meeting and screen/media sharing. All Wharton students, faculty, and staff have access to Zoom.

Install the Zoom App

The native Zoom app isn't required to use Zoom, but we highly recommend it for the best Zoom experience. Read Logging into Penn Zoom for instructions detailing installing and logging into the Windows, Mac, and mobile versions of the app.

If you are working on a Wharton-provided laptop or desktop, Zoom should already be pre-installed.

Accessing Zoom Meetings

Is your Zoom meeting for a Wharton class? Make sure to:

- **Log into PennZoom**.
- **Log into Canvas**, launch your class, and then choose Zoom from the left navigation pane. (Most Zoom meetings for classes are created through Canvas.)

Although we recommend accessing any video conferences created in Canvas by logging in via Canvas, it's also possible to see all your meetings by logging directly into the meeting software (https://upenn.zoom.us).

Scheduling a Meeting

Scheduling for a class that's using Canvas, where all students will join via Zoom? See Video Conferences for Instruction.

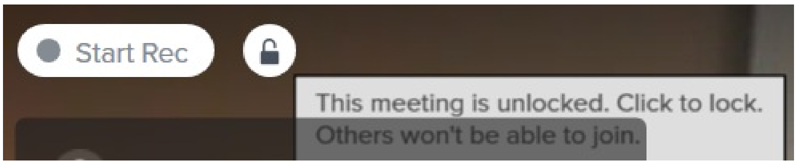
Scheduling for a guest speaker or other attendee who will attend your face-to-face course remotely? Follow these directions:

Advanced Features

Advanced features are useful in customizing your meetings. You can customize them on a per meeting basis, or for all the meetings that you schedule.

- Scheduled meeting sessions: for meetings that you are scheduling, any changes you make will only affect that meeting.
- Personal settings: if you make changes in your personal settings, that will affect all meetings that you schedule.

For security, moderators have the ability to lock out users from joining their meeting (indicated with a lock icon at the top left corner of their screen).



Feature Recommendations

Zoom has a large number of feature settings. Here are suggestions for a variety of settings.

Questions?

For additional help and support:

- See the Zoom FAQ
- Check out the Zoom Knowledge Base
- Contact Zoom support directly

Video and Audio Conference Calls

Last Modified on 06/12/2023 11:18 am EDT

This article outlines the various video and audio conferencing options available at Wharton -- including GSRs, classroom reservations, and conference room reservations.

Group Study Rooms

Self-serve conferencing is available in the Group Study Rooms. Wharton's Virtual Meeting service hosted by Zoom are the preferred options and are already installed, but other web-based options like Google hangouts and Skype are possible as well. In order to set up a Zoom account, please go to our Virtual Meeting article.

Classrooms

Conferencing is also available for larger groups or events with a classroom reservation. This may require assistance from the Public Technology team. Testing with the remote parties prior to your event is recommended for independent users and required if working with a Public Technology technician.

For more information or to get assistance planning your conferencing needs for an event, please visit the Public Technology website: http://www.wharton.upenn.edu/publictechnology/index.cfm or send email to class-tech@wharton.upenn.edu.

Conference Rooms

Conference room reservations can also be reserved through Wharton Operations, via their room request form found here:
https://operations.wharton.upenn.edu/scheduling-reservations-2/

Questions?

Faculty & PhD Students: Academic Distributed Representatives

Staff: Administrative Support

Students: Wharton Computing Student Support

Video Conferences for Instruction

Last Modified on 01/26/2023 3:29 pm EST

Penn offers Zoom as a video conferencing tool for instruction. All Wharton students, faculty, and staff have access to the service.

If you are a student looking for information regarding video conferences, please take a look at the Video Conferences article.

Before You Start
You will need the following before you can complete this task:

- An active PennKey account
- **IMPORTANT:** A prior successful log in with your PennKey at upenn.zoom.us to establish your PennZoom account
- Faculty and Staff: If you do not have Zoom on your computer, please contact your IT Support Team to have Zoom installed on your computer.
- A wired/Ethernet connection, if possible (recommended for the instructor)
- Robust internet speed: if you are connecting from off campus, go to speedtest.net and look at internet speed. If it doesn't meet the minimums required by Zoom, consider upgrading your Internet speed or contact your IT Support Team.

The recommended way to schedule a meeting depends on whether you are creating a meeting with a few individuals outside of a Canvas classroom or for your class using Canvas.

Scheduling a Meeting Through Canvas (Recommended for Instruction and Classes)

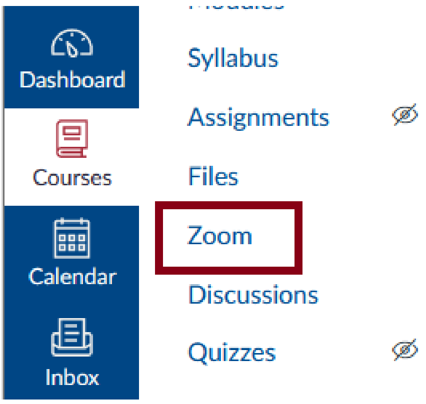
Creating your meetings through Canvas will take care of scheduling for the class, provide the link to all class participants, and preserve the privacy of your personal meeting account.

Note: We recommend that instructors – not TAs – create each class meeting (or sequence of recurring meetings) within Canvas. If changes or cancellations must be made after creating a meeting intended for all enrolled students to join for a class meeting, **please change or cancel within your Canvas course**, not through your video conferencing app or account.

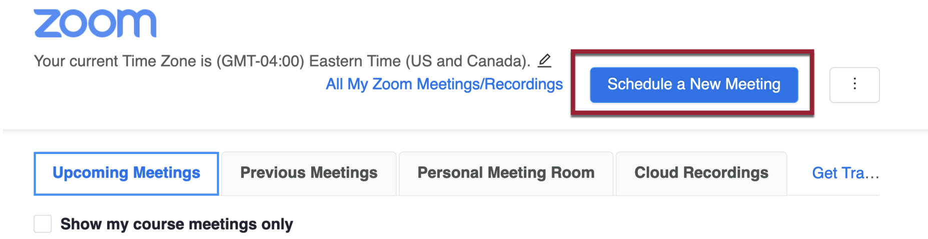
Zoom

For step-by-step instructions on how to schedule a Zoom meeting through Canvas:

1. Launch your classroom in Canvas (go to **canvas.upenn.edu**).
2. Select **Zoom** in the left sidebar.

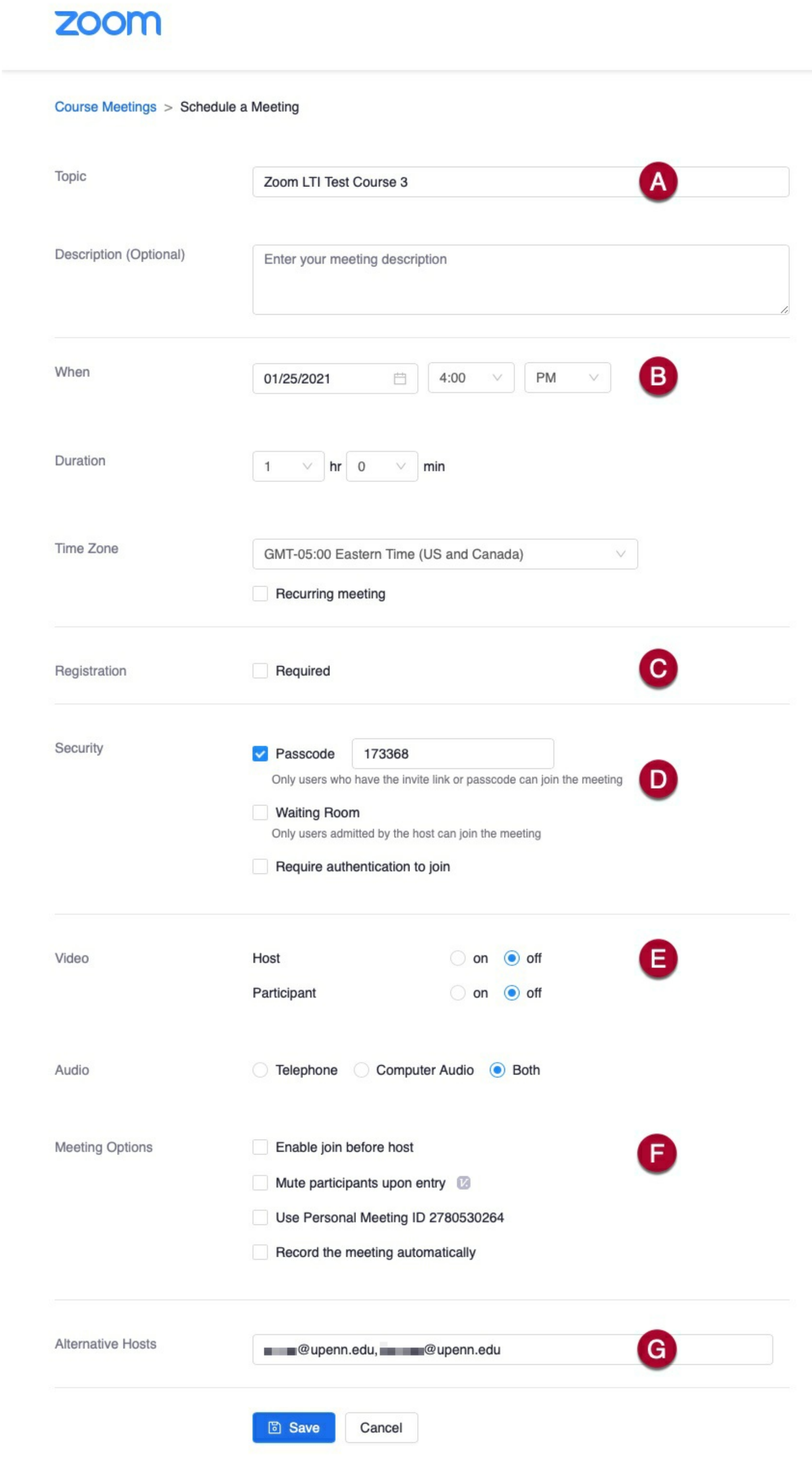


3. Click the **Schedule a New Meeting** button on the upper right side of the screen.



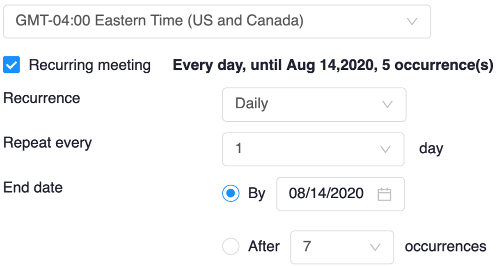
Note: The first time you access Zoom through Canvas it will request access to your account. Click **Authorize**. You may need to log in, with your PennKey, to authorize Zoom.

4. Fill in the details of the class. **Include all the details about your class in the Meeting title** – if your class has multiple sections in the same Canvas room, all students will be able to access all sessions, so students should be told to join only the section for which they are registered.

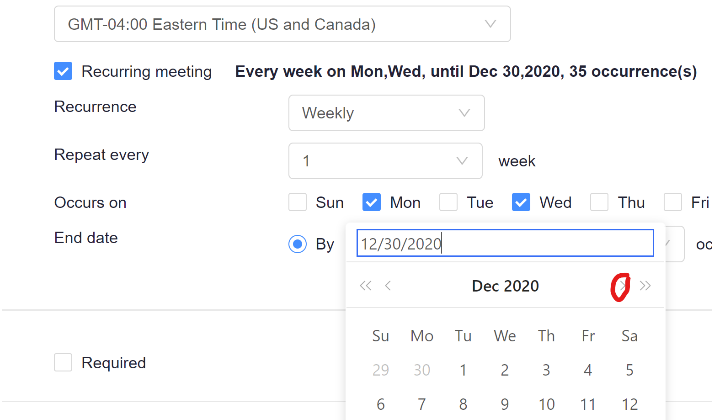


a. **Topic**: Enter the **class**, **section number**, **time**, and **meaningful title** (e.g. **MKTG XXX Section 001 - 10:30 am - Online Class Meeting**). Identify your meeting clearly so students can easily pick it out from their other meetings (e.g., **Lecture** won't identify it as their Marketing Class). You can also enter a **Description** if you like, but this is optional.
b. **When**: Set the start time, duration, and Time Zone.

Recurring meetings can be checked or unchecked. Be sure to fill in the proper class start and end dates:



Use the **single arrow** to page through the **months** and the double arrow to page through the years.



c. **Registration**: Since all of your students will have Penn Zoom accounts, we recommend you leave Registration unchecked. If you check it, your Zoom meeting will require people to register ahead of time. More details about this can be found here.

d. **Security**:
   - **Passcode** - We recommend that you require a Passcode for your meetings. Most attendees won't need to manually enter the code as it will be part of the URL included in the meeting invite.
   - **Waiting Room** - The Zoom Waiting Room gives you the ability to preview the attendees before they enter the meeting. This will make your meeting more secure, but it does require someone to admit each student (either one by one or in bulk).
   - **Require authentication to join** - *[**Note:** as of 9/22/21, Zoom has confirmed this feature is temporarily unavailable in their LTI Pro integration; they are working on restoring it.]* You can limit participants to your meeting to either Penn Zoom users or Zoom users in general. Selecting either option will require participants to log in using the proper Zoom credentials.

e. **Video**: This setting determines if the Host's and participants' cameras are on or off when they enter the meeting. **Off** is the default.

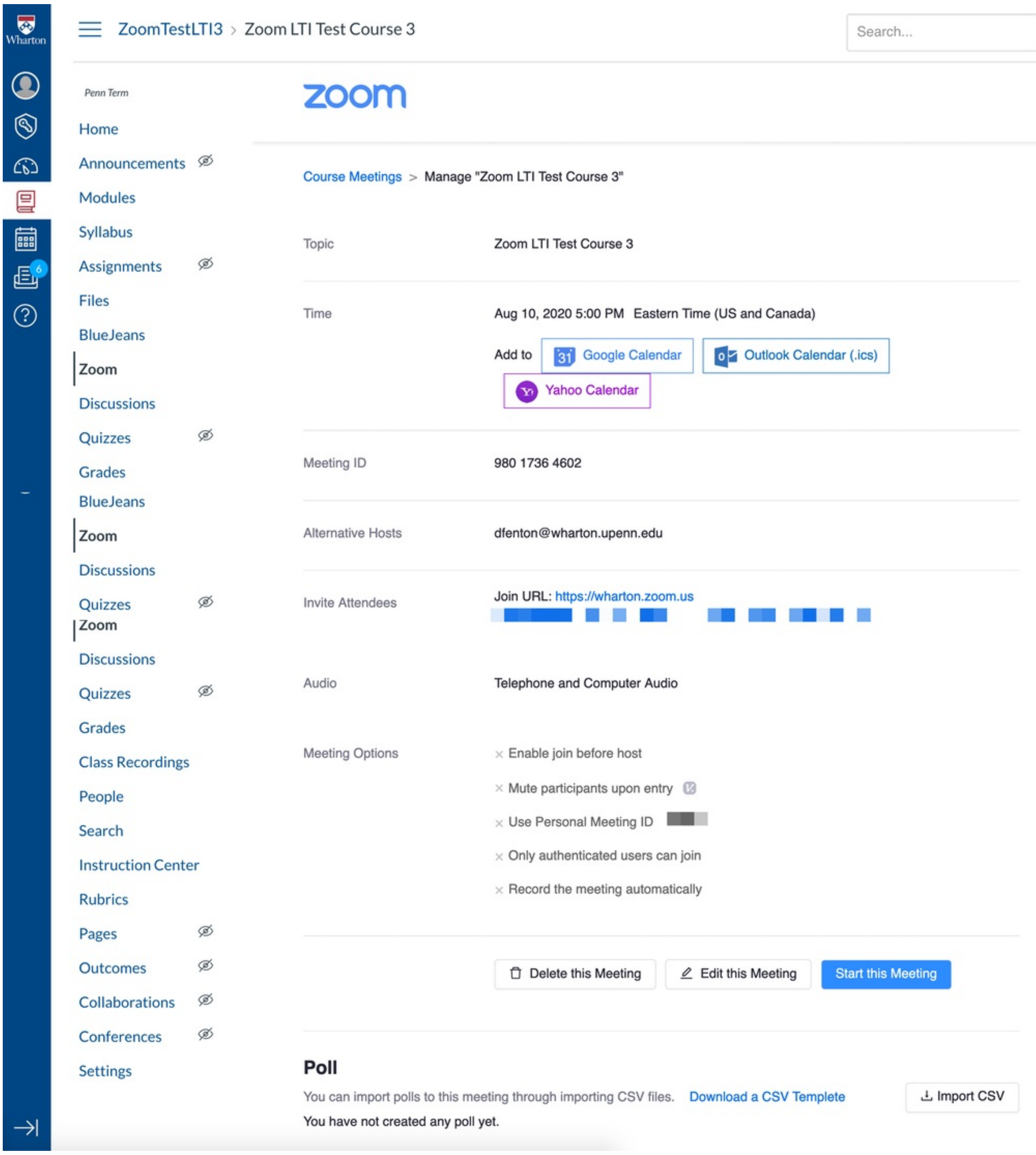
f. **Meeting Options**: You have a few options that you can set up for your meeting. Here's what each does and our recommendations around them:
   - **Enable join before host** - Consider whether you want to have this option available.
     - **Unchecked:** Many people join meetings ahead of time to test settings, and leaving this unchecked ensures the meeting won't start until you want it to.
     - **Checked:** Your Zoom meeting (and the recording, if the meeting is set to auto-record) will start the moment anyone joins the meeting. This can be useful if you may be running late or if you would like the flexibility of asking someone to start the class.
   - **Mute participants upon entry**: When checked, the video and audio of participants will be muted automatically when they enter. We recommend you leave this unchecked, though if you prefer to have more control over the initial moments of your class, you should check it.
   - **Use Personal Meeting ID**: This option **SHOULD NOT** be checked. If it is checked, Canvas will

associate all the meetings you have with your Personal ID with this Canvas site. You don't want that.

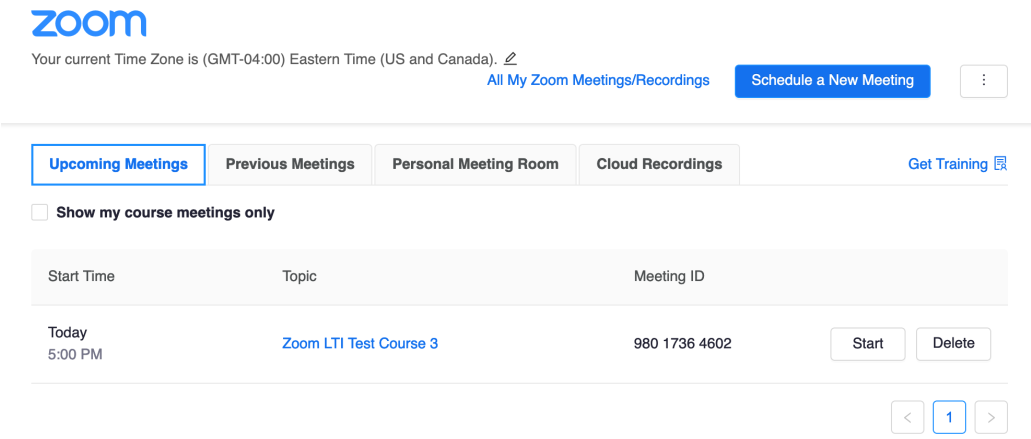
- **Record the meeting automatically**: Check this box to ensure your Zoom session is recorded. The Zoom meeting record will start the moment one person joins the meeting; each participant is notified that the meeting is being recorded upon entry. **In the cloud** is the default destination for your recording, and we recommend you keep this set as is.
- **Confirm Closed Captioning is Enabled**: Enabling closed captioning allows you, as host, or your attendees, to turn on automatic closed captioning options. You, as host, must enable this option in the meeting itself before it can be available to your attendees.

g. **Alternative Hosts**: You can manually add additional alternative hosts here. Note that alternate hosts need to be added in the format: *pennkey*@upenn.edu (**NOT** ***pennkey@school.***upenn.edu).

5. Click **Save,** and your Zoom meeting is scheduled. The details are displayed for you:



The scheduled Zoom meetings will be listed on the Zoom tab for you and your students:

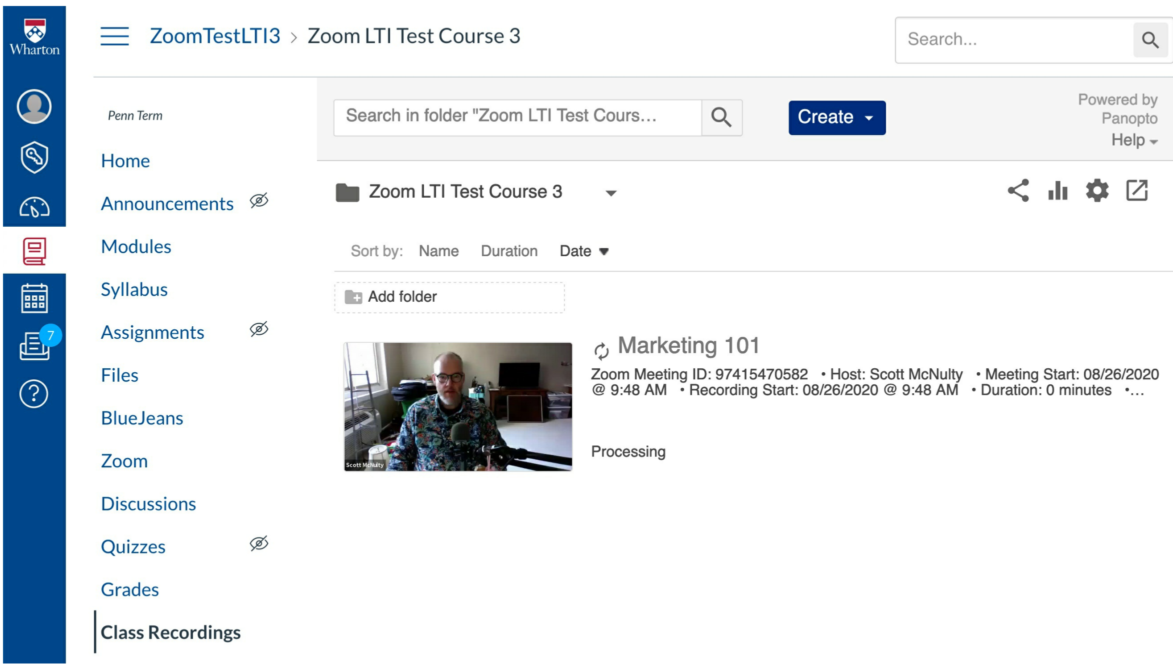


Note: Now that your meeting is scheduled, you may want to **add pre-assigned breakout room assignments** to your meetings. See our article Video Conference Breakout Rooms to learn more about pre-assigning breakout rooms.

Recordings

Any Zoom meetings scheduled through Canvas (see the above instructions) and set to record will have their recording automatically posted to **Class Recordings** in the Canvas section shortly after the meeting ends. Depending on how long the recording is, there may be a delay as the video recording is processed.

Recurring meetings will all have the same title but are differentiated by the dates included in the recording description.



Scheduling a Meeting with a Guest Speaker

For bringing a guest speaker into your classroom using Zoom, there are a few considerations:

We recommend choosing one of the following two options to schedule your Zoom call for a guest speaker appearance:

1. Scheduling guest speaker meetings via the Zoom tab in Canvas when students have the option to attend virtually rather than in person.
2. Scheduling guest speaker meetings via https://upenn.zoom.us when the intention is for students to attend only physically in class. Once scheduled, a private meeting invitation can be shared with each guest speaker.

(The best practice is **not** to use Personal Meeting Room for either option (1) or (2) noted above.)

- If students are expected to be in the physical classroom, consider whether you want the guest speaker meeting to be listed in Canvas for students to join:
  - *Unlisted for students*: please use the general Zoom instructions for setting up a meeting without using Canvas.
  - *Listed on Canvas and OK for students to join the Zoom meeting directly*: instructions on this page will work.
- If you are not comfortable getting your Zoom meeting to appear via the projector, be sure to contact CTS Classroom Support 3 or more business days in advance to arrange for in-classroom assistance.

Reminder: If you plan to have a guest speaker join your meeting, be sure to confirm the comfort level of your speaker being recorded, as some guests have requested not to be recorded as a condition of their appearance. To arrange for classroom recordings showing a projected guest speaker not to be recorded, please contact CTS Classroom Support 3 or more business days in advance.

Questions?

For additional help and support:

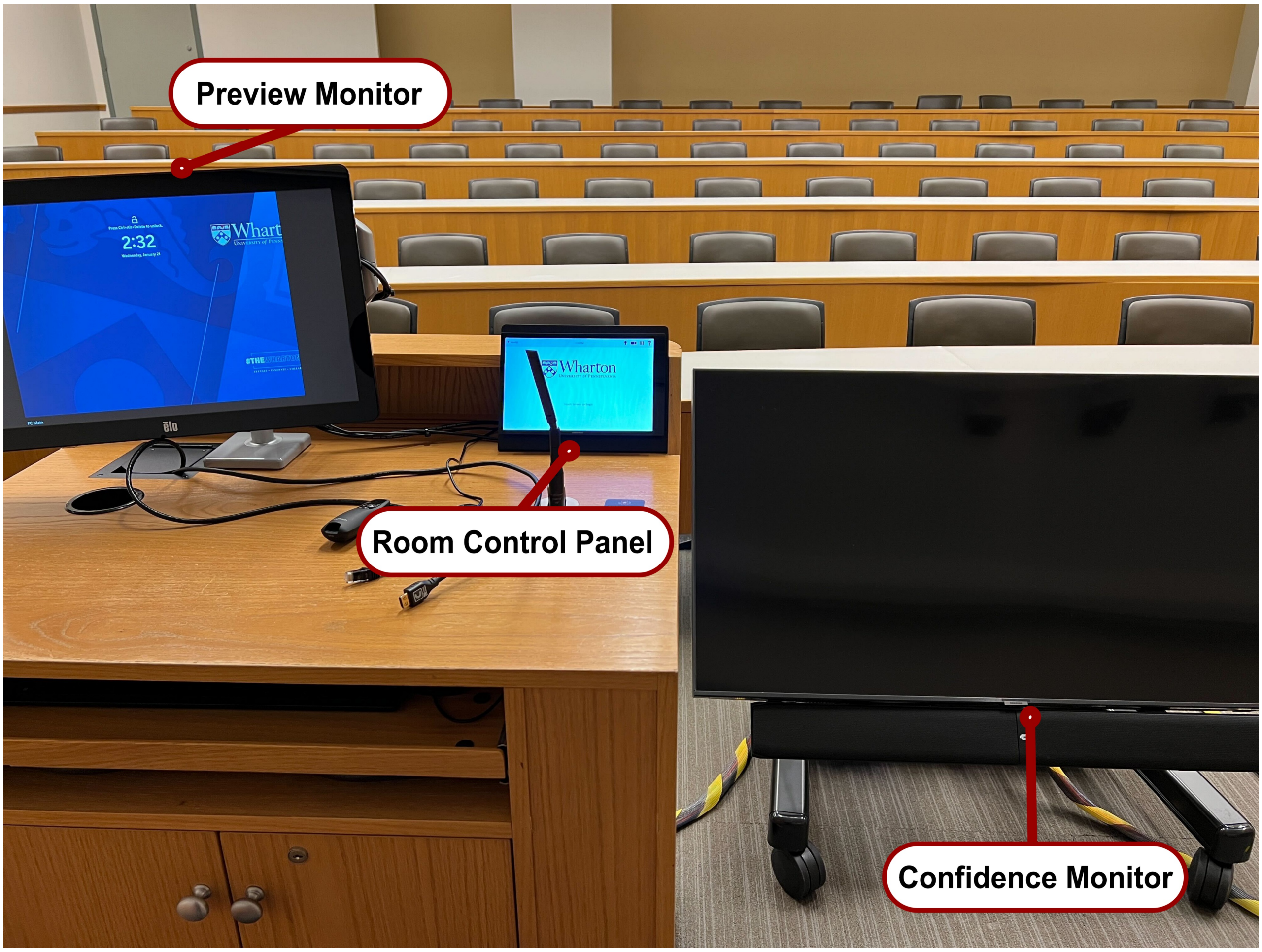
- See our Zoom FAQ
- Contact your academic support representative
- Check out the Knowledge Bases for Zoom

Using Technology in the Classrooms

Last Modified on 01/22/2026 2:15 pm EST

Wharton's classrooms are equipped with a wide range of technologies to support various teaching needs. If you don't find the option you're looking for, let us know.

The Classroom Setup



Walking into all classrooms you'll see two displays on top of the classroom lectern: the Preview Monitor and the Room Control Panel. In tiered classrooms you'll see the Confidence Monitor on the floor.

Each monitor serves a particular purpose:

- The **Preview Monitor** is attached to the classroom computer. Logging into this computer starts the Classroom System, and you can then present from the classroom computer if you like.
  - The Preview Monitor can be tapped to change the size of selected displays to show one or two image previews.
  - The classroom computer is running Windows 11.
- The **Room Control Panel** (RCP) is a touch panel used to control the physical elements of the Classroom System. You'll use this panel to choose where your content is being displayed, arrange the position of the screens, and more.
- The **Confidence Monitor** lets you see important information as you teach. You can set this monitor up to

display whatever you're projecting in front of the class (the default), see your presentation notes, and many more options. Tiered classrooms are all equipped with Confidence Monitors.

Starting the System

To start the classroom system:

1. **Tap the Preview Monitor** on the lectern, **tap the Room Control Panel to *Touch to Begin***, or **press any key on the keyboard**.
2. **Log into the classroom computer** using your PennKey credentials (all PennKey credentials should work, regardless of Wharton/school affiliation).

Once you're logged in, the Preview Monitor will display a familiar Windows desktop. The Room Control Panel (RCP) displays the Classroom Interface, where you can control the physical classroom environment.

Using Guest Mode

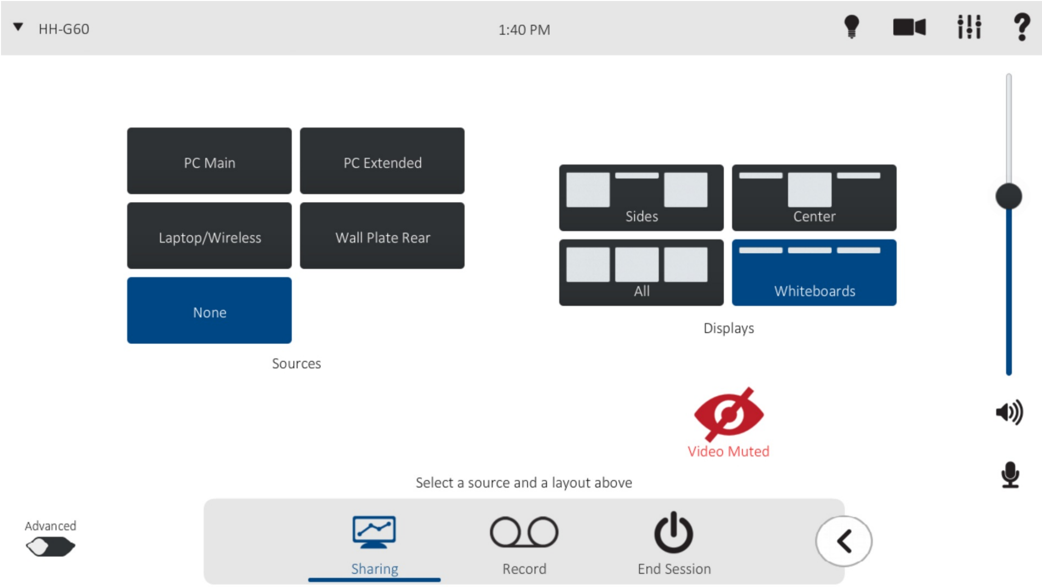
If you don't have a PennKey login, tap the **Guest Access** button on the Room Control Panel to access the Classroom Interface.

> You'll need to connect your own device when presenting as a guest, since you won't be able to log into the classroom computer without a PennKey login.

Using the Classroom Interface

Once activated, either by logging into the classroom computer or using Guest Access, the Room Control Panel (RCP) displays a default classroom layout:

- **Sources** (things you want to display from) on the left of the RCP.
- **Displays** (things you want to display on) on the right.
- **Volume** at the far right.
- **Basic controls** at the bottom.



To select a Source and Display on the RCP:

- **Choose the Source.** Tap the appropriate Source button on the left side of the RCP:
  - **PC Main** - Displays whatever is showing on the classroom computer's main display (the Preview Monitor).
  - **PC Extended** - Select this source to show the contents of the extended display (classroom computers are all set up to use an Extended Display) .
  - **Laptop/Wireless** - Use this option to either:
    - connect a device to the HDMI cable at the lectern to display that device on the Display you pick in the next step.
    - allow people in the classroom to share their device wirelessly using AirServer. Instructions to connect will be shown on the Display you pick in the next step.
      NOTE: you cannot use both the Wireless and Laptop (HDMI) at the same time.
  - **Wall Plate Rear** - Each classroom includes a rear wall plate that allows you to hook up a device for presenting. If you're using that plate, press this button.
  - **None** - Audio and video will be cleared from the projector and speakers and nothing will be displayed.
- **Choose the Display.** Once you have selected a Source, tap one of the **Displays** section buttons to tell the system where to display that source:
  - **Sides** - The left and right screens will lower and display the selected source; the center whiteboard is available in this setup.
  - **Center** - The center screen is lowered and displays the selected source.
  - **All** - All screens are lowered and display the selected source.
  - **Whiteboards** - All the screens are raised and no video is displayed. This is a quick way to write on the whiteboards.

The selected screens will lower and the projectors will turn on as soon as you tap your desired **Displays** button. To display more than one source at a time, see Advanced Options.

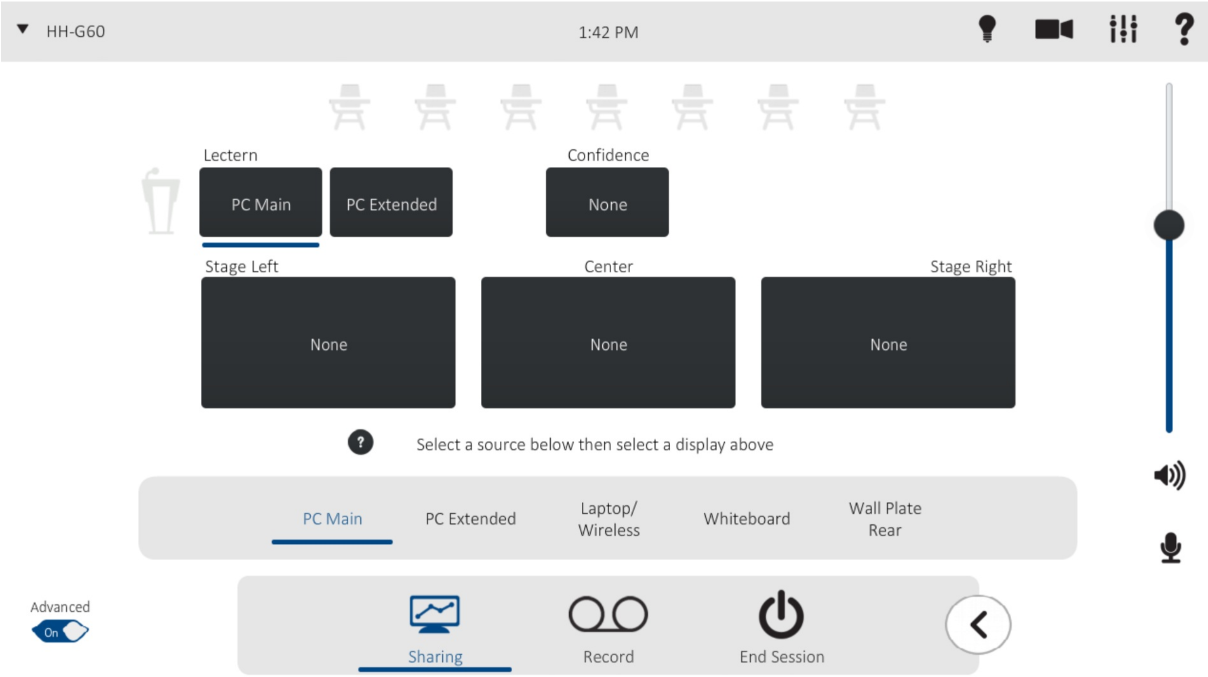
Tap the **Mute Video** button to temporarily stop sharing your display. Tap it again to resume sharing.

Advanced Options

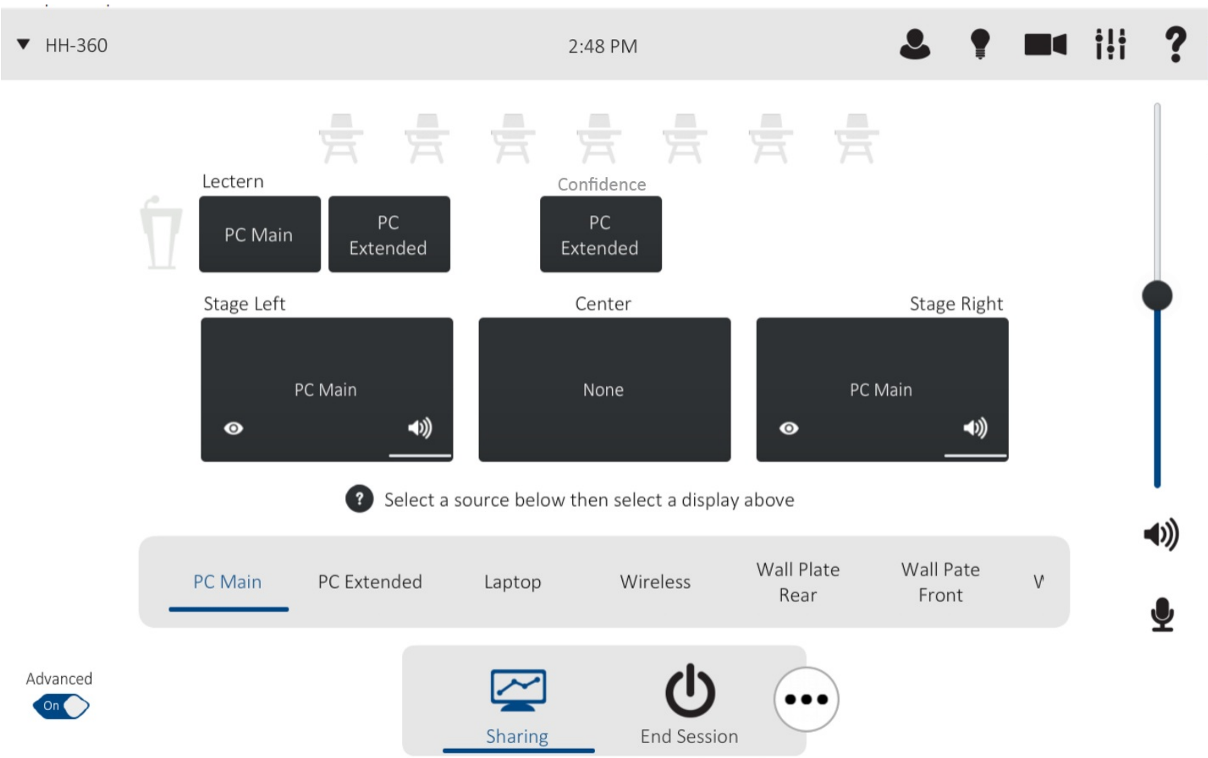
The Advanced Options allow you to send a mixture of sources to a variety of displays. For example, you could display the PC Main (aka the classroom computer) on the left screen in the front of the class and use the right screen to display Wireless. This would allow students in the room to display their content onto the right screen while you use the left.

To access Advanced Options and route the displays:

1. Tap the **Advanced** toggle at the lower left of the Room Control Panel (RCP).



2. The Advanced Options are now displayed on the RCP. You'll notice that all available Displays are on top and all available Sources are in the gray bar below. Swipe on the bar to scroll through the Sources.



3. Tap the Source you want to display. In our above example we'd tap on **Wireless**.
4. Tap the **source Display** you want; continuing the example we'd tap on **Stage Left**.
5. Repeat until all your desired sources are displayed.

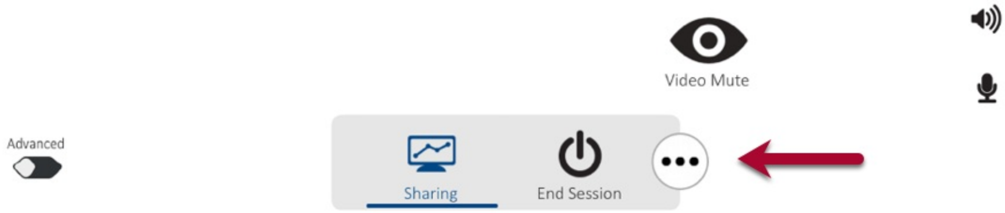
The Sources are sent to the displays as you tap.

Recording

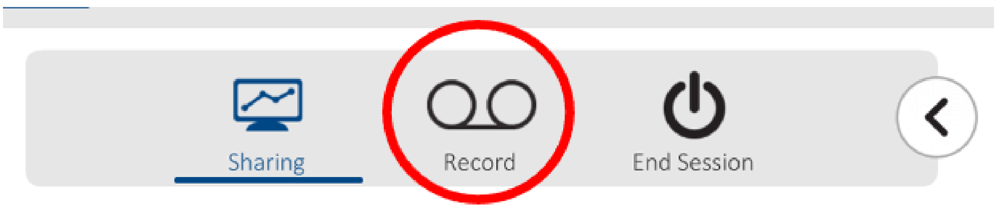
All regularly scheduled academic classes are recorded by default. Recordings are uploaded to the class' Canvas site within 2 hours. **Make sure to log into the classroom PC to unmute the microphones,** to ensure your recording will have sound.

Check the status of a recording from the Room Control Panel (RCP):

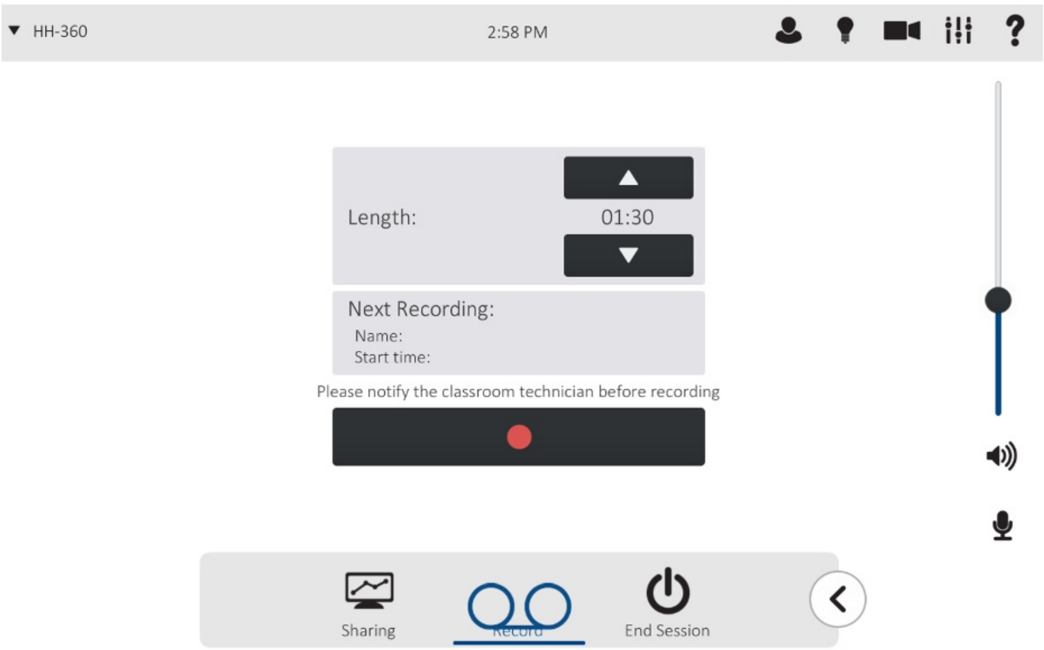
1. Tap on the ellipsis button (...) at the bottom of the RCP.



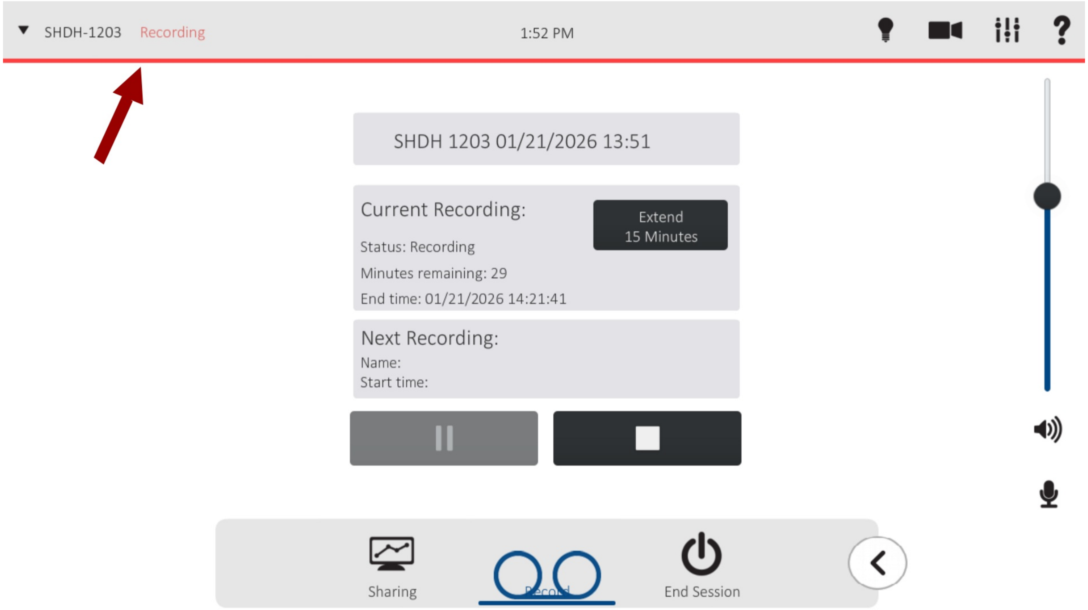
2. Tap on the Record button that is now displayed.



3. The length of the recording and when the next is scheduled to begin are shown.



4. To be sure that your recording is working properly, confirm that you can see the red recording line:

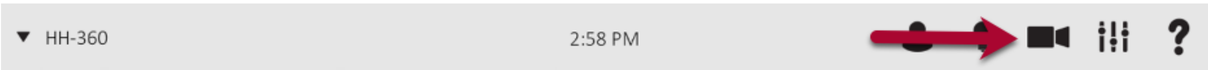


You can also initiate a recording from this screen, but you should schedule recordings ahead of time. This allows Wharton Computing to manage the process and permissions in a more timely way. If you aren't able to schedule ahead of time, be sure to alert a classroom technician that you'd like to record, call us from the classroom phone, or let us know after your session has ended to help us get your recording to you.

