

Delivering the online exam

Recommended procedures for:

Live proctored online exams using Zoom: Students complete the exam through Canvas, while joining a Zoom meeting with their web cam ON and mic available during the exam.

This requires more TA support, buffer time to make sure all students are settled in the Zoom Meeting room before starting the exam and a dry run with students and TAs to flag potential issues before the exam day.

Live proctored online exam using Zoom

We recommend instructors and/or TAs to perform the following tasks to conduct a live proctoring exam:

1. Preparation for the exam

- Depending on the number of students and proctors, schedule one or multiple Zoom meetings for live proctoring via Canvas
 - One user can join one Zoom Meeting at a time. That means, one person cannot monitor multiple Zoom Meeting Rooms at a time. If you want to monitor multiple meeting rooms, use another project account.
 - Allow a buffer of at least 30 mins (i.e., schedule a 2-hour Zoom meeting for a 1.5-hour exam), do not schedule to end the Zoom meeting as soon as the exam ends

The screenshot shows the Zoom 'Schedule a Meeting' interface. The 'Topic' field is filled with 'Midterm exam'. The 'Description (Optional)' field contains the placeholder text 'Enter your meeting description'. The 'When' section shows the date '04/15/2020', time '8:30', and 'AM'. The 'Duration' is set to '3 hr 45 min'. The 'Time Zone' is set to 'GMT+08:00 Hong Kong'. A checkbox for 'Recurring meeting' is present and unchecked.

- Suggested Zoom meeting configuration in <http://hkust.zoom.us>
 - Participant video: ON
 - Mute participants upon entry
 - Allow Only authenticated users can join: HKUST (connect.ust.hk, ust.hk)

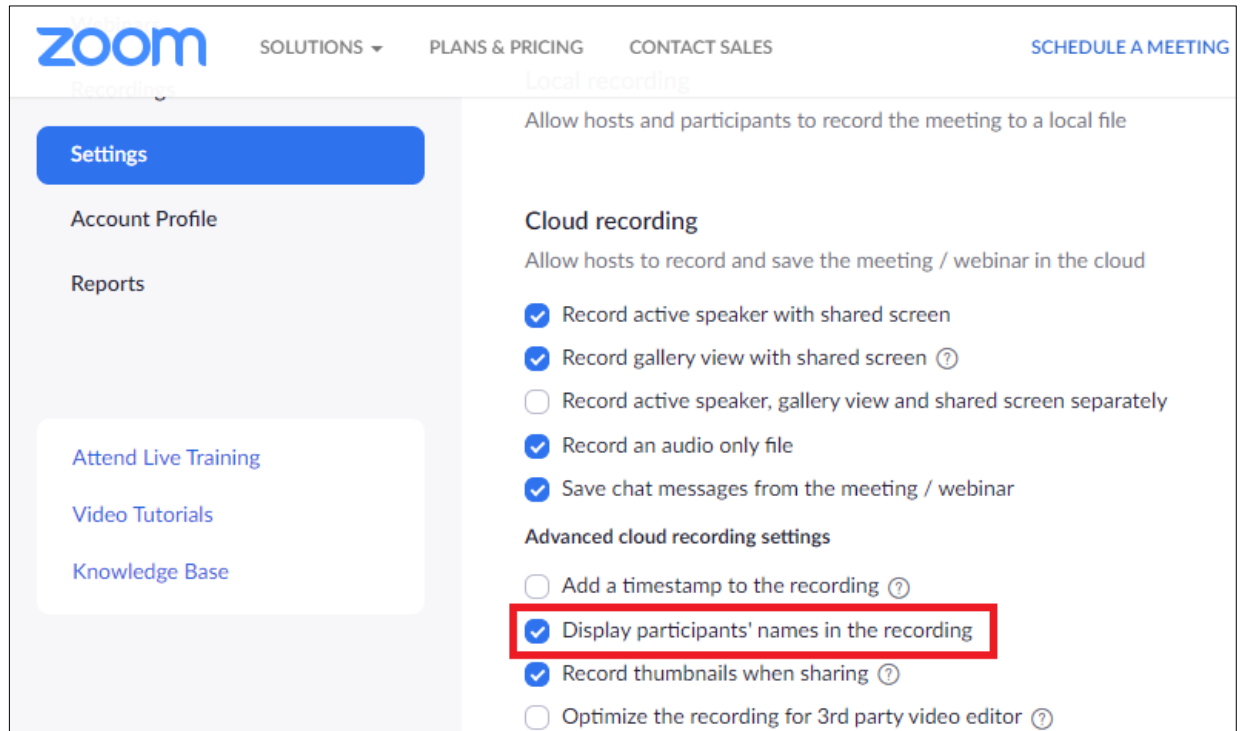
- Record the meeting automatically to the cloud

The screenshot shows the Zoom meeting settings interface. The 'Video' section has 'Host' set to 'on' and 'Participant' set to 'on', with the 'Participant' option highlighted by a red box. The 'Audio' section shows 'Both' selected. The 'Meeting Options' section has several checkboxes: 'Enable join before host' (unchecked), 'Mute participants upon entry' (checked, highlighted by a red box), 'Enable waiting room' (unchecked), 'Only authenticated users can join: HKUST connect.ust.hk,ust.hk' (checked, highlighted by a red box), 'Breakout Room pre-assign' (unchecked), and 'Record the meeting automatically in the cloud' (checked, highlighted by a red box).

- Under 'Settings' > 'Recording' > 'Cloud Recording', check **Record gallery view with shared screen**.

