

# Proctoring Online Exams with Zoom

## Guidance and Requirements for AS&E Courses

Zoom can be used as a tool for proctoring exams administered online. This document provides guidance on common strategies, approaches, and limitations in using Zoom proctoring within courses. For those instructors adopting Zoom proctoring, it also outlines requirements for its use within AS&E courses.

### Contents

- Guidance: Approaches to Proctoring with Zoom .....1
- Zoom Proctoring .....1
- Choosing Your Objectives.....1
- Deterring and Detecting Cheating with Zoom Proctoring.....2
- Scheduling the Meeting .....5
- How to Verify Student Identity and Check Immediate Surroundings with Zoom Proctoring.....5
  - Additional Security with a Just-In-Time Hidden Password .....6
- Requirements for Zoom Proctoring in AS&E Courses .....7
- Uniform Application of Zoom Proctoring .....7
- Before the Exam.....7
  - Preparing and Informing Students .....7
  - Configuring Zoom Meetings.....8
- At the Beginning of the Exam.....9
- During the Exam .....10
- After the Exam .....10

### Guidance: Approaches to Proctoring with Zoom

#### Zoom Proctoring

Zoom is a service commonly used for meeting and presentations. Since the COVID-19 outbreak, it has been also been heavily used for the delivery of lectures, recitations, and other activities within courses. In some courses, Zoom has also been found to be useful for proctoring exams. As outlined below, this occurs through using the Zoom meeting function to observe student behavior when taking an exam or other graded class activity. Zoom has some limitations in serving in this function, especially since it was not built as a proctoring tool. But it can be a useful asset to instructors when used in combination with other recognized practices to promote academic honesty. This document outlines AS&E policies, procedures and recommendations for the use of Zoom as a proctoring tool.

#### Choosing Your Objectives

Zoom proctoring can support three distinct aspects of exam integrity:

First, Zoom proctoring can be used to **verify student identity and check that students' immediate surroundings are free of unauthorized materials or devices.**

Second, Zoom proctoring can be used to **raise the difficulty students face in collaborating without authorization or using unauthorized resources without detection during the exam.** It is critical to understand the meaning of the phrase "raise the difficulty" in this context. Neither Zoom nor any remote proctoring service can create the level of security of a proctored face-to-face exam, in which unauthorized collaboration and use of resources can be made virtually impossible. It also cannot prevent or detect cheating by students who are highly motivated to do so and plan their tactics in advance. However, Zoom proctoring can be an effective deterrent to impulsive acts of cheating by students under stress. This is a common trigger for acts of academic dishonesty, so Zoom proctoring can be effective within this limited, yet important, context.

Third, Zoom proctoring can be used to **provide a source of evidence to supplement other information** when investigating and documenting suspected incidents of academic dishonesty. As specified in AS&E's policies on Zoom proctoring below, all Zoom meetings used for proctoring in AS&E courses must be recorded. This makes Zoom especially valuable for its ability to provide a partial record of events (the student's actions visible via the webcam) during an exam -- a record available to a student, an instructor, and the Board of Academic Honesty in the event of a reported incident of suspected academic dishonesty. Since this record is partial, recorded video from a Zoom-proctored exam is unlikely by itself to provide definitive evidence of violations of academic honesty. For this reason, you should always plan to use Zoom proctoring as a supplement to other methods of deterring and detecting cheating, such as question pools and multiple versions of exams.

The guidance and policies in the remainder of this document assume that if you use Zoom for proctoring you will do so minimally to pursue two objectives in the list above -- i.e. **raising the difficulty of cheating** and **providing a source of evidence.** The third objective -- verifying student identity and checking students' surroundings as part of an exam -- will also be feasible for many courses. In some courses, however, it may be difficult to do this due to resource constraints, especially in courses with a relatively low ratio of instructors and TAs to students.

### [Deterring and Detecting Cheating with Zoom Proctoring](#)

In considering how to use Zoom to detect and deter cheating on an online exam, you should start by noting a key difference between Zoom proctoring and in-person proctoring: In-person proctoring allows you almost total control (at least while students are in the exam room) over the materials and devices to which students have access. Moreover, in an in-person proctored exam, covert communication between students during the exam can be quite difficult -- requiring, for instance, the use of notes stashed outside the exam room.