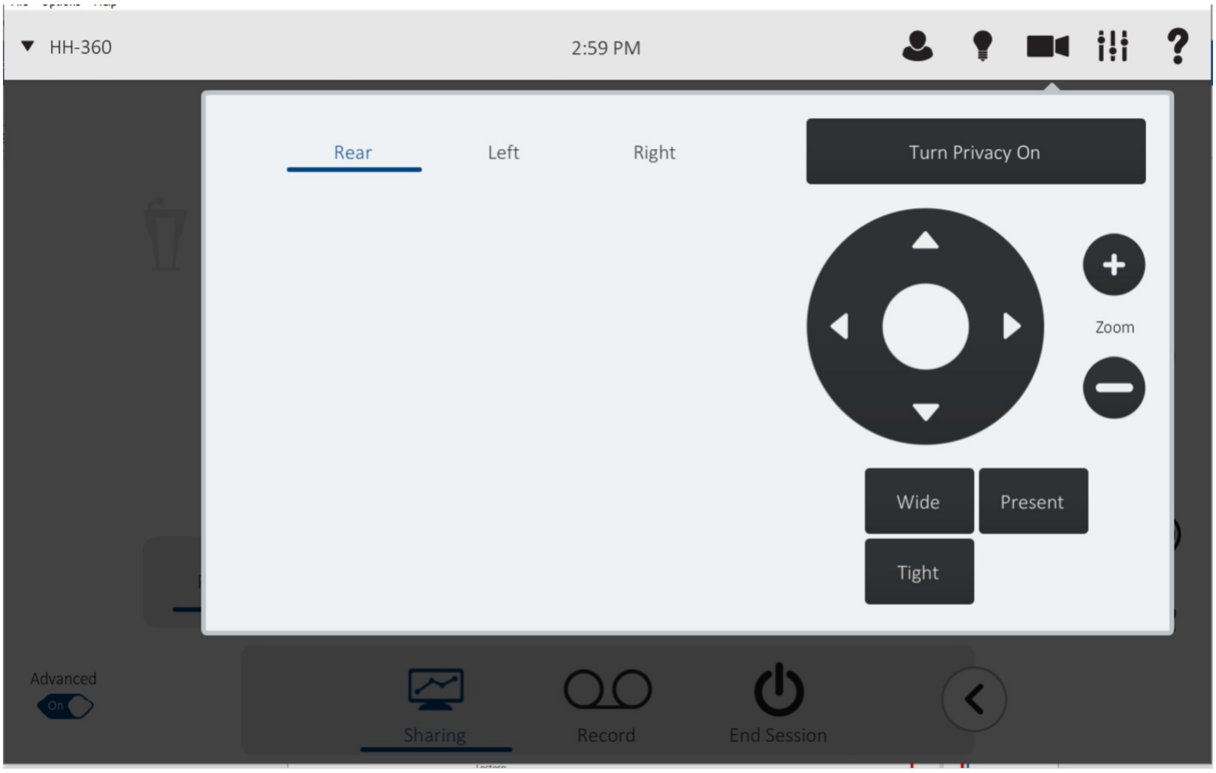
Adjusting the camera

Each classroom has cameras that move to a default position when a recording starts. You can change the position of the cameras, if you like, using the Room Control Panel (RCP).

1. Once you have access to the Room Control Panel, tap the camera icon on the upper right hand corner of the RCP.

2. Camera controls appear on the RCP and a camera preview displays on the preview monitor (not populated in the screenshot below, but it will show a preview of what the selected camera sees) .

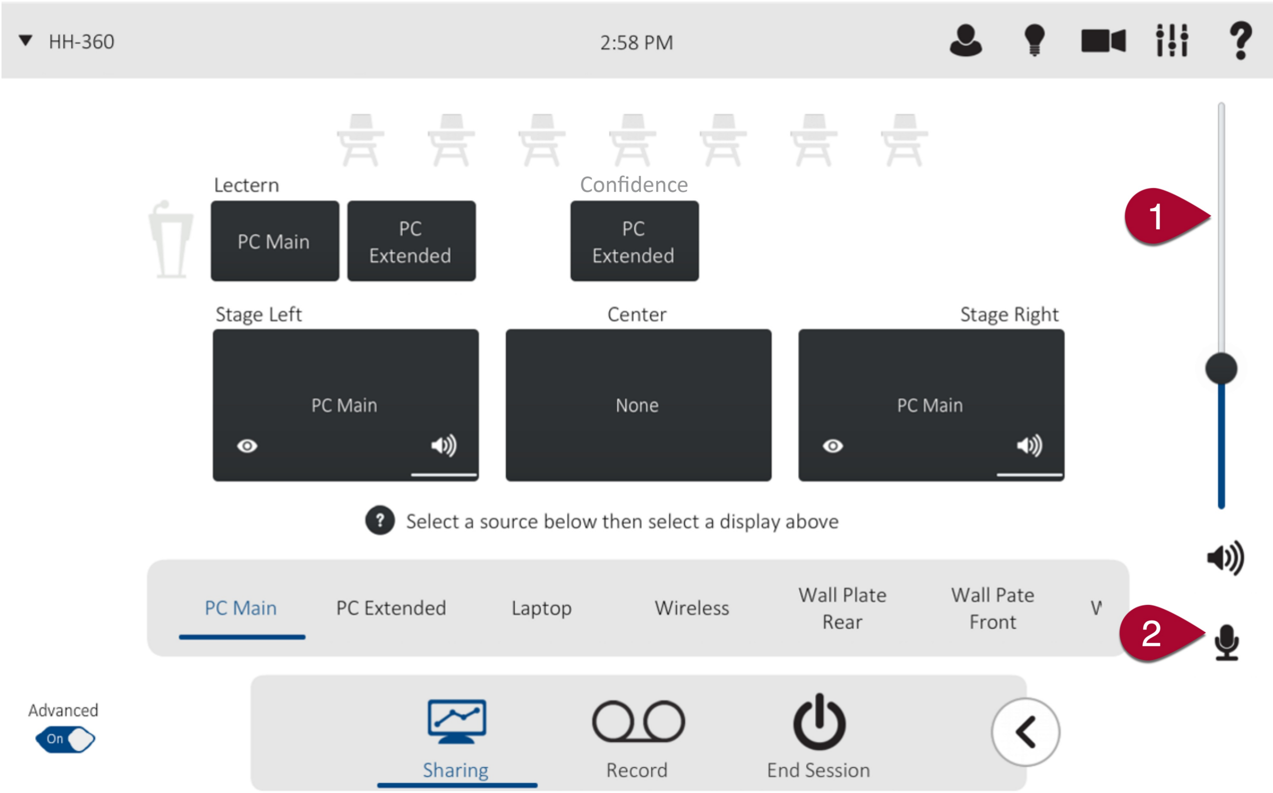


Each camera in the room can be adjusted individually.

- At the top of the camera controls is a list of the available cameras in the room (Rear, Left, and Right in the screenshot above). **Tap on the name** to switch the preview and control to each camera individually.
- **Tap on the directional wheel** to change the camera position.
- You can **adjust the zoom manually** by tapping the **+** or **-** buttons, or tap on the **Wide, Present, and Tight** buttons to cycle through those available zoom presets.

Audio Controls

Volume and microphone mute for the entire classroom can be controlled from the Room Control Panel (RCP). On the right side of the screen you'll find the volume slider (1) and the mute button for the microphones (2).

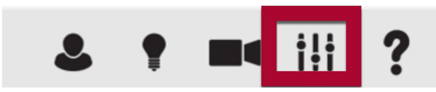


- **Volume** - Slide the volume slider up to increase the level of audio in the classroom, and down to lower.
- **Microphone mute** - Tap to mute the microphones in the room so that the remote audience can't hear you, though the mics will still be audible in the room.

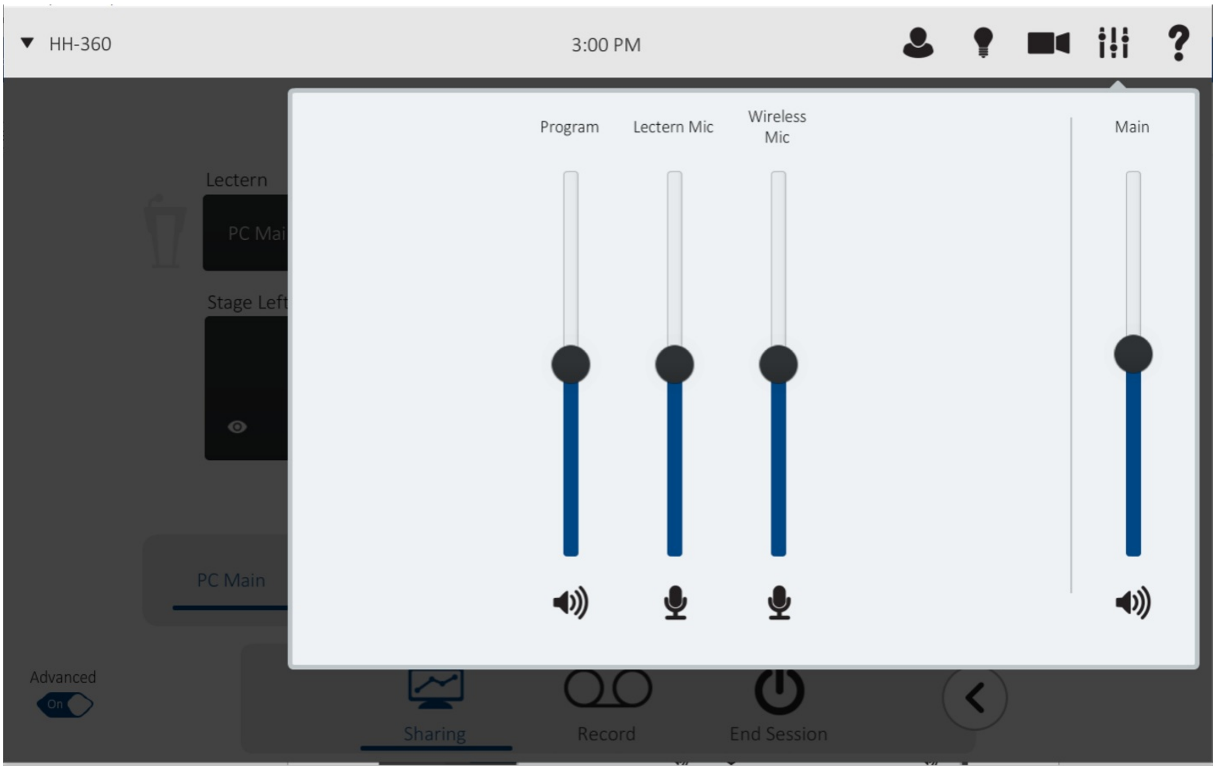
Detailed Audio Controls

The volume slider on the main screen of the Classroom interface controls all of the volume levels in the room at once. To adjust individual microphone levels:

1. **Tap the audio controls** button in the upper right corner:



2. **Move the slider** up or down to adjust the volume individually:



- **Main** controls the overall audio in the classroom.
- **Program** controls the classroom PC audio.
- **Lectern Mic** controls the lectern mic audio.
- **Wireless Mic** controls the wireless mic audio.

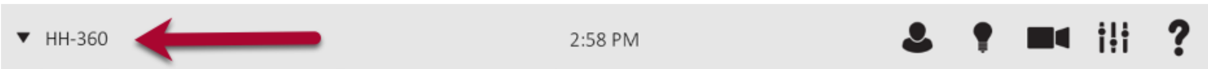
Privacy Mode

Privacy Mode turns off all the cameras and microphones in the classroom.

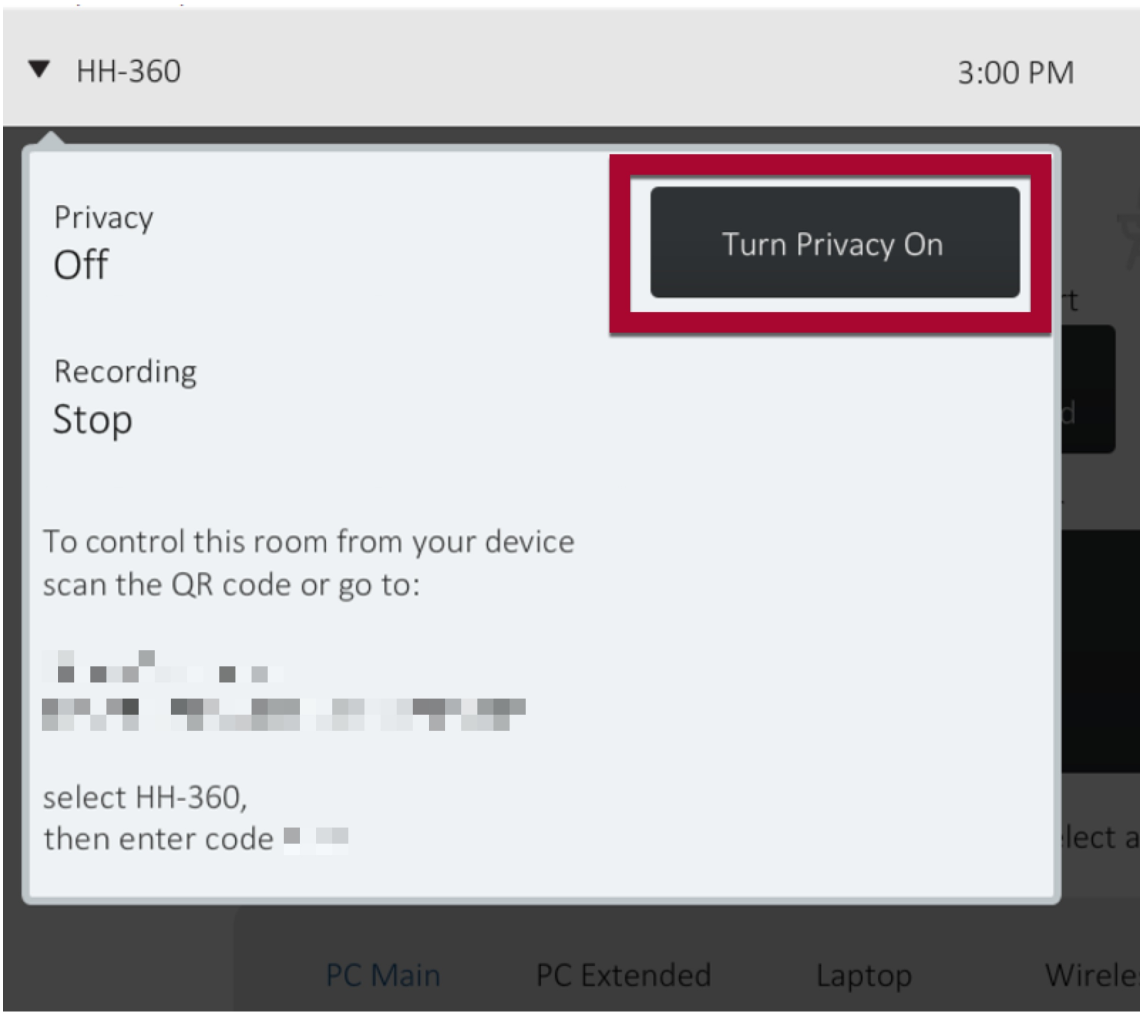
> Note that with Privacy Mode turned on:
>
> - **Default Recordings continue**, but no audio is recorded and the cameras are turned to the wall.
> - **Scheduled recordings will not start** as long as Privacy Mode is on in the classroom.

To turn Privacy Mode on/off:

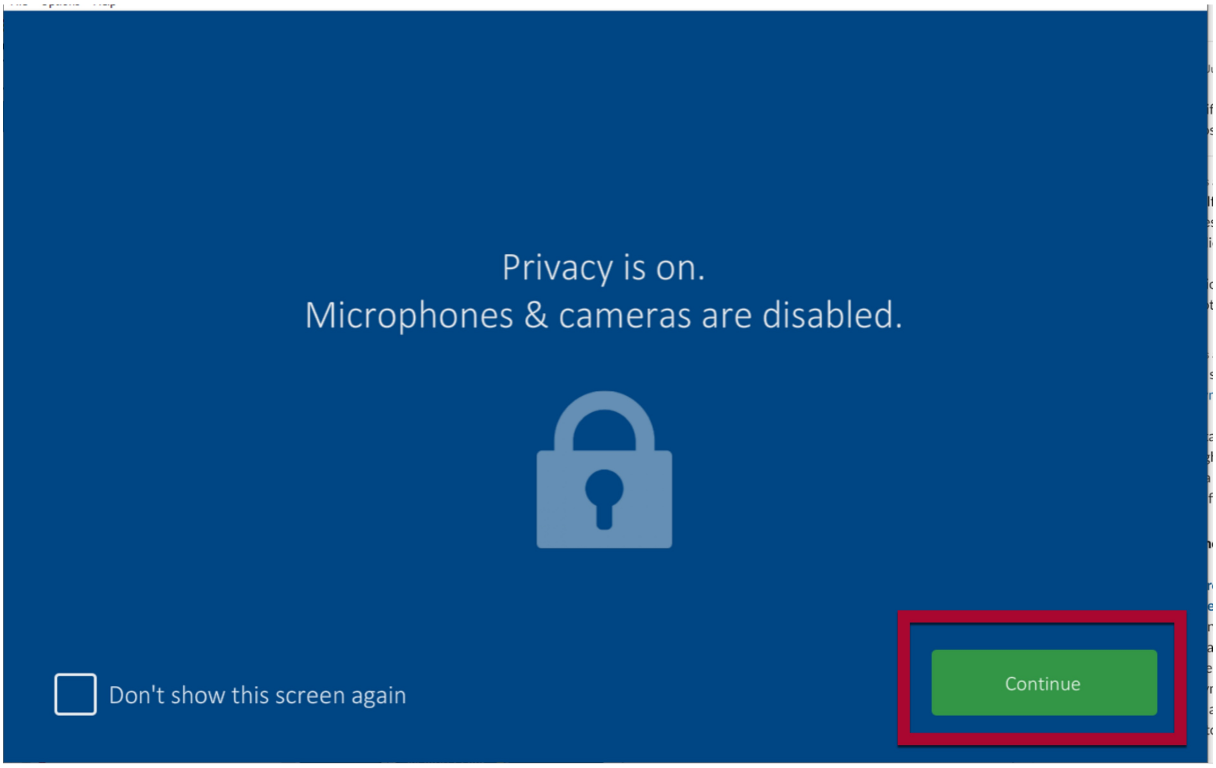
1. Tap the **room number** in the top left corner of the Room Control Panel (RCP).



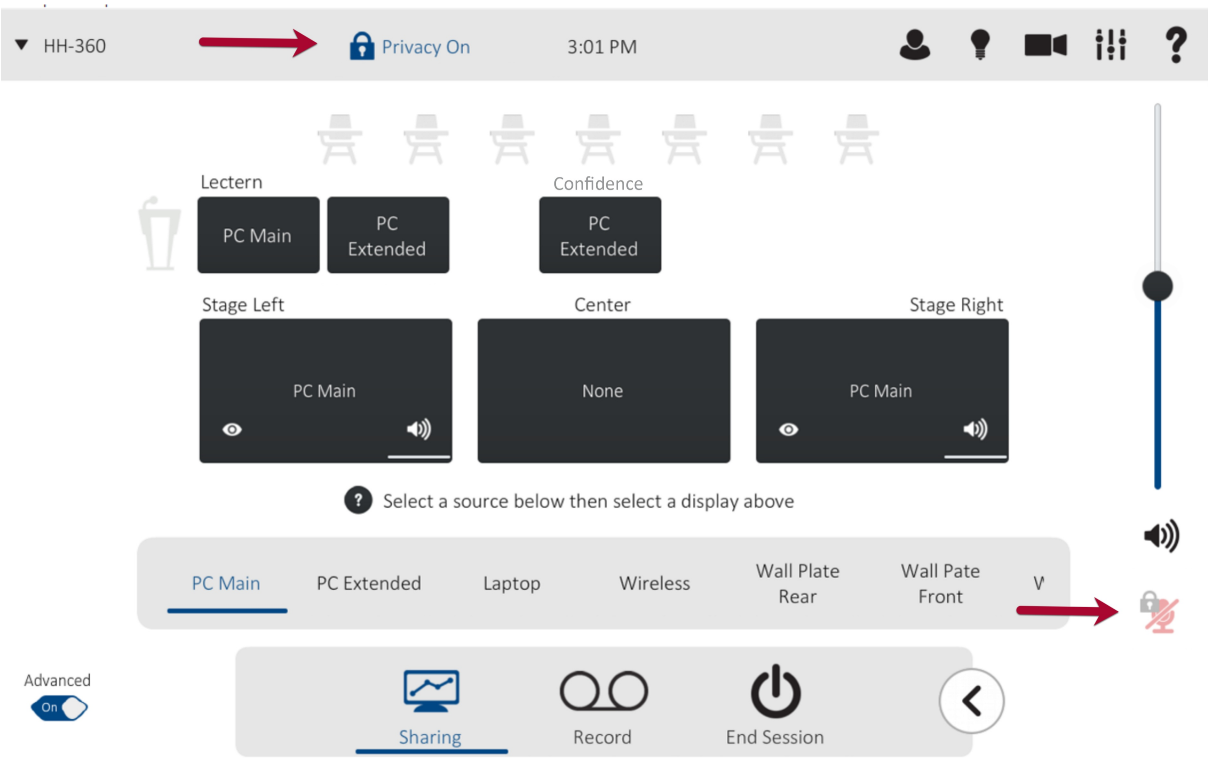
2. Tap the **Turn Privacy On** button.



3. A full-screen notice that Privacy Mode has been turned on is displayed. Tap the green **Continue** button to return to the Classroom Interface (you can also check **Don't show this screen again** if you'll be using Privacy Mode often).



4. Privacy Mode is now on for this room. A notice appears on the RCP's toolbar and the microphones are muted and control is locked from the interface.



To turn Privacy mode off, either:

- Tap the **Privacy On** notification in the RCP toolbar, OR
- Tap the **Room number** in the upper left corner of the screen and then tap the **Privacy Off** button.

Questions?

The Classroom Technology team is available for assistance with all technology features upon request. If you are having an issue with classroom technology, please call (215) 573-0402.

Display and Screen Resolutions in Classrooms and Conference Rooms

Last Modified on 10/28/2025 1:35 pm EDT

Use this article to help you design materials for the classroom and conference room screens and displays.

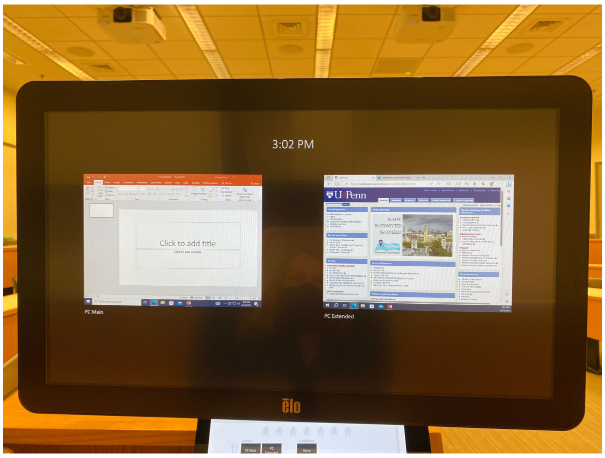
> **Before you start:**
>
> **Know Key Tech Terms:** Resolution and Aspect Ratio
>
> **Learn about Classroom Options:** Classroom Overview

Classroom Buildings

Here are the resolutions and aspect ratios of the classroom and conference room displays. By using these, you can design presentations that will fill the displays without blank space.

Number of Displays: # projectors in the classroom.

Number of Desktops: # separate screens visible at one time on the Resident PC.



Advanced Research Building

Room	Resolution	Aspect Ratio	Number of Displays	Number of Desktops (Resident PC only)
G002	1920x1080	16:9	1	1
101	1920x1080	16:9	3	1
140	1920x1080	16:9	3	1
201	1920x1080	16:9	1	1
202	1920x1080	16:9	1	1
240	1920x1080	16:9	3	1
241	1280x960	4:3	2	2

Huntsman Hall

Room	Resolution	Aspect Ratio	Number of Displays	Number of Desktops (Resident PC only)
F36	1600x1200	4:3	1	2
F37	1280x960	4:3	3	2
F38	1600x1200	4:3	1	2
F45	1600x1200	4:3	3	2
F50	1600x1200	4:3	3	2
F55	1600x1200	4:3	3	2
F60	1600x1200	4:3	3	2

Room	Resolution	Aspect Ratio	Number of Displays	Number of Desktops (Resident PC only)
F65	1600x1200	4:3	3	2
F70	1600x1200	4:3	3	2
F75	1600x1200	4:3	1	1
F80	1600x1200	4:3	1	1
F85	1600X1200	4:3	3	2
F86	1600X1200	4:3	1	2
F88	1600X1200	4:3	1	2
F90	1600X1200	4:3	2 (plus telepresence)	2
F92	1600X1200	4:3	1	2
F94	1600X1200	4:3	1	2
F95	1600X1200	4:3	3	2
F96	1600X1200	4:3	1	2
G06	1280x960	4:3	1 or 2 Small screen is 10'x13'4" Large screen is 10'x26'8"	2
G50	1600X1200	4:3	3	2
G55	1600X1200	4:3	3	2
G60	1600X1200	4:3	3	2
G65	1600X1200	4:3	3	2

Room	Resolution	Aspect Ratio	Number of Displays	Number of Desktops (Resident PC only)
G86	1600X1200	4:3	1	2
G88	1600X1200	4:3	1	2
G90	1600X1200	4:3	1	2
G92	1600X1200	4:3	1	2
G94	1600X1200	4:3	1	2
240	1600X1200	4:3	3	2
245	1600X1200	4:3	3	2
250	1600X1200	4:3	3	2
255	1600X1200	4:3	3	2
260	1600X1200	4:3	3	2
265	1600X1200	4:3	3	2
270	1600X1200	4:3	3	2
304	1600X1200	4:3	1	1
340	1600X1200	4:3	3	2
345	1600X1200	4:3	3	2
350	1600X1200	4:3	3	2
355	1600X1200	4:3	3	2
360	1600X1200	4:3	3	2
365	1600X1200	4:3	3	2

Room	Resolution	Aspect Ratio	Number of Displays	Number of Desktops (Resident PC only)
370	1600X1200	4:3	3	2
375	1600X1200	16:9	1	1
380	1600X1200	16:9	1	1
418	1024x768	4:3	1	1
419	1024x768	4:3	1	1
815	1920x1080	16:9	2	1
825	1920x1080	16:9	1 video wall with single/dual mode	2
830	1920x1080	16:9	1 video wall with single/dual mode (plus 2 additional on stands, on demand)	2

Steinberg Hall-Dietrich Hall

Room	Resolution	Aspect Ratio	Number of Displays	Number of Desktops (Resident PC only)
105	1280x720	16:9	2, plus confidence monitor	2
107	1280x960	4:3	2	2
109	1280x960	4:3	2	2

Room	Resolution	Aspect Ratio	Number of Displays	Number of Desktops (Resident PC only)
110	1920x1080	16:9	2, plus confidence monitor	2
116	1280x960	4:3	2, plus confidence monitor	2
204A	1920x1080	16:9	1	1
204B	1920x1080	16:9	1	1
205	1920x1080	16:9	1, touch screen	1
206	1920x1080	16:9	1, touch screen	2
209	1280x960	4:3	2	2
210	1920x1080	16:9	1	1
211	1280x960	4:3	2	2
213	1280x960	4:3	2	2
215	1280x960	4:3	2	2
217	1920x1080	16:9	1	1
350	1600X1200	16:9	1 or 2, plus annotation	2
351	1600X1200	16:9	1 or 2, plus annotation	2
1020	1920x1080	16:9	2	2
1201	1600X1200	4:3	2	2

Room	Resolution	Aspect Ratio	Number of Displays	Number of Desktops (Resident PC only)
1203	1600X1200	4:3	2	2
1206	1600X1200	4:3	3	2
3411	1920x1080	16:9	3	2

Lauder Institute

Room	Resolution	Aspect Ratio	Number of Displays	Number of Desktops (Resident PC only)
101	1920x1080	16:9	1	1
102	1920x1080	16:9	1	1
103	1920x1080	16:9	1	1
104	1920x1080	16:9	1	1
105	1280x960	4:3	3	2
303	1920x1080	16:9	3	1
318	1920x1080	16:9	1	1

Dinan Hall

Room	Resolution	Aspect Ratio	Number of Displays	Number of Desktops (Resident PC only)
103	1280x800	16:9	2	1

Room	Resolution	Aspect Ratio	Number of Displays	Number of Desktops (Resident PC only)
105	1280x800	16:9	2	1
B2	1280x720	16:9	1	2
B6	1280x720	16:9	2	2
B10	1600X1200	16:9	2	2
B11	1600X1200	16:9	1 or 2	2
112 (SAIL)	1920x1080	16:9	3	1

Colonial Penn Center

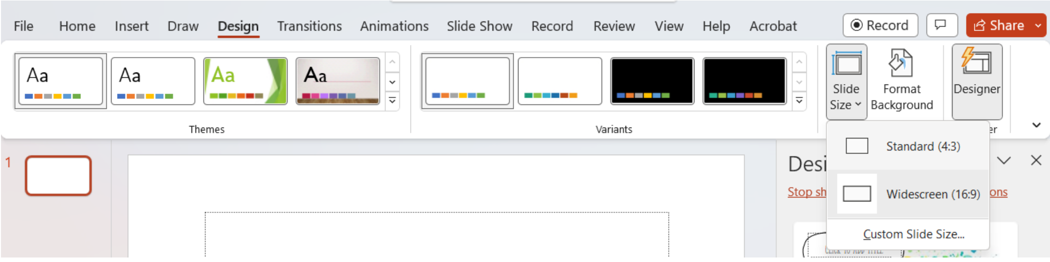
Room	Resolution	Aspect Ratio	Number of Displays	Number of Displays (Resident PC only)
103 (aud)	1280x960	4:3	1	2
Chestnut	1920x1080	16:9	1	1
Faculty	1024x768	4:3	1	1

Additional Slide Design Information

Some of these options can help with the design of your slides for classes and presentations:

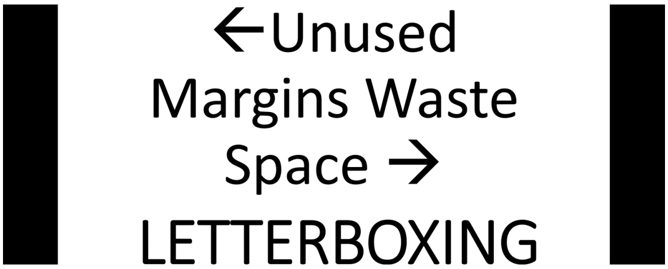
- See this description of Wharton classrooms for the different teaching options.
- Connect your computer to the classroom computer using an HDMI cable, or the Solstice wireless connection.
- For Templates that are pre-configured for the screens in the classrooms, see Wharton's Marketing and Communications standards section.

- To make your own PowerPoints, from the Powerpoint menu, select **Design** and then slide size:



LETTERBOXING: Why is Aspect Ratio important?

If your PowerPoint is a different aspect ration than the classroom you'll have margins on either the top or sides of your presentations that are wasted space.



Questions?

Classroom Technology: 215-573-0402 | class-tech@wharton.upenn.edu

Wharton Computing Representative: https://support.wharton.upenn.edu/help/computing-contact-list

Panopto Recording in the Classroom

Last Modified on 10/29/2025 8:42 am EDT

The primary method of recording classroom lectures and events at Wharton is with an application called Panopto. Use this article for help with **recordings in the Classrooms**; for information on recordings of Zoom meetings, see the recordings section of Virtual Meetings Instruction.

Before You Start

You will need the following before initiating recording:

- a valid PennKey

What's in a recording?

Recordings feature up to three views:

- The presenter, captured from the rear camera.
- Two separate feeds of projected materials, one from the left projector, the other from the right.

Audio for recordings can differ depending on room type, but it is recommended that presenters wear the wireless microphone to ensure the highest audio quality possible. Any questions/concerns regarding audio capture should be addressed with the scheduling team when making your request.

How do I schedule a recording?

Notes on Recordings:

- Zoom meetings scheduled through Canvas will be automatically posted to your Class Recordings tab.
- All classes are automatically recorded if they follow the standard class meeting pattern.
- Any additional class sessions or events **will need to be requested via the tech request form** (login required) in order to make sure they are recorded.

Recordings can be scheduled ahead of time using the online technology request form. (Note: WSF faculty should reach out to their IT support team.) Once your recording request has been processed, you will receive a confirmation email from the scheduling team outlining the details of your request. Recording requests sent within 2 business days of the event are considered last minute and are not guaranteed.

Recordings can also be started in-room at the touch panel (this is not recommended for recurring recordings). Once logged in to the system, touch the Recording menu at the bottom right of the screen. The system will then walk you through confirming the in-room camera as well as the desired duration of your recording. When the recording has started, a red *Recording* box will appear at the top of the touch panel.

How long will it take for my recording to be posted?

All academic recording requests are made available via Canvas and may take a few hours to process. Once processed, recordings will appear in the Class Recordings tab of your Canvas site. (Please see the note in the previous section about backup recordings in Zoom.)

All non-academic recordings are made available via a download and may take up to 48 hours to process. Once processed, a link will be sent to the requestor email so that the recording(s) can be downloaded. This link will be active for 2 weeks from the date it was sent out.

Note: If you start a recording from the touch panel, send an email to class-tech@wharton.upenn.edu in order to retrieve it.

Who can view my recordings?

When scheduling a recording request there are three options available for recording access.

- *Publish to Canvas* - The recording is made available to all students and faculty on the Canvas site.
- *Instructor View Only* - The recording is made available to the instructor of the Canvas site, but no students are able to access it.
- *Restricted Viewing* - The recording is made available to specific students whom the instructor has approved for viewing.

How long will my recordings be available online?

Students have access to their class's Panopto videos while the class is in session: June 1st for Spring Semester and January 1st for Fall Semester. Faculty can override these defaults by emailing class-tech@wharton.upenn.edu if they would like Panopto help.

Zoom videos will be viewable in Panopto for Zoom account holders scheduling Zoom class links via Canvas. The class video will be deleted from their Zoom video storage, but will be preserved in Panopto following the guidelines above.

Questions?

Email: class-tech@wharton.upenn.edu

Hybrid Instruction in Wharton Classrooms

Last Modified on 05/15/2024 6:09 pm EDT

This article is meant to help with recommendations, best practices, and guidance for hybrid instruction in Wharton classrooms. All classrooms at Wharton are outfitted with enhancements to improve the hybrid teaching experience for both the instructor and the audience, whether in-person or remote.

For more in-depth information about the technology in the classrooms, please see this article: Using Technology in the Classrooms.

First Time Teaching Hybrid? If this is your first hybrid teaching experience please reach out to Classroom Technology or your Wharton Computing representative to set up a training session.

Hybrid Instruction

In this article, hybrid instruction refers to teaching from a Wharton classroom to both an in-person audience as well as a remote audience, synchronously.

Classrooms have been equipped with specific tools and technology to specifically help with hybrid instruction.

- All tiered classrooms have a mobile cart which includes technology to enhance hybrid instruction:
  - a confidence monitor - use this to confirm the experience that remote attendees are having, or display additional content to the instructor
- Zoom is installed on all classroom computers for quick access from classroom technology.
- Classrooms have enhanced audio equipment which will help remote students hear (in a natural way) the conversations between the in-person audience and in-person professor as they happen in the classroom.

Classroom Setup for Hybrid Instruction

To help ensure the best experience for both remote and in-person participants, there are a few steps that the instructor can take when beginning class:

- **Log in to the classroom computer first.** Log in to the classroom computer (even if you plan to use your own laptop or tablet) so the technology will know who you are and engage the full scope of resources available for your instruction.
- **If using Zoom, log in to the Zoom client on the classroom computer and start your session there.** This makes the host of the Zoom session the classroom computer and allows you to take full advantage of the classroom equipment specifically for Zoom.

After you log in to Zoom you need to configure some Zoom settings to make sure you can use the additional display options in the room:

1. **Join any meeting**, and go to **General > Settings**
2. Check the box for **dual monitors**, to activate the dual monitors

3. Set Noise Suppression to **Low**
4. Under Advanced Audio Setting, set Echo Cancellation to **Auto**

- **Remember to share your content with both remote and local students by sharing your screen.** This needs to happen in the room by displaying your presentation on the projector screens in the classroom, as well as within the web conferencing application via screen sharing.
- **Use a lapel microphone to make sure all of your speech is captured by both the classroom and the remote participants.** Classrooms are equipped with enhanced audio via ceiling mics and a powerful lectern mic, but the lapel mic will capture everything even if you walk away from the lectern. The lapel mic will also help prevent your speech from sounding muffled if you are wearing a mask.

Best Practices and Recommendations

There are a number of suggestions that will help provide you the best experience with hybrid teaching:

Troubleshooting

Having trouble? Try these quick tips, or contact Classroom Technology using the information below.

Questions?

Call Classroom Support: (215) 573-0402

Email: class-tech@wharton.upenn.edu

Scheduling or room reservations: scheduling@wharton.upenn.edu

Generative AI: Best Practices and Resources

Last Modified on 08/12/2025 10:54 am EDT

This article shares what Wharton Computing has learned about key concepts and emerging best practices in the rapidly evolving field of AI. It provides resources and suggests some useful paradigms that may help you think about the use of AI in our academic setting. A list of AI Tools and Resources supported by Wharton and Penn can be found in our Knowledge Base and is frequently updated as our catalog grows.

Faculty
Please see AI Best Practices -- Teaching and Research (for faculty and staff -- login required) to explore additional resources that support teaching and research activities.

Not sure how to log in? See Logging into the Wharton Computing Knowledge Base.

Check Back Regularly for Updates
This article will be regularly updated because the knowledge about generative AI is quickly evolving.

Key Concepts Everyone Should Know

Protect Information (yours and others')

- Be cautious of sharing confidential information with publicly available models, such as ChatGPT, Bard, Midjourney, and others.
- When in doubt, please collaborate with Wharton Computing and the Wharton Information Security Office.

Submission of University Confidential Data requires use of a Penn/Wharton-approved enterprise generative AI tool. Use of University Confidential Data in any other generative AI tool, whether a free or for-fee service, is prohibited.

See the Security and Privacy Requirements section below for examples of confidential data.

If you are **considering any generative AI services** in your research for official use within Wharton (e.g. interconnections between Wharton Systems or Applications, or use of University Confidential Information), **please collaborate with Wharton Computing, the Research and Analytics team, and the Wharton Information Security Office**. These groups will partner with you to evaluate your project, provide the appropriate security risk evaluations, and help answer many of the IT support questions you may have.

General Information

These general guidelines apply to everyone who uses AI in a Higher Education setting:

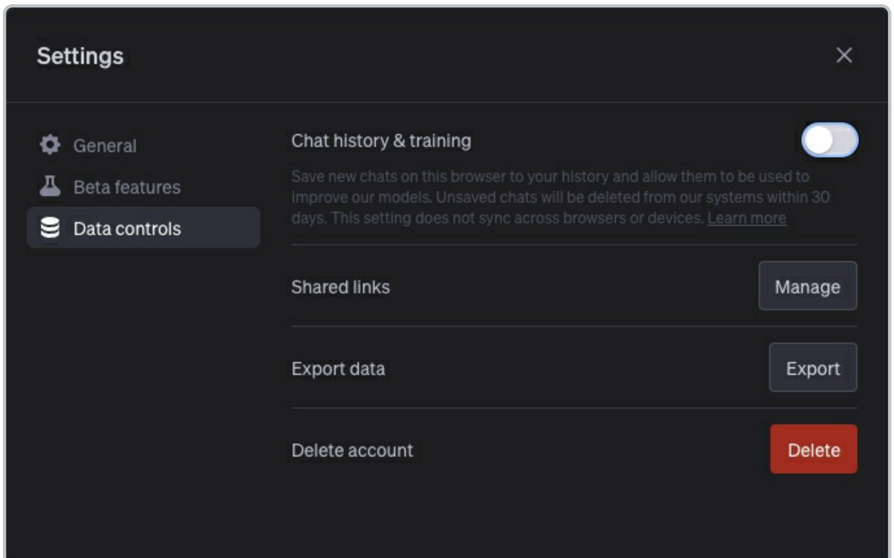
- **Stay Up to Date:** Continue to check news and recent legal opinions, especially regarding copyright enforcement and the security of individual products, and be prepared to adjust accordingly. For suggestions on staying up to date, see Additional Resources below.

- **Confirm Image Sources**: If you're using an image generator, research the dataset that the model was trained on. If there is information available from the company about their use of images, check whether they used open-source content. There may be a risk of copyright infringement if non-open-source content is used. If you do decide to use content generated by one of these tools, include a credit to the source (e.g. *Image generated by <insert tool name here>*).

- **Consider Authorship**: Since legislation trails technology, be aware that any content created by AI tools may not be legally protected or your work may be called into question. Authors who use AI tools are expected to disclose usage, preferably by identifying the one that was used. For example, “Foreground model created by Midjourney and sketched by the author.”

  If seeking to copyright, remember the goal is to show how the tool was used to support the author’s traditional tasks of authorship. For more information on copyright issues, see the US Copyright Office's guidance.

- **Know what the AI is doing with your data:** Be sure to understand what the AI tool is doing with any data you provide while using it. Many tools offer a selection of Service Level Agreements (SLAs) and Data Use Agreements (DUA). We recommend, when possible, opting out of tracking history and training usage.



Chat GPT's Opt Out option -- deselect "Chat history & training"

Security and Privacy Requirements

Submission of University Confidential Data requires the use of a Penn/Wharton-approved enterprise generative AI tool. Use of University Confidential Data in any other generative AI tool, whether a free or for-fee service, is prohibited.

Please contact the Wharton Information Security Office and Wharton Computing for questions or support

Please read this section carefully.

- **Examples of University Confidential Data Include (but are not limited to):**

Private Personal Information	Financial / University Policy Information	IP /Authorship/Research
◦ Personal Identifiable Information (PII)	◦ Payment Card Industry (PCI)	◦ Unpublished research data (at data owner's discretion), subject to any IRB restrictions
◦ Personal Health Information (e/PHI)	◦ Financial Information	◦ PENN-owned Intellectual Property (including code)
◦ Biometric Data	◦ Non-public Penn policies and documentation (e.g. system designs, budgets, plans, etc.)	◦ Federal government research
◦ Student, Faculty, and Staff Information or Records, including directory information.	◦ System Credentials	
◦ Any data covered by the University's FERPA policy	◦ Data prohibited from sharing under terms of University-signed contract.	

(For a complete description of how the University treats confidential data, see University Data Classification.)

- **Using a Generative AI to interconnect to any University-managed system or applications—including the use of an API— requires the use of approved Penn/Wharton enterprise generative AI tools; it also requires review by the Wharton Information Security Office and Wharton Computing**. *Interconnection is the direct integration or connection between the AI tool and a system managed by the University.*

  Managed system examples include (but are not limited to):

  - Endpoints (Wharton Computing-managed computers, printers and other devices).
  - Servers
  - Applications (on-premise and cloud-based)
  - Data Sources
  - IoT Devices

Remember: Any information uploaded by faculty or staff may be both unrestricted and available to the AI tool (such as ChatGPT) and the AI tool's end users.

- **Terms of Use.** Review the Terms of Use and Privacy Policy of the application or service periodically. These documents may change frequently, as the technology, services, and other elements of AI evolve.

- **Penn Email Considerations.** A Penn/Wharton e-mail address for registration and use of AI tools is not prohibited. However, if a Penn/Wharton e-mail is selected, please ensure that the password is unique and different from any other Penn/Wharton applications, solutions or systems currently used. Additionally, e-mail may often be used to identify an individual, the type of information submitted, and other possibly private information.

  If you are using a Penn/Wharton email to register an AI account, we recommend using a team account rather than a personal account. This will preserve business continuity while accommodating situations such as vacations or departures from the University.

For detailed information on the University's definitions of data sensitivity, see University of Pennsylvania Data Classification Standard

We encourage you to collaborate with Wharton Computing and the Wharton Information Security Office if you are considering any generative AI services for official use within Wharton (e.g. interconnections with Wharton Systems, Applications, or use of University Confidential Information). These groups will partner with you to provide the appropriate security risk evaluations, and help answer many of the IT support questions you may have.

Authorship

There is an ongoing debate regarding authorship and the differences between original work and machine-generated work. In addition, there are questions being raised about how machine-generated work should be used. The US Copyright Office provides helpful guidance regarding the distinction of authorship and ability to copyright works when generative AI tools are used. A few key points include:

- Machines cannot be authors
- All works developed by generative AI tools are not copyrightable.
- Authors may use generative AI tools to create original works, but certain conditions must be met:
  - generally, humans have to employ the "traditional methods of authorship" during creation of a work, which means making choices that are dependent upon the medium.
  - "How" the work is created is more important in determining originality than determining "what" created the work. This distinction can be difficult and we encourage you to seek consultation on this issue.
- Authors who use AI tools are expected to disclose that they have used an AI tool, preferably including which tool was used.

Faculty

While the information on this page is valuable for everyone, faculty may also want to review topics specific to teaching and research. We explore these in our faculty-focused article, AI Best Practices -- Teaching and Research (for Faculty). Please be sure you have logged in above (top right of screen) before launching this webpage. If you are not sure how to log in, see Logging into the Wharton Computing Knowledge Base.)

Staff

Depending on your role at the University, Wharton staff are likely to have widely varying needs for engaging with AI. To protect the University, staff should contact Wharton Computing and the Wharton Information Security Office prior to using any AI tool. Reasons for this level of concern include:

Students

The General Information section above provides guidance around many questions regarding the use of AI in the course of your Wharton experience. Additional points to keep in mind include:

Additional Resources

- Penn ISC's AI Guidance
- Penn's Almanac: Guidance on Using Generative AI
- University's Policy on the Confidentiality of Student Records.
- Sources for Up-to-date information on generative AI in Education:
  - **Copyright topics**: the nonprofit Copyright Clearance Center's Velocity of Content is well-recognized (and not dominated by any one publisher or rightsholder.)
- University of Pennsylvania Data Classification Standard
- Chicago Manual of Style Online recommends various formal and informal approaches for citing AI contributions.

Questions?

Please contact your Wharton Computing representative with any questions regarding technology and the use of AI. For best results, please include answers to as many of these questions as possible when requesting help or guidance around AI:

- Do you need help with a new or existing project?
- Which generative AI tool(s) are you using?
- Who will be using the tool?
- What type(s) of data will be submitted and used?
- Who will be consuming the output?
- Will you need services such as prompt engineering, fine tuning, etc.?

Generative AI: Best Practices for Teaching and Research (for Faculty)

Last Modified on 08/28/2025 5:49 pm EDT

This article expands on the more general Generative AI -- Best Practices and Resources , and focuses on teaching and research concerns. We've compiled information gathered through recent conversations with faculty and peer institutions. Any suggestions you might have are welcome - please share them with your Wharton Computing representative.