In contrast, students in a Zoom-proctored exam can relatively easily communicate with one another and consult unauthorized material without detection during the exam. Only one participant's screen among students taking the exam can be shared during a Zoom meeting, and that screen can only be shared with all participants. For this reason, students can relatively easily use the device on which they are taking the exam to chat with other students and consult any site on the web. When they do so, the Zoom recording will simply show them looking at the screen on which they are being recorded, exactly as they would appear when looking at the actual exam on that screen.

Because of this, **Zoom proctoring is completely ineffective if used as the only strategy you employ to deter cheating.** Thus, you should always use Zoom proctoring in combination with the following:

- To accommodate students taking the exam from significantly different time-zones, offer multiple sessions during which students can take the exam. However, only offer two of these sessions, widely spaced -- for instance, exactly 12 hours apart. Give multiple versions of the exam and ensure that no question used in an earlier exam session is used in a later session. For the exam to be a valid measure of student knowledge, the different versions should be carefully designed to be of equivalent scope and difficulty.
- Build the exam as a “open book” exam—and be very specific about *which* resources students will be allowed to consult. Make sure these resources are highly useful to students. Ideally, these resources will be useful enough that consultation with unauthorized resources provides very little advantage. For instance, you might authorize students to use their own printed notes on the exam, and then build a series of formative assignments leading up to the exam that entail the creation by each student of a high-quality set of notes.
- If you are teaching a course in a STEM discipline or a discipline that uses any kind of quantitative or formal reasoning, prohibit students from looking at Chegg.com for any purpose while they are taking your course. State directly that any suspected use of Chegg.com on any work will be reported as a suspected violation of your course’s academic honesty policy. State this rule on the first day of the course, include it in the syllabus, and remind students of it at every opportunity. Chegg.com is widely used by students specifically for sharing problems and their answers on all kinds of assignments and exams. Despite how it markets its services to students, Chegg is never legitimately useful as a learning tool – only as a tool for finding and copying down work performed by others that (seems to) fulfill demands of a homework or exam question.
- When giving an online exam, make time to search Chegg.com at regular intervals (especially during the window of time the exam is open) for questions on the exam. Screenshot results you find, including any information indicating when the questions were posted. Creating large pools of questions, along with settings that randomly assign questions to students (more on this below), can be useful in identifying which students posted to Chegg and can be useful in identifying students who copied answers from Chegg. Searching Chegg to detect the posting of exam questions is especially important if you offer alternate sessions to accommodate students in different time zones, or if you give exams in “take-home” format (i.e., set up to be completed in 48-72 hour windows of time, for instance).
- Never use exam questions taken from textbooks or other published, widely accessible sources. Almost all such questions, along with fully-worked out answers, are readily discoverable on sites like Chegg.com. Whenever possible, write questions that are not readily answerable through a quick internet search. If there are tools available on the web (e.g. calculators, google translate, equation solvers, code generators) that are useful in the subject you’re teaching, write questions that assume students will use these tools to compute answers, and evaluate students’ ability to explain their thinking, explain how the tools work, explain the meaning or significance of the answers, or apply the answers to poorly-structured problems.
- Build multiple versions of every question on your exam and randomly assign question versions across students. This raises the difficulty a student faces in successfully locating a peer during the exam who has the same question and from whom the student can copy the answer in a

timely manner. Multiple versions of questions are especially useful at detecting unauthorized collaboration, as they sometimes result in a student giving an answer to a question that is correct only for a version of the question given to other students.