Penn's Center for Teaching and Learning has published some additional guidance in its article, Generative AI and Its Implications for Teaching and Learning. The article explains generative AI in more detail, and elaborates on some of the techniques discussed here.

Check Back Regularly for Updates
This article will be regularly updated because the knowledge about generative AI is quickly evolving.

If you are **considering any generative AI services** in your teaching or research for official use within Wharton (e.g. interconnections between Wharton Systems or Applications, or use of University Confidential Information), **please collaborate with Wharton Computing, the Research and Analytics team, and the Wharton Information Security Office**. These groups will partner with you to evaluate your project, provide the appropriate security risk evaluations, and help answer many of the IT support questions you may have.

Teaching

Conversations around the role of generative AI in academia are uncovering widely diverse opinions. These conversations seem to fall into three general best practices, listed below.

State Your Policy

Faculty decide for each of their courses how the use of Generative AI will, or will not, be allowed. In practice, faculty should state their own positions on syllabi or assignment descriptions (e.g., “use of generative AI is not allowed when completing this assignment”).

Reiterating your position during class time can be helpful for students.

Review Academic Integrity Options

Once your course-level and/or assignment-level policies have been made available, cheating or misconduct involving a student’s use of generative AI in your course can, and should, be treated like any other type of academic integrity violation governed by Penn’s Code of Academic Integrity and reported using the procedure defined in the University’s associated Center for Community Standards & Accountability.

Note that **for MBA courses**, the MBA Code of Ethics policies and processes work in conjunction with – and, at times, will override – those University-level guidelines.

Grading using AI

Students' submitted work is considered within the scope of the University's Policy on the Confidentiality of Student Records. Do not upload these student submissions verbatim to a generative AI service such as ChatGPT for grading.

Never provide a student's name or other identifying information in a submission to a commercial AI service, outside of specifically licensed and approved workflows.

Research

Use of Confidential Data

Datasets may be classified as confidential. Please refer to the Security and Privacy Requirements section of the Generative AI -- Best Practices and Resources article.

Wharton's Research & Analytics team is actively developing pipelines to connect faculty with secure generative AI tools – tools that you will be able to use with reduced data liability. Please reach out to us to request access.

Some of the ways generative AI is being used by researchers in Academia include:

API Resources

Wharton Computing's Research IT team has written several blog posts that explore ways an API can leverage the power of generative AI models:

- Systematic Information Gathering with AI: Beyond Manual Collection
- Using AWS Bedrock's Batch API
- Using OpenAI Batch API

There are many tools either currently in use or coming to market. There is a clear potential for these tools to use data provided to them for future model training, potentially leading to data policy violations, unanticipated data leaks, and the introduction of bias. **Always be sure you know what will happen with your data and be aware of effective current practices.**

Additional Resources

- Penn ISC's AI Guidance
- Penn's Almanac: Guidance on Using Generative AI
- University's Policy on the Confidentiality of Student Records
- University of Pennsylvania Data Classification Standard
- Penn's Center for Excellence in Teaching, Learning and Innovation resource page: Generative AI and Your

Teaching.
- *Chicago Manual of Style Online* recommends various formal and informal approaches for citing AI contributions

Questions?

Please contact your Wharton Computing representative with any questions regarding technology and the use of AI. For best results, please include answers to as many of these questions as possible when requesting help or guidance around AI:

- Do you need help with a new or existing project?
- Which generative AI tool(s) are you using?
- Who will be using the tool?
- What type(s) of data will be submitted and used?
- Who will be consuming the output?
- Will you need services such as prompt engineering, fine tuning, etc.?

Logging into Copilot for the Web

Last Modified on 09/25/2025 4:48 pm EDT

Copilot for the Web is Microsoft's generative AI tool that allows you to interact with it via a text interface. It assists with summarizing content, analyzing data, and much more. Best of all, it allows you to leverage ChatGPT while being protected by the University's data security agreements with Microsoft, as long as you're logged in with your PennO365 account.

The article details how to log into Copilot for the Web with your PennO365 account and how to check that your Copilot for the Web session is protected.

Before You Start

You will need the following:

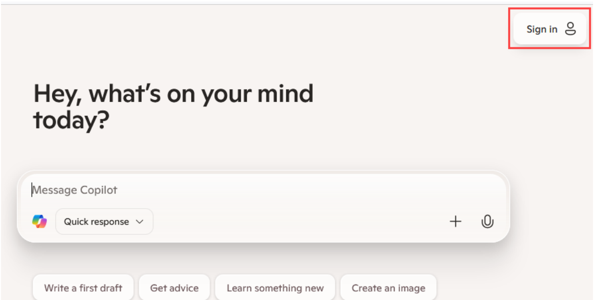
- A PennO365 account
- A valid PennKey Username and Password

You **must** be logged in with your PennO365 account to take advantage of the data security protections.

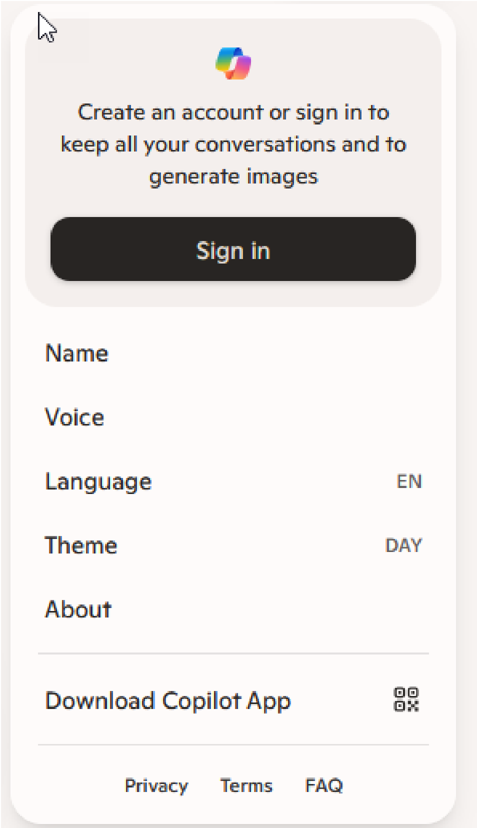
Logging in with your PennO365 Account

Follow the instructions below to sign in to Copilot for the Web with your PennO365 account:

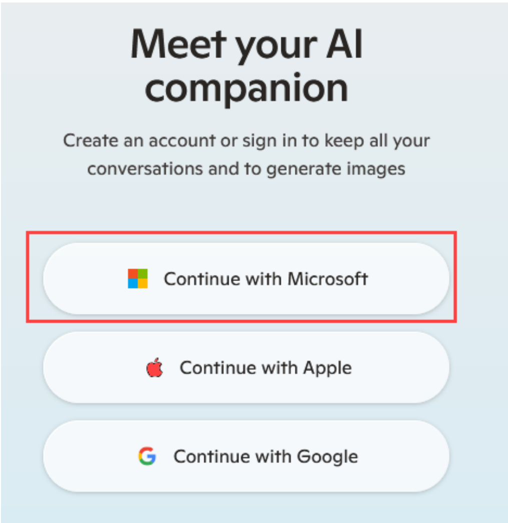
1. **Open** your preferred web browser and enter copilot.microsoft.com.
2. You should see the Copilot home page.



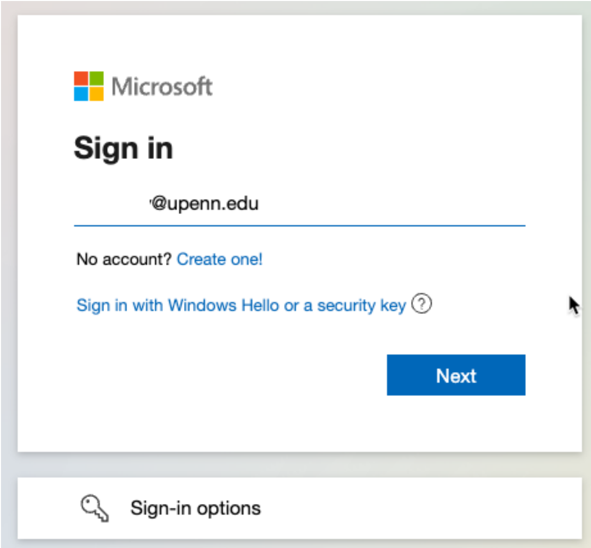
3. Click the **Sign In** button. You may need to click it a second time:



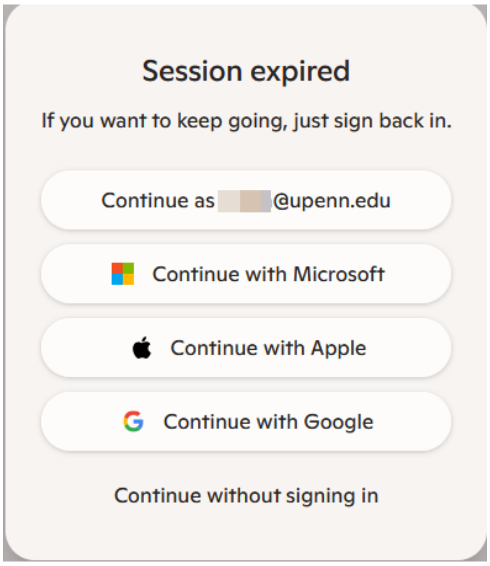
You may see this set of sign-in choices; choose Continue with Microsoft.



4. Enter (or choose) your PennO365 email address and click **Next**.

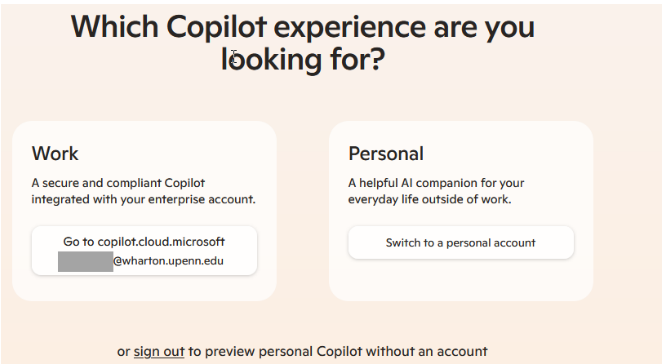


5. If you were in a session and it expired, you may get this message:

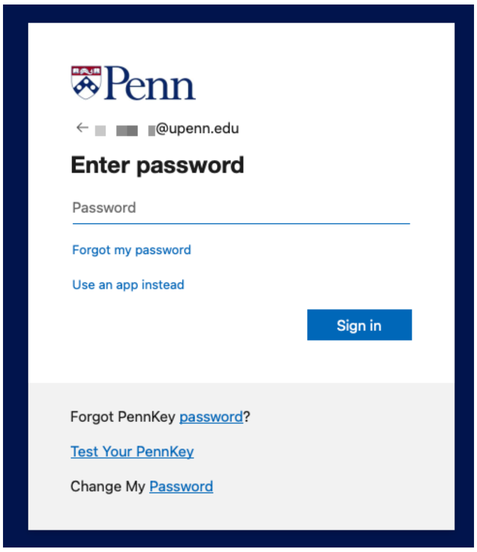


Choose your **pennkey@upenn.edu** account to continue.

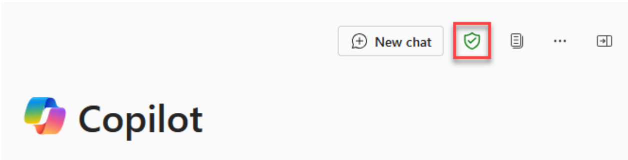
6. You may be asked if you want to sign in with a personal account or a work or school account. Select **Sign in with a work or school account.**



7. Enter your Pennkey password when prompted and click **Sign in**.
If you are already signed in to an app on another browser using your PennKey, you may be automatically signed in.



8. You can now use Copilot for the Web -- your data will be protected, as noted by the green **Protected** shield icon on the upper right side of the screen.



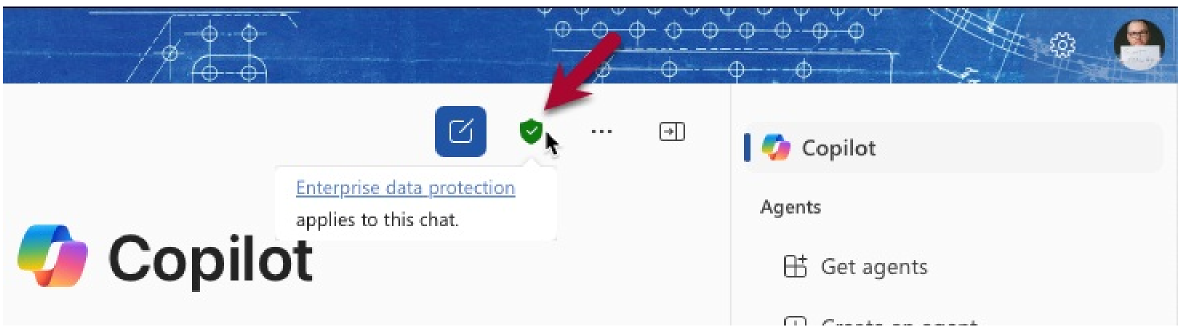
For more information about launching and using Copilot, visit Microsoft's support page for copilot.

> Make sure you have logged in with your pennkey@upenn.edu account. If you don't click the "Work" button, you aren't logged in to Penn's protected account. If you are logged in with a personal account, you may not see an option to switch, and you'll have to log all the way out, and log back in.
>
> See the next section for more information.

Confirming your Copilot for the Web session is protected

To use the protected version of Copilot for the Web, which ensures your data is covered by the University's data protection agreements with Microsoft, you must be logged in to Copilot for the Web with your PennO365 account.

To confirm this on the Copilot for the Web homepage, look for the small green shield icon:



When you hover your mouse over it, you'll see a notification confirming your chat is covered by enterprise data protections.

If you don't see the shield, please follow the instructions above to log in with your PennO365 account.

Questions?

For more information, contact your Wharton IT representative.

Microsoft Copilot

Last Modified on 02/21/2025 10:42 am EST

Copilot is the branding that Microsoft uses for all of its AI tools. This suite of generative AI (built upon the foundations of ChatGPT) is spread across all of Microsoft's platforms, which can make things slightly confusing since this means there are multiple tools that do different things, all known as "Copilot."

To add to the confusion, some, but not all, of the Copilot variants offer usage protected by University contracts.

This article highlights 3 Copilot products that you can use with your PennO365 account and benefit from the University's data protection agreements with Microsoft:

Copilot

Copilot, formerly Bing Chat Enterprise, is a chat interface for Microsoft's integration with OpenAI's ChatGPT. You can ask it to do a variety of things.

If you intend to use University data with Copilot you **must** log in with your PennO365 account.

Microsoft 365 Copilot

Microsoft 365 Copilot integrates Copilot into the Office suite of applications, as well as into your PennO365 account. Using a feature called "Business Chat" you can ask Microsoft 365 Copilot questions about your calendar, files, and email.

Reach out to your Wharton Computing representative for licensing information.

> **Microsoft365 Copilot is only available to Faculty and Staff.**

Copilot Studio

Copilot Studio is a tool that allows you to create customized versions of Copilot that can be embedded in websites and other places. You can tailor responses, limit the sources of information your copilot will use, and much more.

Reach out to your Wharton Computing representative for licensing information.

Copilot Studio is only available to Faculty and Staff.

Security and Data

The Microsoft Copilot contract with the University includes data protections that enable Microsoft Copilot to be used with some kinds of data the University defines as confidential.

REMINDER: Submission of University Confidential Data requires the use of a Penn/Wharton-approved enterprise generative AI tool, like Microsoft Copilot. Use of University Confidential Data in any other generative AI tool, whether a free or for-fee service, is prohibited.

The following table lists university data classifications and data types and if they can be used within the University's Microsoft CoPilot:

Data Type	Allowed in University's Microsoft CoPilot

Data Type	Allowed in University's Microsoft CoPilot
Low	
Yes.	
Moderate - Not Involving PII or FERPA data	
Yes - We recommend connecting with the Wharton Information Security Office on these usages of Microsoft CoPilot.	
Moderate - Involving PII or FERPA data	
Yes, though you must engage with Wharton Information Security Office (ISO) for a risk review of the overall initiative's data architecture and flow outside of the AI solution.	
High*	
No. Data with this classification should not be uploaded to Microsoft CoPilot. Contact the Wharton Information Security Office if you require using data that falls into this category.	
HIPAA/Protected Health Information	
No. HIPAA data should not be uploaded to the University's Microsoft CoPilot. Contact the Wharton Information Security Office if you require using HIPAA data.	

See: Generative AI -- Best Practices and Resources for additional resources about using Generative AI tools at Penn.

Questions?

General Copilot questions: Contact your Wharton Computing Representative.

Security-related questions: Contact the Wharton Information Security Office at security@wharton.upenn.edu.

Grammarly for Education

Last Modified on 03/20/2025 8:57 am EDT

The University has partnered with Grammarly, an online writing tool, to bring a pilot of Grammarly for Education to students, faculty, and staff. Grammarly for Education checks your grammar, spelling, punctuation, and style as you write and offers suggestions in non-intrusive ways.

Before you start:
You must have an active student, faculty, or staff affiliation and a valid PennKey in order to use the University's Grammarly for Education service.

As of March 2025, Penn's Grammarly for Education is still a pilot program. For more information, see ISC's Grammarly Pilot User Guide.

Grammarly for Education leverages Generative AI features to help jumpstart your writing process, including auto-citations and guardrails to preserve academic integrity.

Grammarly for Education is available as:

- A browser extension
- Web-based service
- Desktop app (Mac, Windows)
- Mobile device keyboards

Note: While Grammarly meets the University's high standards for data privacy for "low" and "medium" risk data, HIPAA usage is pending additional reviews by Penn Medicine Privacy and the Office of Audit, Compliance, and Privacy.

Generally, University data classified as "high" (including PII, PCI, and HIPAA) is not permissible in Grammarly.

If you're interested in using Grammarly with HIPPA data, please contact the Wharton Information Security Office.

How to Sign up

To sign up for the University's Grammarly for Education service:

1. Go to https://grammarly.upenn.edu
2. Click on the "Sign Up" button.
3. Enter your @upenn.edu email address in the "School email" field. Note: You must use your @upenn.edu address in order to access the University's Grammarly for Education service.

4. You're all set!

Already have a Grammarly account?

If you are already a Grammarly customer, you can switch your account to the University’s service and request a refund (if you have a paid account).

All you have to do is change the email address associated with your account Grammarly account to your @upenn.edu by following these instructions:

1. Go to https://account.grammarly.com/
2. Log in with your Grammarly account if prompted.
3. Click **Update** next to the listed email address.
4. Enter your @upenn.edu email address, which is: <yourpennkey>@upenn.edu.
5. Click the confirmation link that is sent to your @upenn.edu email address.

Once your email address has been changed your Grammarly account will automatically be associated with Penn's Grammarly for Education service.

If you have a paid Grammarly account, you'll be walked through the refund process after you change your email address and your account becomes associated with the University.

Install it on your Wharton Computer

You can install the latest version of the Grammarly desktop client on Wharton Managed computers by using BigFix or JAMF self-service. This will install the Grammarly client on your computer without the need for an administrator password.

Windows Instructions

Mac Instructions

Resources

Grammarly has a number of great resources to help you get the most out of the tool:

User Guides

Want to figure out how to integrate Grammarly into your process? This collection of user guides, which cover all the devices on which you can use Grammarly, will show you the basics and some tips and tricks to level up your Grammarly usage:

- Grammarly for Windows and Mac user guide
- Grammarly for Android user guide
- Grammarly for iPhone user guide
- Grammarly for iPad user guide

Feature Highlights

Occasionally, Grammarly shares articles diving into a particular product feature. Here are a few such articles that may interest you:

- New Citation Tools Support Academic Achievement
- A Framework for Responsible AI in Education
- Putting Grammarly's Generative AI Capability Into Action
- Meet the Productivity Game-Changer: Snippets

Questions?

Please contact your Wharton Computing representative with any questions regarding Grammarly for Education.

AI Tools at Wharton and Penn

Last Modified on 01/20/2026 9:47 am EST

This article provides information on using Generative AI tools available through Wharton. Penn's ISC also has information on Generative AI tools at Penn.

Generative AI Tools at Penn and Wharton

Generative AI tools are fast becoming a tool for working and learning at Wharton and Penn. This list outlines the different types of AI programs available for use, along with guidance on using them at Penn and Wharton

Note: You must collaborate with your **Wharton Computing Representative** and **Wharton Information Security Office** before using any generative AI service with data from Wharton Systems or Applications.

Information considered "**Confidential**" by the University is not approved for use with AI Tools.

Tool	Description	Data Usage	Available To...
ChatGPT Edu	ChatGPT Edu adds enterprise-level security, enhanced privacy, and data agreements to ChatGPT, ensuring that it can be leveraged responsibly with University data.	The University's contract with OpenAI ensures that no data uploaded to Wharton's ChatGPT Edu workspace is used to train any of their AI models. For information on data usage restrictions, see the Security and Data section in our ChatGPT Edu article.	Wharton Faculty, Staff; WEMBA, PhD, and MBA students.
Grammarly	Grammarly for Education checks your grammar, spelling, punctuation, and style as you write and offers suggestions in non-intrusive ways.	HIPAA usage is pending additional reviews by Penn Medicine Privacy and the Office of Audit, Compliance, and Privacy. Data defined as High Risk* may not be used with Grammarly.	Full time faculty and staff at Penn.

Tool	Description	Data Usage	Available To...
Microsoft Copilot	Copilot is the branding that Microsoft uses for all of its AI tools. This suite of generative AI (built upon the foundations of ChatGTP) is spread across all of Microsoft's platforms.	See the Security and Data section of our Microsoft Copilot article for permitted data usage.	All Members of the Penn Community.
Zoom AI Companion	This suite of Zoom features is powered by Generative AI and designed to make Zoom meetings more productive. All Zoom AI Companion features are **off by default**; you'll need to enable them.	Zoom AI Companion is not approved for meetings where HIPAA data/Protected Health Information, Social Security Numbers, or credit card data will be part of the meeting, or for meetings involving non-student minors. In addition, any data defined as High Risk* may not be used with Zoom AI.	Certain Penn Users.

*The University's definition of "High Risk" data is explained on ISC's website in their Data Risk Classification article.

Questions or Issues?

General Copilot questions: Contact your Wharton Computing Representative.

Security-related questions: Contact the Wharton Information Security Office at security@wharton.upenn.edu.

ChatGPT Edu

Last Modified on 01/28/2026 2:25 pm EST

ChatGPT Edu adds enterprise-level security, enhanced privacy, and data agreements to ChatGPT, the leading provider of generative AI, ensuring that it can be leveraged responsibly with University data. **No data entered in the Wharton ChatGPT Edu workspace is used for training Open AI's models.**

ChatGPT Edu also features:

- Access to the latest ChatGPT models
- Sharable custom GPTs within the workspace
- DALL-E image creation

Before you start:
ChatGPT Edu is available to:

- Standing Wharton Faculty
- Full-time Wharton Staff
- Wharton MBA and PhD students
- University students while enrolled in Wharton graduate courses

Note: ChatGPT Agent is currently not enabled in our ChatGPT Edu workspace, but may become available in the future. Please check back for updates.
As of August 15, 2025, ChatGPT5 is available.

No confidential data should be uploaded to any ChatGPT workspace outside the Wharton ChatGPT Edu space. If you have any questions about this, please contact our Information Security Office. Refer to the Security and Data section for more information.

ChatGPT Edu Benefits

Wharton ChatGPT Edu includes everything available in a free, personal account and adds several enhancements.

Enhanced Privacy

Data entered into the Wharton ChatGPT Edu workspace is never used by OpenAI to train its AI models. This means some University confidential data can be used with Wharton ChatGPT Edu. Please see the above section on "Security and Data" for more information.

Proven Models

Wharton ChatGPT Edu accounts have access to the latest ChatGPT models that have been tested and proven. You can also switch to older models with a single click, if those models are better suited to the task at hand.

Custom GPTs

GPTs are a custom-tailored version of ChatGPT that you can create with no code to accomplish various tasks. These GPTs can be shared with other Wharton ChatGPT Edu users within the Wharton ChatGPT Edu Workspace - see How to share GPTs within workspaces | OpenAI Help Center

> Custom GPTs created within the Wharton ChatGPT Edu workspace **cannot be exported** for access by ChatGPT users external to our workspace.

APIs

Wharton ChatGPT Edu includes API access for faculty and staff (students must work with a sponsoring faculty or staff member willing to both fund and accept risks for projects requiring API access).

If you have a project that requires API access, please contact your Wharton Computing Representative.

Refer to the ChatGPT Edu API Usage section below for API security information.

Chat GPT Account Access

Wharton's ChatGPT Edu workspace is available to some members of the Wharton community. The following table lists who has access and how long that access lasts:

Wharton Community Member Type	
Length of Access	
Standing Faculty & Full-time Staff	
Contingent on an active affiliation with Wharton.	
MBA, WEMBA, and PhD Students	
From enrollment until graduation.	
University students and TAs, while enrolled in Wharton graduate courses	
For the duration of the enrolled course.	

Once faculty, staff, Phd, and MBA students have an active PennKey account and have the appropriate Penn affiliations (e.g. appear in the HR system or are actively enrolled as a student), they will get an email invite directly from ChatGPT.

Active Accounts

In order to maintain an active ChatGPT account, you must accept the invitation to the Wharton ChatGPT workspace, and actively use it.

> If you don't send any messages for six months, your account will be considered **inactive.** Inactive ChatGPT accounts will be removed on a periodic basis.

Account Termination

When you leave the University, your access to the Wharton ChatGPT account will end. All Wharton ChatGPT Edu account owners have a 14-day grace period after their University affiliation terminates before their ChatGPT account is terminated.

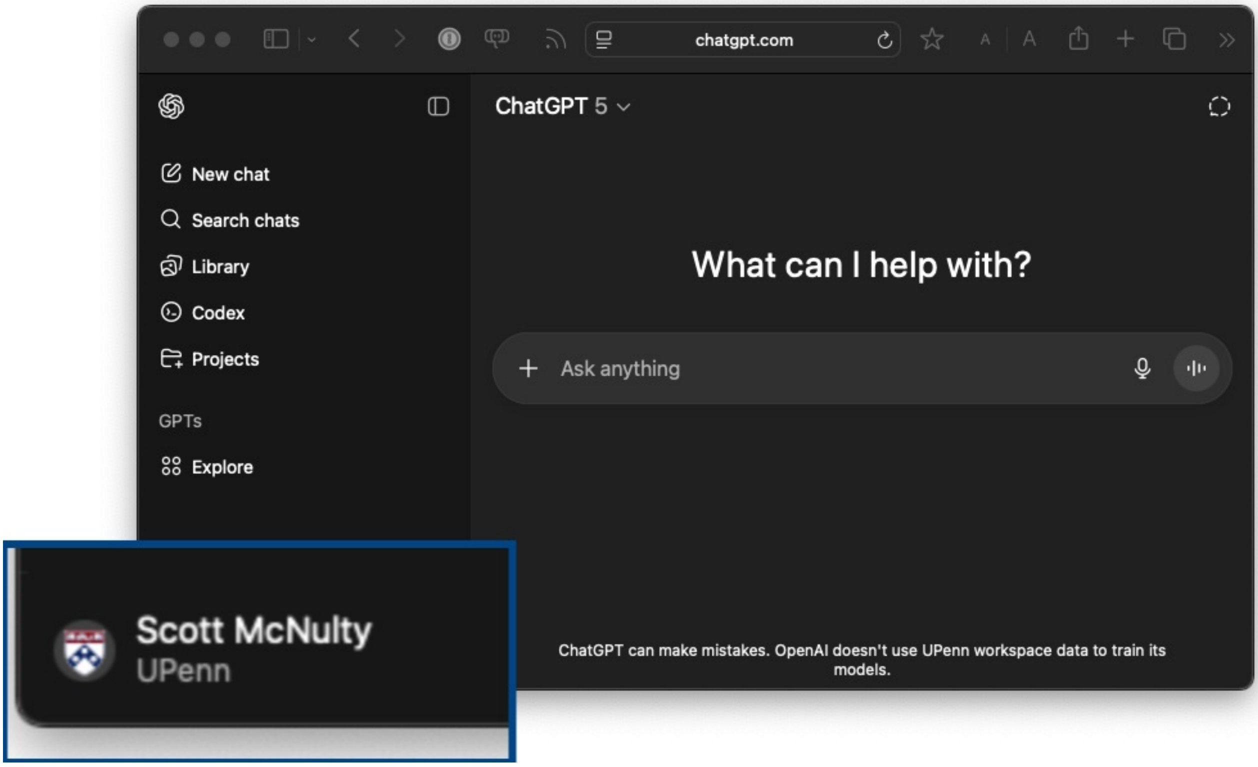
(ChatGPT retains a user's account for 30 days after their University affiliation ends, so if an account is restored before 30 days, all the user chats and history will be restored as well.)

> **Reminder:** Bulk export of chat history or custom GPTs from the Wharton ChatGPT Edu workspace is not available.

Logging In

To log into ChatGPT Edu:

Verifying You Are Logged Into Wharton's ChatGPT Edu Workspace



You may have more than one ChatGPT account, so it is important to know which account you're currently logged into, especially if you're using University data.

The Penn shield is displayed next to your name with "UPenn" underneath it at the bottom of the left sidebar when you're logged into Wharton'sGPT.

> If you don't see the left sidebar it is probably hidden. Click the button at the top lefthand corner of the ChatGPT screen to expand the sidebar.

Already Have a ChatGPT account?

If you have a personal or paid ChatGPT account, we recommend that you create a distinct Wharton ChatGPT Edu for university-related business. This will ensure the data and intellectual property, both yours and the School's, is protected.

Please reach out to your Wharton Computing Representative for help migrating custom GPTs to your Wharton ChatGPT Edu account.

Security and Data

The University's contract with OpenAI ensures that no data uploaded to Wharton's ChatGPT Edu workspace is used to train any of their AI models

> **REMINDER: Submission of University Confidential Data requires the use of a Penn/Wharton-approved enterprise generative AI tool, like ChatGTP Edu.** Use of University Confidential Data in any other generative AI tool, whether a free or for-fee service, is prohibited.

Additionally, the contract includes data protections that enable ChatGPT Edu to be used with some kinds of data the University defines as confidential. The following table lists university data classifications and data types and if they can be used within Wharton ChatGPT Edu:

Data Type	Allowed in ChatGPT Edu
Low	Yes.
Moderate - Not Involving PII or FERPA data	Yes - We recommend connecting with the Wharton Information Security Office on these usages of ChatGPT Edu.
Moderate - Involving PII or FERPA data	Yes, though you must engage with Wharton Information Security Office (ISO) for a risk review of the overall initiative's data architecture and flow outside of the AI solution.
High*	No. Data with this classification should not be uploaded to ChatGPT Edu. Contact the Wharton Information Security Office if you require using data that falls into this category.
HIPAA/Protected Health Information	No. HIPAA data should not be uploaded to ChatGPT Edu. Contact the Wharton Information Security Office if you require using HIPAA data.

See: Generative AI -- Best Practices and Resources for additional resources about using Generative AI tools at

Penn.

Note: Interactions with ChatGPT are subject to the University's Acceptable Use Policy and Privacy in the Electronic Environment Policy. These policies cover the privacy and use aspects of all technologies at Wharton.

ChatGPT Edu API Usage

Interconnection is the direct integration or connection between the AI tool and a system managed by the University. **Using the ChatGPT Edu API to interconnect to any University-managed system or application requires review by the Wharton Information Security Office and Wharton Computing**.

Managed system examples include (but are not limited to):

- Endpoints (Wharton Computing-managed computers, printers and other devices).
- Servers
- Applications (on-premise and cloud-based)
- Data Sources
- IoT Devices

Sharing Chats or Custom GPTs

Sharing Custom GPTs and ChatGPT chats with *specific users* is disabled based on University Security Policy. To share with other users in the UPENN ChatGPT Workspace, a Custom GPT must be shared to the full workspace via "Anyone at UPenn with the link."

Features

Wharton's ChatGPT offering includes several features you may find useful.

Connectors

The following connectors are enabled for use with ChatGPT:

- GitHub Connector (This connector should only be used with University GitHub https://github.isc.upenn.edu/)
- Google Drive
- Microsoft OneDrive

Settings

The following settings are enabled for use with ChatGPT:

- Codex

Warning: When working with code in ChatGPT, immediately download any files you create, otherwise you may receive an error message that says, "Code interpreter session expired" and lose your work.

Resources

Video Tutorials: OpenAI has produced several short video tutorials:

- Introduction to OpenAI, ChatGPT Edu, & Prompt Engineering (15min)
- Prompt Engineering (7 min)
- Introduction to GPTs (Concept, Best Practices, Building) (5 min)
- Advanced GPTs: Using Custom Actions (5 min)
- Quick High-Value Tips (2 min)

Documentation: OpenAI has a lot of great documentation about ChatGPT Edu, but there are two resources that are particularly useful:

- Prompt Engineering Best Practices: This is a must-read, as it offers many tips for crafting the perfect prompt.
- GPTs for Business Cookbook: Creating your own GPT is a sort of superpower of ChatGPT Edu, and this cookbook walks you through the process and lays out some best practices.

Live Webinars: OpenAI provides recordings to webinars designed to introduce people to what ChatGPT Edu can do.

- ChatGPT Edu 101: A Guide to Your AI Work Assistant. -This webinar includes an overview of the product, prompt engineering tips & tricks, advanced data analysis, and an intro to custom GPTs.
- ChatGPT 102: Applying AI to Do Your Best Work - This webinar covers using data analysis to improve critical thinking and building GPTs.

Student Opportunities: The Wharton AI & Analytics Initiative has several resources for students, including:

- Modules and Courses
- Engagement Opportunities
- Jobs and Internships

Questions?

Please contact your Wharton Computing representative with any questions regarding Wharton ChatGPT Edu.

Please contact Wharton's Information Security Office with any questions you may have about data policies and connecting ChatGPT Edu to University systems.

AI Prompt Generation

Last Modified on 11/20/2024 11:30 am EST

This article discusses the limitations and advantages of using a generative AI chatbot, and reviews best practices on interacting with them.

Before You Start

You will need the following before you can complete this task:

- A valid PennKey
- An M365 Account

Benefits of Using Chatbots

AI Chatbots can help with many types of tasks, and answering questions:

- Generating Ideas
- Answering questions:
  - “How do I ___”
  - “What is ___”
  - “What does __”
- Help with
  - Coding
  - Writing
  - Excel
- Testing validity effectiveness

Limitations

Chatbots like Microsoft Copilot or ChatGPT were trained, largely, on data from the web. This can result in all the credibility and authenticity issues that we find when navigating information online. Limitations to be aware of include:

- **Scope of Knowledge**: Since chatbots are trained on existing data, their responses are constrained by the scope, quality, and recency of the data they've been trained on. This can lead to outdated or incorrect responses.
- **Misinformation**: AI models can come up with fake information, generating confident but unfounded or

incorrect statements, sometimes referred to as "hallucinations" in media. Users might receive information that appears credible but is actually incorrect, misleading, or lacks context, requiring manual verification to ensure accuracy.

- **Bias and Fairness**: Training data can contain biases, which the AI might inadvertently learn and reproduce. This can lead to biased responses, affecting the fairness and impartiality of the information provided.
- **Misunderstanding Prompts**: AI can misinterpret user intent or the context of queries, leading to responses that are accurate in isolation but unhelpful to the user. AI may also struggle with complex, ambiguous, or highly specialized topics where expert human judgment is crucial.

Advantages

Chatbots are more than a search tool like Google. Based on the billions of documents comprising its training data, it is quite good at predicting what should come next in a conversation. Some examples include:

- **Generates Human-Like Responses**: Chatbots can create various types of content, including **poems, songs, stories, and reports**. Its responses are tailored to mimic natural language, making interactions more engaging and relatable.
- **Non-English Language Support**: Most of the "frontier" chatbots support a variety of languages and can even serve as decent translators.
- **Tailored Conversations**: Chatbots provide better answers with more context, but that doesn't mean you need to think about your prompt upfront. It's often more effective to carry out the conversation, correct errors or add context as you need to. You might not get the right answer the first time, but ultimately the chatbot can help guide you to personalized results that meet your needs.
- **Use files, images, or your voice for your prompts:** Frontier model chatbots such as Copilot and ChatGPT 4o allow you to send and receive information in a variety of datatypes. Upload files, talk to the chatbot, or drag images onto the conversation. These different datatypes will be used as reference, and the chatbot will have different ways of interpreting these assets for you.

6 Recommendations

Following these recommendations will help you achieve results more quickly and effectively.

Clarify Your Objective

Before engaging with a chatbot, take a moment to **clearly define your purpose**. Are you seeking assistance with drafting emails, conducting research, or having informative conversations? Knowing your objective helps the AI provide more relevant and accurate responses.

Be Clear and Succinct

When making requests, **be concise and specific**. For example: "Generate a sample offer letter for a writing position." Clear instructions lead to more accurate results. Avoid vague or ambiguous queries.

Organize Information

If you're providing context or background information, **organize it logically**. This helps the chatbot understand the context better and ensures a more focused response.

Describe the Type of Answer you Want

One of the key differences from the past: Frontier chatbots think in terms of translating from query to response. Just like you can ask for a translation from English to Spanish, you can ask for a translation from a bullet-point list into headings with full paragraphs, or from image to a description of the image. Telling the chatbot what you want to receive can be a very powerful tactic.

Verify Your Facts

While chatbots can provide information, it's **essential to verify facts independently**. Cross-check details from reliable sources to ensure accuracy. Remember that you are responsible for your work. Chatbots hold no copyright or legal right over the content they produce. They also do not ensure 100% accuracy. Always doublecheck facts and apply critical thinking.

Break Down Complex Tasks

For **complex tasks**, break them into smaller steps. Instead of asking for a complete essay or solution,**request help with specific sections**. This approach allows the chatbot to address individual components more effectively.

Re-prompting

Sometimes, chatbots may need **additional context or clarification**. If it asks for more information (re-prompting), provide relevant details to guide its responses. Be patient and responsive during the conversation.

> Remember that including context is crucial for achieving your desired outcomes!

Step-by-Step Examples

These examples may help you think of good queries:

Idea Generation

- "Brainstorm creative ways to improve office productivity."
- "Generate unique ideas for a new mobile app."
- "Suggest innovative marketing strategies for a small business."

"How do I ___"

- "How do I troubleshoot a network connectivity issue?"
- "How do I optimize my website for search engines?"
- "How do I create a pivot table in Excel?"

"What is ___"

- "What is blockchain technology?"

- “What is the concept of quantum entanglement?”
- “What is the purpose of a REST API?”

“What does __”

- “What does the term ‘machine learning’ refer to?”
- “What does the ‘404 error’ mean in web development?”
- “What does the acronym ‘HTML’ stand for?”

Writing Help

- “Assist me in drafting a persuasive cover letter for a job application.”
- “Provide tips for improving clarity and conciseness in an academic essay.”
- “Help me create engaging dialogue for a fictional short story.”

Excel Help

- “Guide me through creating a formula to calculate average sales in Excel.”
- “Explain conditional formatting rules for highlighting specific cells.”
- “Demonstrate how to use pivot tables to analyze data.”

Coding Help

- “Write a Python script that generates a Fibonacci sequence.”
- “Outline the essential components of an HTML webpage.”
- “Describe the typical structure of a JavaScript function.”

Testing Validity Effectiveness

- “Explain how to design effective unit tests for a software application.”
- “Discuss strategies for validating user input in a web form.”
- “Describe A/B testing and its impact on website optimization.”

From Ideation to Editing: Workflow examples

	Exploration	Ideation	Outline/Planning	Crafting	Revising

Administrative	Is there a function in Excel that will copy a new entry and paste it into a different table?	I want to make it easier to do a predefined set of tasks in Excel. What are some ways I could accomplish that?	I am writing a macro for Excel and I want to copy one row from a table in Sheet 1 and paste it at the top of a table in Sheet 2. Please list the action steps my macro needs to take.	I am writing a macro that does { my outline }. Please write the code for me.	That macro almost works, but it pastes in the wrong row. Can you change this to paste in Row 5?
Writing	You are facilitating a conversation about the potential of Large Language Models and whether we have reached 'singularity'. How should I prepare?	How can I frame the conversation in a way that focuses on fact and a rational approach to this highly charged question?	Please provide an example structure for an open debate involving 10 people about the potential of AI and whether we have reached 'singularity'?	Write a brief overview of the state of Machine Learning Technology and the concept of singularity.	Can you include content about why some people are already anticipating singularity? And please make it shorter.
Coding	I want to keep track of any changes to a public web URL and mark any changes in an easy-to-read format. I want to see, like in git, when changes are made to the content (I don't care about code-related changes to the CSS or webpage)	I'm writing a python function to pull data from a website and then update an excel file on my local machine. What packages should I use?	You suggested a file for one previous version, but I'd like to create a small database that stores multiple versions, and I want to track multiple URLs.	Write a function that refines the raw text or response from a URL into the main content. I need to be able to apply this across multiple websites, so the function needs to take a generic approach that will work consistently - but only store the main content, not the nav menu or the sidebars, or anything like that.	That function is too restrictive and is blocking important content in some cases. Can you make it more inclusive?

Questions?

Reach out to your Wharton Computing Representative if you need help, or have any questions.

Lecture Recall for Students

Last Modified on 09/29/2025 3:30 pm EDT

Lecture Recall is a *generative-AI study assistant*—a custom GPT inside UPenn's ChatGPT Edu workspace—that lets students revisit, search and quiz themselves on recorded class sessions, slide decks and practice exams. This tool is currently available in selected pilot courses only.

Before You Start

You will need the following in order to use Lecture Recall:

- Active pennkey (`username@upenn.edu`)
- Enrollment in a course that is running the pilot.

How to Use the Service

- **Log in with SSO:** Go to chatgpt.com and log in using your ***pennkey@upenn.edu*** address. You can tell you are in the UPenn ChatGPT Edu by the Penn shield in the bottom left corner of the interface. If it's not there:
    - Log out, and Log back in.
    - Choose *"Sign in with SSO"* and enter `username@upenn.edu`
- **Navigate to your Course Lecture Recall Link:** The link will be in your Canvas Site, distributed by your teaching team. If you cannot find it, ask your TA or professor.
- **Pin your course GPT:** click the star to keep the course-specific GPT link in the sidebar for one-click access.
- **Ask targeted questions:** e.g.: "In the lectures, what did prof say about..." See the Queries Section below for more details.
- **Submit feedback for the teaching team:** Tell the bot "Submit Feedback {your feedback | e.g.: this answer showed the wrong formula}."
- **Cross-check facts:** treat the bot as a study aid, not an official source—always validate critical information by following the video links, or follow up with your TA or professor.

Anonymized Usage Data

Our intent is to understand how the tool is used, so that we can continually improve the user experience, while preserving your privacy. Currently, Lecture Recall collects queries, but it anonymizes the username, so we can tell a query was sent, but not who sent it. We store anonymized names like you see in Google Apps, such as "balcony pear" and "debris blanket."

If you think this is too much or too little, please let us know directly in the bot (e.g.: "Submit Feedback - Anonymizing Usage data is a great idea, but here's what I think...")

Queries

Let's walk through some of the particulars of working with the bot. Keep in mind that the teaching team does often customize the instructions and files available to the bot, so behavior might vary. However, there are some fundamentals that should help you get the most out of your review time.

- **Oauth** (Authentication): The first time that the bot sends your query to our database, you will be asked to confirm the transmission. Select **Yes Always** for the most convenient experience.

- **Know what data is being used**: Although we instruct the bot (quite forcefully!) to always reference the course content, it does not always do so.
    - Talking to apps.wharton... -> Sending your query to our database containing lecture transcripts. This will return the closest semantic matches with bookmarked links to the video
    - Searching my knowledge... -> Searching any files that the teaching team has uploaded. Sometimes the search can occur in milliseconds, so you might not have time to notice the wording of the action.
- **Ask explicitly for what you want**:
    - If you want to search the lectures -> "What do the lectures say about {my question}?"
    - If you prefer the course notes -> "What do the course notes mention about {my question}"
    - Some classes also arrange their lectures and course notes by a simple index. If they do, then you can reference the course session # as well -> "In the first class session, what did prof say about {my question}?"

Frequently Asked Questions

Q: Can Lecture Recall see the graphs or images I upload?

> **A:** No. Describe the graph or paste the underlying data; the bot will interpret it textually.

Q: The bot gave an answer that conflicts with the lecture. What do I do?

> **A:** Flag it immediately with *"Send feedback: [description of issue]"* or open a support ticket with screenshots so we can retrain the model.

Q: I'm enrolled but the GPT link says "Access Denied".

> **A:** Confirm you're logged in with your `username@upenn.edu` and not a personal Gmail. If the issue persists, clear your browser cache or try incognito mode, then contact support.

Questions?

Contact: Submit a ticket or email support@wharton.upenn.edu

Support Hours: Mon–Fri, 9 a.m.–5 p.m. ET

Response Time: within 1 business day

Framework

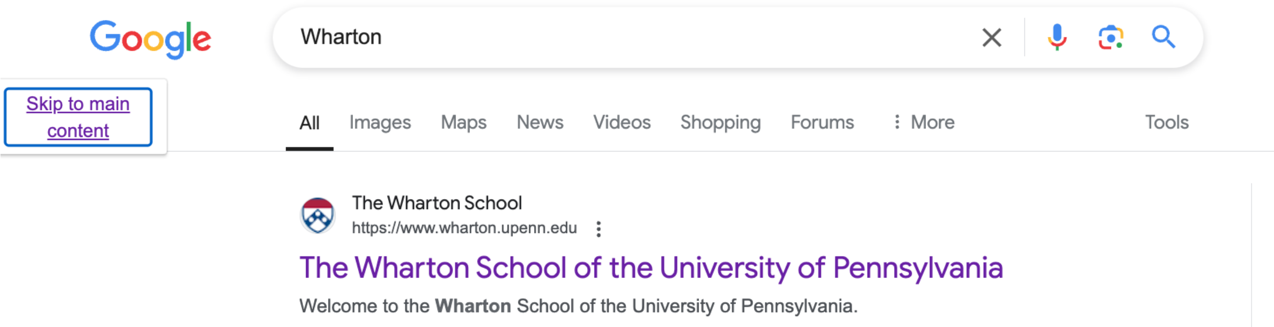
Last Modified on 11/13/2025 2:51 pm EST

Americans with disabilities comprise the largest minority group in the country. When designing digital content, one should prioritize **accessibility.** This allows you to ensure your content is available to the most people possible.

This page provides an overview of disabilities, and available options for adjusting your content.

The word 'accessibility' may conjure up images of a ramp leading up to a doorway or those buttons at crosswalks. These forms of physical accessibility are highly visible and take up space in our everyday lives. Digital accessibility however is often completely invisible to non-disabled users. Users encounter or pass by accessibility best practices without even knowing they are there!