- If giving an exam in Blackboard, consider setting up the exam with some or all of the following settings: (1) only one question is visible at a time, (2) questions are presented in random order, (3) students must submit an answer to each question before accessing the next question, and (4) students may not backtrack to previous questions after submitting an answer. While not without risks and drawbacks (setting (4), in particular, has been known to increase stress and test anxiety among students), when combined with multiple versions of exam questions and a large number of questions relative to available time, these settings amount to making unauthorized collaboration almost useless to students. It is important to note that exams with this format can be extremely stressful to take, and will diminish performance substantially, relative to what the student is capable of on a less-structured assessment. If you use one or more of these settings, you should also provide students with extensive coaching on strategies for success on this type of exam and with ample opportunities to run through practice versions of the exam. CETL can point you to resources you can share with your students on strategies for performing well on exams of this format.
- Whenever possible, consider using a “pen-and-paper + camera + upload” exam format. In this format students access the exam questions on the computer through which they join the Zoom meeting, but they write their answers to the questions by hand on paper. Then, they submit their exam by taking a photo of the pages on which they’ve written the answers and uploading those photos to a file-upload widget on Blackboard.
- When administering exams in the “pen-and-paper + camera + upload” format, tell students that during an exam, the only use they should make of the computer’s keyboard, mouse or touchpad is to scroll through the exam. When used in conjunction with Zoom recording, this strategy will make it easier to detect when students are accessing unauthorized materials or communicating with their peers. Students should only need to use the computer keyboard and mouse sparingly, with greater use serving to further substantiate evidence of cheating that also appears in and from other sources (e.g., their answers matching those of other students from the course in ways that cannot be due to similar abilities or methods and are unlikely to be due to chance). Discussing these settings with students ahead an exam may in turn deter those who might otherwise make poor decisions in the stress of the moment.
- Unless combined with other measures, ‘suspicious’ keyboard use should not on its own be seen or understood to constitute conclusive evidence of cheating, though it should be seen as meeting the threshold of “all suspected violations,” the standard by which faculty are expected to inquire into and report any academically dishonest behavior they know about to the Board.

As you read through the material here, you might note that Zoom proctoring adds very little, relative to other strategies, toward the direct prevention or detection of cheating. So, why do it? The value of Zoom proctoring lies largely in its effect on the student’s sense that the instructor and TAs are actively observing student’s actions. It is also a relatively conspicuous reminder that the instructor values the integrity of the exam and is taking active measures to prevent and detect cheating. This can increase students’ sense of personal integrity and that credit for their work is being allocated fairly. For many students, this will decrease their motivation to cheat. At the same time, the limitations of Zoom

proctoring will also be apparent to students. Thus, using Zoom proctoring without also using the strategies above will be substantially diminish student's motivation to complete the exam honestly.

One additional benefit of Zoom proctoring is that it gives students a ready way to access the instructor and TAs if questions or other needs arise during the exam. If you will be present for the exam, encourage students to communicate with you during the exam using Zoom's chat function to send "private" messages. Make sure to discourage students sending chat messages to "everyone", as those messages will distract other students.

### Scheduling the Meeting

The first step in proctoring an exam via Zoom is scheduling a Zoom meeting. In any Zoom-proctored exam, students will join the Zoom meeting you have scheduled and (after an optional identity-verification step) take the exam while in the meeting with their webcams on. If you offer multiple exam times to accommodate students taking the exam in different time zones, you should schedule a separate Zoom meeting for each pre-arranged exam time. When setting up the Zoom meetings, make sure to choose the settings required by AS&E's policies on Zoom proctoring, stated later in this document.

### How to Verify Student Identity and Check Immediate Surroundings with Zoom Proctoring

If you plan to check student identity and scan student surroundings, the first thing to consider is that **AS&E's Zoom proctoring policy requires that identity and surrounding checks occur in a breakout room, with only one student in the breakout room at a time.** This policy limits exposure of students' identities and images of students' immediate surroundings to the instructional staff conducting the checks.

Once the meeting host has begun the meeting, they can create the breakout room, and assign each student in turn to the room along with themselves or any other instructional staff who can conduct the check. Once the student enters the breakout room, the person conducting the check should ask the student to hold the student's photo ID up to the webcam so that both the student's face and ID are simultaneously visible to the staff member.

Once identity is verified, the staff member should then ask the student to slowly pan their webcam around the student's surroundings, checking to ensure those surroundings are clear of any unauthorized materials or devices. At that point, the staff member may request that the student remove any unauthorized materials or devices. The staff member may also request that the student pick up items and show them to the camera at different angles to verify that those items are not unauthorized devices or materials. Although our policies require a proctor to allow a student who refuses any of these requests to take the exam, instructors should consider any refusal to comply with any such request as a potential violation of the student conduct policy after the exam, reportable per the [College Standards of Student Conduct](#) or a suspected incident of academic dishonesty, reportable [as required by AS&E's Academic Honesty Policy](#).