For example, head over to this Google Search for Wharton and without pressing any buttons or clicking, press the Tab key on your keyboard. You should see a small popup on the left that says "Skip to Main Content".



This is a skip-link, and allows users to bypass repeated menus/navs when navigating via their keyboard. If you press **Enter** when the skip-link has focus, you will jump immediately to the first link instead of needing to Tab through All, Images, Maps, News, etc. Could you imagine how annoying it would be to tab through a navigation menu for each new page you visit?

Penn's Digital Accessibility Policy

The University maintains a site dedicated to helping the community provide accessible online materials.

> *University websites and web applications that are created or undergo significant revisions or redesign after July 1, 2024 are expected to meet The Worldwide Web Consortium's Web Content Accessibility Guidelines version 2.2(link is external), Level AA Conformance (WCAG 2.2 Level AA).*
>
> *This policy extends to any form of electronic resource used for instruction, information distribution, or communication. This includes, but is not limited to, electronic documents (PDFs, spreadsheets, and email), multimedia files (YouTube videos and Podcasts), and online instructional lessons and events (course content and Commencement).*
>
> For the latest updates, see https://accessibility.web-resources.upenn.edu/overview-accessibility-penn/standards

Shifting Left

When it comes to implementing accessibility features, "shifting left" means prioritizing accessibility as early in the process as possible. The Digital Accessibility Team supports this approach for Wharton Computing. The earlier accessibility is considered in a process or product, the less time, money, and meetings have to be devoted to remediating out-of-compliance content. Save yourself the stress!

We hope that learning about digital accessibility will empower you to advocate for best practices.

The Digital Accessibility Team is here to help if you would like to discuss more.

Laws To Consider

The Department of Justice actively follows complaints of inaccessibility. Noncompliance with federal mandate has real consequences. To date there have been dozens of lawsuits and investigations: Here is a list of some lawsuits against higher education over digital accessibility specifically.

Links to an external site. (Higher Ed Accessibility Lawsuits, Complaints, and Settlements)

Americans with Disabilities Act

The Americans with Disabilities Act is a monumental piece of legislation that expressly forbids discrimination due to disability. It applies to nearly all private and public entities and has been revised as times have changed. Most recently in April of 2024 sections pertaining to web/mobile content received updates to provide a more equitable online space for people with disabilities.

The Capitol Crawl, where wheelchair users physically crawled up the Capitol steps as a form of protest, marked a pivotal moment in the passing of the ADA. One of the protestors said this was meant to "show our determination that no barrier would stop us from gaining our civil rights."
Photo Credit: Tom Olin

According to guidance posted by the U.S Department of Justice, Civil Rights Division “The Department has consistently taken the position that the ADA ’s requirements apply to all the goods, services, privileges, or activities offered by public accommodations, including those offered on the web.” (Guidance on web accessibility and the ADA)

Section 508

An amendment to the Rehabilitation Act of 1973, Section 508 applies to any federal agency. It specifies WCAG 2.0 as the standard for inclusive and accessible web content. If a website is compliant with the newest ADA updates (WCAG 2.2), they should also be compliant with Section 508. WCAG standards are built on top of each other, so later guidelines include previous ones. (IT Accessibility Laws and Policies)

International Legislation

Due to Wharton's global presence, it is important to keep in mind relevant international laws that may apply to web content. Fortunately for us, most nations with accessibility laws require WCAG 2.0 AA. This standard is met by Penn's own accessibility standard of WCAG 2.1 on legacy apps. Net-new apps or apps that go through major updates must conform with WCAG 2.2 AA standards per Penn's accessibility policy.

Types of Disabilities

You may have heard of "People-First Language" where instead of "A blind person" one would say "A person with a visual impairment/disability". It is recommended to use People-First Language when discussing disability.

Below is a non-exhaustive list of common disabilities, along with their occurrence rate and general description.

Questions to keep in mind:

- What types of barriers people with these may face when using the internet?
- What assistive technology might they use to circumvent that?
- What disabilities are more common than you expected?

Visual Disability

Colorblindness

Occurrence	Description
• 1 in 12 Men • 1 in 200 Women	Difficulty distinguishing certain color combinations, the most common of which is red-green colorblindness.

Blindness

Occurrence	Description
2.2 Billion people worldwide	Mostly people aged 50+. Ranging from full vision loss to difficulty reading text or making out faces and shapes. Can sometimes be addressed with corrective lenses.

Low Vision

Occurrence	Description
246 Million people worldwide	Uncorrected or permanent deficit in vision when performing a specific task."

"Two pictures of a man laying on a dock. In one, the picture of his legs and the water and mountains in the distance is clear. In the other, the view is darkened [and] blurry, to represent what one might see with blindness." (Perkins School for The Blind.)

Auditory Disability

	Occurrence	Description
d/Deaf	1 in 20 people worldwide, expected to double to 1 in 10 by 2050.	Lowercase 'd' (as in "deaf") refers to the medical distinction where an individual cannot access certain sounds. The 1 in 20 figure mentioned above refers to this group. The capital 'D' (as in "Deaf") notes a cultural marker. People who are Deaf often use sign language and subscribe to Deaf cultural norms.

Hard-of-Hearing	Unavailable	Another term used to describe hearing loss. Typically used in cases where some sound is still accessible, especially through the use of a hearing aid or other assistive technology. Hard-of-Hearing people will generally use spoken language and benefit greatly from captioning. If they are bilingual in English and ASL , they may also request an interpreter.

Cognitive Disability

	Occurrence	Description
Intellectual Disabilities	Around 1.5% of children surveyed from 2017-2020 had an intellectual disability. (Zablotsky, et al.)	Significant impacts on cognitive processing and adaptive behaviors (strategies we use to overcome day-to-day problems), typically identified in early childhood through screenings in public school.
Dyslexia and Dyscalculia	• Dyslexia - Between 5%-17% • Dyscalculia - Between 3%-6%	These disabilities describe measurable difficulty with words, numbers, or writing that are **not tied to intellectual disabilities**. Some accommodations for these may include screen readers, calendar support for date-pickers, and word processors.

Motor Disability

	Occurrence	Description
Fine Motor Control	Unavailable, but covers people with Repetitive Stress Injury (RSI), muscle weakness or fatigue, and people who have experienced a stroke.	Difficulty in maneuvering the hands and feet for detailed, specific control of something. Fine motor skills work together to create larger collective movements such as operating a keyboard or buttoning up a jacket.

Seizure Disability

	Occurrence	Description
	Globally around 50 million people	A sudden and uncontrollable neurological condition, seizures can be mild to life-threatening in severity. If a person has two or more seizures or a tendency to have recurrent seizures, they have epilepsy.

Resources and Works Cited

Accessibility laws worldwide, July 12, 2024. Accessed February 27, 2025.https://eye-able.com/blog/accessibility-laws-worldwide .

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Accessibility and Accomodations

Last Modified on 11/13/2025 3:36 pm EST

There are differences between "accessibility" and "accommodations". This article can help identify campus resources to assist with meeting accessibility standards and accommodations requirements.

The generally accepted difference between accessibility and accommodations is:

- Accessibility: the inclusive practice of identifying and reducing or eliminating barriers that prevent interaction with, or access to, digital resources.
- Accommodations: short term assistance to overcome barriers that prevent interaction with, or access to, digital resources.

Accessibility

Accessibility is a measure of how content is accessed by individuals with varying needs, and the built in features which allow the content to be accessed by a more diverse audience.

For example, consider the entrance to a building. If the building has stairs going up to the door, does it also include a wheelchair ramp? Do the door handle and weight make it easy to open the door while sitting in a wheelchair? And is the door wide enough to allow a wheelchair to go through it?

These are factors which impact the building's accessibility for people using wheelchairs, and this concept is transferrable to the digital environment when we build it to be accessible to a more diverse audience. For example, a video is a great tool for communicating ideas, but if it does not have captions, it is not accessible to deaf people or who may be in a location where they are not able to use sound.

Accommodations

Accommodations are measures which are taken to provide access to spaces and places, both physical and virtual, that are otherwise not accessible to someone. There are many reasons why spaces and places may not already be accessible, and when we learn that there is a need for a different way to access the space or place, we then have to retrofit to accommodate that need.

Going back to the example of the building entrance, if there is not a ramp, a single use fix might be to have someone else help the person using the wheelchair to ascend the steps. If the person in a wheelchair needs to use the building entrance repeatedly, a mechanical lift may be installed. Both of these would fall under the definition of an "accommodation," and require the person in the wheelchair to seek out assistance, demonstrate the need, then wait for the accommodation to be applied. This reduces the autonomy of the person using the wheelchair, and greatly increases the time, energy, and effort it takes to accomplish the task.

Our goal is to make things as **accessible** as possible, preferably starting at the earliest stages of designing and building the digital environment.

Accessibility at Penn

Accessibility is a shared value and responsibility at Penn.

The Weingarten Center

The Weingarten Center is the University's center for student with disabilities. In addition to the Weingarten's work on accommodations, it also partners with other departments throughout campus to coordinate and improve the accessibility of buildings and grounds, transportation, communication, and digital infrastructure.

Web Accessibility at Penn

ISC has a Web Accessibility page with information and resources.

Committee for an Accessible University (CAU)

Mission Statement of the CAU
The Committee for an Accessible University (CAU) serves as an advisory committee to the Vice President for Facilities and Real Estate Services, the Office of Affirmative Action and Equal Opportunity Programs, and the Office of Student Disabilities Services. The Committee works closely with the University Architect to implement the Architectural Barrier Removal and Prevention Program (ABRP) effort. Included in the Committee's charge: monitoring major renovations, landscape projects and new construction; identifying barriers; and recommending, prioritizing, and requesting individual projects.

Members are University-wide representatives from Schools, Centers, Offices, and Programs who come in frequent contact and/or work with, or are themselves faculty, students, and staff with disabilities. Meetings are held in the fall and spring of the academic year. The ABRP Subcommittee meets as needed throughout the year.

Student Accommodations

The Weingarten Center processes student requests for accommodations and sends notification emails to instructors. The process may take up to four weeks, and students are required to renew their accommodations at the start of each semester.

Academic accommodations are determined on an individualized basis through an interactive process that involves student self-disclosure, documentation of disability, and an initial meeting with a Disability Specialist.

The Weingarten Center has a Getting Started Toolkit to help students navigate the accommodation request process.

Common accommodations for students include, but are not limited to the following:

- Additional time on timed exams and quizzes
- Breaks during exams or quizzes
- Distraction-free or reduced-distraction environments
- Hearing related accommodations
  - Professional captions
  - CART technology
  - Sign Language interpreters
- Vision related accommodations
  - Audio descriptions on videos
  - Alternative text on images

- Note taker and/or note taking software
- Flexible assignment format and deadlines
- Other forms of assistive technology
- Preferential seating
- Transcription software
- Access to recorded class lectures

Accommodation Services for Faculty, Staff & Visitors with Disabilities

The University of Pennsylvania has equal opportunity and affirmative action programs for faculty and staff with disabilities. The Office of Affirmative Action and Equal Opportunity Programs oversees these programs and the provision of reasonable accommodations for faculty and staff as well as guests and visitors.

Common accommodations for students include, but are not limited to the following:

- ergonomic desk setup
- Software for speech-to-text
- Hearing-related accommodations
- Vision-related accommodations

Assistive Technology

Last Modified on 12/15/2025 11:50 am EST

Digital assistive technology covers a variety of inventions meant to enable people with disabilities to complete specific tasks on the computer. They can be split into two broad categories: **Perception** and **Interaction**.

- Perception - Things that accommodate or replace monitors
- Interaction - Things that accommodate or replace a keyboard/mouse

Perception

You can imagine perception-based assistive tech like a pair of reading glasses. The user's experience is filtered through these devices. Below are some examples to consider when creating digital content:

Screen Readers

Screen readers are by-and-large the most common digital assistive tech. Either as a standalone piece of hardware or downloaded software, it interprets on-screen information and reads it aloud to the user. Hardware screen readers can be equipped to output in Braille for DeafBlind users as well.

The exact process of communicating a visual medium through computerized speech is dependent on the manufacturer. Fortunately, WCAG standards help us target specific accessibility features - allowing us to focus on expected functionality rather than specific interactions for each screen reader model. Some common screen reader software include JAWS Job Accessibility With Speech, NVDA, and VoiceOver for Mac.

Please watch the **first two minutes (2:00)** of this video for more information on screen readers:

Switches

Switches provide a simple and robust interface to control a more complex item. For example, a button that operates an appliance or a joystick that moves a motorized wheelchair. These can also be adapted to operate computers. In some cases a mouse pointer may run across the screen left-to-right, top-to-bottom, until it passes over an element the user wants to click on. The user then presses the button to indicate a click. It may also do the same for an onscreen keyboard allowing for text input.

Four button switches arranged in a square.

Photo credit: **Boundless AT**

Sip And Puff

Sip and puff devices are a subset of switches that allow a user to interact with a computer, motorized wheelchair, or other device without using their hands. They can be customized to the individual user and their specific accessibility needs.

A sip and puff switch attached to a wheelchair.

Photo credit: enablingdevices.com

Best Practices

Prioritize Text Content

The text on the page should be the main source of information. Ask yourself "If I copy+pasted everything would I have the bulk of the information, and is what I'm missing covered by other means (alternative text, captions, etc.)?".

An anti-pattern for this idea would be a PDF of only powerpoint screenshots. It lacks text content for screen readers to interpret, and adding alternative text for each image would be inefficient and ineffective. In this situation the text content should be extracted and drafted into its own document.

Alternative text

All non-decorative images and graphs **must** have alternative text ('alt text'). The alt text provides equivalent information for screen-reader users.

Take, for example, this image:

Alt text should capture the essential information within the image. "Closeup of graduating students, from behind" is brief, but descriptive. Avoid using "image/picture of" or the file name within alt text.

Alt text should be at max 120 characters (about 1-2 sentences). If that is insufficient, consider adding a text description or a caption near the image that goes into more detail.

Here are some helpful tips for writing effective alt text:

1. **Focus on the Content and Context:** Tailor the description to the context in which the image is used. Emphasize details that are critical for understanding the document.
2. **Convey Meaning, Not Appearance:** Instead of describing visual attributes (e.g., “A black-and-white image of text”), focus on the information conveyed (e.g., “A flyer announcing a community meeting on December 15th at 7 PM”).
3. **Use Accurate Terminology:** Incorporate terminology relevant to the subject matter, such as names, dates, or technical terms, ensuring the description is specific and correct.
4. **Avoid Redundancy:** Do not repeat information already present in the surrounding text or captions.
5. **Include Text from the Image:** For text-heavy images, summarize key points or transcribe critical parts, especially if the text is integral to understanding the image.
6. **Consider the Audience:** Write with the end user in mind, considering their knowledge level and what information they need to fully grasp the image.
7. **Indicate Complex Structures:** For charts, graphs, or tables, summarize trends or key data points rather than attempting to describe every element in detail.

8. **Provide Context for Interactivity:** If the image includes interactive elements (e.g., links or buttons), describe their function and destination, such as "Link to the company's annual report."

9. **Use Punctuation and Grammar:** Write in full sentences with proper grammar to make the alt text more natural for screen readers.

10. **Keep it Neutral:** Avoid adding subjective or personal interpretations unless relevant to the context.

11. **Use Simple Language:** Write clearly and avoid overly technical jargon unless it is essential for the content.

12. **Separate Decorative Images:** If an image is purely decorative and adds no meaningful content, mark it as such (e.g., alt text set to an empty string "").

Following these practices ensures that document images are accessible and provide meaningful support to all users, including those relying on assistive technologies.

Fully operable via only the keyboard.

If an Assistive Technology provides web operability, it is often acting as a keyboard. It is essential that your site is navigable via the keyboard. Penn's recommendations on how to keyboard test are listed below.

How to keyboard test:

1. Beginning at the top of your site/document, begin using the TAB key to jump through the page.
2. You should be able to highlight every interactable item on the page.
3. Tab order, sometimes called 'focus order', should be logically consistent following the content on the page.
4. All controls should be fully operable (toggles, buttons, modals, etc.) as well.
    1. Some elements require using your arrow keys to select (e.g. a dropdown menu)
5. Finally, ensure there are no repeating loops of items, **these are known as keyboard traps** and can cause great frustration.

Keyboard testing is an integral part of accessibility compliance. If you discover something is not keyboard accessible, you should send in a support ticket to have it fixed. You can also reach out to the #ask_accessibility slack channel with any questions.

Source: Keyboard Testing from Penn Web Accessibility

Timeliness and User Feedback

If a time-sensitive task is given to a user, ensure that they are given sufficient time to complete it. Generally this is 10x what an able-bodied user would take, with a minimum of 20 seconds for a single button press, whichever is greater. W3C World Wide Web Consortium cites timed server redirects and auto-logouts as top contributors to failing this requirement. You can read more about this on the WCAG 2.21 explanation.

Resizing

Online content (except for images of text) should be resizable up to **200%** without losing content or functionality. With the increase in mobile web browsing, this is becoming more commonplace.

Works Cited:

https://www.boia.org/blog/4-common-accessibility-barriers-for-screen-magnifiers

https://www.visionaid.co.uk/supernova-magnifier

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Captioning

Last Modified on 12/15/2025 11:59 am EST

This module will cover what captions (mostly for video) are, the different types available, and what you need to provide to be ADA-compliant. Each section of the module will include explanations of concepts and, where available, a video or screencast explaining the concept. We'll end with a self-directed quiz, advice, and recommendations.

[ADD LINK TO VIDEO SOMEWHERE???]

Reason to Caption	Explanation of Why
It's required by law	The Americans with Disabilities Act (ADA), passed in 1990, requires accommodations be provided for anyone who needs them. For more information and to confirm requirements, contact Student Disability Services (SDS) or the Office of Disability and Compliance (ODAC).
It meets learning needs	Those with hearing impairments or other auditory processing issues can participate in the learning.
It benefits everyone	Making a video or document accessible to people who need accomodations make it easier for everybody to learn.
It helps with studying	A video that is accessible using captions means it's searchable and easier to review. Learners can easily create outlines, and seeing something visually reinforces the audio portion of the video.

Bottom Line: captioning is good for *everybody*.

Types of Captioning

There are many types of captions, each appropriate for specific situations. This module covers the following types of captions:

Closed Captions

User-controlled, only visible to those who select it.

Professional Captions

created by people (not automatically), using your specific video content.

Real-time/Live Captions

provide text for audio (both dialog and sounds) in real-time (e.g. public events)

Burned-in (Open) Captions

permanently embedded in a video; cannot be turned off by viewers

Transcripts

make audio-only content, such as Podcasts, more accessible.

Audio Descriptions

an audio-narrated description of a video's visual elements.

Compliance at Penn

Assistive text support, whether captions or transcripts, is required for most media situations at Penn:

Captions are required for:	**Transcription is required for:**
• Live events or any videos used during an event/course where an accommodation is requested from a student, staff member, attendee, or other person who requires captioning	• Any audio content used in an event/course where an accommodation is requested from a student, staff member, or other person who requires transcription

• All public-facing videos on Penn websites, web applications, or social media account. This includes recorded events and sales and marketing videos	• All public-facing audio on Penn websites and web applications
• All public-facing live events, such as commencement	

Captioning and live-captioning requirements apply even when you are hosting your videos or events elsewhere, such as YouTube or Zoom.

For the most up to date guidance, see: https://accessibility.web-resources.upenn.edu/resources/captioning/accessible-multimedia

Caption or Subtitle?

It's not always clear whether to use captions or subtitles; after all, both appear to be essentially transcripts of what is being said. On closer look, though, there are some significant differences that affect when you choose to use each feature.

When in doubt, opt for captions.

Captions

Captions provide a textual transcript of a video's dialogue, sound effects, and music. Captions are designed for use by D/deaf and hard of hearing audiences, but have gained popularity with all audiences

Captions appear as white text over a black box by default, but can sometimes be customized by viewers, depending on where media is being viewed. Placement varies, but is often centered at the bottom of the screen for readability. When graphics or text appear in the lower third of the video, captions are typically placed at the top of the screen.

Subtitles

Subtitles, introduced in the 1930s to help in the transition to "talkie" films, provide a textual translation of a video's dialogue. Subtitles assume the viewer can hear the audio but cannot understand the language. With subtitles there is often translation going on, and sometimes part of a sentence or idea isn't communicated exactly as it is spoken.

The exception to this is subtitles for the D/deaf and hard of hearing, which assume the viewer cannot hear the audio or understand the language.

Source: adapted from 3Play Media: https://www.3playmedia.com/blog/closed-captioning-vs-subtitles/

Setting up Captions

Depending on which type of captions you decide on, there are different ways to set them up.

Automatic Caption Creation

Use the help section in the video provider you're using to find the directions on how to set up automatic captions. For Panopto, start here: https://support.panopto.com/s/article/ASR-Generated-Captions

Manual Captions

Use the help section in the video provider you're using to find the directions on how to set up manual captions. For Panopto, start here: https://support.panopto.com/s/article/Manually-Caption-Your-Videos

Professional Caption Services

There may be times when you may want a professional to caption your video (and there are funds available to pay for the service). See our Captioning Service article for help from Wharton Computing's team, or reach out to Panopto (for videos in Panopto) using this link: https://support.panopto.com/s/article/caption-services

Options on setting up captions in Panopto are also discussed in the video presentation, at this location:

m/Panopto/Pages/Viewer.aspx?id=f53e327d-86ca-49f7-a926-b15700f07276&start=1047.475166

Advice and Recommendations

There are many resources out there to help you decide on and arrange for the captioning you need. Start by reviewing Penn's accessibility information on captioning.

Penn's Captioning Information: https://accessibility.web-resources.upenn.edu/resources/captioning

Wharton Computing's advice on captioning services: https://support.wharton.upenn.edu/help/captioning-service

Industry Standards followed by Penn: https://www.w3.org/TR/WCAG22/#time-based-media

Resources

- Captioning Video:
- Student Disability Services (SDS)
- The Office of Disability and Compliance (ODAC).
- Penn's Captioning Policy: https://accessibility.web-resources.upenn.edu/resources/captioning
- Penn's live-events requirements and resources: https://accessibility.web-resources.upenn.edu/resources/captioning/captioning-live-events
- Accessible multimedia: https://accessibility.web-resources.upenn.edu/resources/captioning/accessible-multimedia
- Captioning v. Subtitles (from 3Play Media): https://www.3playmedia.com/blog/closed-captioning-vs-subtitles
- Panopto captioning: https://support.panopto.com/s/article/ASR-Generated-Captions
- https://support.panopto.com/s/article/Manually-Caption-Your-Videos
- Links to an external site.
- Wharton Computing's Captioning Service article

- Panopto: https://support.panopto.com/s/article/caption-services
- Penn guidance on setting up captions in Panopto: m/Panopto/Pages/Viewer.aspx?id=f53e327d-86ca-49f7-a926-b15700f07276&start=1047.475166
- Penn's Captioning Information: https://accessibility.web-resources.upenn.edu/resources/captioning

Design Systems

Last Modified on 12/15/2025 11:19 am EST

This article explores the design systems available through Wharton and Penn for making websites more accessible.

Before You Start

You will need the following before you can complete this task:

- [List any hardware, special access, training, or other information we'll want to have on hand for this action. Ex: an account, admin access, installed software, tools...]

Step-by-Step Guide

Add an introductory line or phrase, and then list the steps involved. Each step should be one*complete* action.

1. Bold actions like: click the **Yes** button OR ...**press Enter**. Don't use apostrophes except if you are talking about a "thing".
2. Use Angle brackets (the > sign) for navigation. For *ex.:* **My Account > Account Settings > Advanced**.
3. Use number lists for sequential steps.
4. Use bullet points if order is not important.
5. Add images, screen casts or short videos to help with clarity.
6. Add Alt text to each link: in the "Title" line, describe where the link is sending you e.g.: "Link to Canvas help article."

Make sure all links and captions have alternate text. In the link dialog box, Title = alt text, and Name = anchor

Additional Resources

https://standards.wharton.upenn.edu/

https://knowledge.wharton.upenn.edu/search/#q=accessibility

Tailwind

Base Theme

WAVE Evaluation Tool

Flowbite

apps-support@wharton.upenn.edu

Questions?

Contact: Add the name of person or team to contact with questions. If it's a team, provide a link to the site.

Email: If your preferred method of contact is via an email address, provide that here.

Additional Steps to Consider

Tags (below): Add the audience (e.g.Faculty, Staff), and one tag that indicates the service (e.g. Canvas).

Search Phrases: Add any commonly used words or phrases for this service **that don't already appear in the article**.

Meta Description (strongly recommended): Add a succinct meta description to each article, to help with Search integrations. See the meta description step in the Final Checklist article for more details on what to write.

Checklist: Creating and Updating Documentation

Last Modified on 08/28/2025 1:33 pm EDT

Article templates in Knowledge Owl help you create documentation that captures all the information readers need with a standard look and feel.

- Use a documentation template *unless* you're creating an article that truly needs to be formatted differently.
- Remember: the template is a guide, but you can tweak it if it doesn't fit your article.

Rules of Thumb

Here are some general tips on how to write useful documentation:

- Use simple, non-technical language.
- Define terms and explain anything readers might not know.
- Use H2 headings (ONLY H2 headings will show in the table of contents) as your top level headings.
- Most Headings Should Be in Title Case.
- Start sentences with *action verbs* in bullet points and numbered lists.
- Use bold to indicate the actions needed, don't use quotations:
  - Click **Submit** to submit the form.
- Caption images with explanatory alt text.
- VERIFY the information you're providing is correct.
- Remember to add alternate text to all images and links (for ADA compliance), e.g. "Canvas help article."
- Consider the best way to convey the information: Text? Images? Screencasts? Videos? A combination?
- Is your article shared (published in two or more locations)? Make sure you are editing the parent article unless there is a good reason not to.

More tips available on Confluence.

Create an Article from a Template

1. Click **Add Content** on the bottom left corner of the Knowledge Owl home page.
2. Next, click **Add Article.**
3. Write a descriptive name for your article and choose **Create From Template.**
4. From the **Choose a Template** drop down menu, select a template.*
5. Click **Add and Edit.**

If you are creating another iteration of an article to exist in a second place in Knowledge Owl, make sure to **Add Internal Title** that denotes it as a child page. All subsequent copies should be made from the singular parent page, not from other copies.

*If you're not sure which template to use, see if any of the words or phrases below are in the article you're updating.

Phrases	Suggested Template

"How do I…" **"What are the steps to…"** **"Troubleshooting"** **"Tips"**	How-to Article
"Am I allowed to…" **"What are my rights while using…"** **"How long will I have access to…"**	Policy Article
"How do I get support for…" **"What program can I use to…"** **"What is…"** **"Frequently Asked Questions"**	Service Documentation Article

Do I need a Table of Contents?

Not all articles need a table of contents. Consider deleting the snippet **(except from Policy articles)** if the following apply:

- Your article has only 1 or 2 headers
- You can see 85% of the article on the screen without scrolling
    - check on multiple devices!

Questions? Ask the Communications Team for help!

Checklist

When you're ready to write your article, use this checklist to make sure you haven't missed any important steps.

1. Give your article a descriptive title.

2. Set up the sidebar.

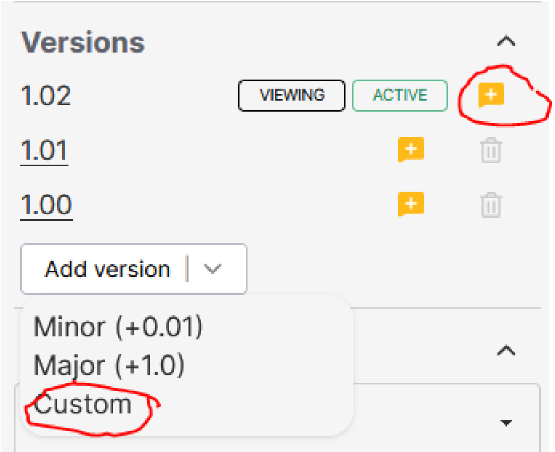
3. Additional steps as needed.

Creating a new (temporarily unpublished) version.

If you want to create a new version of the article as a draft, use these directions :

1. From the right-side navigation of the article, look for the Versions section and choose **Add version.**

--If it's a minor change, like updating images or rethinking layout, choose **Minor (+0.01).**
--If it's a major rewrite, choose **Major (+1.0).**
--You can also select Custom and enter a number of your choosing:



2. Make your changes.
3. To share with colleagues before publishing, you'll need to check **Draft Review Team** in the **Make Visible to Groups** section on the right side.
   This group is a special group of "readers" - your colleagues will need to be a member of this group. If they get an error when they are logged in, post a request in #ask_comms to have them added to the group.
4. **Save.**
5. Choose **Copy Version Link** at the top of the page in the yellow box.
6. Send that link around to your colleagues. Make sure that they LOG IN to Knowledge Owl or they won't see the draft. (They may also need to be added to the group, see above.)
7. When you are ready to publish, Uncheck **Draft Review Team** in the Make Visible to Groups section on the right side.
8. Activate the new version.
   1. Once activated, doublecheck the following:
      1. Meta description
      2. Any article restrictions
      3. Search terms
      4. New/Updated tags

Final Reviews

Before you publish or finish updating...

More Information

There's more general information in Confluence on how to write documentation.

- Wharton Computing Style Guide
- Documentation Best Practices

Service Documentation Template

Last Modified on 03/27/2024 1:40 pm EDT

Briefly explain what the service you're documenting does. For example: "A PennKey is an individual’s username and associated password used to authenticate identity for secure access to many of Penn’s electronic resources" (*[ISC, Services](#)*).

Include a clear way the reader can get the service. e.g. a Get Service button:

Get Service

Access requirements: Add any requirements a user must meet to access the service. For example: "Must have an active Wharton account".

[If there are only 1 or 2 elements, delete the Table of Contents Snippet]

How to Use the Service

Highlight features and benefits of the service. Example: "Hold or attend virtual office hours".

- feature here
- feature here
- feature here

Support

Contact: Email of contact for support or link to create ticket. Where possible, use a group's email rather than an individual's email.

Support Hours: When do you offer support for this service? 24/7? 8am-7pm?

Response Time: When can users expect a response after submitting a ticket? Ex: 1 hour.

Frequently Asked Questions

Keep this section brief. Your FAQs should address exceptional situations, not the basics of the service. Use the sections above to describe things that most users will want to or need to know.

Q: Write your question here.

Q: Write your question here.

Q: Write your question here.

Final Steps:

1. Add tags to indicate Audience (Faculty, Staff, Students) and general topic.
2. Add search terms end uses might use if the term does not appear in the text.

Policy Article Template

Last Modified on 05/03/2021 2:37 pm EDT

Note: Be sure to change all the language listed here, including headings. Use content-specific wording.

Briefly summarize the policy here.

Applies to:

Enforced by:

Effective date:

Definitions

Define unusual, technical, or ambiguous terms used in the policy here.

- **Term:** definition
- **Term:** definition
- **Term:** definition

Purpose

Explain why we have this policy. For example: "The Password Policy is intended to protect sensitive University data and systems by ensuring that all passwords are resistant to hacking."

Scope

Note what aspects of the service the policy does and does not cover.

Policy

Enter your policy details here. For example: "All Wharton account passwords are changed every six months."

Section 1

Expectations of faculty and students who are covered by the policy.

What they can (or MUST) do:

- allowed
- allowed
- allowed

What they should not (or MUST not) do:

- no-no here
- no-no here
- no-no here

Section 2

Situations in which the policy doesn't apply.

- situation here
- situation here
- situation here

Special exclusions or exceptions.

- exception here
- exception here
- exception here

Procedure

Excerpt or link to any relevant procedures here.

Questions?

Contact: Name of person or team to contact with questions. If it's a team, provide a link to the site.

Email: If your preferred method of contact is via an email address, provide that here.

How-to Article Template

Last Modified on 06/27/2025 10:38 am EDT

Use this first part to summarize what we're going to learn how to do or the problem we'll learn how to solve. Remember to tell us what service this is happening in!

Before You Start

You will need the following before you can complete this task:

- [List any hardware, special access, or other information we'll want to have on hand for this action. Ex: an account, admin access, installed software, tools...]

[There are several snippets for Table of Contents. We recommend using the one that says "small". Use the "nested" one if you want to display header levels 3 and 4. If there are only 1 or 2 elements, delete the Table of Contents Snippet altogether]

Step-by-Step Guide

Add an introductory line or phrase, and then list the steps involved. Each step should be one *complete* action.

1. Bold actions like: click the **Yes** button OR ...**press Enter**. Don't use apostrophes except if you are talking about a "thing".
2. Use Angle brackets (the > sign) for navigation. For *ex.*: **My Account > Account Settings > Advanced**
3. Use number lists for sequential steps.
4. Use bullet points if order is not important.
5. Add images, screen casts or short videos to help with clarity.
6. Add Alt text to each link: in the "Title" line, describe where the link is sending you e.g.: "Link to Canvas help article."

Make sure all links and captions have alternate text. In the link dialog box, Title = alt text, and Name = anchor.

A Blue Box like this one is for information that is useful, but not critical.

A Yellow Box like this one is for important information.

A Red Box like this one is for critical information.

Questions?

Contact: Add the name of person or team to contact with questions. If it's a team, provide a link to the site.

Email: If your preferred method of contact is via an email address, provide that here.

Additional Steps to Consider

Tags (below): Add the audience (e.g.Faculty, Staff), and one tag that indicates the service (e.g. Canvas).

Search Phrases: Add any commonly used words or phrases for this service **that don't already appear in the article**.

Meta Description (strongly recommended): Add a succinct meta description to each article, to help with Search integrations. See the meta description step in the Final Checklist article for more details on what to write.

Service Catalog Template

Last Modified on 03/27/2024 1:41 pm EDT

A service catalog is a list of resources available to your users. Briefly explain here which department delivers these services and what activities they are intended to support.

> **Note:** Each of the titled services (as well as each of the service logos) should link to other articles that provide additional information about the service, how to use it, and how to access it. You can use the service documentation template and how-to article template to create those pages.

Service Group 1

Service 1 [link]

- feature here
- feature here
- feature here

Insert product icon here

Service 2 [link]

- feature here
- feature here
- feature here

Insert product icon here

Service Group 2

Service 1 [link] Access via [link or instructions here] **Insert product icon here**
Service 2 [link] Access via [link or instructions here] **Insert product icon here**
Service 3 [link] Access via [link or instructions here] **Insert product icon here**

Service Group 3

Service 1 [link] **Insert product icon here**
Service 2 [link] **Insert product icon here**
Service 3 [link] **Insert product icon here**

Tech Support

Support Site 1 [link]

- support feature here
- support feature here
- support feature here

Insert support office icon here

Support Site 2 [link]

- support feature here
- support feature here
- support feature here

Insert support office icon here

Questions?

Contact: Name department here, and link to website or page if available.

Email: Contact email goes here. You can also provide a link to submit a ticket or a phone number.

Announcement Template

Last Modified on 05/03/2021 2:34 pm EDT

One or two sentences summarizing *what* is happening, and, if applicable, in *which service* it is happening.

Purpose

Explain the reasoning behind the change you're announcing and how it benefits users.

How Does it Affect Me?

Explain which users will be affected by this announcement, and what effects they can expect to see.

Take Action

If users will need to take some action as a result of the announcement, provide step-by-step directions here OR link to directions elsewhere (recommended for more involved procedures).

If there will be updates to this announcement, add something that tells where those updates will be shared (e.g. email, status page.)

Questions?

Contact: Name of person or team to contact with questions. If it's a team, provide a link to the site.

Email or Phone Number: Provide your preferred method of contact.

Sample Topic Article

Last Modified on 08/29/2024 11:53 am EDT

This article is an example of how you would set up a topic article.

1. First, don't include the "Before you Start" and "Table of Contents" elements.

2. Then, add your content, as simply as possible.

Sample Header

Use an H2 header if you want to include this information in the original article's table of contents.

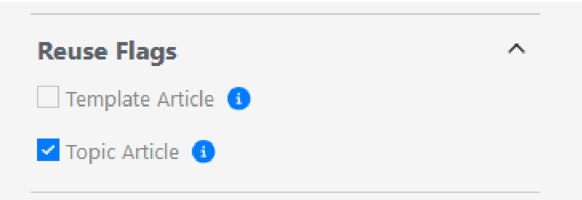
Use this section to craft the text that will be reused across multiple articles.

Checklist

Use this checklist to make sure you've set everything correctly in the Topic article

- Contact info: Make sure that any additional contact information is addressed within this content section.
- Double-check that this information works for everyone; individual articles can't edit this information separately.
- Make sure any links you are including will work for all audiences.

3. Finish by marking it as a Topic article in the right sidebar.



Policies, Standards, and Guidelines

Last Modified on 09/12/2025 1:32 pm EDT

For more details about the Information Security Office, **please visit our website**!

These information security policies, standards, and guidelines provide the minimum requirements for the Wharton community to:

1. Enable the mission of the school.
2. Increase trust and reduce risk.
3. Address regulatory and legal requirements.

Wharton Policies	Wharton Standards	Wharton Guidelines
Policies *establish clear expectations for Wharton regarding the safeguarding of data and digital assets.*	**Standards** *define the minimum process and control requirements for protecting data and digital assets.*	**Guidelines** *provide recommended best practices aligned with Wharton's information security standards.*
• Information Security Policy	• Risk Review Standard • Vulnerability Management Standard • Exception Standard • Identity and Access Management Standard • Data Classification and Management Standard • Email and Content Access Standard	• AI API Key Requirements • Travel Guidelines • Generative AI at Wharton • Slack Guidelines • Zoom Security Guidelines

Wharton aligns with Penn's **Information Policies & Procedures**, including but not limited to:

Penn Policies	Penn Standards	Penn Guidelines

Wharton Policies

- IT Security Policy
- IT Network Policy
- Acceptable Use Policy
- Privacy Policy
- Penn Privacy in the Electronic Environment
- Digital Accessibility Policy

Wharton Standards

- Data Classification
- IT Security Standards
- IT Network Standards
- Penn Data Retention Schedules
- Patent and Tangible Research Property Policies and Procedures

Academic Integrity:

- Code of Academic Integrity
- Charter of Penn Student Disciplinary System
- Center for Excellence in Teaching, Learning, and Innovation
- Consultations and Reporting

Wharton Guidelines

- Information Security Best Practices
- Best Practices for Password Handling
- AI Guidance
- Protecting Penn Data
- Guidelines for the Use of Social Media at Penn
- Penn AI Hub
- Penn Generative AI Tools & Resources

Information Security Policy

Last Modified on 04/24/2025 3:52 pm EDT

For more details about the Information Security Office, **please visit our website**!

1. Introduction

The Wharton School adopts this Information Security Policy to protect the confidentiality, integrity, and availability of digital assets, including information systems that store, process, or transmit data. Wharton shall deploy and use IT resources and services in a manner consistent with the School's research and teaching mission while actively mitigating security risks. This Policy aligns with and adheres to Penn's **IT Security Policy**.

This Policy is a living document that is routinely reviewed and updated to adapt to the evolving Wharton mission, technology advancements, and cybersecurity requirements.

1.1 Purpose and Scope

This Policy directs the establishment of standards, guidelines, and procedures in alignment with the directives of the NIST Cybersecurity Framework (CSF) defined in Section 3.

This Policy applies to all Wharton departments, centers, initiatives, third-party vendors, or affiliates – such as consultants or contractors – authorized to access institutional data, services, and systems. It further applies to all IT systems and services, including data, owned, operated, or maintained by Wharton.

1.2 Compliance

All Wharton employees, students, and contractors are responsible for complying with this Policy and its directives. Wharton's Information Security Office (ISO) will review the Policy and supporting standards annually, updating them based on changes in Wharton's operational environment.

1.2.1 Risk Exceptions

Wharton recognizes that there may be reasons to allow an information technology system to operate outside of the criterion defined in this Policy and related Standards. Exceptions to this Policy may be granted based on a formal, written petition to ISO in adherence to the **Exception Standard**. Approved risk-based exceptions will be documented by ISO, include a defined duration, and be reviewed annually with the goal of achieving compliance.

2. Accountable Stakeholders

2.1 CISO

The Chief Information Security Officer (CISO) leads the Information Security Office (ISO) at Wharton and is accountable for the development and maintenance of security standards, guidelines, and procedures for the School. This role ensures tactical and operational implementations align with the directives established in this Policy.

2.2 Wharton Information Security Office

The Wharton Information Security Office (ISO) oversees the information security and privacy program at Wharton. The team's pillars of success include Information Security Operations & Threat Management, Security Architecture & Engineering, SecDevOps & Application/Product Security, Identity & Access Management, and Governance, Risk, Compliance & Privacy. In partnership with service owners, ISO is responsible for ensuring adequate security and privacy for Wharton.

2.3 Service Owners

Service Owners are designated Wharton staff responsible for overseeing specific systems, applications, or services. Executive Sponsors are accountable for those services. They collaborate with ISO to maintain a secure and resilient digital environment in support of Wharton's mission.

2.4 Wharton Community

Wharton faculty, staff, and students are responsible for adhering to this Information Security Policy. They must comply with security standards and best practices established to support to a safe and resilient digital environment.

3. Security Policy Directives

This Policy directs the establishment of standards, practices, and procedures across the NIST cybersecurity framework pillars: Govern, Identify, Protect, Detect, Respond, and Recover.

3.1 Govern

Program Management

ISO is responsible for overseeing Wharton's information security, privacy, risk, and data governance efforts. This includes measuring compliance with applicable federal laws, regulations, and directives, as well as legal agreements, internal policies and standards.

Risk Management and Assessment

Wharton leverages the Security and Privacy **Risk Review Standard** to assess, identify, and prioritize cybersecurity risks. Risk management techniques must reduce risks to acceptable levels and align with Wharton's strategic objectives. Wharton users are required to review and understand the Data Classification and Governance Standard to ensure awareness of data risk levels and appropriate usage guidelines.

3.2 Identify

Identification and Authorization

Service Owners must ensure users, systems, and processes are uniquely identified and securely authenticated as per the **Identification and Access Management Standard**.

Asset Management

Wharton is required to maintain an inventory of information assets and systems, ensuring their classification and prioritization according to risk and value to the organization.

3.3 Protect

Access Control

Service Owners are responsible for defining access rules and reviewing them annually to ensure proper identification, authentication, and authorization as per the **Identification and Access Management Standard**.

Awareness and Training

ISO provides security awareness and training programs. All Wharton employees will be required to complete training upon request for access to sensitive data and IT systems.

Change Management

Wharton's **Change Enablement Standard** establishes the process for managing changes to IT environments and minimizing risks to system security and availability.

3.4 Detect

Continuous Monitoring

ISO conducts periodic assessments and continuous monitoring of security controls. Identified vulnerabilities must be remediated promptly by the responsible Service Owner and team.

Audit and Accountability

Service Owners are required to process and review audit logs regularly as per the **Audit and Accountability Standard**, ensuring data and services are protected from unauthorized access and tampering.

3.5 Respond

Incident Response

Wharton's **Incident Response Plan** outlines the school's process for handling cybersecurity incidents. The process involves the preparation, detection, containment, eradication, recovery, and post-incident activities. ISO documents, tracks, and reports incidents and conducts periodic tests of the response capability.

3.6 Recover

Contingency Planning

Service Owners are required to align with Wharton's **Business Continuity and Disaster Recovery Plan** in case of system disruption. Systems will be periodically tested to ensure effectiveness.

System and Information Integrity

Service Owners are responsible for identifying, reporting, and remediating system flaws to protect system integrity as per the **Vulnerability Management Standard**.

Risk Review Standard

Last Modified on 05/08/2025 9:36 am EDT

For more details about the Information Security Office, **please visit our website**!

1. Introduction

This *Risk Review Standard* outlines the inputs, activities, decisions, and outputs for submitting and performing risk reviews of enterprise systems and third-party vendors at the Wharton School. Risk reviews are essential to understanding the risk associated with enacting significant changes and when introducing additional assets or vendors into the Wharton information technology (IT) environment. The purpose of this standard is to mitigate risk while enabling initiative success and supporting the business of the school.

This Standard describes the workflow for submitting, analyzing, and developing risk determinations. This standard includes italicized text when referencing documented policies, standards, and procedures (e.g., *Wharton Information Security Policy*).

1.1 Risk Review Standard Owner

The Chief Information Security Officer (CISO) is the lead of the Wharton Information Security Office (ISO). This role is accountable for the development and maintenance of this standard in accordance with both Penn and Wharton Information Security Policy. Additionally, the ISO is responsible for performing risk reviews as described in the Risk Review Process.

1.2 Purpose

In accordance with the *Wharton Information Security Policy*, the Risk Review Process scopes and assesses cybersecurity risks attributed to enterprise systems (existing and new) and third-party vendors within Wharton. The Risk Review Process establishes a standardized and risk-based analysis of the strength of the control environment and the adequacy of the related internal control frameworks.

Security risks are identified through an analysis of collected information/data regarding the intended use within the Wharton environment. The objective of these risk assessments is to understand how systems, assets, vendors, or initiatives may impact the design, security, or privacy of Wharton IT systems.

1.3 Scope

This standard applies to all enterprise systems (existing and new), third-party vendors, or contractors/consultants, or initiatives which may impact IT systems, components and services owned, or operated by Wharton. Interconnected systems and systems sharing data with Wharton systems are also in scope for this standard.

1.4 Compliance

This standard complies with the directives defined in the *Wharton Information Security Policy*. Wharton leveraged industry best practices and guidance (e.g., National Institute of Standards and Technology (NIST) 800-30 Rev. 1, Guide for Conducting Risk Assessments) in the development of the *Risk Review Standard.*

2. Key Roles & Responsibilities

This section defines the roles and responsibilities for the *Risk Review Standard.*

2.1 Wharton Sponsor

The Wharton Sponsor is the requestor of the Risk Review and may be member of any Wharton department, center, or initiative (e.g. staff, faculty, or PhD student). The Sponsor and their designated Wharton Computing partner are responsible for completing a Scoping Document, clearly describing the proposed request, and submitting a Risk Request to initiate the Risk Review process. The Sponsor is also responsible for implementing any proposed risk mitigation defined by ISO.

2.2 Wharton Information Security Office

Wharton ISO is the receiver, assessor, and recommendation provider for Risk Review requests. ISO facilitates, and reviews collected artifacts/information and utilizes provided and independently researched information to complete risk dispositions and assessments.

2.3 University Procurement, Privacy, etc.

Penn Procurement is often responsible for completing the procurement process for Wharton initiatives, though exceptions occur. As such, Procurement is made aware by Wharton ISO of all proposed initiatives and Risk Review requests submitted by Wharton Sponsors. Procurement is responsible for ensuring that a Risk Review has been performed before proceeding with a review of initiative requests, and ultimately moving forward with procurement. Wharton ISO will also include the Office of Audit, Compliance, and Privacy (OACP), the department Business Administrator (BA), the Office of General Counsel (OGC), and/or the Office of Research Services (ORS) on communications as necessary.