Because identity and surrounding checks must take place one-at-a-time, they can be impracticable unless there is a high ratio of instructional staff to students. To make the process work as efficiently as possible we recommend that...

- ...the Zoom meeting through which the exam will be proctored be set up with a “waiting room.” The instructional staff can then admit students to the meeting one-at-a-time and conduct the check of each student as soon as the student enters. This will eliminate the need to keep track of which students have completed the check by ensuring that students do not get into the meeting until they have completed the check process.
- ...instructional staff practice the full check process ahead of time in order to estimate the amount of time it will take to complete all the checks. Obviously, this time will need to be accounted for in planning the total time the exam requires and the number of items on the exam.
- ...instructors work with their departments to locate and train sufficient staff to complete all checks in a timely manner.

#### Additional Security with a Just-In-Time Hidden Password

If you choose to verify student identity and scan student surroundings, you have the option to add an additional layer of security. Blackboard allows you to require that students enter an exam-specific password in order to access an exam. In combination with Zoom proctoring, you can use an exam-specific password to make it nearly impossible for anyone to access the exam who is not a student who has gone through the identity verification and surrounding scan.

You can do this by using Zoom’s “Remote Control” feature, which allows a meeting host to take control of input devices on a meeting participant’s computer. For each student, after you have completed the identity verification and surroundings scan, you then activate Remote Control on the student’s computer. At this point, you will be able to navigate the student’s web browser to the exam in Blackboard (if it is not already pointed there), copy the password from your computer, paste the password into the password field in the student’s browser, and hit the “submit” button on the student’s browser. At no point will you need to (nor should you) share the password with the student. Because the password field in Blackboard obscures the password characters, the student will not be able to see the password necessary to access the exam. This will make it impossible for the student to share the password with any other person.

For further guidance on how to implement this procedure [contact Jason Wagner](#).

# Requirements for Zoom Proctoring in AS&E Courses

## Uniform Application of Zoom Proctoring

AS&E may in some circumstances provide limited access to a vendor-provided proctoring service for some courses with online exams. Licenses to such services are sometimes associated with a student, not a specific course. This means there may be other courses, not connected to the limited provision of a remote proctoring service, in which some but not all enrolled students have licenses that give them access to a vendor-provided online proctoring service. In such courses, the instructor may **not** apply vendor-provided proctoring to students in the course who have those licenses and Zoom proctoring to all other students. Vendor-provided proctoring may only be used in a course when all registered students have the required license.

More generally, when an instructor uses Zoom to proctor an exam, it should be applied uniformly to all students taking the exam. Different procedures for proctoring may only be applied to an individual student when required by an accommodation afforded to that student via the Office of Disability Resources.

## Before the Exam

### Preparing and Informing Students

In each course in which an instructor plans to use Zoom to proctor exams, the instructor must inform students of that plan on the syllabus and must announce it in class meetings (whether remote or face-to-face, synchronous or asynchronous) within the first two weeks of the semester. The syllabus statement and announcements should explain that participation in these exams will require each student to have...

- A private, quiet place to take the exam from which the student is comfortable sharing a video feed,
- Access to a computer or other device that includes a functioning webcam, microphone and functioning copy of Zoom software or a web browser capable of joining Zoom meetings via Zoom's webapp,
- Access to a reliable internet connection,
- A photo ID when taking the exam.

The statement should inform students that...

- ...during the Zoom-proctored exams, they will be required to participate in a Zoom meeting with their webcam on and microphone muted, and ready and able to respond to chat messages sent via Zoom by proctors.
- ...they may be required to show a photo ID at the beginning of the exam to a proctor via the webcam, and may be required by a proctor at the beginning of the exam to pan their webcam around to show the objects in their immediate surroundings.
- ...if a proctor scans their surroundings before an exam and requests they remove an object or device from that space, refusing that request may be considered a violation of either [AS&E's Academic Honesty Policy](#) or the [College Standards of Student Conduct](#).