3. Risk Overview

Risk is determined by evaluating the potential impact imposed by a threat source acting on a vulnerability. This threat and vulnerability pair establishes a risk event that may impact Wharton business operations. Once identified, risk events are weighted based on the likelihood of the risk being realized and the impact of the risk if it were to occur.

Risk management is the total process of identifying, controlling, and eliminating or minimizing uncertain events that may adversely affect system resources. Wharton leverages the guidance within the National Institute of Standard and Technology (NIST) Special Publication (SP) 800-30 and NIST SP 800-39 for identifying, assessing, and managing cybersecurity risks.

Wharton calculates risk using the following formula:

risk = (threat x vulnerability x probability of occurrence x impact)/controls in place

The following subsections provide an overview of key risk terms.

3.1 Threats

NIST defines threats as any circumstance or event with the potential to adversely impact organizational operations and assets, individuals, other organizations, or the Nation through an information system via unauthorized access, destruction, disclosure, or modification of information, and/or denial of service. Wharton leverages the NIST definition of threats to identify any circumstance that may adversely affect Wharton operations.

The first step in identifying risks is to define the threat sources. Threat sources are characterized as: (i) the intent and method targeted at the exploitation of a vulnerability or (ii) a situation or method that may accidentally exploit a vulnerability. Types of threat sources include adversarial (e.g., individual, group, organizational), accidental, structural (e.g., IT equipment, software) or environmental (e.g., natural or man-made disaster, unusual natural events, infrastructure failures).

Once threat sources that may adversely affect the operations of systems described in the Risk Request submission are identified, ISO consults with the Wharton Sponsor to quantify the threat using Figure 1 below.

Qualitative Values	Semi-Quantitative Values		Description
Very High	96-100	10	The adversary has a very sophisticated level of expertise, is well-resourced, and can generate opportunities to support multiple successful, continuous, and coordinated attacks.
High	80-95	8	The adversary has a sophisticated level of expertise, with significant resources and opportunities to support multiple successful coordinated attacks.
Moderate	21-79	5	The adversary has moderate resources, expertise, and opportunities to support multiple successful attacks.
Low	5-20	2	The adversary has limited resources, expertise, and opportunities to support a successful attack.
Very Low	0-4	0	The adversary has very limited resources, expertise, and opportunities to support a successful attack.

Figure 1. Characteristics of Adversary Capability Assessment Scale (NIST SP 800-30)

3.2 Vulnerabilities

NIST defines vulnerabilities a weakness in an information system, system security procedures, internal controls, or implementation that could be exploited by a threat source. Wharton vulnerabilities may be security gaps or weakness in IT systems and networks. This includes missing patches, weak system configurations, lack of effective risk management strategies, etc. An exploitable vulnerability is any known vulnerability that can be leveraged by an attacker (i.e., threat source) to harm business operations. Effective Wharton vulnerability management involves the integration of different operational

and security focused areas to harden systems, track configuration changes, identify weaknesses, and remediate vulnerabilities across Wharton’s environment.

Wharton ISO evaluates vulnerabilities of the systems identified in the Risk Request submission to quantify the vulnerability level using the definitions provided in Figure 2. below

Qualitative Values	Semi-Qualitative Values		Description
Very High	96-100	10	The vulnerability is exposed and exploitable, and its exploitation could result in severe impacts. Relevant security control or other remediation is not implemented and not planned; or no security measure can be identified to remediate the vulnerability.
High	80-95	8	The vulnerability is of high concern, based on the exposure of the vulnerability and ease of exploitation and/or on the severity of impacts that could result from its exploitation. Relevant security control or other remediation is planned but not implemented; compensating controls are in place and at least minimally effective.
Moderate	21-79	5	The vulnerability is of moderate concern, based on the exposure of the vulnerability and ease of exploitation and/or on the severity of impacts that could result from its exploitation. Relevant security control or other remediation is partially implemented and somewhat effective.
Low	5-20	2	The vulnerability is of minor concern, but effectiveness of remediation could be improved. Relevant security control or other remediation is fully implemented and somewhat effective.
Very Low	0-4	0	The vulnerability is not of concern. Relevant security control or other remediation is fully implemented, assessed, and effective.

Figure 2. Vulnerability Severity Assessment Scale (NIST SP 800-30)

3.3. Likelihood

The likelihood of a risk impacting Wharton business operations is determined using qualitative analysis of the probability that a given threat is capable of exploiting a vulnerability based on existing security controls. While likelihood can be measured using many approaches, Wharton uses the qualitative values from Figure 3 below to assign a likelihood rating as part of the Risk Review.

Qualitative Values	Semi-Quantitative Values		Description
Very High	96-100	10	Adversary is **almost certain** to initiate the threat event.
High	80-95	8	Adversary is **highly likely** to initiate the threat event.
Moderate	21-79	5	Adversary is **somewhat likely** to initiate the treat event.
Low	5-20	2	Adversary is **unlikely** to initiate the treat event.
Very Low	0-4	0	Adversary is **highly unlikely** to initiate the treat event.

Figure 3. Likelihood Assessment Scale (NIST SP 800-30)

3.4 Impact

The level of impact from a threat event is the magnitude of harm that can be expected to result from the consequences of unauthorized disclosure of information, unauthorized modification of information, unauthorized destruction of information, loss of information or loss of information system availability. Similar to determining the likelihood of a threat source acting on a vulnerability, Wharton leverages the qualitative assessment from NIST SP 800-30 to determine the impact of the risk event occurring based on existing security controls.

Qualitative Values	Semi-Quantitative Values		Description
Very High	96-100	10	The threat event could be expected to have **multiple severe or catastrophic** adverse effects on organizational operations, organizational assets, individuals, other organizations, or the Nation.
High	80-95	8	The threat event could be expected to have a **severe or catastrophic** adverse effect on organizational operations, organizational assets, individuals, other organizations, or the Nation. A severe or catastrophic adverse effect means that, for example, the threat event might: (i) cause a severe degradation in or loss of mission capability to an extent and duration that the organization is not able to perform one or more of its primary functions; (ii) result in major damage to organizational assets; (iii) result in major financial loss; or (iv) result in severe or catastrophic harm to individuals involving loss of life or serious life-threatening injuries.

Moderate	21-79	5	The threat event could be expected to have a **serious** adverse effect on organizational operations, organizational assets, individuals other organizations, or the Nation. A serious adverse effect means that, for example, the threat event might: (i) cause a significant degradation in mission capability to an extent and duration that the organization is able to perform its primary functions, but the effectiveness of the functions is significantly reduced; (ii) result in significant damage to organizational assets; (iii) result in significant financial loss; or (iv) result in significant harm to individuals that does not involve loss of life or serious life-threatening injuries.
Low	5-20	2	The threat event could be expected to have a **limited** adverse effect on organizational operations, organizational assets, individuals other organizations, or the Nation. A limited adverse effect means that, for example, the threat event might: (i) cause a degradation in mission capability to an extent and duration that the organization is able to perform its primary functions, but the effectiveness of the functions is noticeably reduced; (ii) result in minor damage to organizational assets; (iii) result in minor financial loss; or (iv) result in minor harm to individuals.
Very Low	0-4	0	The threat event could be expected to have a **negligible** adverse effect on organizational operations, organizational assets, individuals other organizations, or the Nation.

Figure 4. Impact of Threat Events Assessment Scale (NIST SP 800-30)

3.5 Risk Level

The risk level is the overall measure of the effect a threat source has when acting on a vulnerability causing harm to business operations through a specific risk event. Cybersecurity risk events typically result in loss of confidentiality, integrity, or availability that affect Wharton business operations. Risk levels are calculated as the product of the likelihood and impact levels for the risk event. As with determining likelihood and impact, Wharton leverages the guidance provided in SP 800-30 for determining risk levels.

Qualitative Values	Semi-Quantitative Values		Description
Very High	96-100	10	**Very high risk** means that a threat event could be expected to have multiple severe or catastrophic adverse effects on organizational operations, organizational assets, individuals, other organizations, or the Nation.
High	80-95	8	**High risk** means that a threat event could be expected to have a severe or catastrophic adverse effect on organizational operations, organizational assets, individuals, other organizations, or the Nation.

Moderate	21-79	5	**Moderate risk** means that a threat event could be expected to have a serious adverse effect on organizational operations, organizational assets, individuals, other organizations, or the Nation.
Low	5-20	2	**Low risk** means that a threat event could be expected to have a limited adverse effect on organizational operations, organizational assets, individuals, other organizations, or the Nation.
Very Low	0-4	0	**Very low risk** means that a threat event could be expected to have a negligible adverse effect on organizational operations, organizational assets, individuals, other organizations, or the Nation.

Figure 5. Level of Risk (Combination of Likelihood/Impact Assessment Scale (NIST SP 800-30)

The Wharton ISO risk assessment approach is derived from the descriptions provided in SP 800-30, as shown in Figure 6, below, when describing the meaning of the risk level associated with a risk event.

Likelihood (Threat Event Occurs and Results in Adverse Impact)	Level of Impact				
	Very Low	Low	Moderate	High	Very High
Very High	Very Low	Low	Moderate	High	Very High
High	Very Low	Low	Moderate	High	Very High
Moderate	Very Low	Low	Moderate	Moderate	High
Low	Very Low	Low	Low	Low	Moderate
Very Low	Very Low	Very Low	Very Low	Low	Low

Figure 6. Level of Risk (Qualitative/Semi-Quantitative) Assessment Scale (NIST SP 800-30)

While Wharton ISO generally leverages the Risk Assessment Scale from NIST SP 800-30, the scale is normalized to align with the operational risk attribution scale defined in the Wharton Vulnerability Management Standard. Figure 7 below illustrates the alignment across scales.

NIST SP 800-30 Qualitative Values	Severity Risk Rating Matrix	Wharton Qualitative Values	Wharton Severity Risk Rating Matrix Risk Levels

Very High	96-100	10	**Critical/Out-of-Band** (Severe)	**9-10**
High	80-95	8	**High**	**7-8**
Moderate	21-79	5	**Moderate** (Elevated/Guarded)	**4-6**
Low	5-20	2	**Low**	**0-3**
Very Low	0-4	0		

Figure 7. Level of Risk (Qualitative/Semi Quantitative) Wharton Assessment Scale)

4. Risk Review Overview

The Risk Review process covers distinct review types as described below. Risk reviews are conducted against enterprise systems, third-party vendors, consultants and contractors, and initiatives as required based on the Risk Review submission. The following subsections further describe these types.

4.1 Enterprise System

An Enterprise System Risk Review assessment is required when an enterprise system plans to undergo a change or a new enterprise system or component is planned for development/implementation. Enterprise systems are assessed through a risk-based analysis of the strength of the control environment and the adequacy of the related internal control frameworks. As part of this assessment, all relevant components to include infrastructure, software code, appliances, architecture/design changes, related data flows, including potential interconnections with other systems outside of the accredited authorization boundary, are considered. The goal of Enterprise System Risk Review's is to identify and quantify the potential risk to the system and/or the Wharton IT environment if the system is changed as defined in the Risk Review submission.

New and potential changes to system interconnections may also require an ISA (Interconnection Security Agreement) or MOU/A (Memoranda of Understanding/Agreement) to describe the rationale for the interconnection. This rationale becomes the basis for performing a risk assessment on potential changes, or new, interconnections to systems.

4.2 Third-Party Vendor

A Risk Review assessment of a third-party vendor is required to identify risks and hazards associated with the vendor's processes, products, and solutions (e.g., external services), including associated consultants and contractors. The goal of this assessment type is to ensure that appropriate security controls are implemented to protect the confidentiality, integrity, and availability of data. Upon selection, Wharton ISO periodically monitors third-party vendor compliance throughout the vendor contract duration.

4.3 Consultant or Contractor

A Risk Review assessment of a consultants or contractor is required to identify potential risks and vulnerabilities associated with their involvement in organizational processes and projects. This assessment ensures that these external parties adhere to the organization's security policies and standards, safeguarding the confidentiality, integrity, and availability of sensitive data. Upon selection, Wharton ISO periodically monitors consultant/contractor compliance throughout their contract duration.

4.4 Initiative

An Initiative Risk Review assessment is required when a new initiative is proposed or an existing initiative undergoes a significant change in scope. This review ensures that all aspects of the initiative, including multiple systems and their interconnections, are thoroughly evaluated for potential risks. All relevant components, such as infrastructure, software, appliances, architectural and design changes, and data flows, are considered to identify and quantify potential risks. It is crucial to ensure that these initiatives comply with security standards and protect the organization's information assets. Any change in the scope of an initiative requires reassessment to ensure continuous protection and risk management throughout the initiative's lifecycle.

5. Risk Review Process

As part of a comprehensive risk assessment and management process, Wharton leverages the following process to conduct risk reviews. **Risk reviews are required for all new Wharton services/systems/initiatives, any scope changes or contract renewals of current services/systems/initiatives, or when requested by ISO.**

5.1 Ideation

During the ideation process, the Wharton Sponsor and relevant stakeholders explore and identify potential solutions (e.g., new technology, third-party vendor solution) that may fulfill an identified business requirement. Once vetted by the relevant stakeholders, the Wharton Sponsor will submit the proposed solution in the form of a *Risk Review Request* along with a *Security and Privacy Scoping Document* to ISO for review. The scope should include elements such as: Problem Statement (E.g. Needs), Intended Use, Audience, Audience Use-How, Data Elements, etc.

5.2 Request Risk Review

For all risk reviews, a Wharton user submits the *Security and Privacy Scoping Form* to begin the process. The request should also include available documentation such as:

1. VSTAR
2. HECVAT
3. Supplemental Security & Privacy Information (e.g. security certifications – Soc 2 Type 2, ISO 27001, support documents for information security and privacy, cyber insurance, etc.)

While not all documentation listed above may be required for each review, additional information enhances Wharton ISO's ability to identify potential risks and recommend effective mitigation strategies. Any questions about documentation for a specific review can be answered by ISO.

NOTE: A data flow diagram is also required if available (particularly for the review of an application interacting with other systems/applications). The data flow diagram must illustrate intended system interconnections and dependencies. Additionally, impacted data types and how they are processed, stored, and shared should be included along with any implementation and rollout plans.

5.3 Review Risk Request

Upon receipt of a *Risk Review Request* and supporting artifacts, ISO uses the provided information as well as independent research, as appropriate, to review the request. Wharton ISO may also collaborate with the Office of General Counsel (OGC), and/or the Office of Research Services (ORS), and the Office of Audit, Compliance, and Privacy (OACP) as necessary. Once ISO has sufficient information, it will assess the potential risks to Wharton operations based on the *Risk Review Request.*

All relevant information for the Risk Review will be reviewed and may include:

- Independent analysis of open-source information
- Clarifications from the Wharton Sponsor based on the ISO's preliminary analysis
- Procedures or provided recommendations on alternative, security compliant acceptable processes and applications as appropriate
- Relevant existing security policies, architecture, standards, guidelines, publicly available security related documents and procedures
- Attestation certifications and documentation

5.4 Develop Assessment Report

ISO will produce a *Risk Review Disposition* resulting from the review of the completed *Security and Privacy Scoping Document*, and any additional security artifacts. Based on the findings in the report, a risk rating of**Low**, **Medium**, **High**, or **Critical** will be assigned for the assessment report. In addition, ISO may develop practical technical recommendations and recommend best practices to address the vulnerabilities identified with the goal of reducing the level of security risk.

5.5 Issue Risk Disposition

Based on the analysis, ISO will make a risk determination and provide recommendation to the Wharton Sponsor and Penn Procurement for review via email from security@wharton.upenn.edu. ISO will share the assessment report internally with relevant parties (e.g., Penn Procurement, OACP, etc.), provide recommendations for securely implementing the initiative, or provide alternative solutions, to minimize identified risk.

This report will outline any potential areas of risk and provides next steps:

- Proceed if willing to accept outlined risk,
- ISO will verify if a SIA (*Security Impact Analysis*) should be completed by the requestor in accordance with the *Change Enablement Standard*, or
- Recommend the initiative not proceed if risks cannot be appropriately mitigated to an acceptable level.

NOTE: A Security Impact Analysis (SIA) is required for significant changes to enterprise systems.

5.6 Review Risk Determination

The Wharton Sponsor will review the *Risk Review Disposition* and determine if the initiative will move forward by engaging Penn Procurement. Upon a decision not to proceed, the Wharton Sponsor may elect to conduct for further discussion with relevant stakeholders to develop a revised proposal for the initiative. The Wharton Sponsor would develop a new *Risk Review Request* if a revised proposed initiative is requested and reengage the Risk Review process from the beginning.

5.7 Review Initiative

Penn Procurement will review the *Risk Review Disposition* for compliance with their standards. If approved, Procurement will coordinate with the Wharton Sponsor to begin the procurement process for the approved initiative. If Procurement cannot approve the initiative, they will notify the Wharton Sponsor.

5.8 Initiate Change Planning

Once approved by Penn Procurement, the Wharton Sponsor may begin the Change Planning process in accordance with the *Wharton Change Enablement Standard*. Change planning must incorporate any required mitigations resulting from the risk assessment into the proposed change. For additional information regarding changes, refer to the *Wharton Change Enablement Standard*.

Appendix A

The table below illustrates the responsibilities aligned with the relevant roles throughout the *Risk Review Standard*. Each step from is identified and aligned to the appropriate role that is either (R)esponsible, (A)ccountable, (C)onsulted, or (I)nformed in the *Risk Review Standard*. The overall standard is managed by Wharton ISO.

Process	Sponsor	Business Operation	Wharton ISO
Initiative Ideation	RA		
Request Risk Review	R	I	
Review Risk Review	C		R
Acknowledge Risk Request		R	
Provide Required Inputs	R		C
Analyze Request Package			R
Gather Additional Inputs	C		R
Develop Assessment Report			R

Issue Risk Disposition	C		RA
Review Risk Disposition	R		
Submit Initiative Approval Request	RA		
Review Initiative		R	
Begin Procurement Process		RA	I
Incorporate Required Mitigations into Change Planning	R		I
Begin Change Enablement Process	R		C

RACI Matrix Key
(**R**)*esponsible:* Person whose contributions and efforts results in a tangible deliverable or completed task - '**The Do'er**"
(**A**)*ccountable*: Person whose approval is required before the task or activity is considered completed - "**The Delegator**"
(**C**)*onsulted*: Person or role whose subject matter expertise is typically required in order to complete the item - '**The SME**"
(**I**)*nformed*: Person or role that needs to be kept informed of the status of item completion - "**Those kept up to date**"

AI API Key Requirements

Last Modified on 04/24/2025 2:00 pm EDT

For more details about the Information Security Office, **please visit our website**!

The Wharton School leverages AI APIs (e.g. ChatGPT Edu and Microsoft Co-Pilot) to enable advanced capabilities while adhering to information security and privacy standards. The following requirements outline the acceptable use and management of API keys by Wharton users:

Identity and Access Management (IAM)

- **Restricted Access:** ChatGPT Edu and Microsoft Co-Pilot AI API keys may only be utilized by users with active PennKeys to ensure proper authentication and authorization. Access to the API is limited to individuals who require it for their academic or professional responsibilities.

Data Management

- If a Data Use Agreement (DUA) or contract is in place, any provisions within that agreement must be followed in addition to these guidelines. DUAs, contracts, IRBs, etc. should be shared with Wharton Computing and ISO for visibility. ISO will review these DUAs/contracts to ensure that data protection contractual obligations are met.

- **Approved Storage Platforms:** All data generated or managed through the API must be stored and shared exclusively using University-approved cloud storage platforms, such as Penn Box, Dropbox, or OneDrive. Use of unauthorized storage solutions is strictly prohibited.

Data Classification Compliance

- Users must ensure that High data is not processed or stored through AI services.

- Low (public data only) and Moderate data (not involving PII or FERPA) are approved for use at Wharton. Please send these requests to infrastructure-support@wharton.upenn.edu (and cc' security@wharton.upenn.edu). ISO is available to consult on initiatives to ensure they align with Penn security and privacy policies and standards

- The use of Moderate data involving PII or FERPA must engage with Wharton Information Security Office (ISO) for a risk review of the overall initiative's data architecture and flow outside of the AI solution. While the API key can be granted prior to the completion of the risk review, the overall initiative should complete the risk review before going to production.

- Initiatives with interconnections to/from Wharton-managed systems (particularly Moderate or High systems) or leveraging data from Wharton-managed systems also require a risk review by ISO.

Incident Reporting

- **Security Concerns:** Any concerns related to information security, privacy issues, or potential misuse of AI API keys must be promptly reported to the Wharton Information Security Office at security@wharton.upenn.edu.

Additional Requirements

- **Key Management:** AI API keys must be securely stored and not embedded in public code repositories, such as GitHub.
- **Audit and Monitoring:** Users should regularly review AI API usage to identify any anomalies or unauthorized activities.
- **Decommissioning:** When an AI API key is no longer required or a user with an AI API key is no longer authorized, the key must be deactivated.

This AI API guidance does not supersede the Wharton Security and Privacy Risk Standard or any other established Penn/Wharton policies or standards). Please consult with the Information Security Office for any questions by emailing security@wharton.upenn.edu.

Travel Guidelines

Last Modified on 04/24/2025 2:02 pm EDT

For more details about the Information Security Office, **please visit our website**!

Work travel can expose you to unique security and privacy risks, which may lead to inconvenient or even damaging incidents if not properly addressed. To mitigate these risks, review Wharton recommendations before your trip to ensure data safety and minimize vulnerabilities while you're on the go.

Before Travel

- **Notify Wharton Computing.** Inform your Wharton IT representative of your international travel plans to make any necessary security preparations or monitoring, especially for BRICS (Brazil, Russia, India, China and South Africa) countries.
- **Review Security Restrictions and Travel Advisories.** Review current **travel advisories** and security restrictions to stay informed about any data security risks or limitations at your destination.
- **Limit Devices and Data.** Only take essential Wharton-managed devices and remove sensitive data whenever possible to reduce exposure and minimize the risk of loss or theft. Store sensitive data in secure services like Box, Dropbox, OneDrive, etc.
- **Update Software and Applications.** Ensure all travel devices have the latest software, operating system, and application updates, to address known security gaps and vulnerabilities.
- **Ensure Portable Storage Devices Are Secure.** If bringing a portable hard drive or USB drive, only use trusted and encrypted devices. Avoid using unfamiliar or untrusted storage devices.
- **Enable Strong Passwords and Multi-Factor Authentication (MFA)**. Protect all devices and accounts with robust passwords and enable 2FA/MFA whenever possible. Turn off "remember me" settings and wipe stored passwords from all applications and browsers on travel devices. To keep secure records of your new passwords, check out Dashlane provided by the university.
- **Back Up All Devices.** Perform a full backup before departure to safeguard important information in case a device is lost or stolen. Reach out to your Wharton IT Representative for support.
- **Consider Using a Loaner.** A loaner device can reduce data loss risks by enabling work without exposing primary devices. Upon returning, it can be wiped to prevent malware spread to your network.

While Away

- **Keep Devices with You.** Ensure your devices are with you at all times, especially in high-traffic areas such as airport screenings, security checkpoints, and conferences. Use a hotel room safe when unattended.
- **Use a VPN for Secure Access.** Connect to the university's GlobalProtect VPN before accessing university or personal accounts. Be aware that some VPNs may be restricted in certain countries, so check with Wharton IT representative before travel.
- **Access Confidential Files via Secure Platforms.** Access confidential files through secure web platforms, such

as O365's web interface, to maintain data security on the go.

- **Report Missing Devices Immediately.** In the event a device is lost or confiscated, report to local authorities and contact the Information Security Office (ISO) promptly to manage risks and recovery.
- **Avoid Untrusted Wireless Networks.** Refrain from using public networks, like those in hotels, airports, and cafés, for sensitive work. Disable Bluetooth and wireless file-sharing options, such as AirDrop, to prevent unintended access to your device.
- **Avoid Using Unfamiliar Devices.** Do not use public computers or unknown USB drives or chargers, as these may carry malware.
- **Exercise Caution with Links and Downloads.** Practice the same caution as you would at home: avoid clicking on links or downloading files from untrusted sources, and delete suspicious emails.

Upon Return

- **Reset Your Passwords.** Use a trusted device to reset your PennKey password and any other passwords used during your trip to ensure account security.
- **Return Loaner Devices**. Ensure any loaner devices are returned to your Wharton IT Representative.

Get Help

If you require user assistance at any stage of travel, please contact your Wharton IT representative. For more information on how to protect Penn systems and data while abroad, click here.

If you are experiencing a known or suspected information security incident please email security@wharton.upenn.edu.

Vulnerability Management Standard

Last Modified on 04/29/2025 3:37 pm EDT

For more details about the Information Security Office, **please visit our website**!

1. Purpose

This Standard is intended to provide high-level responsibilities and timelines for Continuous Vulnerability Management and Monitoring. It addresses both Patch Management and Vulnerability Management. This standard aligns with and adheres to Penn's Security Patching Policy.

A formalized vulnerability management (VM) process helps reduce risk for the School by acting on possible threats and minimizing their attack surface. Through a shared ownership cross-functional collaboration model, the VM process helps key stakeholders identify, and prioritize technological weaknesses that a malicious actor could use to compromise within the Wharton environment.

2. Scope

The Wharton Information Security Office (ISO) will scan for vulnerabilities of systems under Wharton's control. Upon successful completion of a vulnerability scan, the Information Security Office will produce a designation as per the security risk matrix. Contributing factors in the final risk severity calculation include, but are not limited to CVSS ratings, CVE base score range, risk ratings, threat intelligence, and vulnerability relevance to Wharton.

Systems Managed by Wharton/Penn

Wharton systems and applications across the School will follow the vulnerability management framework as detailed in this document.

Systems Owned But Not Managed by Wharton/Penn

It is the responsibility for appropriate system owners and stakeholders to ensure systems are routinely patched when appropriate. System owners should work with Wharton Computing to ensure that endpoints and solutions are managed and protected.

Vendor-Contracted Systems Not Managed by Wharton/Penn

Any vulnerability information available publicly, or from a vendor, or third party shall be reviewed and documented by Wharton ISO. It is still the responsibility for appropriate system owners and stakeholders to ensure systems are routinely patched when appropriate.

3. Vulnerability Management Standard

Wharton ISO leverages a range of vulnerability assessment tools to include dynamic application security testing (e.g., web application vulnerability scans), static application security testing (e.g., source code repository scans), software composition analysis, and vulnerability scanning (e.g., container scans, operating system scans, database scans) to achieve its mission of timely discovery and remediation of vulnerabilities in enterprise IT systems and services.

Wharton will utilize a SCAP (Security Content Automation Protocol) -compliant vulnerability scanning tool to automatically scan all systems to identify all potential vulnerabilities and system misconfigurations. Scanning occurs weekly for the public facing interfaces and for the internal servers.

Wharton will perform authenticated vulnerability scanning of relevant system components, to include operating system/infrastructure, web applications, and databases at least monthly with agents running locally on each system or with remote scanners that are configured with elevated rights on the system being tested.

A dedicated account will be used for authenticated vulnerability scans, and not for any other administrative activities, and will be assigned to pre-defined machines at specific IP addresses.

3.1 Severity Risk Matrix

> **Note:** Exceptions may be applicable for patching timelines during University freezes. Please collaborate with ISO.

Service owners are responsible for documenting/submitting exceptions to ISO for consideration. ISO will file a retroactive ITPC variance when an Out-of-Band, Critical, or High-Risk Security Patch is not applied within the mitigation timeframe.

Rating	Definition	Time to Mitigate
Out-of-Band (Expedited)	Publicly identifiable or Information Security declared vulnerability (active in the wild) which could compromise Information Resources or where Sensitive Data has already been exposed (e.g. allow remote access, exploitation code, etc.). There is no current control in place to protect the data. Risk Level = 10	Required 2 days after Ingest and Reporting is completed.
Critical	Immediate threat on Wharton systems. Critical risk of imminent compromise or loss of Sensitive Data from either external or internal sources. There is no control in place to protect the Data. Risk Level = 9	Required 5-7 days after Ingest and Reporting is completed.
High	Actively exploited within High Education Sector. High risk of compromise or loss of Sensitive Data is possible from either external or internal sources, although less likely from external sources. There is only a single control, or multiple ineffective controls, in place to protect the Data. Risk Level = 7-8	Required 30 days after Ingest and Reporting is completed.

Rating	Definition	Time to Mitigate
Moderate	The risk of compromise or loss of Sensitive Data is possible from either external or internal sources, although less likely from external sources. Controls are in place that are somewhat effective to protect the Data. Risk Level = 4-6	Recommended 60 days after Ingest and Reporting is completed.
Low	The risk of compromise or loss of Sensitive Data is possible, but not probable or an Information Resource might be used to obtain access to Sensitive Data on a different Information Resource. Risk Level 0-3	Recommended 180 days after Ingest and Reporting is completed.

Remediation of vulnerabilities, which are evaluated as **Out-of-Band** by the Information Security Office, should be prioritized System Owners and/or IT Stakeholders. System Owners and/or IT Stakeholders will jointly develop a remediation/mitigation plan and share it with the Information Security Office within 48 hours.

- System Owners and/or IT Stakeholders must review the Vulnerabilities associated with their Systems and jointly develop timely remediation or mitigation plans. They should also register for security and Vulnerability alerts from the System's vendor and review vendor patches.
- As part of the provisioning process, every System needs to be scanned for vulnerabilities prior to being put into a production environment including physical, virtual, and cloud Systems.
- The Information Security Office will regularly compare the results from back-to-back vulnerability scans to verify that vulnerabilities have been remediated in a timely manner.

4. Patch Management Standard

- Wharton will deploy automated software update tools in order to ensure that the operating systems are running the most recent security updates (or at most one major version behind) provided by the Manufacturer.
- Deploy automated software update tools in order to ensure that third-party software and firmware on all systems is running the most recent security updates provided by the software vendor.
- Updates must be first installed in test environments to test software and firmware updates related to flaw remediation for effectiveness and potential side effects before installation.
- Wharton will incorporate flaw remediation into the organizational configuration management process.
- Updates are installed regularly, and the vulnerability scans ensure that any needed patches not yet applied are

identified and the Wharton ISO then tracks remediation.

Wharton/Penn-Managed and Third-Party-Managed Systems:

- Must be supported, up-to-date, and patched.
- Third party suppliers must be prepared to provide evidence of up-to-date patching (per Wharton minimal standards, or the vendor's evidenced patch policy).
- Timely implementation of non-security related patches should be conducted to mitigate against degradation of functionality, and/or interoperability (e.g. bugfixes, features, performance).

4.1 Patch Management Responsibilities:

- All System Owners will document and maintain patch management procedures aligning to this Wharton Vulnerability Management Standard. The Information Security Office will facilitate the vulnerability management process.
- Timeliness of patch management prioritization may be impacted by several factors, including:
- Consideration of asset classification and data affected
- Regulatory requirements and business standards
- Potential risk to the environment
- System owner patch management procedures
- Business Considerations

Note: If a business unit requires an exception from this standard, then that unit must adhere to the Wharton Exception Standard. All exceptions will be reviewed by ISO and submitted to Penn IT Policy Committee (ITPC) as variances to the Wharton Standard and Penn Policy.

All "System" Owners: Responsible for understanding, developing, and maintaining procedures in compliance with the Wharton patch management policy.

Third Parties: Responsible for providing evidence of adherence to their patch policy (or Wharton policy) - upon request.

Role	Responsibilities
Vendor	• Source of information on critical notices, vulnerabilities, exploits, malware, and threats unique to the School.

Role	Responsibilities
Information Security Office (ISO)	• Present analyses on vulnerabilities and prioritize threats and risks unique to Wharton attack vectors. • Monitor fix has been applied successfully • Facilitate review meetings • Report findings on risk register; runs compliance to ensure completion • Document and report the risk levels of Wharton/Penn-managed systems.
Program Leadership	• Accountable for ensuring Vulnerability Management standard is upheld for all systems and projects under their purview • Helps prioritize and define remediation strategy with technical leads.
Service Owner	• Technical Lead • Helps define remediation strategy • Deploys remediation/mitigation fix to affected hosts.
Wharton Leadership	• Provides oversight and governance.

5. Vulnerability Management Roles (RACI)

Stage	Wharton Leadership	ISO	Program Leadership	Service Owner	Vendor
Identify		R	I	I	R
Prioritize		R, A, C	A, I	C, I	
Patch	I	A, I	A, I	R, A, C	
Monitor		R, A, I		R, C, I	A
Lessons Learned	C, I	R, I, C	C, I	R, A, C	

RACI Matrix Key:

RACI Matrix Key:
(R)esponsible: Person whose contributions and efforts results in a tangible deliverable or completed task - "The Do'er"
(A)ccountable: Person whose approval is required before the task or activity is considered completed - "The Delegator"
(C)onsulted: Person or role whose subject matter expertise is typically required in order to complete the item - "The SME"
(I)nformed: Person or role that needs to be kept informed of the status of item completion - "Those kept up to date"

- **Wharton Leadership:** CIO
- **ISO:** Wharton Information Security Office
- **Program Leadership:** Departments, Centers, Initiatives
- **Service Owner:** Designated internal Wharton staff member(s) responsible for overseeing a specific system, application, or service.
- **Vendor:** Third party vendors and/or organizations external to Wharton.

6. Vulnerability Management Process

Stage 1	Identify
When	Security Scans reports received
Who	Wharton ISO
What	Vulnerability Scan reporting
How	Leverage industry threat intelligence to address impact and criticality in Wharton environment

Stage 2	Prioritize
When	Security scan review meetings
Who	Service Owner, Wharton ISO
What	Security provides a prioritized list of vulnerabilities for review

Stage 2	Prioritize
How	Team devises a remediation strategy

Stage 3	Patch
When	As defined in Prioritize stage
Who	Service Owner
What	Agreed upon remediation strategy is implemented
How	To be determined

Stage 4	Monitor
When	Validation of remediation efforts
Who	Wharton ISO
What	Security validated agreed upon work completed through vulnerability scanning tools. Provides tracking and monitoring from compliance. Provides monthly reporting to Wharton security leadership at least monthly. Ensure vulnerability trends are meeting expectations
How	Validation through authoritative vulnerability scans or by artifact provided by Service Owner

Stage 5	Lessons Learned
When	Quarterly, Annually
Who	Wharton Leadership, ISO
What	A comprehensive review or pending action items and trending vulnerability data
How	Team discussion

Exception Standard

Last Modified on 04/24/2025 2:38 pm EDT

For more details about the Information Security Office, **please visit our website**!

To submit an Exception Request, **click here**.

1. Purpose and Scope

This Exception Standard outlines the process for requesting, assessing, approving, and managing risk-based exceptions to Penn policies, Wharton's Information Security Policy and/or related Standards. This Standard ensures that all exceptions are carefully evaluated to mitigate risks to the confidentiality, integrity, and availability of Wharton assets.

This Standard applies to all academic and administrative units, centers, initiatives, third-party agents, as well as any Wharton affiliate authorized to access institutional data, services, and systems. Exceptions to Wharton/Penn policies and standards will be reviewed by ISO and submitted to Penn's IT Policy Committee (ITPC).

2. Roles and Responsibilities

Requestor

The individual or group responsible for submitting the exception request. This includes providing justification, identifying security/privacy compensating controls, and collaborating with ISO to assess risks.

Risk Owner

The individual or group responsible for managing and accepting the risk associated with the exception.

Information Security Office (ISO)

ISO is responsible for reviewing, assessing, approving or denying exception requests, and maintaining a record of all exceptions.

Approval Authority

Depending on the level of risk, approval may require:

- **ISO Approval:** For low and moderate-risk exceptions.
- **Wharton Executive Approval**: For high-risk exceptions.
- **ITPC Variance Submission:** For exceptions to Penn policy.

3. Exception Request Process

Step 1: Identify the Need for an Exception or Exemption

The Requestor identifies a situation where adherence to Penn policies, Wharton's Information Security Policy and/or related Standards is not feasible and gathers relevant details for submission. Exceptions are granted for one fiscal quarter with the potential renewal not to exceed one fiscal year.

In limited circumstances, exemptions to Penn policies, Wharton's Information Security Policy and/or related Standards are granted permanently if risk is accepted. Exemptions are automatically High-risk and will be thoroughly evaluated.

Step 2: Submit an Exception Request

The Requestor submits the exception request to ISO using the Exception Request Form. Exemptions should also be submitted to ISO via this form. Required examples include:

- Policy or Standard in question.
- Justification for the exception, including business or academic impact.
- Security/privacy compensating controls proposed to mitigate risks.

Step 3: Risk Assessment

ISO conducts a risk assessment to evaluate:

- Risk Impact: Confidentiality, integrity, and availability of impacted systems.
- Likelihood of Exploitation: Potential threats and vulnerabilities.
- Proposed Compensating Controls: Effectiveness in mitigating risks.
- Compliance Impact: Alignment with regulatory requirements and institutional obligations.

Risk Severity Calculation

Likelihood (frequency) / **Impact**	**Critical**	**High**	**Moderate**	**Low**
Critical (monthly)	Critical	Critical	Critical	High
High (annually)	Critical	High	High	Moderate
Moderate (less than annually)	Critical	High	Moderate	Low
Low (unlikely to ever occur)	High	Moderate	Low	Low

Step 4: Approval or Denial

Based on the risk assessment:

- Low/Moderate-Risk: ISO may approve or deny the exception.

- High-Risk: ISO will escalate to Wharton executive leadership for approval.
- Documentation: Approved exceptions are recorded in the Exception Repository.

4. Risk Assessment and Mitigation

ISO will analyze the risks associated with a requested exception, identify potential impacts on systems and stakeholders, and evaluate the adequacy of proposed compensating controls.

If an exception is granted, the Requestor must:

- Implement the approved security/privacy compensating controls.
- Ensure adherence to all conditions outlined in the exception approval.
- Collaborate with ISO to address any residual risks.

5. Notification and Consultation

ISO is responsible for notifying stakeholders, including affected departments and system owners, of approved exceptions.

ITPC Variance Review: Exceptions to Penn policies require escalation by ISO to ITPC to evaluate compliance, operational, and reputational risks.

6. Recordkeeping

ISO is responsible for maintaining a centralized Exception Repository that includes:

- Requestor details.
- Risk assessment documentation.
- Approved compensating controls.
- Exception duration and expiration date.
- Review and renewal status.

ISO will review exceptions quarterly, to ensure exceptions remain justified, relevant systems move towards compliance, and expired exceptions are resolved or renewed with updated risk assessments.

7. Duration and Renewal

All exceptions are granted for one fiscal quarter, with the potential for renewal not to exceed one fiscal calendar year. Expiring exceptions must be:

- Reviewed and updated if needed.

- Rescinded if compliance has been achieved.

To renew an exception, the Requestor must:

- Submit a renewal request 30 days before expiration.
- Provide updated justification and risk assessment.
- Collaborate with ISO to reassess risks and controls.

Slack Guidelines

Last Modified on 04/24/2025 2:01 pm EDT

For more details about the Information Security Office, **please visit our website**!

Slack is a powerful tool for workplace communication and collaboration. However, proper usage is essential to ensure professional, secure, and efficient interactions. Follow these guidelines to make the most of Slack while maintaining compliance with information security policies and workplace expectations.

Consider Slack for	Avoid Using Slack for
Quick questions and brief discussions	Long-term file storage or documentation (use Wharton-approved applications such as OneDrive, Box, Dropbox, Confluence, or approved project management tools)
Sharing links, resources, and updates	Recording formal business (record these through official systems outside of Slack)
Group brainstorming and stand-up meetings	
Informal interactions to support workplace culture	

Please remember:

Slack is not a system of record. However, Slack may extend and aggregate external systems of record to facilitate and enhance work processes and outcomes. Leverage an approved Wharton-managed application with logging and auditing capabilities for decision-making (e.g., Ticketing, Project Management, etc.).

Low (public) data is permissible in Slack. **No High data or Moderate PII/FERPA data is permissible in Slack**. The data should remain in the secure Wharton environment where the data is stored. Please provide a link (with appropriate access controls) to the system/data.

As always, please adhere to Wharton (and Penn) Information Security policies, standards, and guidelines.

Identity and Access Management Standard

Last Modified on 06/04/2025 2:33 pm EDT

For more details about the Information Security Office, **please visit our website**!

1. Purpose and Scope

The purpose of this document is to establish the Identity and Access Management (IAM) Standard at Wharton. It aims to protect school resources, ensure secure access to systems, and maintain compliance with applicable regulations. In partnership with Penn's IAM Program, this standard supports and enables secure academic, research, and administrative collaboration across the School and University. This standard is informed by University Policies, particularly the University IT Security Policy, Wharton's Information Security Policy as well as best practices detailed in the NIST the Cybersecurity Framework.

This standard applies to all students, faculty, staff, contractors, vendors, and any individuals or entities accessing Wharton systems, applications, or data. Additional requirements must be met for services providing access to any user under the age of 13 or to non-matriculated minors.

This document presumes that any offering has been through a Security Risk Review Assessment as defined by the Security and Privacy Risk Review Standard. Any deviation from this standard will come with recommendations as part of that process on potential alternatives and the risks associated with them.

2. Definitions

The following definitions will cover foundational concepts, local terminology or define general terms to the scope of this document.

- **Authentication:** Verification of identity through credentials.
- **Authorization:** Process of determining user access rights to resources.
- **Coarse-grained Eligibility Population:** A broadly scoped data defined group of University identities used to restrict access through Front-Door Authorization.
- **Fine-grained Eligibility Population:** A data defined group of University identities narrowly scoped to a service or platform used to restrict access through Front-Door Authorization.
- **Front-Door Authorization**: A central Penn configuration blocking the ability to authenticate outside of designated populations. Learn more here: Penn Front Door Authorization.
- **Identity and Access Management (IAM):** Processes and technologies used to manage digital identities and control access to resources.
- **Information Security Office (ISO):** Wharton's Information Security Office, owners and maintainers of this standard.
- **Least Privilege:** Providing the minimum level of access necessary to perform a task or role.
- **Multi-Factor Authentication (MFA):** An enhanced security control for authentication that requires users to

provide multiple verification factors. Sometimes called Two-Step or Two-Factor Authentication (TFA).

- **Platform:** A Platform is defined as a service or collection of services that makes use of shared credentials and/or process.
- **PennCommunity:** Penn employee biographic, demographic, and affiliation information.
- **PennGroups:** University managed authorization service. Closely coupled with PennKey SSO.
- **PennID:** An immutable and unique identifier associated with a PennKey.
- **PennKey:** An individual's username and an associated password within the PennKey authentication system. A PennKey is required to authenticate your identity to access many of Penn's online resources.
- **PennName:** A PennName is the username associated with your PennKey.

PennNames may contain mutable Identity information, such as last names, and may be subject to change. A PennName once used is no longer available for reassignment.

- **Privileged Access**: Privileged access is any permission within a service that is not inherent in access to the service.
- **Human Resources & People Operations (HR&PO):** Primary Wharton business stakeholder for IAM policies and process.
- **Service:** Any product, tool or offering into which users are populated and/or for which access is limited or granted based on the user connecting.
- **Service Owner:** Designated Wharton staff responsible for overseeing specific systems, applications, or services.
- **Single Sign-On (SSO):** Is an authentication workflow that allows for a single interactive authentication to work across a series of services sharing the same configuration for a length of time.
- **Two-Step Authentication:** an alternate term for MFA and used at the School level to refer to Penn's implementation of MFA with PennKey and Duo.

3. Standards

3.1 Identity Management

Each authenticated service grants access based on an established identity. The identity must have agreed upon identity verification processes. The strenuousness of identity verification increases based on the sensitivity of the data and/or the impact of the service involved.

PennKey is appropriate for use as part of the controls around systems providing data of any classification.

All services should make use of PennKey for identity verification.

3.1.1 Holds

Services storing data and/or communications must maintain a process for preserving and optionally exporting said data or communications. Hold process must be documented.

3.1.2 PennName Changes

Upon a change to a PennName service owners must handle such changes and do so in a timely manner. Ideally this is done without additional request by the user and is defined by central identity services (Penn Community). Verification of new PennNames should be done by insuring continuity of PennID.

3.2 Authentication

3.2.1 Interactive Authentication

Interactive Authentication is the process by which a user logs in to a service and is prompted to enter/provide credentials. All services must include multiple factors (MFA/Two-Step verification).

All services should make use of PennKey for authentication and require Two-Step verification for the account. When PennKey is not suitable, service owners must establish the methodology for authentication and provide to ISO as directed by the Security and Privacy Risk Review Standard. The service must create and maintain documentation and process for the agreed upon authentication model.

PennKey Single Sign-On (SSO) allows for an existing browser session to grant access without requiring an additional interactive authentication request and must be used for web applications and Software as a Service (SaaS) offerings.

3.2.2 Delegated Authentication

Some services allow for authenticating as users outside of the interactive login flow. This is normally accomplished through a client-level token authorized after an initial interactive authentication and is often in place for mobile apps, or for local application clients. Services leveraging these tokens must document the process by which they are managed and ensure they reflect current status of the user account. Any difference in handling of delegated authorization from interactive authorization must be reviewed by ISO as directed by the Security and Privacy Risk Review Standard. The service must create and maintain documentation of the agreed upon controls for delegated authorization.

3.3 Authorization and Access Control

Authorization determines the access available to a given identity following a successful authentication. To meet operational and business requirements, authorization needs to be able to be revoked and granted in a timely manner.

All services should make use of central Penn Authorization services (SailPoint IIQ or PennGroups) for authorization purposes.

Where possible SSO applications should make use of and document use of Front-Door authorization and document the Coarse-grained or Fine-grained Eligibility Population that restricts authentication.

3.3.1 Platform Access

Services must document criteria for users gaining and losing access. Documentation should include specifics around allowing/denying Alumni, Students, Faculty, Staff and External Users. Any further restriction, such as a specific relationship with Wharton, should also be documented.

Services must have established and documented criteria and process for authorized agents, including ISO, to revoke access to the platform on an agreed upon timeline based on business or legal requirements.

The service must create and maintain documentation of the agreed upon Platform Access components.

3.3.2 Privileged Access

Services must document all privileged access along with the criteria for that access in the service. Services must have established and documented criteria for authorized agents, including ISO, to revoke privileged access on an agreed upon timeline based on business or legal requirements. The principals of least privilege should be used for establishing any elevated access within a service.

Accounts granted privileged access must have MFA configured.

3.4 Monitoring and Auditing

Services are responsible for tracking all successful and failed authentication attempts. Service owners must make these logs available to the Wharton Information Security Office. At a minimum these logs must include the attempted username, originating IP address and timestamp.

Any administrative actions must also be logged and likewise made available.

Service owners should review and attest to ISO at least quarterly that only authorized users have access to the platform, and that authorization is accurate to documented service definitions.

3.5 Incident Response

Unauthorized access of an account or access to resources that are not explicitly approved constitutes a security breach and a violation of University Policy. The Information Security Office must be notified as soon as such behavior is identified or presumed. The Information Security Office will assist with review and classification of the behavior as well as establishing the legal and University responsibilities in the event of a breach.

The Information Security Office must be provided a documented and agreed upon process to revoke platform and/or privileged access or otherwise isolate an account in the event of notification of a breach.

3.6 Training and Awareness

Services that grant access to data or resources that are subject to specific regulation, policy or otherwise requiring specific training must verify directly or receive an assertion that the training is complete. The list of appropriate trainings should be documented.

3.6.1 Documentation

All documentation required by this standard must be made available to ISO and other appropriate stakeholders and be confirmed by those parties to contain sufficient information for fulfillment of responsibilities. This documentation must be operationally maintained and reviewed at least annually by the service owner.

4. Roles and Responsibilities

4.1 Information Security Office

On behalf of the Wharton School the Information Security Office is responsible for:

- Assessing changes in University Policy, regulation, and community best practice to inform this standard and reviewing the standard annually.
- Measuring and pursuing compliance for the catalog of services hosted or managed by the school.
- Establishing IAM strategies to meet business needs that fit within operational capacities of the school and facilitate continuous improvement.
- Identifying IAM technology needs and solutions in use at the school and aligning them with strategy.
- Clarifying and optimizing overall IAM process at the Wharton School and as part of the University community.
- Coordinating mitigations for IAM related concerns that bridge multiple service offerings at the Wharton School.

For individual services ISO is responsible for:

- Consultation in the event of an incident causing a service to fall out of compliance with this standard or the services documented service targets. The Information Security Office will assist in identifying remediation in line with University Policy, legal regulation and community best practice for such incidents.
- Revocation of platform access and/or privileged access based on business need or legal requirements.
- Processing holds as requested by University General Council and/or additional entities designated in service definitions.
- Providing IAM architectural recommendations and reviews on request.
- Authorization of any deviation from this standard by according to the Exception Standard.

4.2 Wharton Computing

Wharton Computing will provide operational management of appropriate IAM related tools hosted by the School in consultation with the Information Security Office. Wharton Computing is also a key stakeholder in reviewing operational burdens of hosted tools.

4.3 Wharton Human Resources & People Operations

HR&PO are key stakeholders in defining business requirements and principal invokers of IAM processes. HR&PO are responsible for defining the criteria that associate University Faculty and Staff with the Wharton School. As principal invokers HR&PO will be the drivers of the requests for managing changes to a faculty or staff members identity and access based on official status changes in University systems of record for non-student populations.

4.4 Wharton Senior Vice Dean of Teaching and Learning

The Senior Vice Dean of Teaching and Learning is a key stakeholder in defining academic business requirements. Specifically in establishing the criteria that associate University Students with the Wharton School and its academic programs.

4.5 Service Owners

Service Owners are accountable for adherence of their service to this standard.

Service Owners are responsible for:

- Identifying, documenting and maintaining the Identity and Access Management processes supporting their service.
- Asserting the accuracy of service IAM documentation at least annually.
- Consulting with the Information Security Office in the event their process falls out of compliance with this standard and/or the documented configuration for their service.
- In the event of unauthorized access to their service, service owners must ensure that such activity is reported to the Information Security Office immediately.

4.6 Service Users

Users of a service are responsible for only taking actions appropriate to the intended use of the service. Users are responsible for not sharing their credentials or for otherwise providing access to a service or the resources it makes available in a manner that bypasses authorization controls. Users are responsible for being aware of and adhering to the University Acceptable Use Policy on Electronic Resources and other relevant policies.

5. Compliance

ISO will compile and provide reporting on adherence to this Standard and related policy to key leaders and stakeholders in the institution including the COO/CFO, CIO, CISO and the Executive Director of Human Resources and People Operations.

Services that do not meet an acceptable level of compliance through a Risk Review Assessment will be required to receive a formal Exception. Absent a formal exception, services will be requested to be taken offline until suitable mitigations or alternative services are available.

Data Classification and Management Standard

Last Modified on 06/26/2025 4:34 pm EDT

For more details about the Information Security Office, **please visit our website**!

1. Penn Data Classification

The Penn Data Classification framework categorizes university data into three levels based on sensitivity and potential impact if exposed or misused. However, Wharton refines the Moderate Risk category into two distinct subcategories to ensure appropriate security controls, particularly for personally identifiable information (PII) and regulated data. This framework is grounded in Wharton's Information Security Policy, which outlines the principles and responsibilities for securing institutional data.

The classification levels are:

Classification	Low	Moderate (Non-PII / Non-FERPA)	Moderate (PII and/or FERPA)	High

Classification	Low	Moderate (Non-PII / Non-FERPA)	Moderate (PII and/or FERPA)	High
Definition	1. The data is intended for public disclosure, OR 2. The loss of confidentiality, integrity, or availability of the data or system would have no adverse impact on the University's mission, safety, finances, or reputation and the loss would have no adverse impact on any individual.	1. The data is not generally available to the public. 2. The loss of confidentiality, integrity, or availability of the data or system could have a mildly adverse impact on the University's mission, safety, finances, or reputation or the loss would have a mildly adverse impact on any individual.	1. The data is not generally available to the public. 2. The data includes Personally Identifiable Information (PII) or FERPA-regulated student records which is protected by law/regulation. 3. The loss of confidentiality, integrity, or availability of the data or system could have a mildly adverse impact on the University's mission, safety, finances, or reputation or the loss would have a mildly adverse impact on any individual.	1. Protection of the data is required by law/regulation and Penn is required to report to the government and/or provide notice to the individual if the data is inappropriately accessed. 2. The loss of confidentiality, integrity, or availability of the data or system could have a significant adverse impact on the University's mission, safety, finances, or reputation or the loss would have a significant adverse impact on any individual.
	• PennKey username • PennID • Publicly available Penn website content • Public university policies • Job postings • University directory information	• Non-public Penn policies and manuals • Non-public contracts without sensitive content • Internal Penn emails, budgets, and financial plans that do not contain High-Risk data • Engineering,	• Student education records and admissions applications (excluding K-12 student records) • University directory information not designated for public view • Unpublished research data that	• Health Information, including PHI • Mental health records • Biometric data (e.g., DNA, fingerprints) • PennKey passwords and system credentials • Health Insurance policy ID numbers

Classification	Low	Moderate (Non-PII / Non-FERPA)	Moderate (PII and/or FERPA)	High
Examples of Data	designated for public view • Publicly available research data	design, and operational data regarding Penn infrastructure • Unpublished research data (not including PII or FERPA data) • De-identified data • Penn proprietary data (including code) • Non-Penn contract/Data Use Agreement data	contains PII or FERPA-covered records • Operational data that includes limited PII (e.g., student ID numbers without other identifying details)	• Social Security Numbers • Credit card and financial account numbers • Location data that tracks individuals • Export-controlled research data • Driver's license or government-issued ID numbers • Passport or visa numbers • HR records (salary, performance, discipline) • Donor records and non-public gift information • K-12 student records and data related to minors • Hazardous materials and security information

2. Security Controls by Classification

Security controls are measures required to protect university data based on its classification level. Wharton security controls align with university-wide policies, the NIST Cybersecurity Framework, and industry best practices to ensure appropriate safeguards.

> **Note:** The controls listed here represent baseline requirements for each classification level. **They are not exhaustive.** Additional security measures may be necessary based on the specific context or risks associated with a given initiative. A formal risk review should be used to evaluate and determine any supplementary requirements. For more details, see Wharton's Risk Review Standard.

Low	• **No authentication required** (data is intended for public access). • **Public access permitted** via university websites or public repositories. • **Regular system and data backups** to recover from accidental loss or corruption. • **Basic integrity checks** to ensure data is not altered unintentionally. • **Monitoring for availability** to ensure public resources remain accessible. • **Vulnerability and accessibility scans** to maintain publicly available web content. • **Security event logging and monitoring** of access with at least IP, username and timestamp.
Moderate (Non-PII / Non-FERPA)	• **PennKey and multi-factor (MFA) authentication required** to access data. • **Role-Based Access Control (RBAC)** ensures appropriate active university affiliations. • **Encryption in transit and at rest** (e.g., HTTPS, TLS) to protect data from interception. • **Access limited to appropriately protected interfaces or endpoints** compliant with university policy • **Regular system and immutable-data encrypted backups** to recover from accidental loss, corruption or compromise. • **Basic integrity checks** to ensure data is not altered unintentionally. • **Monitoring for availability** to ensure internal resources remain accessible. • **Security awareness training** for employees handling moderate-risk data. • **Security event logging and monitoring** of access with at least IP, username and timestamp. • **Regular vulnerability scans** to identify and remediate security risks. • **Incident response procedures** in place to respond and notify on potential breaches or unauthorized access.

Moderate (PII and/or FERPA) These additional security controls are required in addition to the standard Moderate data requirements.	• **PennKey and multi-factor (MFA) authentication required** to access data. • **Role-Based Access Control (RBAC)** ensures only authorized roles have access. • **Encryption in transit and at rest** (e.g., AES-256, TLS 1.2+) to protect data from interception. • **Access limited to appropriately protected interfaces or endpoints** compliant with university policy • **Regular system and immutable-data encrypted backups** to recover from accidental loss, corruption or compromise. • **Basic integrity checks** to ensure data is not altered unintentionally. • **Monitoring for availability** to ensure internal resources remain accessible. • **Security awareness training** for employees handling moderate-risk data with FERPA/PII. • **Security event logging & monitoring** (e.g., SIEM tools) inclusive of IP, username, timestamp, authorization changes and privilege escalation. • **Audit logging must be exported from source systems to an ISO-specified solution**. These audit logs must include authorization and activity logs and, for interactive sessions, include PennKey username and IP address. These logs must contain any service specific requirements as detailed in an ISO risk disposition. • **Continuous security monitoring & threat detection** (SIEM tools, anomaly detection, vulnerability scanning) and dedicated staffing. • **Data retention policies** enforce proper deletion or anonymization of student/PII data after the required period. • **Data Loss Prevention (DLP) controls** to prevent unauthorized transfers of PII and FERPA data. • **Regular security audits and risk assessments** to ensure compliance with regulations and institutional policies. • **Incident response procedures** in place to respond and notify on potential breaches or unauthorized access. • **Secure data disposal practices** (shredding, secure deletion tools) to prevent data leaks.

High	• **PennKey and multi-factor (MFA) authentication required** to access data. • **Role-Based Access Control (RBAC)** ensures only authorized individuals in appropriate roles have access. • **Encryption in transit and at rest** (AES-256, FIPS-compliant encryption) to meet required specifications. • **Access limited to appropriately protected interfaces or endpoints** compliant with university policy • **Regular system and immutable-data encrypted backups** to recover from accidental loss, corruption or compromise. • **Basic integrity checks** to ensure data is not altered unintentionally. • **Monitoring for availability** to ensure internal resources remain accessible. • **Security awareness training** for employees handling high-risk data and relevant compliance requirements. • **Security event logging & monitoring** (e.g., SIEM tools) inclusive of IP, username, timestamp, all create, read, update and delete activity. • **Audit logging must be exported from source systems to an ISO-specified solution**. These audit logs must include authorization and activity logs and, for interactive sessions, include PennKey username and IP address. These logs must contain any service specific requirements as detailed in an ISO risk disposition. • **Continuous security monitoring & threat detection** (SIEM tools, anomaly detection, vulnerability scanning) and dedicated staffing. • **Data retention policies** enforce proper deletion of high-risk data after the required period. • **Data Loss Prevention (DLP) controls** to prevent unauthorized transfers of protected data. • **Regular security audits and risk assessments** to ensure appropriate compliance aligned with data classification and institutional policies. • **Incident response procedures** in place to respond and notify on potential breaches or unauthorized access. • **Secure data disposal** practices (shredding, secure deletion tools) to prevent data leaks. • **Regular penetration testing** to identify and remediate security risks. • **Annual compliance assessments** (HIPAA, PCI-DSS, FERPA, ITAR, CUI, FISMA, FEDRAMP) to ensure regulatory adherence.

3. Associated Services

Wharton provides a range of IT tools and platforms that support various data types based on their classification. Though scope changes, integrations, and initiatives leveraging these tools still require a review, some examples include:

Low	Moderate (Non-PII / Non-FERPA)	Moderate (PII and/or FERPA)	High
• Public university websites • Campus maps • Public research repositories • Research data pulled from publicly available websites (no DUA in place) • Wharton Share Drive • Non-managed endpoints (e.g. laptops, desktops, public computers, etc.)	• Private university websites (restricted) • Penn O365 • SharePoint (non-sensitive documents) • Zendesk/Halo • Microsoft Teams (non-sensitive) • Slack (general discussions) • Microsoft Azure • Google Cloud Platform • BitBucket • Penn GitHub • Atlassian Suite (Jira, Confluence, OpsGenie, etc.) • Penn SmartSheet • Wharton/Penn Qualtrics • Wharton Google Workspace • Wharton-managed endpoints (e.g. laptops, desktops, public computers, etc.)	• Canvas • Internal data repositories with student or faculty PII • Dropbox • Penn Box • Penn Warehouse • Penn Zoom • Salesforce • Wharton/Penn Amazon Web Services (AWS) • Wharton-managed Servers • ChatGPT Edu • Grammarly • Panopto • Microsoft Copilot Chat	• Workday (HR and payroll data) • Research databases with PHI or SSN • Federal/State grants/DUA and CUI, FISMA, FERPA • Cybersource • PennCommunity • Salesforce (Donor Records) • Salesforce (Global Youth) • BenFinancials • Concur • Microsoft 365 Copilot Chat

Email and Content Access Standard

Last Modified on 08/11/2025 4:40 pm EDT

For more details about the Information Security Office, **please visit our website**!

1. Introduction

The Wharton School adopts this E-mail and Content Access Standard (this Standard) to protect the confidentiality, integrity, and availability of e-mail and document content stored in personal environments for systems managed by Wharton (e.g. Active Role Server, Microsoft 0365, Gmail, DropBox, Box, GDrive, etc.). This standard ensures compliance with the University's Policy on Privacy in the Electronic Environment, Acceptable Use Policy, and all applicable University and Wharton policies, standards, and guidelines which serves as the overarching framework.

The standard enables Wharton to support security incidents/investigations, technical support, legal compliance/e-discovery, HR, or policy violations, etc.

This standard is a living document that is reviewed and updated yearly to adapt to the evolving Wharton mission, technology advancements, and cybersecurity requirements.

1.1 E-mail & Content Access Standard Maintenance

The Wharton Information Security Office (ISO) is accountable for the development and maintenance of this standard and ensuring tactical and operational implementations that align to and meet the directives established therein.

1.2 Scope

This Standard applies to all Wharton faculty, staff, departments, centers, and third-party affiliates authorized to access institutional data and IT systems   This standard's scope relates to work e-mails, storage folders, end point devices, and applications. This standard aligns with the Identity Access & Management Standard, Data Management Standard, and other Wharton/Penn policies and standards, which govern wider activities throughout Wharton.

1.3 Compliance

All Wharton employees must follow this standard. ISO responsible will review this standard annually and update based on changes to Wharton's varied operational IT environments and alignment with Wharton's mission. ISO will communicate updates to the relevant stakeholders in a timely manner.

2. Audit

Wharton is required to review privileged IT access on a quarterly basis for the aforementioned IT systems.

Information Security Office will audit the process and access logs at least annually, and on a more frequent basis as appropriate, to ensure compliance with the standard and aligning with the process. The Information Security Office itself is also subject to compliance audits, as warranted.

All actions taken by Wharton should be documented/logged with timestamps and detailed descriptions of what was accessed, modified, or investigated.

3. Training and Awareness

All staff authorized with privileged access to the aforementioned e-mail or content systems are required to review and acknowledge this standard, the University's Policy on Privacy in the Electronic Environment, Acceptable Use Policy, and all applicable University and Wharton policies, standards, and guidelines.

4. Violations

Employees who fail to adhere to the guidelines and process set forth in this standard document may be subject to further employment action, up to and including termination. The Wharton School recognizes that deviation from this standard may vary in severity, ranging from minor departures from process to serious breaches that involve gross misuse or abuse of authority or resources. Each case will be reviewed individually, and in light of the specific circumstances, to determine the appropriate response, which may include no formal action, a verbal reminder, or more serious disciplinary consequences, up to and including termination.

5. Process Scope

The E-mail & Content Access Process aligns with Wharton's E-mail & Content Access Standard. The purpose of the process is to identify responsible and accountable Wharton Computing teams and the specific process steps necessary to fulfill requests to access and conduct actions within e-mail and content storage systems. The process enables Wharton Computing to support security incidents/investigations, technical support, legal compliance/e-discovery, HR, etc.

Click here for details on the **internal Wharton process** (log-in required).

Zoom Security Guidelines

Last Modified on 12/15/2025 5:10 pm EST

We are aware that Zoom is rolling out changes to its interface that may affect some of our directions. We are working on updating these pages, but in the meantime you can visit Zoom's Release Announcement. Please reach out to Wharton Computing if you have any questions.

For more details about the Information Security Office, **please visit our website**!

The best way to deal with disruptive behavior in a Zoom meeting is to prevent it from happening in the first place. Here are Wharton's guidelines to secure your Zoom meetings and deal with disruptions in an active Zoom meeting.

Penn Zoom Default Settings

The following security features have been set on your Penn Zoom account:

- Passcodes are required for all new meetings (does not apply to Personal Meetings)
- The host is the only person who can screen share
- Shared screens may be annotated by all meeting members.
- Participants who have been removed from the meeting will not be allowed to rejoin the meeting

General Guidelines

Zoom bombing, wherein participants join Zoom meetings to cause a disruption, can derail any meeting. There are some things that you can do to thwart potential Zoom bombers before they even have the chance to enter your meeting.

If you need assistance configuring your Zoom settings, **we highly recommend** you reach out to your **Wharton Computing Representativ**e.

- ### Do Not Post Meeting Information Publicly

Only share your Zoom meeting details (link, passcode, and ID) with invited participants. Avoid posting them on publicly accessible websites. Canvas course sites are safe since they are only accessible to authorized users.

- ### Avoid Using Your Personal Meeting ID (PMI)

Your Personal Meeting ID is permanent and always uses the same login information, which makes it convenient but less secure. **Instead, create unique Zoom meetings for classes or work sessions.**

- ### Enable Waiting Room

Set up a waiting room for every meeting. This allows you to screen participants before admitting them, ensuring that only the right people gain entry. To enable the Waiting Room for a Zoom meeting as it is taking place (and you are the host/co-host of). For more details, **see instructions here**.

- ### Allow Penn Authenticated Users Only

For added protection, require participants to be logged in with their Zoom account before joining. You can limit it to Penn users only or anyone with a Zoom account. Specific exceptions can be added per meeting.

> **Note**: Penn users only is the default and recommended authentication setting. You can change this by clicking **Edit** next to "Sign in to Zoom" under "Meetings & Webinar Authentication Options" and checking the default box.

You can require authentication on a per-meeting basis or by default for all meetings. For more details, **see instructions here**.

During Your Meeting

Despite following all of our recommendations, disruptions could occur in a Zoom meeting in which you're the host (or co-host). There are a few Zoom tools that make it easy to deal with a disruptive participant quickly:

- ### Turn off Annotations

To allow only the user sharing their screen to annotate, please **make changes in your Zoom portal**.

- ### Remove Participant

Remove disruptive attendees who will not be able to rejoin. For more details, **see instructions here**.

- ### Lock Meeting

Prevent new participants from joining once everyone is present. For more details, **see instructions here**.

- ### Suspend All Activities

This turns off cameras, microphones, screen sharing, and chat, giving you time to assess and remove disruptive individuals. For more details, **see instructions here**.

After Your Meeting

If any of your Zoom meetings are disrupted besides using the features above, report the incident to the Wharton Information Security Office (security@wharton.upenn.edu). They can engage additional resources, if needed, and offer any help you may require.

Questions?

Contact your Wharton Computing Representative or the Wharton Information Security Office for more information.

Phishing and Spam at Wharton

Last Modified on 08/26/2025 4:58 pm EDT

Forward suspicious emails as an attachment to **security@wharton.upenn.edu**.

Phishing

What are Phishes?

Phishing emails are scams sent to you by people or programs who are looking for access to your accounts or to learn valuable information about you. They often appear to be from an administrator of the email system or another user on the system. The content of the email generally is one of the following:

- a warning that your account may close if you don't use your account credentials to log into their website
- a call to click on a link to address financial or other issues
- a request to update your work data

Phishing attempts are getting increasingly sophisticated, and while we try to block phishing attempts, no system is 100% effective. To test your knowledge of identifying these scams, check out this phishing quiz.

ISC offers an informative training on Information Security Essentials that can teach you how to protect your data best. For more information, see Phishing & Spear Phishing .

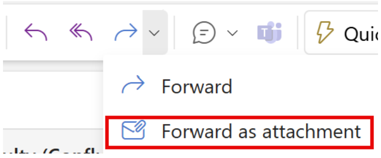
Tips to Identify Phishing Attempts

- Check the email sender. Most of the time, phishing emails come from suspicious-looking addresses.
- Look for poorly worded emails or misspellings (though scammers now use AI which makes these errors less common).
- Be cautious of unusual-looking links. For example:
  - "Helpdesk requires you to upgrade webmail by clicking http://mailverificationpage14.tk "
  - *Notice that there's no reference to Wharton, PennO365, Student Gmail, or your support team in the URL, and the extension is not a standard one. Never click on a link in a suspected phishing email.*
- When you click a link in an email, pay close attention to the actual web address you've been sent to, if it looks suspicious, do not enter your Wharton credentials.
- Wharton Computing will never ask you for your username/password via email.

Suspect a Phish?

Always forward suspicious emails as an attachment to security@wharton.upenn.edu. Security is a shared responsibility, and your caution helps protect the Wharton community.

1. In your mail client, **right-click** or **open the Options menu** on the original email.
2. In the menu that appears, select **Forward as Attachment**.
   (Depending on your email client, the "Forward as Attachment" may be nested under other options on the menu.)



3. A new email will appear with the full message attached as a .eml file.
4. Send to **security@wharton.upenn.edu**.

Note: If you're using a laptop or desktop computer (Windows, macOS, Linux), you may be able to drag and drop the suspicious email to the Desktop folder and attach the resulting .eml directly.

If you're using a mobile device (iPhone/iPad, Android phone or tablet), most mail clients now include a "Forward as Attachment" menu option when viewing the suspicious email.

Already Clicked a Link?

What To Do

1. **Reset** your Wharton and PennKey passwords.
   - If you believe your device has been compromised, use another computer or contact your IT representative to help change your passwords.
2. **Change passwords** that are similar or the same as your compromised password.
3. **Notify** your IT representative and Wharton's Information Security Office.
4. Determine if your password has been exposed in a data breach athttps://haveibeenpwned.com/ and/or https://monitor.firefox.com/.

Unique, complex passwords are one of the best ways to secure your account(s). Password managers, such as Dashlane (provided by Penn), auto-fill your credentials for you, allowing for easy and convenient account management while using long and secure passwords.

For security best practices, make sure you:

- Don't reuse passwords for multiple sites or services.
- Enable Two-Step Authentication whenever possible.
- Run up-to-date virus and adware scans on your computer.

Spam

What is Spam?

Spam emails are unsolicited messages sent in bulk. Many spam emails are sent for commercial purposes, but some are harmful phishing emails that will attempt to gather your sensitive information.

Email providers (Gmail, O365) have spam filters that try to ensure untrustworthy, or possibly malicious, email doesn't make its way to your Inbox. Gmail provides basic spam filtering that will automatically move suspicious mail to your spam folder. Some email providers call this folder "Junk."

It’s a good idea to occasionally look in your spam folder (sometimes called Junk, depending on the mail platform) to make sure there aren’t any important messages that were improperly marked as spam. If there are legitimate messages there, you can click **Report Not Spam** or **Mark as Not Junk** to restore them to your inbox.

For more information on spam filtering at Wharton, see our Spam Filtering Overview.

Email Spoofing

Some spammers **spoof** email addresses that make it appear as if the mail they send is coming from a university email address. Unfortunately, there is not much Wharton Computing can do except suggest that you report the website/sender for spamming to sites like http://www.spamhaus.org/.

If you're unsure, you can look up the site's IP address at a site like: http://get-site-ip.com/

“Spoofing” and “phishing” often work in tandem – a spoofed email address may be a phishing attempt (but not always).

Adding Addresses to your Allowlist on Gmail

Gmail offers an option to add specific addresses or domains as "safe," so they aren't automatically marked as spam. This list is known as an "Allowlist." Your Allowlists only apply to your Gmail account and must be managed and set by you. If you want to accept all email sent from a specific address, follow these instructions:

1. Log in to your **Gmail** at gmail.com.
2. Click the gear icon in the top-right, and select **See all settings.**
3. Click the **Filters and Blocked Addresses** tab.
4. Click **Create a New Filter.**
5. In the pop-up window, enter the email address you want to add to your allowlist in the From field.
    - If you want a whole domain allowlisted, you can just enter the domain (ie, "@example.com").
6. Click **Create filter.**
7. Check **Never send it to Spam**.
8. Click **Create filter.**

Adding Addresses to "Safe Senders" in Office365

Office 365 allows users to designate "Safe Senders." Safe Senders are not automatically marked as spam. This functionality is available for the Outlook web client and the Outlook Windows client. It is not available for the MacOS Outlook client. See this article from ISC for directions.

Need Help?

Contact the Information Security Office (ISO): security@wharton.upenn.edu

Firewalls: What They Are & Why Use Them

Last Modified on 05/08/2025 2:39 pm EDT

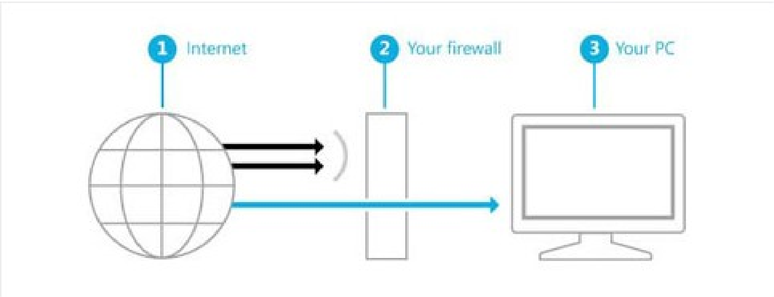
This article will give you an overview of what a firewall is, how it works, and will provide instructions on how to ensure your personal computer's firewall(s) are enabled.

Faculty & Staff: Faculty and Staff using Wharton-imaged or Wharton-provided devices may not be able to change Firewall (Crowdstrike) settings. This article applies only to personally managed computers.

For additional questions or requests, please reach out to your IT support representative or the Wharton Information Security Office at security@wharton.upenn.edu.

What is a firewall?

1. A firewall is a network security system that establishes a barrier between a trusted, secure internal network and another network that may not be secure.
2. Additionally, a firewall can help prevent hackers or malicious software from gaining access to your computer through a network or the Internet. A firewall can also help stop your computer from sending malicious software to other computers.



Enable/Disable Firewall

Warning: Only turn off your Firewall if you are installing a separate antivirus software that includes a firewall *and* active defender.

Windows

Follow Microsoft's directions on how to turn your Firewall on or off.

MacOS

Follow Apple's directions on how to turn your Firewall on or off.

Allow Trusted Applications

You can allow applications you trust. **Only choose this option for applications you know are safe.**

Questions?

Students - Wharton Computing Student Support

Faculty - Academic Distributed Representatives

Staff - Administrative Support

For more information regarding security threats and antivirus software, you can also contact the Wharton Information Security Office at security@wharton.upenn.edu.

Web Browser Security

Last Modified on 05/08/2025 2:40 pm EDT

This article covers the update process for Web Browsers.

Faculty and Staff on Wharton-Managed Machines:

Your browsers should update automatically but it's still a good idea to follow the steps listed below.

Web Browsers

Healthy Computing requires regularly updating your computer, but we often forget to update our web browser(s). Since so much of computing now takes place in a web browser, it is considered one of the largest attack vectors for malware.

Most major browsers (e.g. Chrome, Edge, Safari, Firefox, and DuckDuckGo) are quick to fix vulnerabilities and auto-update, and all you need to do is restart your browser regularly! The Wharton Information Security Office **recommends restarting your browser each day to allow any applicable updates to apply.**

Your open tabs should reappear or if not, you can restore the previous session from the “History” menu in your browser to pick up from where you left off while being up-to-date!

Updating your Browser

There are several ways to update your browsers.

Restart (Updates Automatically)

A restart of your browser usually updates it immediately -- all you need to do is close all open instances of the browser, and restart. Your open tabs should reappear or, if not, you can restore the previous session from the “History” menu in your browser to pick up from where you left off.

Manual Update

You can also manually check your browsers for updates, although how you do it varies by Operating System:

- **macOS:** click the application title in the top menu bar just to the right of the Apple logo, and select “About [Browser Name]” from the menu that appears
  - For Safari, macOS delivers updates via software updates in Settings; see Update to the latest version of Safari - Apple Support
- **Windows:** click “Help” in the top menu bar of the application, and select either “About [Browser Name]” or “Check for Updates” from the menu that appears.

Browser Resources and Recommendations

For more information on security options for major browsers, here are places to start:

- **Chrome**: https://support.google.com/chrome/answer/10468685?hl=en&sjid=8263394724745160652-NA
- **Microsoft Edge**: https://support.microsoft.com/en-us/microsoft-edge/enhance-your-security-on-the-web-with-microsoft-edge-b8199f13-b21b-4a08-a806-daed31a1929d
- **Safari**: https://support.apple.com/guide/safari/welcome/mac (choose Table of Contents and then Security for your version)
- **Firefox**: https://support.mozilla.org/en-US/products/firefox/protect-your-privacy

> These practices and recommendations also apply to other web browsers that may not be listed here.

Questions?

Contact your Wharton Computing Representative or the Wharton Information Security Office for more information.

Google Security & Privacy Checkups

Last Modified on 05/08/2025 2:40 pm EDT

The Google Security & Privacy checkups provide a quick and effective way to ensure that your Google account is secure and private. These checklists can be used on any Google account, whether it is personal or school-provided.

Google Security Checkup	Google Privacy Checkup

Access requirements: Must have an active Google account.

Google Security Checkup

Google's Security Checkup is a great way to ensure that your account is secure and isn't being accessed by anyone but you. It can also help highlight security flaws on your account that may be easily missed.

- Manage apps with access to your account
- Review signed-in devices
- Review recent security events
  - i.e. New Sign-ins, App Password creation & deletion, etc.
- Enable Two-Step Verification

Google Privacy Checkup

Google's Privacy Checkup allows you to personalize which types of data Google collects as well as allowing you to manage the visibility of your account.

- Review activity controls
  - Web & App activity
  - Device Information
  - Voice & Audio activity
- Edit publicly-available information about your account
- Manage Tailored Ads

Questions?

Faculty & PhD Students: Academic Distributed Representatives

Staff: Administrative Support

Students: Wharton Computing Student Support

For more information regarding Google Security and Privacy, you can also contact the Wharton Information Security Office at security@wharton.upenn.edu.

Frequently Asked Questions

Q: I no longer use an app (i.e. G Suite Sync for Outlook) and want to remove its access to my Google Account. How can I do this?

A: The first step of the Google Security Checkup allows you to review and manage any apps that have been granted access to your account.

Q: Are security & privacy checks available for my devices as well?

A: If you are a student, yes! Simply drop by the Tech Center at SHDH-114 and ask to participate in a Device Tune-up & Security Session. If you are faculty or staff, please contact your Academic Distributed Representative or Administrative support, respectively.

Q: What if I notice a device or location that isn't mine has accessed my account?

A: Reset your Google account password as soon as possible, as well as any other passwords that may be the same or similar. Contact your IT support team if you have additional questions (see *Questions?* above).

Zoom Meeting Security: How-to

Last Modified on 12/15/2025 5:10 pm EST

We are aware that Zoom is rolling out changes to its interface that may affect some of our directions. We are working on updating these pages, but in the meantime you can visit Zoom's Release Announcement. Please reach out to Wharton Computing if you have any questions.

For more details about the Information Security Office, **please visit our website**!

The best way to deal with disruptive behavior in a Zoom meeting is to prevent it from happening in the first place. This article details several ways to secure your Zoom meetings and how you can quickly deal with disruptions in an active Zoom meeting.

Before You Start
You will need:

- An activated Penn Zoom Account.
- Have the host or co-host role in the Zoom meeting.

Penn Zoom Default Security Settings

The following security features have been set on your Penn Zoom account:

- Passcodes are required for all new meetings
- The host is the only person who can screen share
- **Shared screens may be annotated by all meeting members.**
- Participants who have been removed from the meeting will not be allowed to rejoin the meeting

Recommended Security Features

If you need assistance configuring your Zoom settings, **we highly recommend** you reach out to your **Wharton Computing Representative**.

• Enable Waiting Room

Set up a waiting room for every meeting.

• Allow Authenticated Users Only

Require participants to be logged in with their Zoom account before joining.

During Your Meeting

Disruptions may still occur in a Zoom meeting in which you're the host (or co-host). There are a few Zoom tools that make it easy to deal with a disruptive participant quickly:

- ### Remove Participant

Remove disruptive attendees who will not be able to rejoin.

- ### Lock Meeting

Prevent new participants from joining once everyone is present.

- ### Suspend All Activities

This turns off cameras, microphones, screen sharing, and chat, giving you time to assess and remove disruptive individuals.

After Your Meeting

If any of your Zoom meetings are disrupted besides using the features above, report the incident to the Wharton Information Security Office (security@wharton.upenn.edu). They can engage additional resources, if needed, and offer any help you may require.

Questions?

Contact your Wharton Computing Representative or the Wharton Information Security Office for more information.

Virus and Threat Protection at Wharton

Last Modified on 11/18/2025 4:31 pm EST

The University of Pennsylvania offers threat protection and antivirus software solutions for faculty, staff, and students for both managed and unmanaged computers.

How To Protect Yourself Against Viruses

Be Aware of Sites & Attachments

As computers become more networked and standardized, it gets easier and easier to catch computer viruses. You can get viruses from downloads over the internet, from opening e-mail attachments, or from another infected system or device.

Many self-propagating viruses will mail themselves to you before the original sender has discovered that his/her machine is infected. Be suspicious of any attachments, but be extra vigilant about inappropriate subject lines and attachment titles (for example, if someone you barely know sends you an e-mail called **ILOVEYOU**).

Back Up Data Frequently

Some viruses are so damaging that they will render your files useless or unrecoverable. In that case, your only hope of recovery is with back-ups made prior to infection. For a list of cloud storage options that are provided to you as Faculty, Staff, and Students of the University to back-up data to, see Cloud Storage Options.

Update, update, update!

Microsoft & software developers frequently release patches to fix known issues for their services. These fixes include known security issues that may leave your computer or program vulnerable to viruses and other attacks. To manually update, press the Windows key + S (+ s), type **check for updates**, and then click the **Check for Updates** setting.

Antivirus Protection

Antivirus software recommendations at Wharton differ depending on whether you are faculty, staff, or student and whether Wharton manages your computer.

Unmanaged Computers

Student computers and some personal computers owned by faculty and staff are "unmanaged" – they are not part of the Wharton-managed computing environment. These computers should have antivirus protection installed – we recommend Sophos Home (for Macs) or Windows Defender (for Windows 11).

Managed Computers

Wharton uses the CrowdStrike software to protect faculty and staff machines that are managed by Wharton (Student computers are not managed by Wharton).

Choosing Your Antivirus Software

There are several conditions that will determine which steps you take to install the appropriate antivirus software: who you are, and what kind of computers you are using.

	Faculty/Staff	Student
Unmanaged Mac	N/A	Sophos Home
Managed Mac	CrowdStrike	N/A
Unmanaged Windows	N/A	Windows Defender
Managed Windows	CrowdStrike	N/A

Sophos Home	Windows Defender
Instructions	Instructions

Sophos Home FAQs

What if I already have antivirus software?

Why should I switch to Sophos Home?

Will I get technical support if I switch to Sophos Home?

Virus Removal

If your personal computer has a virus, use the steps below to try removing it on your own.

Faculty and Staff should NOT attempt to remove viruses on any Wharton-managed machine.

If you suspect you have a virus, disconnect your computer from the network, power it off, and contact your Wharton Computing Representative or the Information Security Office right away for assistance.

Before You Start:

- Back up your computer's data to an external hard drive or other source not attached to your computer to prevent any loss of important data.
- Make sure you're comfortable downloading and installing software on your computer.

Windows/PC

The procedure below is simplified for your convenience and remedies most situations.

Virus Removal Procedure (Mac)

The steps for removing viruses from Macs are fairly straightforward.

Questions?

For more information regarding security threats and antivirus software, you can also contact the Wharton Information Security Office at security@wharton.upenn.edu.

Managing Passwords (and more) at Penn

Last Modified on 08/22/2025 1:01 pm EDT

The University provides a premium password management service, Dashlane. Use this article to help you choose and configure the account type that is right for you, and for any Wharton-specific tips. The University also has information on setting up Dashlane.

Dashlane Business

Dashlane Business accounts are available for ***University faculty and staff/employees.*** They allow you to share credentials with other colleagues securely.

You **must** use Dashlane Business if:

- you use credentials for University resources or work purposes.
- you need to share collections (a shared Dashlane password folder) of credentials with other employees.

The Wharton School's Dashlane Business plan is open to ***Wharton faculty and staff/employees* only**. Please contact your Wharton Computing representative for an invitation.

If you run into issues with installing the browser plugin, please review Dashlane's article.

We also recommend that you **turn on an Account Recovery Method.** This will ensure you don't lose all your passwords if you forget your Master Password! More details in the "Enable Account Recovery Options" section below.

Dashlane Premium

Dashlane Premium accounts are open to ***all members of the Penn Community*** for personal password management.

Only personal credentials and files should be used with Dashlane Premium.

To obtain a Dashlane Premium account, follow ISC's Dashlane Premium instructions. If you run into issues with installing the browser plugin, please review Dashlane's article.

We also recommend enabling a password recovery option for your Dashlane account so you can access your passwords if you lose your master password. See Dashlane's article on Account recovery key set up.

Additional Information and Best Practices

General

Dashlane is available as an extension for your web browser and as a mobile/desktop app, but the Dashlane browser plugin is **required** to get the full Dashlane experience. If you run into issues with installing the browser plugin, please review Dashlane's article.

Note: For Mac users, Dashlane offers both a plugin for Safari and a macOS app that can be used alongside the plugin.

Can I have 2 accounts?

You can have two separate Dashlane accounts, but they must have separate login credentials:

- **Dashlane Business:** Use this for Penn/Wharton work.
- **Dashlane Premium:** Use this for saving personal credentials (or use a different password manager).

Questions?

For more information, contact Wharton Computing Client Support Services.

Contact Wharton Computing

Last Modified on 09/02/2025 1:41 pm EDT

Questions? Choose Your Channel

Solution Suggester: Guides your questions to help you find the answer in our Knowledge Base (option at the end to email us your question).

Website: Includes links to chat, email and selected KB articles.

Select your Group: use the list below to contact us.

Computing Support Providers

FACULTY, STAFF, & STUDENTS	
Wharton Computing Client Support Services	Web: https://computing.wharton.upenn.edu Email: support@wharton.upenn.edu
WHARTON | SF	
Wharton | SF Support	ww-itsupport@wharton.upenn.edu
INFORMATION SECURITY	
Wharton Information Security Office	security@wharton.upenn.edu
ALUMNI COMPUTING SUPPORT	
Alumni Computing Support	alumni.relations@wharton.upenn.edu

Getting Help

Last Modified on 01/08/2021 10:00 am EST

Getting IT Help at Wharton

Help for technology questions is available from many sources at Wharton. For general questions you canuse this knowledge base; for more focused and personalized information, start with your user type:

Students	Faculty	Staff	Alumni
			

Wharton Computing FAQ

1. **How can I connect to WiFi at Wharton?** Review the Connect to AirPennNet article.
2. **What is Two-Step Verification?** Learn more about 2-step verification and troubleshooting here.
3. **Who do I contact if I can't find the answer in this Knowledge Base?**
   - **Students**: contact Student Computing via email support@wharton.upenn.edu or through the website.
   - **Staff**: contact Administrative support via email admin-support@wharton.upenn.edu or through the website.
   - **Faculty** (and **staff in departments**): contact your Academic Distributed Representative.

Collaboration Software for Online Teaching and Learning -- DRAFT

Last Modified on 06/14/2024 4:24 pm EDT

This article provides an overview of the collaboration services available to help with teaching and learning at Wharton, and how best to incorporate them.

WAYS TO WORK	AVAILABLE FOR:	FEATURES	BEST USED TO:
Wharton G Suite	Students	• Access to Google Docs, Sheets, and Slides • Widely used sharing capabilities • Unlimited Storage Space in Google Drive	• Work together on documents (papers, spreadsheets, presentations) • Supports simultaneous editing seamlessly • Students like G Suite for smooth multi-user editing

Penn Office 365

Students, Staff, Faculty

- Online Access to Word, Excel, and PowerPoint
- Access to full *offline* Office Suite (requires downloading and installing the apps)

- Share versions of documents (papers, spreadsheets, presentations);
- More fully featured than GSuite, especially with the downloaded apps.
- Students like Office 365 for finalizing/formatting projects

Ways to Connect

Zoom

Students, Staff, Faculty

- Connect from Windows, MacOS, Android, iOS, or Regular Landline

- Supports meeting recordings and screen sharing

- Schedule and hold online meetings.

Microsoft Teams

Staff, Faculty

- Connect from Windows, MacOS, Android, iOS, or Regular Landline
- Supports meeting recordings and screen sharing

- Schedule and hold online meetings.
- Integrated with suite of Office products, including Chat, Word, Excel, File storage, and more.

Tools for Teaching / Learning

Wharton Attendance, Absence, and Video Requests (Faculty, Students)

Faculty, Students

aPlus+ (Faculty, Students)

Faculty, Students

- Wharton Computing is currently piloting aPlus+, an attendance-tracking tool. It enables teaching teams to set specific attendance sessions on a timetable in order to manage student check-ins.

Instruction Center

Faculty

Virtual Meetings (Zoom)

Students, Staff, Faculty

- Connect from Windows, MacOS, Android, iOS, or Regular Landline
- Supports meeting recordings and screen sharing

- If your class is in Canvas, schedule and/or log into your meetings from within Canvas.

Canvas

Faculty, Students

- Access online course materials from anywhere

- Contribute to discussions; submit group assignments.

Feedback Fruits

Faculty

- Faculty choose whether to include in Canvas

- Incorporates group assignment, peer evaluations, discussion tools, student collaboration.

NameCoach (Faculty, Students)

Faculty, Students

- Recording tool to identify pronouns, phonetically pronounce names, and hear how others' names should be pronounced.

Ed Discussion (Faculty, Students)

Faculty

- Faculty choose whether to include in Canvas

- Discussion tool that provides a platform for students and members of the teaching team to interact through threaded conversation.

Turnitin
Faculty
• Faculty choose whether to include in Canvas
• Used to check the originality of student work and to detect for possible plagiarism.
Gradescope
Faculty
• Faculty choose whether to use in Canvas
• Tool that instructors can use to assist in grading coursework quickly and efficiently.
Harmonize
Faculty
• Faculty choose whether to use in Canvas
• Tools where students engage in graded or ungraded multi-media discussions

File Sharing and Storage Options

Dropbox	Students, Staff, Faculty	• Unlimited storage via Dropbox for Business	• Secure file storage and collaboration with device syncing
Google Drive	Students	• Unlimited storage via Google@Wharton	• Secure file storage and collaboration with device syncing
OneDrive	Students, Staff, Faculty	• 1 TB data storage through your Office 365 account	

- Secure file storage and collaboration with device syncing

Penn + Box

Students, Staff, Faculty

- 50 GB storage and single sign-on using your PennKey

- Secure file storage and collaboration with device syncing

More information is available:

https://inside.wharton.upenn.edu/faculty/research/

https://cms.business-services.upenn.edu/softwarelicenses/available-software.html

https://www.isc.upenn.edu/how-to/current-supported-computing-products

https://www.ctl.upenn.edu/resources/tech/

https://support.wharton.upenn.edu/help/learning-tools-for-canvas

https://support.wharton.upenn.edu/help/learning-tools-help-for-faculty

TEST - Group Views

Last Modified on 02/15/2023 12:21 pm EST

Use this article to test the various restrictions to groups. Feel free to edit as needed.

TEST [Info]:Data Warehouse and WISP update delayed

Last Modified on 02/16/2022 9:32 am EST

Data Warehouse and WISP Update Delayed

Audience: All WISP and Data Warehouse users

Summary: ISC reports that the update of the student data collectin to the Warehouse has been delayed. As of 7:45 this morning, the update had not yet begun. Accordingly, WISP has not updated either. Currently, ISC reports that the update will be completed at 10:51 a.m. We will monitor this, and run the WISP update once the ISC updates are complete.

Links and Resources: See here for updates on the Data Warehouse load status. https://warehouse.apps.upenn.edu/warehouse/jsp/fast.do (Student data is near the bottom of the page.)

Service Team Responders: Sam Smith (215-898-1870)

If you have an urgent matter, please call the Core Services On-Call #: ***(267) 702-6730***

Adding an update to test subscription.

Testing again.

this email was helpful | not so much in the helpfulness

Dual Degree Students

Last Modified on 02/01/2023 5:41 pm EST

Before You Start:

This article is designed for **Wharton Dual Degree students**.

Wharton Dual Degree students encounter certain technical [challenges] that are unique to them, mostly due to variations in the ways schools set up their data and systems. This article will help you navigate those challenges and get you settled into your Wharton tech environment quickly.

Get Set Up

Info here on what is important before you start getting set up

1) Something about accounts

Greek Greek Greek

2) Get Whartonized

Greek Greek Greek

Tips for Dual Degree Students

- Tip 1
- Tip 2

Tech Support

Wharton Computing Tech Center

Support available via in-person (walk-ins & appointments), phone, chat, and email!
Check our KnowledgeBase for list of services, troubleshooting guides, and much more.

Contact Us
Office: SHDH-114
Phone: 215-898-8600
Chat: computing.wharton.upenn.edu
Email: support@wharton.upenn.edu

Creating Accessible Course Materials (Faculty)

Last Modified on 04/18/2025 6:02 pm EDT

Making a document "Accessible" means making sure that anyone can use it, regardless of an individual's need for accommodation. (Accommodations relating to documents generally support visual or auditory disabilities.) Accessibility is a shared, ongoing responsibility for any member of the Penn community who develops, creates, publishes, or shares course materials or other printed or online resources.

Students may have visual, auditory, or cognitive disabilities that create challenges in accessing course content, and require the use of assistive technologies, such as screen readers and text-only browsers (for blind and low vision students) or captioning and signing (for d/Deaf and hard-of-hearing students). Because documents and websites pose a huge barrier for the visually impaired, this article focuses primarily on visual content.

Before You Start

To create or remediate printed or online documents, you will need:

- **Existing documents**: Access to an editable version of the document or file
  - .PDF versions of a document can be remediated, but it's best to fix the original file if it's available.
- **New documents**: Access to programs that can create documents that are accessible, and/or use of programs that check accessibility.

The following principles can help make sure your course materials are accessible to students of all abilities.