- ...students who cannot obtain the technology required to participate in Zoom proctoring should seek assistance in acquiring that technology from the [College Basic Needs Hub](#).
- ...the instructor will make any modification to the exam or Zoom proctoring for an individual student if required to do so by an accommodation afforded by the Office of Disability Resources.
- ...the Zoom session during the exam will be recorded for possible later review by instructors, and in the event of a suspected incident of academic dishonesty, excerpts from the recording may be shared with the Board of Academic Honesty.

In order to allow students to test that their technology is adequate to participate, instructors planning to use Zoom for proctoring should provide an optional exam simulation at least 10 days before the first Zoom-proctored exam. The simulation should allow students to connect to a Zoom session with the instructor, TAs or other instructional staff and go through the steps that will be entailed in the Zoom proctoring to ensure that all technology functions as required. All Zoom meetings used for the purpose of proctoring exams must be recorded.

On the course syllabus, instructors should provide links to [University IT's tutorials on using Zoom](#), and should encourage students to use the [Zoom's live test](#) to make sure their software and equipment are functioning as required well in advance of the first Zoom-proctored exam.

The instructor should provide clear written rules for students about what materials may be in their immediate vicinity during each exam. For instance, instructors should specify whether a student may have any other electronic devices, written notes, or textbooks in their immediate vicinity during the exam.

### Configuring Zoom Meetings

The Zoom meeting(s) through which an exam will be proctored should be configured as follows:

- Set the person serving as proctor in the meeting as a “host.” If there are multiple teaching staff (e.g. an instructor plus teaching assistants), we suggest setting up one meeting for each available proctor and then allocating students taking the exam equally across the multiple meetings. Even if the exam will be proctored through multiple meetings in this way, we still recommend that all proctors be designated as “alternative hosts” on every meeting, allowing proctors to step in for one another if needed.
- The meeting(s) should be configured with the following settings:
  - Set ‘Meeting ID’ to ‘Generate Automatically’.
  - Select ‘Require meeting password’.
  - Set ‘Video’ to ‘On’ for both Host and Participants.
  - Under ‘Advanced Options’, select ‘Only authenticated users can join’.



## At the Beginning of the Exam

- Instructors may choose whether to verify students' identities via photo IDs and scan students' surroundings as part of Zoom proctoring. If the instructor chooses to verify student identity and scan students' surroundings before the exam begins, the instructor should apply the verification and scanning processes to all students uniformly.
- If the instructor chooses to verify student identify and scan student surroundings before the exam begins, the instructor should set up a breakout room within the Zoom meeting for that purpose. Each student should be admitted to the breakout room one-at-a-time. Once in the breakout room, the proctor should ask the student to verify their identity by showing a photo ID, and ask the student to pan their webcam around their surroundings to show that they have no unauthorized materials (e.g. additional electronic devices). Note that during the 2020-2021 academic year, entering students who were unable to come to campus may not have access to UR ID cards and not all students who submitted ID card information before coming to campus will have photos on their UR IDs. Thus, during the 2020-2021 academic year, instructors must accept forms of photo ID other than UR ID cards.
- If a student refuses to comply with the identify verification or surroundings scan or refuses to remove materials or devices upon a proctor's request, the proctor should warn the student that the refusal may be treated by the instructor as a suspected incident of academic dishonesty or as a violation of the College Standards of Conduct. However, the student should be allowed to proceed to take the exam. Instructors should evaluate such incidents after the exam, along with any other relevant evidence, and follow the [AS&E Academic Honesty Policy's reporting requirements](#).

As with exams in all AS&E courses, the Academic Honesty Policy requires that students be asked to write the [test honor pledge](#) as part of the exam. The Honesty Policy also requires that any Zoom meetings used for the purpose of ensuring the integrity of the exam **be recorded and uploaded to AS&E intranet** by going to <https://www.rochester.edu/asei>, and selecting "Proctor Upload" from "Staff Resources" menu in the navigation bar.