General Best Practices

- **Create Accessible docs from the start.**

- **Use Alternative Text** (Alt Text) to describe images, charts, and graphs that aren't described in the surrounding content.

- **Share Files in their original format (e.g. Word, PowerPoint)**. Once a file has been converted to a .pdf, it's hard to make it accessible.

- **Existing PDFs**: Check all publicly available PDFs and remediate them for accessibility. Make sure you are working with the original document, if possible. Don't "fix" a .pdf if you have access to the original, otherwise, you will need to redo it every time there is an update.

- **Use the Check Accessibility** feature in Canvas (most useful when creating a document).

- **Use UDOIT to scan Canvas sites** after they've been posted. (You may need to enable it first - contact your Wharton Computing Representative for help if needed.)

- **Provide closed captions and/or transcripts** for all videos and multimedia.

- **Consider offering alternate formats** for course materials and assessments.

Alt Text

Screen readers use "Alternative Text" -- or "Alt Text" -- to describe images, charts, and graphs. We recommend using these guidelines when you create Alt Text for your course materials and all digital files (including slide decks, assignment instructions, work samples, and readings) and any other kind of content placed on Canvas.

Images

There are some additional considerations when making sure images are accessible to everyone:

- Use Alt Text to describe what the image is showing.
- Limit Alt Text to 120 characters when possible and include only essential info.
    - For exams, be sure to provide adequate information to answer the question while being careful to not give away the answer.
    - Any text in the image must be described in the alt text, including numbers and percentages.
- Avoid using image file names as Alt Text.
    - The purpose of alt text for images is to describe what is happening in an image, or where a link is pointing, for people with vision or bandwidth challenges.
- Check whether images convey content; if not, mark them as**decorative** in the software you are using. Marking a non-important image as decorative improves readability for a screen reader or other assistive technology; most readers will not include them.

  Students at graduation.

  Sample ALT Text: Close-up of student's head in graduation hat, from behind.
  This image could be considered decorative if it doesn't contribute to the context of the paragraph in any way, but it could also be considered important if it is setting a mood or other purpose.
- **Example of decorative image:**

   **Crocus bulbs**

  The description "crocus bulbs" fully describes the image, and there is no need to describe the image. Mark it as decorative.

NOTE: If an image is purely decorative, Alt Text may be left blank. Screen readers understand that images without Alt Text do not convey information.

Hyperlinks in Text

Hyperlinks allow the reader to click on selected text and be brought to a website or document being referenced. Alt Text is not needed when text is hyperlinked as long as the linked text describes the destination of the link.

Example: For the sentence "See our article on how to make **Exam Accommodations** on our website", hyperlink the phrase "Exam Accommodations". The phrase describes where the link goes, so it is automatically accessible, and it does not need Alt Text.

Many screen readers announce the presence of links, so you do not need to include language like "Link to ___" in the alt text.

In certain cases, links may be displayed as a list of all links on the page to screen readers. In these situations, even if the text surrounding a link makes it clear where the link would lead a user, that context is critical to explain where the link is taking the reader.

Structuring / Sharing Documents

Keep the following list in mind when you are creating documents (or remediating them) and you'll make easy-to-use, enduring documents that work for everyone.

Reminder: Work with the original document, if possible, otherwise, you will need to redo it every time there is an update.

Use Headers

Headers give structure and create a hierarchy of importance. Programs such as Microsoft Word, Excel, and PowerPoint have predefined header styles so we recommend using those. Check Microsoft Heading Style Guide.

- Use the Heading Styles function in the program you're using.
  - Avoid manually formatting heading font sizes or making headings bold.
- Use a logical progression for headers -- for example, heading level 3 should nest under a heading level 2. Do not skip heading levels for purposes of formatting or sizing.
  - In markup languages such as HTML, CSS, or other coding languages, headers are defined with the letter **H** plus a number: H1 for titles, H2 for main sections, H3 for subsections, etc. In applications such as Word or PowerPoint, they are called "Headings". In Canvas, this application is called a "Page Title".
- Headers and heading paragraphs should contain no more than 120 characters.
  - A heading paragraph is used to summarize the information being discussed in the section. This should summarize -- not repeat, information or content written in the surrounding text.

Tables

Tables are complicated for screen readers and need to be well constructed.

- Table headers should specify the scope of the table and its structure
- Tables should have at least one header
- Tables need a caption describing what the table contains.

Links and Lists

- Use descriptive text for links, for example: “See our article on how to make **Exam Accommodations** on our website”. Avoid vague instructions such as "click here**".**
    - If vague instructions are unavoidable, make sure that the link's alt text is descriptive.
- Use the List tool to format numbered or bulleted lists. (Don't make your bullets!)

Microsoft Office Documents

- In PowerPoint, ensure that each slide has a unique and informative title, to distinguish it from previous slides.
    - If your slide should not display a title, create a hidden title so the screen reader can use it.
- Excel can be harder to make accessible than other Office apps. For assistance, useMicrosoft's Accessibility Guide for Excel

Microsoft has additional tips and guidelines in their Knowledge Base article, Create Accessible Office Documents.

Convert and Verify Accessible PDFs

An accessible PDF has the following components:

- Header (see Header description above.)
- Structure -- screen readers use the structure of your page to read the content. Think of your page as an outline. Your page title is your first-level header, and should be the theme of your page. Use subheadings (e.g. H2, H3) to deliver your message. (This advice is from Penn's resource for Content Creators.)
- Alt Text (Alternative Text) -- see the Alt Text section above for details on what Alt Text is.
- Tags -- When a PDF is tagged, the logical structure tree they help to create sends the contents to a screen reader or other assistive software or hardware in an appropriate order.

We recommend you build your syllabus as a Canvas page rather than relying on PDFs as a primary source of information. If you must use a PDF, run it through Adobe Accessibility Checker before uploading it to Canvas.

When working with PDFs, try to update the original document whenever possible, and then recreate the PDF. This will save a lot of extra work in future iterations.

When you don't have access to the original document, use these steps to make your PDF accessible.

Verify a PDF is Accessible

To verify your PDF is accessible:

1. Choose **Tools > Accessibility**. The accessibility toolset will be displayed in the secondary toolbar.

2. Click **Full Check/Accessibility** Check to open the **Accessibility Checker Options** dialog box.

If you have access to the original document that created the .pdf, be sure to update that first, to speed up any future remediation needs.

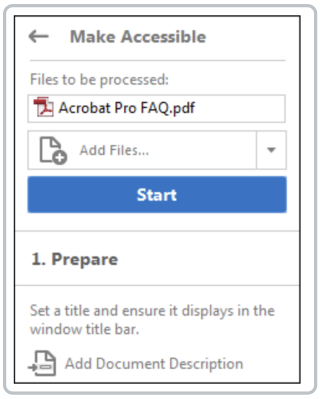
Convert a PDF to Make It Accessible

To convert a . PDF into an accessible document, use the **Make Accessible** action in Adobe Acrobat Pro.

1. Select **Tools > Action Wizard**. This will appear in the secondary toolbar.

2. Click **Make Accessible** from the actions list.

3. Select the document that you want to make accessible or use the currently open document.



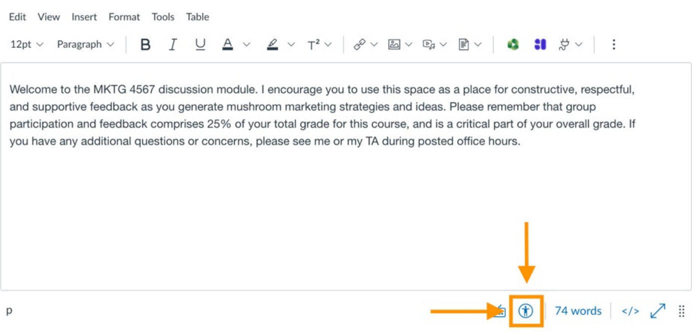
4. Click **Start** and follow the prompts to make the document accessible.

For additional information, see Create and verify PDF accessibility (Acrobat Pro).

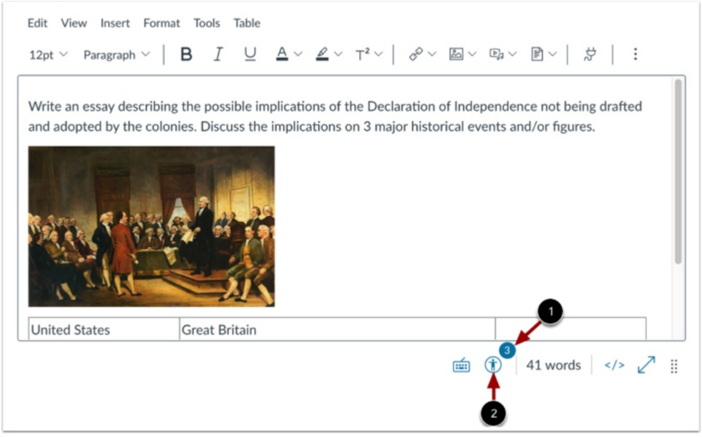
Checking Accessibility in Canvas

The Canvas Accessibility Checker is an easy-to-use tool located on the bottom right side of the Rich Content Editor text box.

1. Click the icon to scan the page for any accessibility issues.



2. If any accessibility issues are detected with the Rich Content Editor, the Accessibility Checker displays an indicator [1].

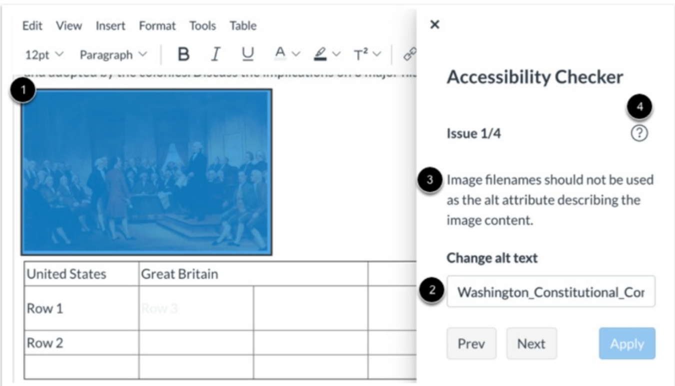


If any accessibility issues are detected within the Rich Content Editor, the Accessibility Checker display an indicator [1].

To view accessibility issues, click the **Accessibility Checker** icon [2].

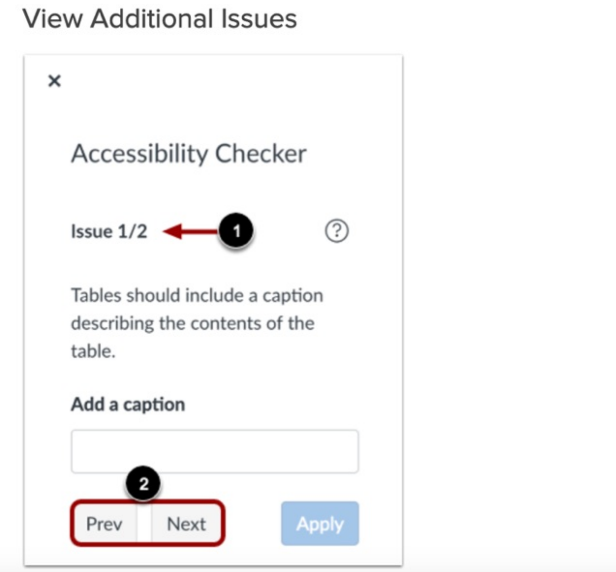
3. To view accessibility issues, click the **Accessibility Checker** icon [2].
4. When an issue is detected, the Rich Content Editor highlights the affected area [1]. The wide bar displays the accessibility attribute [2] and an explanation of the error [3]. To learn more about the accessibility attribute, click the information icon [4].

View Issues

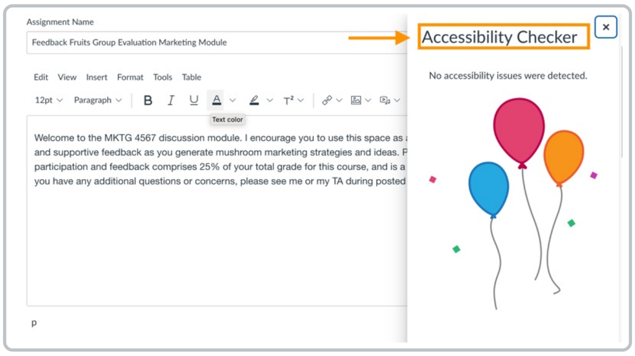


When an issue is detected, the Rich Content Editor highlights the affected area [1]. The sidebar displays the accessibility attribute [2] and an explanation of the error [3]. To learn more about the accessibility attribute, click the **Information** icon [4].

5. Issues are detected and listed individually [1], to scroll through the issues you can use the**Previous** and **Next** buttons [2] in the Accessibility Checker.



6. The Accessibility Checker will alert you once all issues have been fixed.



See Canvas' in-depth accessibility checker for more information.

Provide Closed Captions and/or Transcripts for Videos and Multimedia

Faculty, students, and staff can request transcripts and closed captioning for videos and other multimedia by submitting the Caption Request Form.

Planning Caption Requests

- Captioning turnaround time is 4 business days, and the cost is covered for course materials.
- An expedited turnaround of 2 business days may be available, depending on vendor availability.

Faculty can also reach out to their Academic Computing Support representative for additional help.

Good to Know: Requests requiring faster than a four-day turnaround may not be guaranteed.

Consider Alternate Formats for Course Materials and Assessments

Students of all abilities appreciate flexibility in course materials. Ensure you are offering materials in a way that can be interpreted using more than one sense. For example, a video or podcast with a transcript, or audio descriptions for videos with no dialogue.

Exams: If you have any questions about how to create accessible exams, please contact the Courseware team to schedule an exam consultation.

Student Accommodation Requests

Students should contact Student Disability Services (SDS) at least **8 days in advance** of exams to register for the appropriate accommodations. SDS or the program office will let you know if a student in your course needs accommodations. To set up accommodations in Canvas, please see the Exam Accommodations guide.

Resources

These resources should help answer your questions and provide guidance on making documents accessible.

- **Courseware Team Consultation:** Faculty, TAs, and staff are welcome to contact the Courseware team to schedule an accessibility consultation by emailing courseware@wharton.upenn.edu.
- **Review your Students' Accommodations:** Visit the MyWLRC Portal to review student accommodations in your courses or to request alternate formats for course materials.
- **Penn's Policies on Accessibility for Learning and Teaching:** For more information about the University's commitment to equal access, visit Student Disability Services and Web Accessibility at Penn.
    - For Content Creators: https://accessibility.web-resources.upenn.edu/resources/content-creators
- Microsoft's Tips and Guidelines:
    - Create Accessible Office Documents
    - Microsoft Heading Style Guide
    - Microsoft's Accessibility Guide for Excel
- Working with.PDFs: Create and verify PDF accessibility (Acrobat Pro).
- Working with Canvas:
    - Canvas in-depth accessibility checker
    - Exam Accommodations Guide

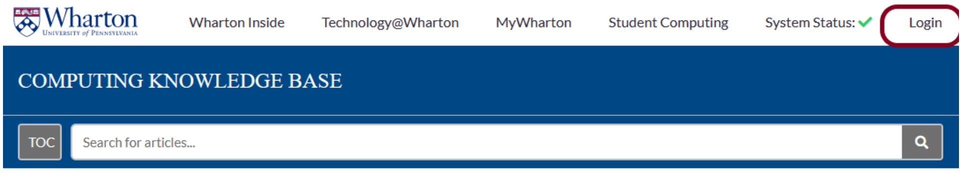
Logging Into Wharton Computing Knowledge Base

Last Modified on 07/17/2023 3:48 pm EDT

Unable to see an article in this Knowledge Base that you think you should be able to? It's possible the article is specific to a Wharton audience.

Try first logging into the Knowledge Base:

1. Click on the Login link in the upper right corner of the Knowledge Base window.



2. Use your Pennkey credentials to log in.
3. Next, try launching the web address again.

If you still get a permission error, please contact your Wharton Computing representative.

Using Screencastify at Wharton

Last Modified on 07/30/2025 2:16 pm EDT

Screencastify is a useful browser extension that allows you to easily create screencasts of your screen.

Before You Start

Screencastify may interfere with some software functions; be sure you are not planning to use software that may not work well with Screencastify, or install it only on one browser.

Respondus Lockdown Browser Will Not Work if Screencastify is Installed: If you are planning to take a test using Respondus Lockdown Browser, first uninstall the extension in the browser you plan to use.

Installing and Using Screencastify

Link to installation instructions.

Uninstalling Screencastify

Chrome

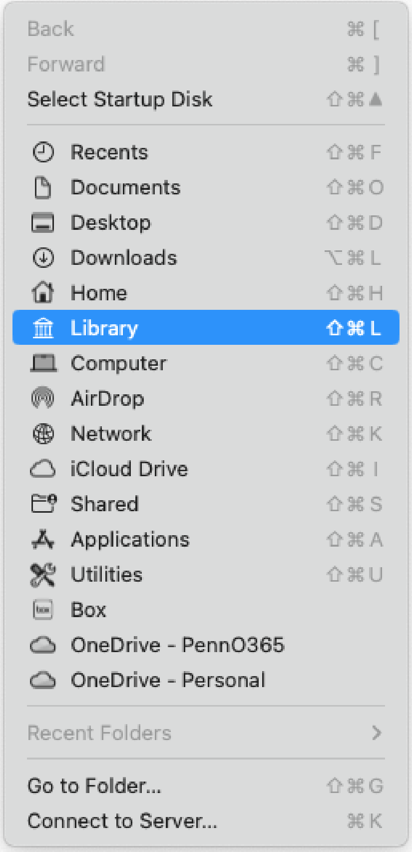
To remove Screencastify from Chrome:

- Go to **Settings>Extensions**.
- If that doesn't work, follow the additional troubleshooting steps.

MacOS

Removing Screencastify from Extensions does not always fully remove it from Chrome on Mac. To do this, first verify the extension is not installed under multiple Chrome profiles. If it is, you will need to **remove** (not just sign out of) any profile that had the extension. Once you've removed the associated profile(s) and have exited Chrome:

1. With Finder open, press **command+shift+period** to enable hidden folders.
2. In **Go**, the **Library** folder should now be visible.



1. If you do not see the Library folder, with **Go** open, press the **option** key to temporarily show the hidden folder.

3. In the **Library** folder, navigate to **Application Support**, **Google**, **Chrome**, **Default**, **Extensions**. The full path should look this:
   ~/users/userid/library/application support/google/chrome/default/extensions
4. Look for the folder **mmeijimgabbpbgpdklnllpncmdofkcpn** and delete it.
5. Restart Chrome

Note: Sometimes deleting the extension's folder will leave it still loaded in Chrome's cache. If you still see the Screencastify error when opening Lockdown Browser after removing it from Extensions and deleting the extension's folder from the library, clear Chrome's cache using the **All time** option in **Time Range**.

Questions?

Contact: Wharton Computing Representative

Wharton Technology Onboarding Overview (Staff)

Last Modified on 04/21/2025 1:45 pm EDT

This article will discuss best practices for technology onboarding and new hire account requests. Purchasing standards for staff laptops and recommendations, prices, and comparisons of each computer are visible.

Technology Onboarding Best Practices and Information

Please read the items below carefully to make sure you follow Wharton's technology request best practices.

- **PennKey username** - Most technology onboarding processes cannot begin without a PennKey. Technology requests should be submitted as soon as possible (even without a PennKey) so we can start the process; however, we ask that you follow up with PennKey information once it is received.
- **Day one deployment** - Day one deployment is our goal! This is made possible by advanced notice of the new hires' start date using the Staff Technology Onboarding Form (at least ten business days' notice preferred). If your technology request cannot be processed in time to arrive on the start date, a loaner may be provided (subject to availability).
- **Account mirroring** - To avoid mistakes, we ask that access to resources be explicitly requested instead of providing IT with the name of an individual account to mirror.
- **Specialized software and configurations** - Many departments require software and configurations specific to their workflow. Although we include many widely used software options in a computer's built-in Self Service portal, please include specifics when completing the 'specialized software' section of the technology onboarding form (to the best of your ability). This will help us plan for any custom configurations that need to happen while the new computer is being deployed. Some examples include - Java (for Ben Financials), Smart View, ODBC, and Power BI.
- **Standard Laptops** - Our standard laptops are chosen based on many factors: UPenn hardware and procurement guidance, client feedback, compatibility with other technology deployed throughout campus, current/future trends and minimum hardware requirements, and budgeting. If you'd like to request a model or configuration from one of our preferred vendors (Apple, Dell, Lenovo) that differs from our standard, please choose "Custom" in our form and provide details.
- **Pricing** - Average total pricing can be found in the *Features and Average Pricing* section. External factors may impact technology pricing at any time. On average, pricing fluctuates 10% or more during a product's life cycle.
- **Approvals** - Client Support Services assumes that any internal approval processes for requesting technology or access have been completed before placing a request. Our team may require approvals to be forwarded to us after the request is evaluated.

Staff Technology Onboarding Form

After reading this guide, complete the Staff Technology Onboarding Form to submit an official technology request.

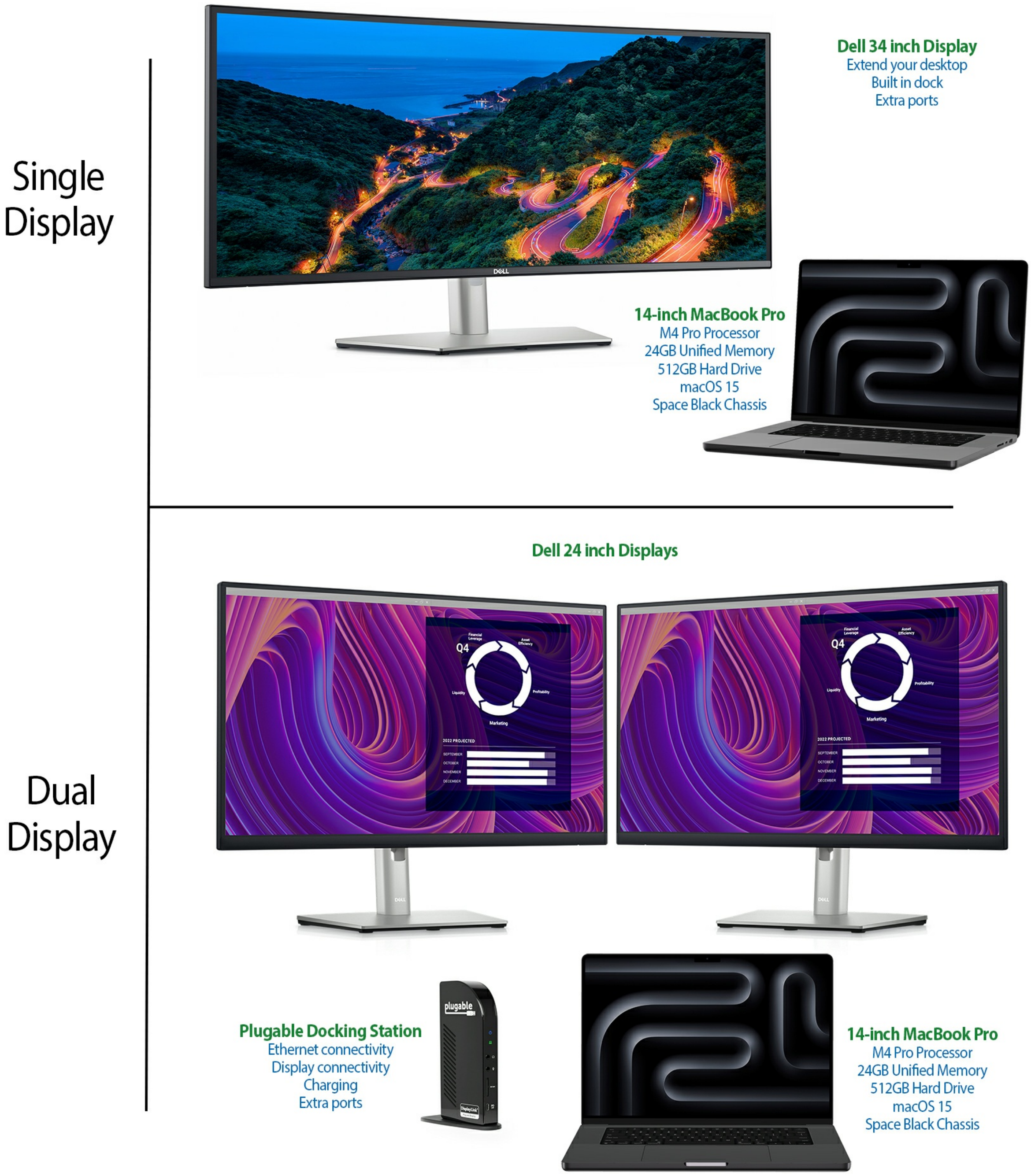
Laptop Standards and Software

This section will discuss the usage and standard applications of Mac versus Windows PC laptops. For more information regarding other products or brands, please contact your Wharton Computing Representative.

Mac

Mac computers run on macOS, the proprietary operating system of Apple products. This system is also known for its user-friendly interface, stability, and security features. Mac models excel in picture accuracy and photo and video editing tasks and remain compatible with most productivity applications. Mac systems can seamlessly integrate with other Apple devices and services, such as iPhones, iPads, Apple Watch, and iCloud. This allows for a cohesive and interconnected user experience across multiple devices.

Standard Mac Configurations



Along with the standard Apple applications, the following 3rd party productivity apps come installed on every Mac:

- Zoom
- Chrome

- Microsoft 365 (Word, Excel, PowerPoint, Outlook, To Do)

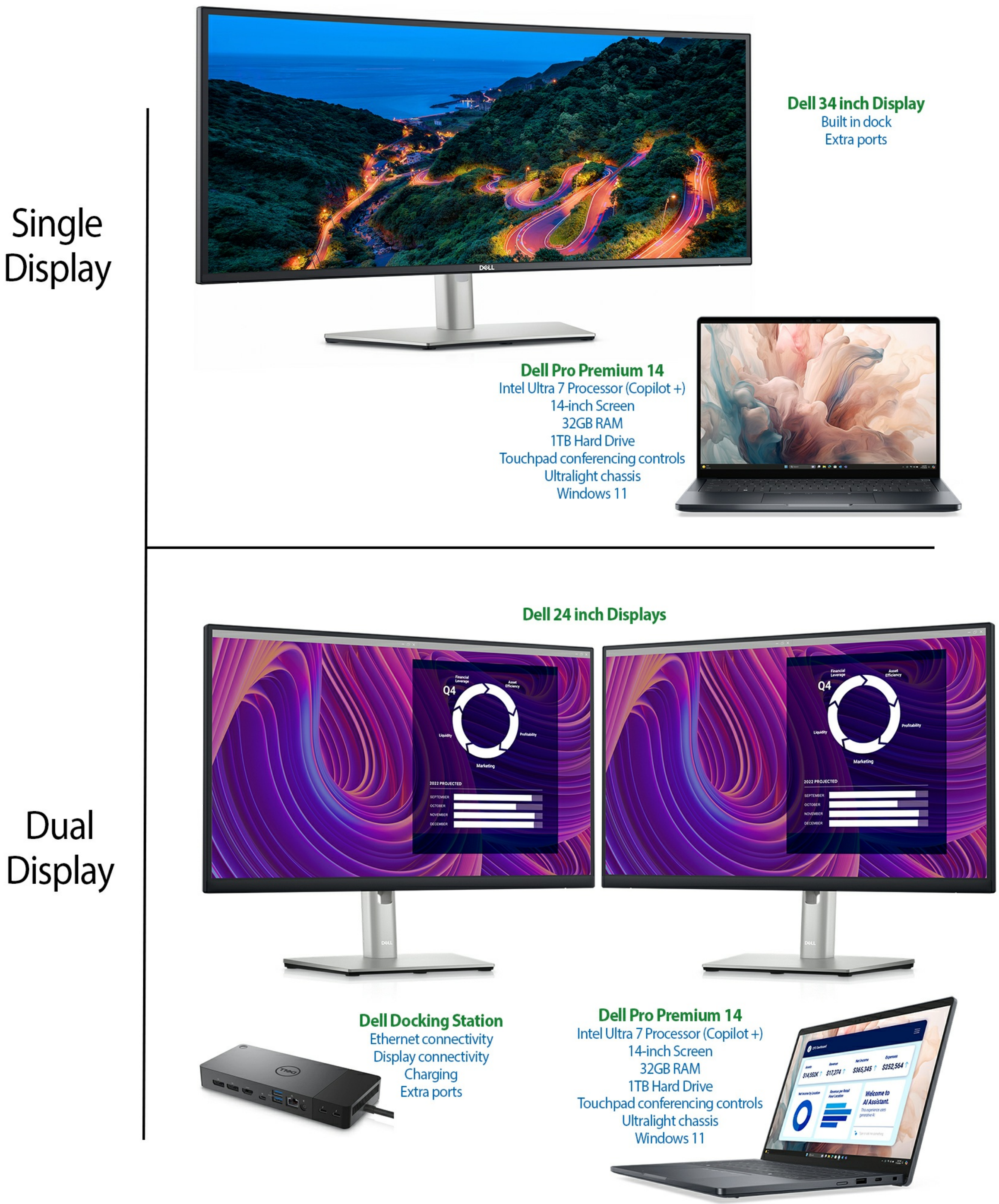
The built-in Self Service application allows you to browse through and download any of the following apps easily:

- Microsoft 365
  - Windows App (Formerly Microsoft Remote Desktop)
  - OneNote
  - Teams (Work or School)
  - OneDrive
  - Visual Studio Code
- Slack
- FortiClient (Wharton VPN)
- Global Protect (UPenn VPN)
- Webex
- Adobe Creative Cloud
- Adobe Acrobat Reader
- Dropbox
- CrashPlan (backup solution)
- ChatGPT
- Solstice
- Grammarly

Windows PC

Windows PCs operate on the Windows operating system, which is developed by Microsoft. Windows is known for its widespread usage, versatility, and compatibility. Windows has a vast library of compatible software applications, ranging from productivity tools and creative suites to gaming software and specialized business applications. This broad ecosystem contributes to the popularity of Windows PCs in various domains.

Standard PC Configurations



The Following productivity applications come installed on every PC:

- Microsoft 365 (Outlook, Teams, Word, Excel, PowerPoint, Access, Publisher, OneNote, OneDrive)
- Zoom
- Chrome
- Dropbox

- Adobe Creative Cloud
- Adobe Acrobat
- 7-Zip

The built-in Self Service application allows you to browse through and download any of the following apps easily:

- Box
- Forticlient (Wharton VPN)
- Global Protect (UPenn VPN)
- Solstice
- Firefox
- Smart View
- Webex
- CrashPlan (backup solution)
- Visual Studio Code
- Notepad++
- R for Windows
- RStudio
- JMP

Features and Average Pricing

Item	Features	Estimated Pricing
MacBook Pro	• High-resolution mini-LED backlit screen • Apple Inteligence Campatible • All-day battery life • Apple ecosystem Integration (using an Apple Account) • Quiet operation • 3-year Warranty	$2058
Dell Pro Premium 14	• Ultralight chassis for easy commuting • Copilot + compatible • USB-A & USB-C ports • Most compatible with all productivity software • 3-year warranty	$2000
Dual 24-inch Displays	• QHD resolution • Extra USB-A ports	$600
Dell Ultrasharp 34-inch Display	• Built-in docking station for extra ports, networking, and charging • Curved screen	$850
Plugable Docking Station	• Compatible with Mac models connecting to multiple screens • Extra USB-A ports • Charging	$300
Dell Docking Station	• Compatible with Windows PC's connecting to multiple displays • Extra USB-C and USB-A ports • Charging	$225
Brio 4k Webcam	• Mac and PC compatible • excellent low light capability	$200
Anker 100W Charger + Belkin Charge Cable	• Three ports for charging multiple devices at once • compact for commuting	$80
Logitech MK650 Keyboard/Mouse	• Mac and PC compatible • Supports Bluetooth and dongle connections	$65

Questions?

For more recommendations and information, be sure to reach out to your Wharton Computing representative.

Clear Your Cache and Cookies

Last Modified on 02/02/2024 3:28 pm EST

Often, problems logging into sites can be resolved by clearing your web browser's cache or cookies. Browsers set these to make the browsing experience simpler or more customized, but they can get in the way in certain cases. Clearing the cache and/or cookies can solve a lot of browser-related issues, such as problems loading pages, site error messages, or occasionally the speed at which a site functions. It's also a possible solution for issues logging into sites or services where the credentials are correct, but logins don't work.

Clearing Your Browser's Cookies

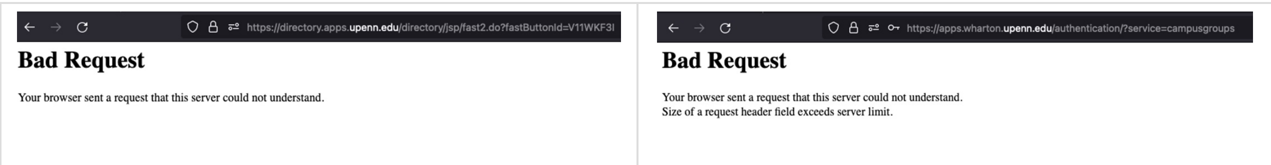
Your browser will have instructions on how to clear the cache (sometimes called "history") and cookies. Here are directions for a few of the most common browsers.

Common Errors that Require Clearing Cache/Cookies

Bad Request

When attempting to sign into a website or service that requires your PennKey credentials, you may encounter an error that says there was a bad request by your browser.

This error can appear in two forms:



If you encounter this error, clearing your browser's cookies may resolve the issue.

Questions?

Faculty, PhD Students, and Staff: Contact your Wharton Computing Representative.

Students: Wharton Computing Student Support

PhD Graduation Technology To-Do List

Last Modified on 08/14/2025 1:40 pm EDT

Before You Start:

This article is for PhD students.

Undergraduate, MBA, and WEMBA Wharton students should go to: Graduation Technology To-Do List | Wharton Knowledge Base

Wharton Computing wants your technology transition at graduation to be as smooth as possible. To help you, we've compiled a list of items to make sure your email, data, and accounts are ready to go and that you know all of the important dates for account closings.

Congrats on this major milestone!

Review Account Closing Dates

Your access to Wharton and Penn online services ends shortly after you graduate, and some services end earlier than others.

See our Graduating Students: Account Closing Dates article for a comprehensive table with important dates for your student accounts.

Prepare Your Email for Transition

Your O365 Wharton account (Microsoft Office, Email, OneDrive, etc.) is ***deleted* 60 days** following graduation. Learn how to save important emails and begin forwarding to your mail Alumni Forwarding Address or a personal email address. ***People who teach are required to keep a copy of all class related communications until the end of the next semester so they can address any grading concerns.***

1) Set a Change of Address Notice

Set an Out of Office providing both your Alumni Forwarding Address and a personal email address.

2) Begin Forwarding

Use your Wharton Alumni Forwarding Address to maintain a Wharton e-mail that forwards to a personal account.

3) Transfer Your Emails

Transfer your Wharton emails to a personal account. We suggest starting this process shortly before or shortly following graduation.

4) Change Your Email Address

Log into any subscription and services that use your Wharton email address and change them to your personal email address.

Special Consideration for Office 365

Look at your phone and personal computer to verify that contacts and calendars are not synching to Penn O365. Make sure everything you want to keep is moved to a different account, as that information will disappear when your account is turned off. It is recommended to sign out of Email / Office 365 before your last day so you have an opportunity to check and see if any important information will disappear.

Manage Mailing Lists

Before you leave campus, unsubscribe from any mailing lists you're currently on. If you are the owner of a mailing list(s), identify and assign a new owner for the list. (Only **current Wharton students** can own mailing lists).

Unsubscribe

1. Navigate to the Mailing List App.
2. If prompted, login with your PennKey credentials.
3. Choose the **My Membership** tab.
4. Click **Unsubscribe** for each mailing list.

Transfer Ownership

1. Navigate to the Mailing List App.
2. If prompted, login with your PennKey credentials.
3. Choose the **List Ownership** tab.
4. Click **Edit List** for each mailing list.
5. Add any new owners and remove yourself.
6. Click **Submit Changes.**

Save Data You Want to Keep

Save data you'd like to keep before you lose access. To find out *when* you lose access to certain services, see our Graduating Students: Account Closing Dates article.

Wharton Google Drive

G Suite

Canvas

Study.Net

study.net

Personal Network Drive and Locally Stored Data

OneDrive, Outlook & OneNote
Dropbox
Slack
Qualtrics
Additional Backup Options

Physical Office (Computer, Phone and Loans)

Cleaning out your office can loom large. Here are steps to help make it easier.

- **Phone -** Offer to assist with assigning the phone number back to the Business Administrator, delete your voicemails, and reset the greeting.
- **Office Computer** - Back up / remove all files from your office computer or any other device that belongs to

Wharton and make sure they are returned prior to your departure, but not later than **June 30th**. Please place a note on any equipment indicating that you checked and it is O.K. for us to remove the equipment to be repurposed. We will erase your computer before the next person arrives.

- **Loans -** Please return anything we have lent you. Wires, adapters, chargers, extension cords, etc. can all be repurposed for the next group of PhDs.
- **Keys -** Please return any keys to the Business Administrator
- **Forwarding Address** - Leave your new address with the office staff and change any subscriptions that send mail to the office.

Clean up your Personal Devices

When you leave Wharton, your permissions to use certain software changes. These steps will help you update your devices.

Remove or sign out of the following to prevent unpredictable errors later when your permissions are removed:

- **Network Services** - Global Protect, FortiClient, network printers and network drives
- **Penn Security Software** - DuoMobile, Dashlane, Symantec or Sophos
- **Penn Cloud Storage** - Penn Box, Penn DropBox, Penn OneDrive
- **Productivity Software** - Penn Office 365, Email, Contacts, Calendar
- **Meeting Software** - Zoom, Mersive Solstice, Slack, and Teams
- **Penn Specific Apps on Devices** - Penn Guardian, WorkDay, YouDecide

Website / Online Identity

Websites at Wharton are updated regularly. Take steps to ensure your information is up to date, and you have copies.

Student Photo: Take an up-to-date graduation picture and share it with your Department for the Departmental PhD alumni page.

Copy of Bio: Make a copy of your biography from the departmental website and PhD website for safekeeping.

Teaching Resources

Once you leave Wharton, you may not have access to teaching resources you used while you were on campus.
Canvas Sites: If you have taught classes, consider backing up Canvas sites you may need in the future:
https://community.canvaslms.com/t5/Instructor-Guide/How-do-I-export-a-Canvas-course/ta-p/785

Teaching Videos: You may need teaching samples for your job search. Consider downloading a Panopto video of yourself teaching. Learn about how to access class recordings here:
https://support.wharton.upenn.edu/help/viewing-class-recordings-in-canvas

Teaching Evaluations: Download and save any teaching evaluations. They can be found in the U@Penn Portal under Student Advising & Admin Resources - Faculty & Advisors - My Course Evaluations

Research Computing Resources

Roughly one month after you leave, you will no longer be able to access your Wharton HPC3 or Wharton AWS WorkSpace resources. Your Wharton HPC3 and WorkSpace accounts and associated resources (code and data) will be removed on July 1st.

If you *do* have resources (code or data) on Wharton HPC3 or WorkSpace systems that you would like to keep, please take some time at your earliest convenience to copy it elsewhere, for example to your personal Dropbox, Box, or your new institution's computing resources. We recommend **rclone** for straightforward syncing to the cloud.

If you have questions or concerns, please let us know how we may assist: research-computing@wharton.upenn.edu

Stay Connected

Even though your access to some services will end, remain a part of the Wharton family post-graduation by visiting the Wharton Alumni Relations Website and MyPenn.

Visit Wharton Alumni Relations Website

Visit the Wharton Alumni Relations website to learn more about your opportunities as a Wharton graduate.

Activate Your MyPenn Profile

MyPenn is a one-stop portal for Penn and Wharton alumni. It is your online directory that connects you with fellow alumni around the world. You will also find an events calendar and access to exclusive alumni resources. Log in today to update your profile and explore the Wharton community.

Alumni PennCard

Although your PennCard will expire shortly after graduation, alumni are able to purchase an Alumni PennCard which offers many of the same benefits and discounts as your student PennCard. For more information on what is available to you, visit the Alumni PennCard website.

Check Your Print Account Balance

Print credit is non-refundable but is usable until your Wharton account expires. Funds remaining in PennCash will be refunded shortly following graduation.

Print Credit (non-refundable)

Print credit is non-refundable but is usable until your Wharton account expires. To check your balance, log in to MyWharton, click **All Links**, and click **Print Credit Balance**.

PennCash (refundable)

Log in to PennCash.com to view any remaining funds.

A refund will be issued automatically shortly following graduation or you can request one manually by contacting the PennCard Office.

3601 Walnut St, Rm 219, Philadelphia, PA 19104
penncard@upenn.edu
215-417-2273

Need Flexibility?

If you have been hired or appointed by a department at Wharton to continue working past June 30th please let ACS know the details so your ability to work is not interrupted.

Questions? Contact Us

Academic Computing Services

https://technology.wharton.upenn.edu/acs/

acs-support@wharton.upenn.edu

Classroom Updates (Faculty)

Last Modified on 08/21/2024 10:52 am EDT

Classroom enhancements to improve logon speeds, performance issues encountered during Powerpoint usage, and video playback have been rolled out this Summer. Other back-end adjustments will be made to help with these and other common issues you have been facing while working with classroom technology.

In addition, we are launching a new attendance-taking app, aPlus+.

Key Points:

- Make sure you store resources you plan to access during class in cloud-based resources (such as OneDrive, Dropbox, PennBox, Google Drive), or a USB drive, whenever possible.
    - Previews are available with Wharton Computing: schedule them starting July 22, 2024.
- If you take attendance using our application, it will change to aPlus+
- Changes are being rolled out by **August 27, 2024**.

The updates include changes to the following services:

Network Shares

Your network shares will no longer be automatically available when you first log into the classroom computer. We strongly recommend storing your presentations and other files in a cloud service (OneDrive, Dropbox, PennBox, Google Drive) or a USB drive that you bring to class. Once you log into the classroom computer, you'll see shortcuts to these cloud services on the desktop, so you can easily launch the right one(s) for you.

If cloud services are not an option for you, we can help you map your share manually. Once you map the share, the change persists for the semester, but only in that classroom and only until the computer is rebuilt or replaced.

Be sure to read our Connecting to the Network Drive article for more information about mapping your network shares. If you need assistance mapping your shares, a Wharton Computing representative will be able to assist you during class starts.

Recommended file storage solutions

- Dropbox Wharton
- Google Drive (Wharton)
- OneDrive
- PennBox
- USB Thumb Drive
- Canvas (Instructor Folder)

PowerPoint

You will now be able to set your PowerPoint settings once at the beginning of the semester, and they will be retained in that classroom throughout the semester (you'll need to reset it for each separate classroom you use).

For any questions regarding your Powerpoint preferences, please contact your Wharton Computing representative.

Audio Settings

The variations in audio quality will be addressed; audio will function consistently regardless of whether you are using streaming services or downloading your video content to the classroom computer.

New Attendance App aPlus+

The current process and tools to manage Attendance-taking, Video requests, and Absence requests, are changing and will affect your in-class attendance workflow.

aPlus+ Attendance is replacing our homegrown Attendance App. In pilots over this past year with Wharton MBA and undergraduate courses, we have confirmed that this tool more closely meets Wharton's attendance needs.

aPlus+ Attendance provides the following benefits:

- **Rolling Code Check-in**: Makes it extremely difficult to check in from outside the classroom by allowing you to project a code from your Canvas site during class. A frequently requested feature!
- **Direct Attendance Management**: Allows you to manage the attendance schedule, update records, and access reporting tools from your course's aPlus+ Attendance tab.
- **Easier Reporting:** Enables you to analyze attendance data from one tab and access via multiple views (e.g. number of absences per student, type of absences, and many more options).
- **Integration with Canvas Gradebook**: Include an aggregated attendance score automatically in your gradebook based on your attendance policies.
- **No More Absence Notifications**: Provides a single place for students and faculty to review their attendance records. Instead of reviewing an email, you can review the record itself and make changes, such as updates to absence requests.

If you are planning to take attendance in your classes, we urge you to review the KB article : https://support.wharton.upenn.edu/help/aplus-faculty

Questions?

For any questions, comments, or concerns, please reach out to your Wharton Computing representative.

Root User Policies for Wharton Computing AWS Linked Accounts

Last Modified on 11/22/2024 3:21 pm EST

Secure the *root user email address*

When you first create an Amazon Web Services (AWS) account, you begin with a single sign-in identity that has complete access to all AWS services and resources within that account. This identity is called the AWS account *root user* and is accessed by signing in with the email address and password you used to create the account.

Using an email address managed by the Infrastructure and Services team

Use a group email address for root user credentials

- Use an alias address for each account that forwards notifications to a mailing list *aws-org-accounts@wharton.upenn.edu*.
- Only Infrastructure and Services team members are members of the list.
- Only Infrastructure and Services team members are owners of the list.

Secure root user password

- Passwords are stored in a dedicated shared folder in Dashlane.
- Only Infrastructure and Services team members have access to this folder.
- Only the Infrastructure and Services team and Dashlane administrators can grant access to the folder.

Restrict actions for the root user

- SCP denies all actions except enabling MFA.

Restrict access to account recovery mechanisms

- Use a Hunt Group number to forward AWS to access the account.
- Only Infrastructure and Services team members will receive AWS calls sent to the Hunt Group number.
- Only Infrastructure and Services team members can modify the list of users who will receive the call.

Disable access keys for the root user

- Access keys are disabled, and the root user cannot reactivate them.

Enable MFA for the root user

- MFA is enabled; however, the effective second authentication factor is access to the Hunt Group number.

Monitor access and usage

- Login events are sent to a SNS notification channel.

Configure *Primary contact* information

- Configure the contact information, and phone number, for restoring access to the account.

You can update the primary contact information associated with your account, including your contact's full name, company name, mailing address, telephone number, and website address. You edit the primary account contact differently, depending on whether or not the accounts are standalone, or part of an organization:

- **AWS accounts within an organization** – For member accounts that are part of an AWS organization, a user in the management account or delegated admin account can centrally update any member account in the organization from the AWS Organizations console, or programmatically via the AWS CLI & SDKs. To learn how to do this, see Update AWS account primary contact in your organization.

References

https://docs.aws.amazon.com/IAM/latest/UserGuide/root-user-best-practices.html

PhD Whartonization Guide

Last Modified on 07/30/2025 1:53 pm EDT

Follow the instructions below to set up your laptops and mobiles devices to assist you as a student in the Wharton environment. If you have any questions, or prefer in-person help, email our Support team.

Google Note: The Google@Wharton for PhD students offering allows you to use your PennKey username and password for secure access to an approved list of Google tools that are subject to the legal protections of the University's contract with Google. Gmail is **not** included in Google@Wharton for PhD students.

PhD students (along with faculty and staff) use the Microsoft-based PennO365 for their Wharton email solution.