Instructors should consider whether to [follow these instructions](#) to set chat privileges so participants can only send chat messages to the meeting host. This setting prevents students from sending private chat messages to one another during the exam. However, if there are multiple proctors in a given meeting, it may cause students to be able to send message only to the single proctor designated as host at any one time.

## During the Exam

If a proctor observes behavior that appears to violate the exam's rules for permitted materials, permitted devices, authorized collaboration or authorized use of resources, the proctor should:

- Ask other proctors, if any, to corroborate the concern, providing that doing so does not require proctors leave other sessions of the exam un-attended;
- Ask the student via private chat to join the proctor in a breakout room. Once in the breakout room with the student, the proctor should ask the student to (1) stop the concerning behavior, (2) show the apparently unauthorized device or material for closer inspection via the webcam, and (3) remove the apparently unauthorized device or material.
- Allow the student to complete the exam.

In communicating with a student in response to a concern about unauthorized behavior, a proctor should always use private chat messages directed only to that student and other instructional staff. Proctors should never use voice or chat messages directed to all meeting participants.

A proctor should never persist in requesting a student show or remove materials or devices if the student refuses. Instead, the proctor should let the student continue with the exam and report the student's refusal to the instructor. Once an exam is completed, the instructor should review the incident and decide, in consideration of all the available evidence, whether the situation constitutes [a reportable incident of suspected dishonesty](#) or a violation of the [Standards of Student Conduct](#). Instructors may consult with the Academic Honesty Liaison or the Chair of the Board on Academic Honesty in making these decisions but are not required to do so.

## After the Exam

Within 7 days of completion of every Zoom-proctored exam, an instructor must upload all recordings generated from Zoom proctoring via [AS&E Intranet](#). Once logged into the intranet portal, the instructor can access the upload form by selecting "Proctor Upload" from "Staff Resources" menu in the navigation bar. Only the course instructor may upload recordings of an exam via the intranet. After the recording is uploaded, the instructor must delete all copies of exam recordings from any and all devices on which they have been stored, as well as from Box, OneDrive and all other cloud storage services. If instructors delegated recording duties to teaching assistants or other proctoring staff (which is recommended only as an option of last resort), assistants must also delete any copies of recording(s) upon delivery to their instructors. It is the instructors' responsibility to ensure that recording files are appropriately managed.

Uploaded recordings will be secured and managed by the Board of Academic Honesty. After a recording has been submitted to the Board, an instructor may request to review a recording of an exam proctored in their course by emailing [college.honesty@rochester.edu](mailto:college.honesty@rochester.edu) detailing the basis on which they suspect the potential incident(s) of academic dishonesty may have occurred. Recordings made during the 2020-2021 academic year will be stored by the Board, and available for review by instructors, until May 31 of 2023.

Instructors may only review a recording of an exam if they have a reasonable basis for suspecting that an incident of academic dishonesty may have occurred related to the exam. Grounds for a reasonable basis will vary, but could be established by facts or allegations that are both applicable to a traditional

in-person exam setting or that are unique to the online exam setting. For example, if a third-party (such as a teaching assistant or some other student) made an allegation that one of their classmates engaged in academic dishonesty during the exam, such allegation can constitute reasonable basis that an incident of academic dishonesty may have occurred and the instructor could use that report to request review of the recording.

Under specific circumstances, an instructor may also establish a reasonable basis to review the exam recording as a result of behaviors observed that are unique to the online exam setting. For example, if the instructor and/or a TA observed evidence that a student may have (i) used unauthorized materials during the exam, (ii) conducted unauthorized web searches during the exam, or (iii) made unauthorized communications during the exam, those observed behaviors may also serve as a reasonable basis for the instructor to review the exam recording.

It is important to note that when considering whether a reasonable basis for suspecting an incident of academic dishonesty may have occurred, instructors may only take into account evidence which relates to the particular exam in question; they should not take into account any prior incidences of potential or actual dishonesty, or base their suspicions on any pre-existing opinions regarding the student.

In the event an instructor submits a report of a suspected incident of academic dishonesty in connection with a Zoom-proctored exam, the instructor should inform the student that the student can also request to review a recording of the exam by contacting [college.honesty@rochester.edu](mailto:college.honesty@rochester.edu).