Accounts (***Action Required***)

- You must have an active **PennKey** and **Wharton** accounts before you configure any of the services listed below.
- After creating your **PennKey**, we strongly recommend enrolling in **Self-Service Password Recovery (SSPR)**. If you do not enroll, it will be **very** difficult to reset your password if you ever forget it.
- Access to Wharton services are granted **over a period of time** after creating your **PennKey** and **Wharton** accounts. While some services will be available within a couple of business days, **others will not be available until the start of the semester.**

How do I get a Pennkey?
Create your account

Wharton accounts are created by Client Support Services Team. Your Wharton account will allow you to sign into various systems. Depending on the system, it can be your PENNKEY, PENNKEY@wharton.upenn.edu, or wharton\PENNKEY.

You will need to set a new password for your Wharton account. To do so, please use this link: https://apps.wharton.upenn.edu/iam/password/

The Essentials

AirPennNet (WiFi)

Note: You can only set up your APN connection when on campus.

MacOS

Windows

iOS

Android & Chromebook

Printing

Printing at Wharton is easy! For instructions on the various ways to print, please see the instructions below.

System Status

Subscribe to the Wharton System Status page for up-to-date notifications about student services.

Wharton-provided Software

Virtual Lab (VMware)

MacOS

Windows

iOS

Android & Chromebook

Solstice Screensharing in the GSRs

MacOS

Windows

iOS

Android & Chromebook

Zoom Meetings

MacOS

Windows

iOS

Android & Chromebook

Productivity Suites (Microsoft 365 & Google@Wharton)

Microsoft 365

MacOS

Windows

iOS

Android & Chromebook

Google Workspace

MacOS

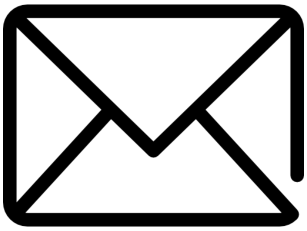
Windows

iOS

Android & Chromebook

Email & Calendaring

Wharton Office 365 Outlook



Accessing Your Inbox

Accessing Your Inbox and Calendar:

Your PennO365 account is a Microsoft account that provides access to Microsoft Office 365 services and applications, including Office 365 ProPlus.

Visit: outlook.office.com

Your PennO365 username uses the format *PennKey*@upenn.edu:

- **Correct: benfranklin1749@upenn.edu**
- Incorrect: benfranklin1749
- Incorrect: benfranklin1749@wharton.upenn.edu

Your PennO365 password is identical to your PennKey password (though it is a discrete password). When you authenticate for PennO365, don't forget to add the **@upenn.edu** to your username (see above for the correct PennO365 username format).

Detailed Instructions at the Link Below:

https://www.isc.upenn.edu/how-to/penno365-office-365-proplus

Additional Mobile Software

Access to the below services will not be available until closer to the start of your semester.

Optional **MyPenn** [iOS] [Android & Chromebook]	
Required **Canvas Student** [iOS] [Android & Chromebook]	
Optional **CampusGroups** [iOS] [Android & Chromebook]	

Cloud Storage Options

Dropbox

Unlimited storage via Dropbox for Business

Google Drive

Unlimited storage via Google@Wharton

OneDrive

1 TB data storage through your Office 365 account

Penn + Box

Unlimited storage and

single sign-on using your PennKey https://www.isc.upenn.edu/pennbox	

Information Security and Policies

Wharton Information Security Office

Information Security Best Practices https://www.isc.upenn.edu/security/staff	
Phishing https://www.isc.upenn.edu/phishing-spear-phishing	
Acceptable Use Policy https://www.isc.upenn.edu/acceptable-use-policy-electronic-resources	

Recommendations for Travel: Travel Guidelines | Wharton Knowledge Base

Security Software

FortiClient VPN • Securely connect to Wharton Computing Resources	
GlobalProtect Use while working off campus to:	

- Securely connect to Penn Resources
- Global Protect offers additional security protections

Secure Share

- Secure document sharing service
- Documents will delete themselves automatically

Duo Mobile

- 2-Step Authentication tool
- Used for your PennKey credentials

DashLane

- Securely save your passwords

Google Authenticator

- 2-Step Authentication tool

Antivirus Software

CrowdStrike

University Owned Devices

- Unified Cybersecurity Platform
- Preinstalled

Sophos Home

Personal Devices

- Antivirus Software, free with a PennKey account
- Recommended for MacOS, compatible with Windows 11

Windows Defender

Personal Devices

- The default built-in Antivirus Software for Windows
- Recommended for Windows 11

Wharton Computing recommends ensuring Windows Defender is enabled.

1. Press the **Start** button and

search for **Settings** 2. Navigate to **Update & Security** > **Windows Security** > **Virus & threat protection**.	

Helpful Campus Links

Workday

- The University uses Workday for human resources, payroll, and job-related learning.

Campus Security

- The Mission of the University of Pennsylvania's Division of Public Safety is to enhance the quality of life, safety, and security of our community.

Penn Guardian

- Penn Guardian is an app that allows you to contact Public Safety and share information via phone or text message.

UPennAlert

We recommend setting up UPennAlert for SMS alerts about security issues on campus. Instructions are available here:

Faculty Staff Directions

Research Tools

Research Databases, Resources, and Surveys

AI at Wharton

- ChatGPT

- Microsoft Copilot

WRDS

- Web-based Business Data Research Service
- Access to over 250TB of data (financial statements, market data, ESG, marketing, economics, news, healthcare)

Library Resources

- Access to: The Wall Street Journal, The New York Times, The Washington Post, Philadelphia newspapers, the Additional study spaces, Vitale Digital Media Lab, Bloomberg terminals in Lippincott, subscription data sources including Pitchbook, equipment lending

High Performance Computing

- The HPC Cluster is a flexible, cloud-based Linux cluster environment designed to support the school's academic research mission.
- The HPC runs a variety of research computing software tools.

HPC

Qualtrics Survey Software

- Allows you to easily create, distribute, and analyze surveys
- Create detailed reports based on collected data

Lippincott Library of the Wharton School

Resources for PhD's

Admin and IT Resources

Public Profile

Penn Directory If you'd like to customize your name as it appears in the PennDirectory, please use your PennKey credentials to sign into this site: Update Directory listings	
Academic Department Websites Your department coordinator can add you to the list of Faculty on the department website. You can edit your profile with the instructions here: Update Department Webpage Faculty Profile	

Departmental Resources

Academic Departments offer a variety of resources to PhD students. Please contact your department's PhD Coordinator for more information.

Links to academic department PhD Pages can be found here:
https://doctoral-inside.wharton.upenn.edu/

Academic departments can be found here:
https://www.wharton.upenn.edu/departments

Be sure to reach out to your department as soon as your account is configured to let them know you arrived.

Wharton Doctoral Program Office

Be sure to reach out to the Wharton Doctoral Program Office staff as soon as you arrive:
https://doctoral.wharton.upenn.edu/

Welcoming New PhD Students:
https://doctoral.wharton.upenn.edu/welcome-incoming-wharton-doctoral-programs-students/

Resources for Current PhDs:
https://doctoral-inside.wharton.upenn.edu/

Student Services

Wharton provides many services to aid both your productivity and security as a student.

See a list of the services available to you.

Technical Support

Client Support Services

Wharton
UNIVERSITY *of* PENNSYLVANIA

Support available via email!

Check our KnowledgeBase for list of services, troubleshooting guides, and much more.

Contact Us

support@wharton.upenn.edu

https://computing.wharton.upenn.edu

CampusGroups Events: Checking in Attendees

Last Modified on 10/16/2024 12:20 pm EDT

Instructions on how to check in attendees for a CampusGroups event.

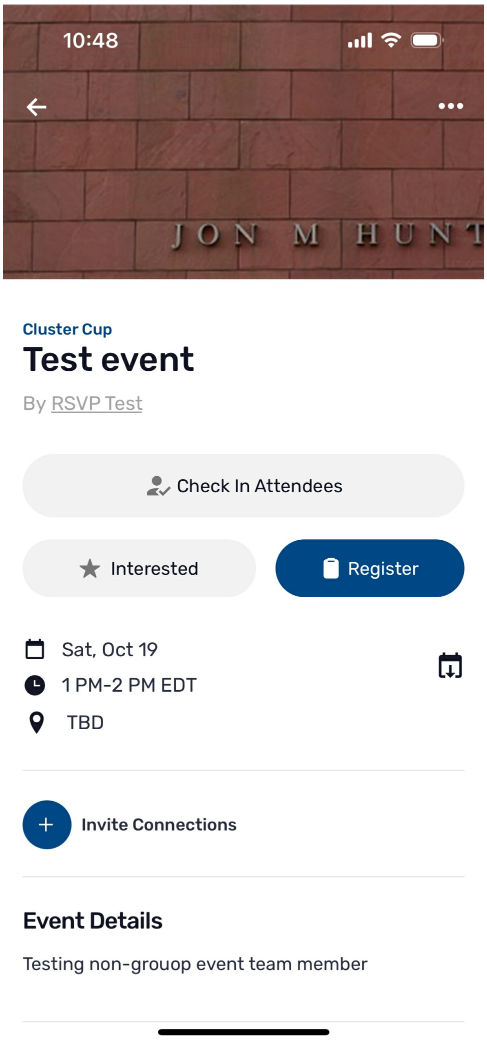
Before You Start

You will need the following before you can complete this task:

- Your PennKey and password to log into groups.wharton.upenn.edu
- You need to be an officer of a club, or a designated "Team Member" for the event (mobile app only)

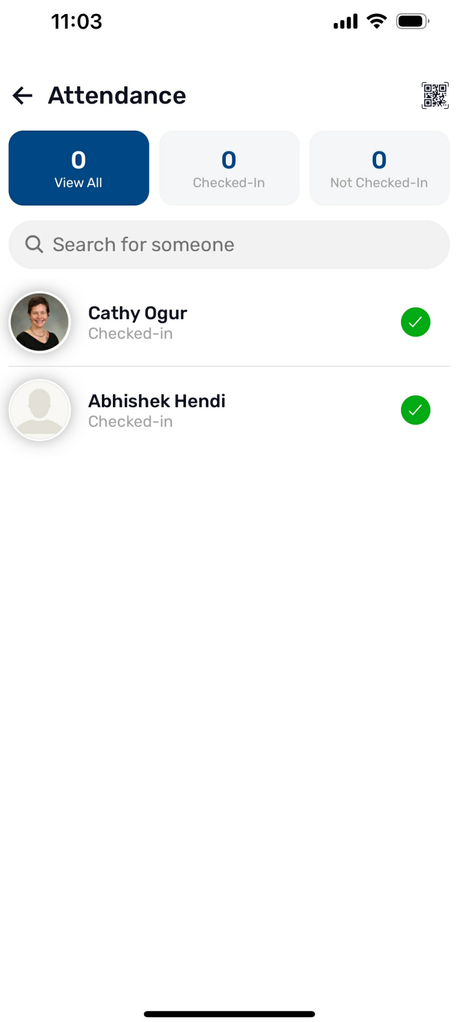
Checking in attendees via mobile app (preferred)

1. **Log in** to the CampusGroups mobile app, select **Events**, and then **My Events**.
2. Find the event under **Events I Manage**. Reminder: only officers for the sponsoring group, and any designated Team Members, can check in event attendees.
3. Tap the Check In Attendees button. (If you do not see this button... are you an officer? If not, has an officer added you as a Team Member for this event?)

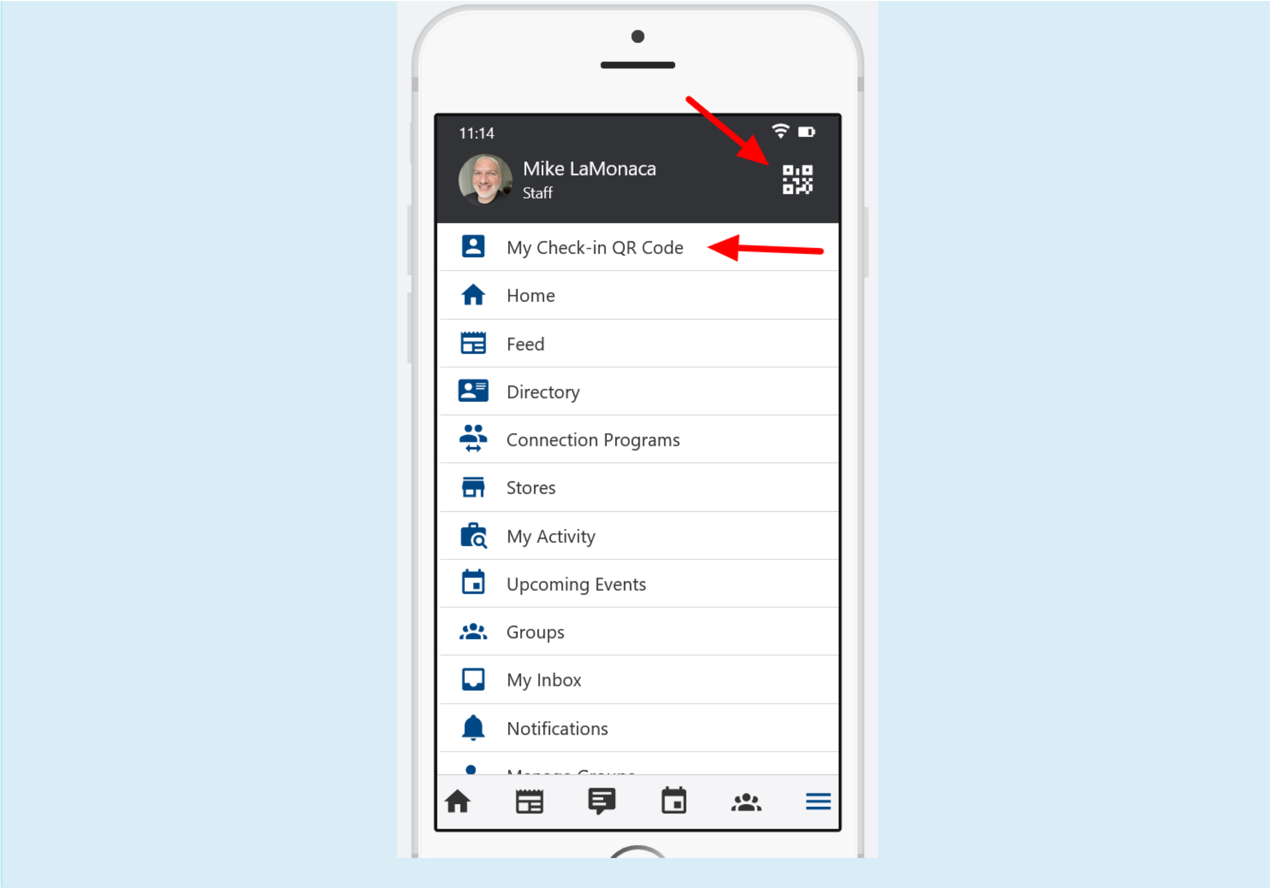


4. To scan attendees' QR codes, tap the QR code icon in the upper-right, which will open the camera on your mobile device. (Optionally, you can start typing in an attendee's name or Pennkey username and select from

the suggested results.



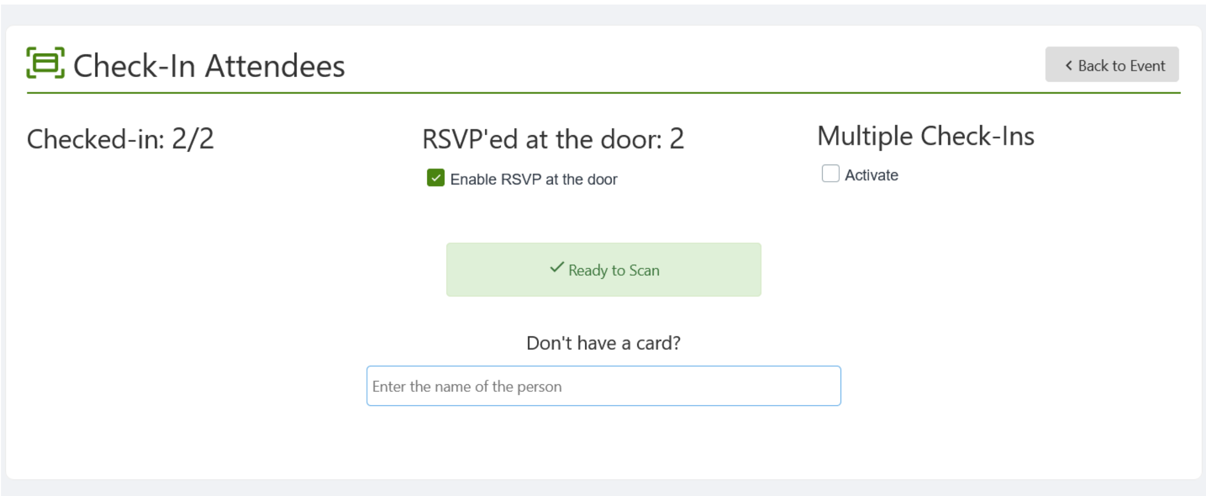
Note: Students can find their QR code by tapping the menu icon in the bottom-right of the app, then tapping either the QR code icon in the upper-right, or **My Check-in QR Code** in the menu. (Although each of these two screens will look different, the QR code is still the same.)



Checking in attendees via Web (not recommended)

Note: To check-in attendees via their Penncards, you will need to have a Penncard tap reader. These can be obtained through Wharton Computing and there is a cost for each device; they need to be configured by ISC/Penncard in order to work. (Magnetic swipe readers are not supported, and they do not work well at all.)

1. In the CampusGroups website, navigate to the event.
2. In the upper-right, click the green **Check-in Attendees** button. (If you do not see this button... are you an officer for the club? Remember that added Team Members can only check in attendees via the CampusGroups mobile app.)
3. In the options presented, select **Track Attendance with a Computer**. (If you are using a Penncard tap reader, be sure it is plugged in to a USB port.)

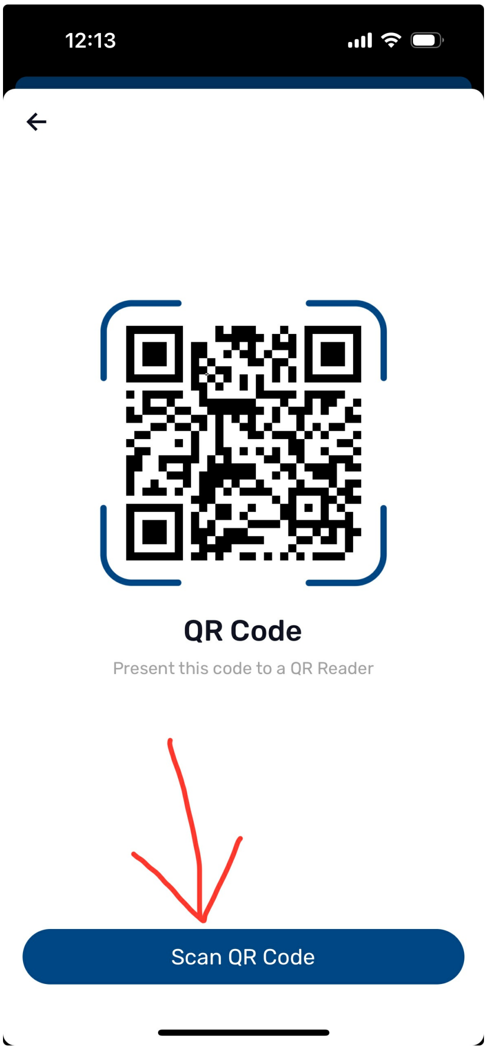


4. If you want to restrict check-ins to only those who have RSVP'ed, leave **Enable RSVP at the door** unchecked.
5. The green **Ready to Scan** box will turn red with a **Not Ready** message when the system is processing. Be sure to wait for this box to become green before tapping the next Penncard.
6. If an attendee does not have a Penncard, you can type in their name or Pennkey username; select from the suggested results.

Self Check-in

Another option is to allow attendees to check themselves in via your event's QR code. Be sure to print out the QR code before the event, or have it displayed on a screen at the event.

1. Follow the instructions above, but select the **Self Check-In QR Code** option.
2. Ask attendees to open the CampusGroups app on their mobile devices.
3. Attendees should tap the menu icon in the lower-right, then tap the QR code icon in the upper-right. (Note that they should *not* use the My Check-in QR Code menu option; there's no option to scan another QR code from there.)
4. On the QR Code page, tap the Scan QR Code button. This will open the mobile device's camera.



5. If the camera is not already on, tap the camera icon. Use the camera to scan the event's QR code.

For questions about your CampusGroups account:

- Contact: computing.wharton.upenn.edu
- Email: support@wharton.upenn.edu

If you experience an error in the CampusGroups website:

- Contact: https://help.campusgroups.com/en/
- Email: support@campusgroups.com

New Technology Procurement Guide

Last Modified on 10/28/2025 10:44 am EDT

Jump to:	Apple	Windows PC	Displays	Accessories

This article to provide guidance on obtaining new technology, including managed work computers, monitors, and accessories. If you have any questions, please email support@wharton.upenn.edu.

Curated Configurations

The recommended tier of laptops (shown in the green/middle column*) are chosen based on many factors: UPenn hardware and procurement guidance, client feedback, compatibility with other technology deployed throughout campus, current/future trends, minimum hardware requirements, and budgeting. These are appropriate choices for most users. Configurations above and below the recommended tier are available based on use case, needs, and justification.

Desktop and Custom Requests

Requests for a model or configuration, from one of our preferred vendors (Apple, Dell, Lenovo) that differs from our recommended offerings, should be submitted to support@wharton.upenn.edu. Please include helpful details you've already determined, such as use cases, as well as questions that you may have.

> All **desktop** requests are considered custom, CSS will work to ensure we help find the best solution in the desktop form factor.

Apple

> Mac computers run on the proprietary operating system, macOS. This system is also known for its user-friendly interface, stability, and security features. Mac models excel in picture accuracy and photo and video editing tasks, and remain compatible with most productivity applications. Mac systems can seamlessly integrate with other Apple devices and services, such as iPhones, iPads, Apple Watch, and iCloud. This allows for a cohesive and interconnected experience across multiple devices.
> MacOS may not be compatible with all productivity software and configurations. Examples include but are not limited to: Microsoft Access, ArcGIS, Toad, Power BI Desktop (Power BI Web only), Bluebeam Revu (Bluebeam Cloud only), Oracle Crystal Ball, and SAS.

Along with the standard Apple applications, the following 3rd party productivity apps come installed on every Mac:

- Chrome
- Microsoft 365 (Word, Excel, PowerPoint, Outlook, To Do)

The built-in Self Service application allows users to browse through and download additional applications including:

Visual Studio Code	Dropbox	Slack	Global Protect *(UPenn VPN)*
MS OneNote	ChatGPT	Webex	CrashPlan *(backup solution)*

MS OneDrive	Grammarly	Zoom	FortiClient *(Wharton VPN)*
Adobe Acrobat Reader	Adobe Creative Cloud	MS Teams	Windows App (*formerly Remote Desktop)*
Solstice			

Configuration Code	L1	L2*	L3
Model	MacBook Air 	MacBook Pro 	MacBook Pro 
Technical Specifications	• M4 • 24GB Unified Memory • 512GB Hard Drive • 13 or 15-inch LCD Display • Midnight chassis • 3 or 4-year Warranty	• M4 Pro (12-core CPU, 16-core GPU) • 24GB Unified Memory • 512GB Hard Drive • 14 or 16-inch MiniLED Display (standard finish) • Space Black chassis • 3 or 4-year Warranty	• M4 Max (14-core CPU, 32-core GPU) • 36GB Unified Memory • 1TB Hard Drive • 14 or 16-inch MiniLED Display (standard finish) • Space Black chassis • 3 or 4-year Warranty

Use Case	Great for:
	• Standard day-to-day use using the standard Wharton Baseline of applications.
	• Lightweight traveling and commuting
		Great for:
		• Regular day-to-day use with consistent performance using the standard Wharton Baseline of applications.
		• Performs for workflows requiring apps such as:
		  ◦ SPSS
		  ◦ MATLAB
		  ◦ Python
		  ◦ RStudio
		  ◦ Stata
		  ◦ JMP
			Great for:
			• Speeding up tasks that are resource-intensive.
			• Fully utilizing apps such as:
			  ◦ Adobe After Effects
			  ◦ Adobe Premiere Pro
			• Capable of running some local Large Language Models.

Pricing Estimate	$1458 (13-inch + 3yr warranty)	$2058 (14-inch + 3yr warranty)	$3488 (16-inch + 3yr warranty)

Windows PCs

Windows PCs operate on the Windows operating system, which is developed by Microsoft. Windows is known for its widespread usage, versatility, and compatibility. Windows has a vast library of compatible software applications, ranging from productivity tools and creative suites to gaming software and specialized business applications. This broad ecosystem contributes to the popularity of Windows PCs in various domains.

The Following productivity applications come installed on every PC:

MS Outlook	MS Teams	MS Word	MS Excel	MS PowerPoint
MS Access	MS Publisher	MS OneNote	MS OneDrive	Zoom
Chrome	Dropbox	Adobe Creative Cloud	Adobe Acrobat	7-Zip

The built-in Self Service application allows you to browse through and download additional applications including:

Box	Solstice	RStudio	Firefox	Global Protect *(Upenn VPN)*
JMP	Smart View	Notepad ++		Forticlient *(Wharton VPN)*
Visual Studio Code	R for Windows	Webex		CrashPlan *(backup solution)*

Dell

Configuration Code	**L4**	**L5***	**L6**	**L7**
Model	Dell Pro 14 Premium 	Dell Pro 14 Premium 	Dell Pro 16 Plus 	Dell Pro 14 Max 
Technical Specifications	• Intel Ultra 7 (Copilot +) • 32GB RAM • 512GB Hard Drive • 14-inch FHD Display • Integrated Graphics • Lightweight Chassis • 3 or 4-year Warranty	• Intel Ultra 7 (Copilot +) • 32GB RAM • 1TB Hard Drive • 14-inch QHD+ OLED Touch Display • Integrated Graphics • Lightweight Chassis • 3 or 4-year Warranty	• Intel Ultra 7 (Copilot +) • 32GB RAM • 1TB Hard Drive • 16-inch QHD Display • Integrated Graphics • 3 or 4-year Warranty	• Intel Ultra 7 265H • 64GB RAM • 2TB Hard Drive • 14-inch QHD+ Display (non-touch) • 8MP camera • NVIDIA RTX PRO 500-Blackwell 6GB Graphics • Long Life Cycle Battery • 130W Power Suppl • 3 or 4-year Warranty

Use Case	Great for: • lower price point • Regular day-to-day use with consistent performance using the standard Wharton Baseline of applications. • Performs for workflows requiring apps such as: ◦ SPSS ◦ Python ◦ RStudio ◦ Stata ◦ JMP ◦ SAS	Great for: • Regular day-to-day use with consistent performance using the standard Wharton Baseline of applications. • Performs for workflows requiring apps such as: ◦ SPSS ◦ MATLAB ◦ Python ◦ RStudio ◦ Stata ◦ JMP ◦ SAS	Great for: • Those who need a 16-inch screen instead of the extra portability of the Pro Premium design. • Regular day-to-day use with consistent performance using the standard Wharton Baseline of applications. • Performs for workflows requiring apps such as: ◦ SPSS ◦ MATLAB ◦ Python ◦ RStudio ◦ Stata ◦ JMP ◦ SAS	Great for: • Tasks that can benefit from dedicated graphics. • Performs for workflows requiring: ◦ Moderate ArcGIS workloads ◦ Camtasia ◦ Adobe Premiere Pro/After Effects
Pricing Estimate	$1700	$1900	$1900	Available by custom quot

Lenovo

Configuration Code	**L8***
Model	Lenovo X1 Carbon (Aura Edition) 

Technical Specifications	• Intel Ultra 7 (Copilot +) • 32GB RAM • 1TB Hard Drive • 14-inch QHD+ OLED Display (not available in touch) • Integrated Graphics • 3 or 4-year Warranty

Use Case	Great for:
	• Regular day-to-day use with consistent performance using the standard Wharton Baseline of applications.
	• Performs for workflows requiring apps such as:
	  ◦ SPSS
	  ◦ MATLAB
	  ◦ Python
	  ◦ RStudio
	  ◦ Stata
	  ◦ JMP
	  ◦ SAS

Pricing Estimate	$2100

Displays

Having the right display configuration is essential to achieving high levels of productivity and getting the best computing experience. Throughout Wharton's campus, Dell displays offer the widest range of cross-platform compatibility, which makes them a staple in offices, departments, and hoteling/touch-down spaces. The recommended displays offer a variety of extra port options, networking, easy one-cable connection for laptop users, and a great balance of resolution and image quality.

Configuration Code	S1*	S2

Model	Dell UltraSharp 34-inch Curved (with hub) U3425WE 	Dual Dell 24-inch (hub + non-hub combo) P2425D + P2425DE 
Technical Specifications	• UWQHD (Ultrawide 3440 × 1440) curved display • Integrated hub with networking (no separate dock needed) • Extra ports for accessories • USB-C, HDMI, and DisplayPort connections • Up to 90W charging	• 2K resolution per display • A combination of one hub and one non-hub display, leaving a dock optional for PC users (Mac users will require a separate dock). • Extra ports for accessories • USB-C, HDMI, and DisplayPort connections • Up to 90W charging
Use Case	Great for those who prefer a single display solution	Great for those who prefer to work with dual displays and easily separate workspaces. *Pairs well with the Dell WD22TB4 dock for Mac users or PC users who need extra ports.*
Pricing Estimate	$750	$650

Peripherals/Accessories

A solution is not complete without the right peripherals/accessories. Here are some of the most popular choices.

A1 Mouse & Keyboard Logitech MK650 Mouse and Keyboard 	A2 Keyboard Logitech MX Keys S Wireless Keyboard 	A3 Mouse Logitech MX Master 3S Wireless Mouse 
Pricing Estimate: $65	Pricing Estimate: $120	Pricing Estimate: $100
A4 Webcam Logitech BRO 4K Webcam 	A5 Docking Station Dell Pro Thunderbolt 4 Smart Dock SD25TB4  • Up to 130W of power for charging • Extra ports for accessories • Supports Thunderbolt, HDMI, and DisplayPort connections	A6 Spare Charger Anker 100W compact charger / 6ft Braided USB-C charge cable   • Compact • 3 ports can charge multiple devices simultaneously

Pricing Estimate: $150	**Pricing Estimate: $275**	**Pricing Estimate: $60**

Questions?

Email: support@wharton.upenn.edu

aPlus+ Attendance Accessibility Concerns

Last Modified on 06/12/2025 11:02 am EDT

Accessibility Concerns

Wharton Computing works to ensure that all digital tools available for students meet current accessibility standards. Occasionally, especially when using 3rd party vendors, we may recommend using the tools but include suggestions for workarounds that will benefit those who need these provisions.

As mentioned above, aPlus+ Attendance is NOT completely accessible for low-vision students due to the way the numeric code is displayed. If you use this code, we recommend asking one of the teaching team members to read out the numbers during each class.

2025 Technology Updates (Summer / Fall) - Faculty and Staff

Last Modified on 08/21/2025 9:46 am EDT

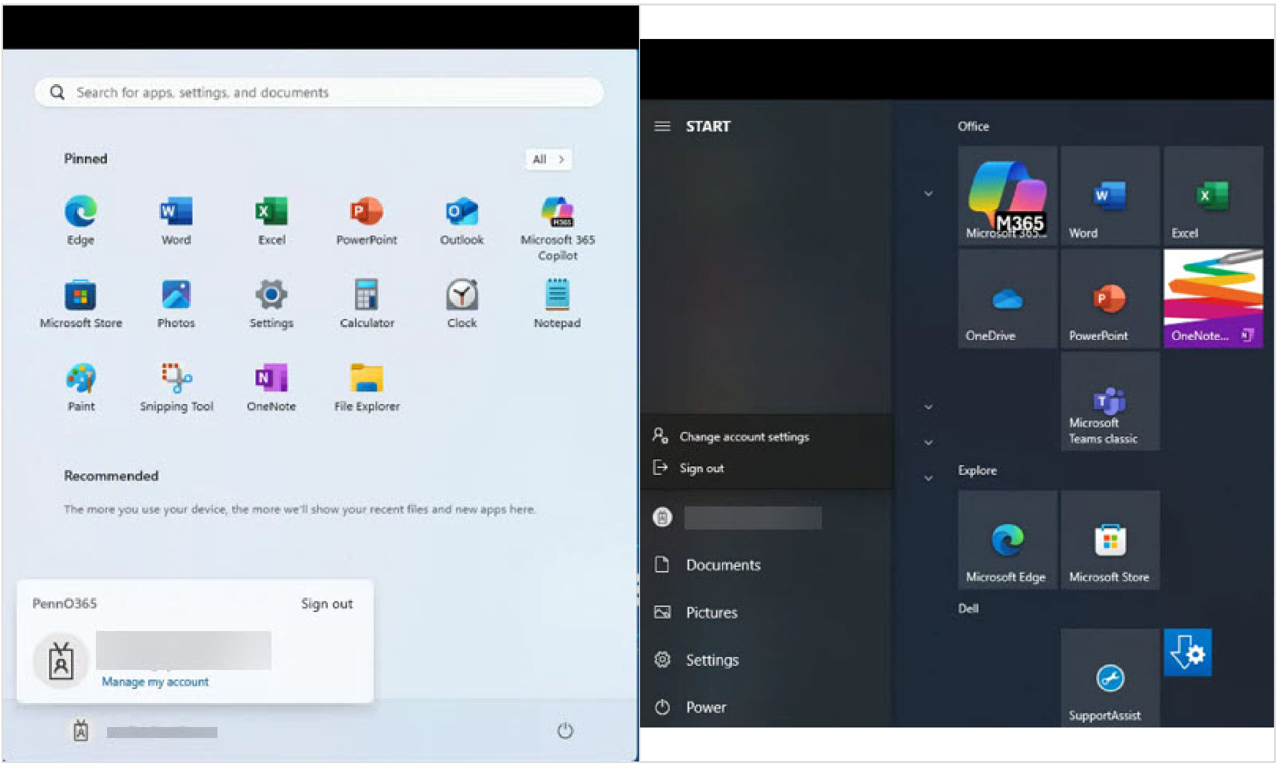
Summer 2025 saw a number of technology updates; here are key updates you should know about. As needed, we'll communicate throughout the semester about any additions to this page, but keep your eye on it as we continue to improve the tech experience.

Faculty who taught over the summer may notice a long login time when they log in for the first time after the start of classes.

Operating System Updates: Windows10 > Windows11

The Windows computers in the classrooms and centrally managed conference rooms have been updated to Windows 11. Key changes include:

- **New position of login/logout button.** Signout works the same way (click name and "signout"), but positioning and appearance are different.
- **Repositioned Start Menu and Task Bar.** The Start Menu and Taskbar have moved to the center.
- **Refreshed Start Menu Appearance.** Tiles on the Start Menu look different.



- Since support for Windows 10 is ending, any remaining systems on Windows 10 will be retired during Fall 2025.

Transition to PennKey Logins for Windows PCs

The School is transitioning all Windows PC login credentials to PennKey, aligning with University-wide practice. These transitions will occur in phases during the summer and fall of 2025.

Research & Analytics News

The Research IT team can help with your research needs:

- **Data purchasing help**: We can help you purchase new data, review data use agreements, and onboard your data. Reach out with any questions!
- **Office Hours**: Office Hours will continue in person, in your department. Check the schedule or send us your research questions.
- **WRDS CRSP Users:** The structure of the CRSP database on WRDS has changed. The old structure will be updated with 2024 end-of-year data, but going forward only the new structure will contain current data. Please see our Changes to CRSP Data article for details, an FAQ, and sample code for accessing the new structure.
- **Research Programming Resources**: We also offer enhanced research programming, statistical programming, and data engineering resources, using a wide variety of tools and techniques. Reach out to us to find out how we can help!
- **Generative AI tools and techniques**: We provide expertise in integrating AI solutions into research projects, and offer guidance on best practices for using generative AI effectively. Whether you need help with data preprocessing, testing models for biases and fairness, or leveraging AI systems, the team is here to support your research endeavors.

Have questions for the team? Reach out to Research IT to get the conversation started.

Courseware

Files tab redesign: The Files tab of Canvas course sites was redesigned in July 2025. Please see our All About Files and Folders article for more information.

Upcoming Pilots: In the 2025-2026 academic year, the Courseware Team expects to pilot two tools that integrate with Canvas.

- **Wooclap**, a polling tool being evaluated as a possible Poll Everywhere replacement
- **Peerceptiv**, a peer feedback and review tool being evaluated as a replacement for Feedback Fruits.

To learn more about either pilot, please reach out to the Courseware Team.

Poll Everywhere Reminder: Classroom PCs no longer have the add-on installed. **Use a web browser to access Poll Everywhere** on classroom PCs to manage and run polls.

Resources for Teaching Teams

Canvas Basics

The Courseware Instructional Design team is offering five virtual Canvas Basics sessions this Fall 2025. Each 30-minute session focuses on essential Canvas tools. If you are interested in attending or would like to watch a session recording, please register for a session at least one business day before the session is scheduled.

- **Communicating with Students – Aug 22, 10–10:30 AM :** Learn how to send announcements, use email lists, and manage notification settings.
- **Managing Assignments – Aug 27, 11:30 AM–12 PM :** Create/edit assignments, set due dates, and troubleshoot common issues.
- **Groups & Group Assignments – Aug 28, 12–12:30 PM :** Set up groups, assign group work, and avoid common pitfalls.
- **Grading Assignments – Aug 29, 1:30–2 PM :** Use SpeedGrader, navigate the gradebook, and handle special cases like anonymous grading.
- **Exams & Quizzes – Sept 10, 12–12:30 PM :** Explore quiz formats, question types, and how to manage accommodation.

*This training is primarily intended for new TAs, but we welcome faculty and staff, too!

IDEA Courseware Fall Webinar Series

In addition to Courseware's offerings, more extensive fall programming includes a Faculty Webinar Series (via Zoom):

- **Course Materials @ Penn Libraries with Leganto** (on-demand, no registration required) : demo of the Course Materials @ Penn Libraries system, hosted by Mia Wells from the Lippincott Library of the Wharton School.
- **All About aPlus+ Attendance Friday, AUG 29 @ 12-1pm**: The Wharton School now uses aPlus+ Attendance to track attendance and check-ins across courses. This training is both an introduction and a refresher, and includes helpful tips & tricks.
- **Presenting Wooclap, a Peek into Polling & More**: An interactive polling tool currently in pilot. Learn about the many ways Wooclap can enhance classroom engagement.
- **Discouraging Cheat Culture in the GenAI Era & Understanding the Penn Academic Integrity Disciplinary Process Friday, SEP 26 @ 12-1pm**: Highlights emerging trends in academic misconduct and offers proactive strategies to discourage a cheating culture through intentional planning & classroom practices.
- **Exploring Wharton's Lecture-Recall Tool: Powered by ChatGPT Edu : Friday, OCT 24 @ 12-1pm**: a behind-the-scenes look at Wharton's AI-powered Lecture Recall GPT, designed to transform how students engage with course content.
- **Improve Peer Assessment with Peerceptiv Friday, NOV 07 @ 12-1pm**: Learn about Peerceptiv, a new option for peer and self-assessment, live presentation feedback, and group member evaluation.
- **Transitioning – Why New Quizzes? Why Now? Friday, DEC 05 @ 12-1pm**: Learn how to effectively transition from the legacy Canvas quiz tool to New Quizzes, a more modern and feature-rich quiz engine.

For live events, recordings will be available soon after the event concludes.

Courseware Teams & Faculty Office Hours

Lively mini sessions hosted by the Courseware Team - learn about tips, ask quick questions, or get advice on best practices. (Recording of the mini-webinar will be available soon after the event concludes.)

- **Friday 10/03 Courseware Office Hour @ 12-1pm**
- **Friday 11/21 Courseware Office Hour @ 12-1pm**

Network Shares

A reminder that network shares are not automatically available when you first log into the classroom computer. We recommend storing your presentations and other files in a cloud service (OneDrive, Dropbox, PennBox, Google Drive) or a USB drive that you bring to class. Once you log into the classroom computer, you'll see shortcuts to these cloud services on the desktop, so you can easily launch the right one(s) for you.

Questions?

If you have any questions or want to discuss your technology needs for the fall, please reach out to your Wharton Computing Team

ISC Datacenter Maintenance - 2/1

Last Modified on 01/20/2026 4:26 pm EST

Starting on **Saturday, January 31st at 10:00 PM** through **Sunday, February 1st** at **12:00 PM**, many **Wharton and University services** will be **unavailable** due to scheduled data center maintenance being done by ISC, Penn's central IT group.

Many research and learning services will be impacted by this maintenance. Listed below are the Wharton services affected. For more information about University services and the impact of this maintenance on them check ISC's scheduled maitenance post.

Wharton Services Affected:

The following services will be ***degraded* for the duration of the maintenance**:

Service	Impact
PennKey login for University Computers	Login will remain available, though may be slower than usual for the duration.
Login for KITE-joined AWS Workspaces	Login will remain available, though may be slower than usual for the duration.
Login for Wharton-joined workspaces/servers in AWS	Login will remain available, without failback to on-campus resources.
Email notifications from Wharton apps will be delayed	

The following services will be ***unavailable* for the duration of the maintenance**:

Service	Possible Mitigation
Wharton login for on-campus computers (PHL and WSF)	Cached credentials will allow you to login, so be sure to log into any Wharton computer you need to use during the maintenance ahead of time.
Services using Wharton login	Download any work you may need from these systems before the maintenance.
Wharton Virtual Lab	
Remote Desktop to on-campus resources	Save files to a cloud resource.
Remote Desktop to Wharton joined servers (HHRules, Wharton AD bastions, CTS-MGMT, Exec Ed RDS)	
Wharton-joined AWS Workspaces	
Access to NetApp shares including \\wharton.upenn.edu\DEPT\share	Copy any files you need to work on to your local machine.
Networked on-campus printing.	

Service	Possible Mitigation
Automated lighting in the classrooms	Manually turn on/off the lights.
Wharton Operations Key cabinet system key code and fingerprint access	Use the physical key for access.
Wharton Network Private DNS	Use IP addresses to manage servers.
Wharton KMS server for Microsoft OS and Office licensing	
Solstice/wireless sharing in classrooms, GSRs, and meeting rooms	Use a wired connection to share content.
All Wharton Research HPC3 Cluster and File Services	
Wharton Research SQL Server	
SQL Reports	
Wharton Research HPC3 SAS Studio/CONNECT	
Wharton Research EC2 Servers	
Wharton IAM applications	
Instruction Center Grading	
Wharton Active Directory-based authorizations	This could impact some Wharton WordPress logins. Update content before the weekend.
.NETapplications	

University Services Affected:

The following University Services will be unavailable during the maintenance window:

- Penn Community
- Entryview
- Penn Directory

This is not an exhaustive list. For more information about University services and the impact of this maintenance on them check ISC's scheduled maitenance post.

Lecture Recall for Faculty

Last Modified on 11/17/2025 10:49 am EST

Lecture Recall for Faculty

Lecture Recall is a ChatGPT EDU–powered tool for students. It supports review, search, and reflection on course content by providing an AI chat interface tailored specifically to your course materials. Then, when students ask ChatGPT a question about your class, they receive cited links to the exact segments of your class recordings when you discussed the answer. It helps ChatGPT move from generic bot to a helpful student assistant for your course.

Access requirements:

- Teaching an upcoming Wharton MBA or WEMBA Course
- 2 weeks notice prior to first day of class
- "All Access" to Class Recordings
- Recommended: TA

What Is Lecture Recall?

Lecture Recall gives students a powerful way to review your course material. Driven by a vector search into your class recording transcripts, as well as any additional files uploaded by the teaching team, the bot adheres quite closely to your content. It also has purview of the entire course, allowing students to review topics comprehensively.

Your browser does not support HTML5 video.

If you are interested in learning more about how the chat works, please see Richard Waterman's published paper on Lecture Recall.

What Is a Synchronous Chatbot?

People tend to think of chatbots as asynchronous: meaning the bot has access to all the material from the start, and it acts as a subject matter expert. This isn't ideal for two reasons:

1. **Sessions are in order for a reason**, and end-of-course content can be confusing if taught at the beginning.
2. **Courses change over time** - aka. the content that the bot is prepared with is necessarily distinct from the real sessions that students have in the class.

Lecture Recall uses actual class recordings and matches your students to their section's recordings, so when they click through to see the videos, they can recognize being in class at that moment. If we were pedagogically inclined, we'd posit better retention and recall with this approach... But since we aren't, we'll just say, that's pretty neat.

Some Management Required

The synchronous approach does mean that the bot needs to be updated upon completion of each course session. Our app reduces this workload to a couple of clicks, and ChatGPT allows the easy upload of slides or course notes.

Still, the entire process requires a few minutes per course.

We recommend courses with at least one TA who is interested and engaged in this technology. Our approach allows the teaching team to play with the prompt and uploads, test what works well and pivot based on the needs of the class. It's a cool and powerful role for those who are interested. Please see our article for TAs for more detailed instructions.

How to Use the Service

Lecture Recall lives inside a customized GPT that is specific to your course. It allows students to ask natural language questions about course material and receive grounded responses with citations. Key features include:

- **Question answering** – The bot responds to student inquiries based on lecture content and uploaded materials.
- **Referenced answers** – Responses include links to documents and timestamped segments of lecture videos where applicable.
- **Transparent sourcing** – Students can follow citations to verify or revisit the referenced content directly.

We strongly recommend a TA to manage your course's GPT. Tasks include:

- **File Management** – Uploading and maintaining lecture slides, notes, PDFs, and other resources.
- **Prompt Management** – Reviewing or customizing how the GPT responds to specific types of questions.
- **Lecture Management** – Ensuring that lecture recordings are available in Panopto and bookmarked for easy reference.

Note: Because Lecture Recall is a pilot service, its success often depends on having a TA who is curious and proactive about generative AI tools.

Managing Lecture Recall During Exams

We recommend turning off access to Lecture Recall during exam periods—unless your exam is intentionally designed to be used alongside the GPT. To temporarily restrict access:

1. Open the GPT editing interface in the Penn GPTs portal.
2. Change the sharing setting from **"All users at UPenn"** to **"Private - invitation only"**.

After the exam is over, you can restore access by switching the sharing setting back to **"All users at UPenn"**.

Support

Contact: support@wharton.upenn.edu

Support Hours: 9am–6pm ET, Monday–Friday

Response Time: Within 1 business day

Frequently Asked Questions

Q: Do I need to build or configure the GPT myself?

A: No. The Lecture Recall team sets up your course GPT and configures it based on materials provided by your teaching team and support staff.

Q: What types of materials should I upload to improve the GPT's accuracy?

A: We recommend uploading lecture slides, and/or course notes.

Q: Will students be able to use Lecture Recall after the semester ends?

A: Not at this time. Access is tied to the course term. GPTs are archived at the end of the semester, although students can save or download citations and notes during the course.

topic-Questions

Last Modified on 08/22/2025 10:15 am EDT

Questions for Wharton Computing?

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