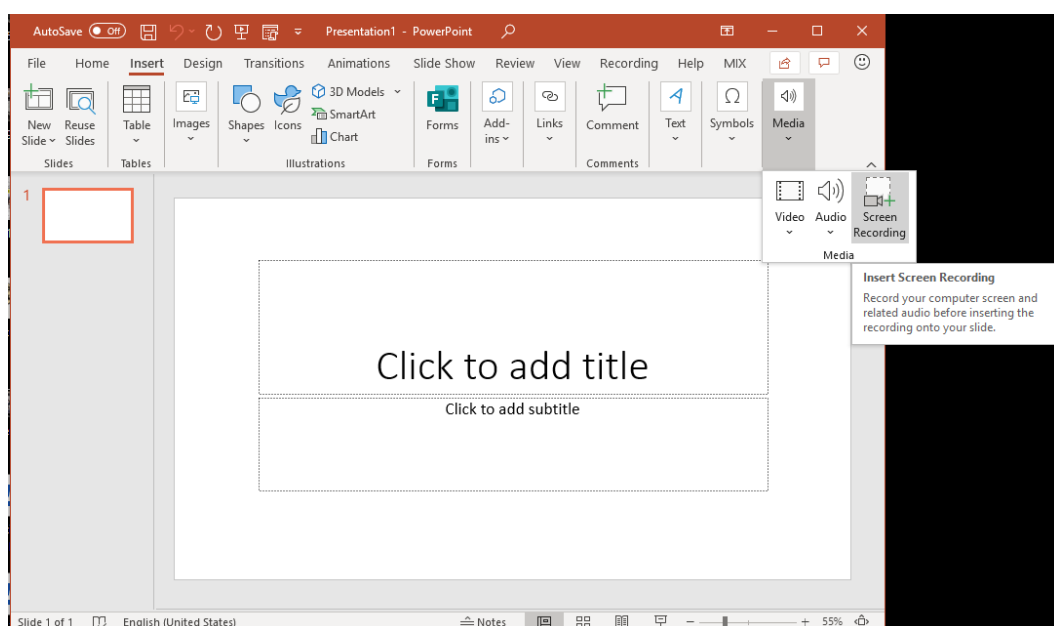
The screenshot shows the Zoom settings interface. The left sidebar has 'Settings' selected. The main content area is under 'Recording' > 'Cloud recording'. The 'Local recording' toggle is off, and the 'Cloud recording' toggle is on. Under 'Cloud recording', the options are: 'Record active speaker with shared screen' (checked), 'Record gallery view with shared screen' (checked, highlighted by a red box), and 'Record active speaker, gallery view and shared screen separately' (unchecked).

- o Also check **Display participants' names in the recording**. This is to ensure that students' names are displayed in the recording if you are planning to record the live proctoring



Important Notes:

1. You are recommended to revert these settings by unchecking both **Record gallery view with shared screen** and **Display participants' names in the recording** after the exam period. The latter setting is to avoid possible privacy issues in your other Zoom meetings.
2. Zoom's cloud recording feature only records the first page of the gallery view, meaning that only 25 students' videos in the Zoom meeting are captured. If you observe students (on the other pages of the gallery view) with suspicious behaviors, we recommend you to capture the student(s) by screen capturing tools such as the "Screen Recording" feature in MS PowerPoint. The "Screen Recording" feature is located at "Media" under the "Insert" tab in PowerPoint. [Click here](#) to learn more.



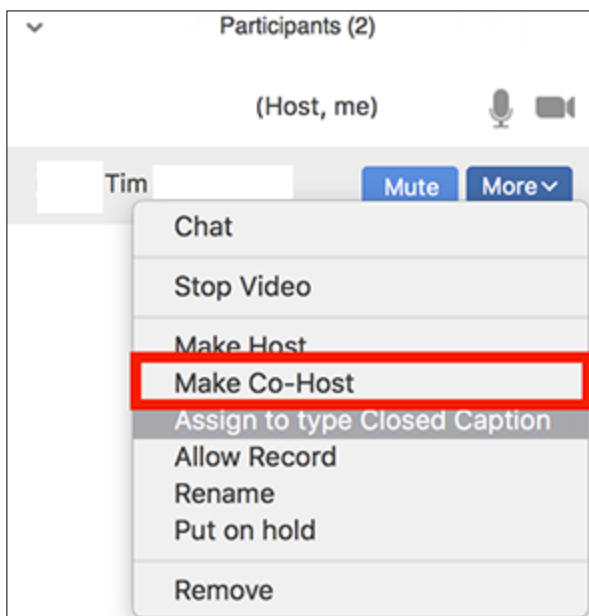
- Prepare an exam alert to students at least one week beforehand through Canvas announcement, which includes:
 - *Exam logistics*
 - Date, start time and end time
 - Remind students to be aware of the time zone difference with Hong Kong time
 - The Zoom meeting ID for live exam proctoring
 - *Exam details*
 - Topics that will be covered in the exam
 - Exam type (i.e., Open or Closed book exam)
 - Question types (i.e. MCQ, Essay, Calculations, etc.)
 - Any special Canvas Quiz or Canvas Assignment settings they should know about (e.g. Show one question at a time, cannot return to the previous question, no late submissions, etc.)
 - Number of parts divided in the exam, the grade distribution and the time limit for each part
 - Procedure to sign the academic honor code to obtain the exam questions in Canvas
 - *Ground rules*
 - A reliable internet connection is necessary
 - Preferred physical location of students with minimal distractions
 - The role and authority of instructor and/or TA in the exam
 - Procedure to request for a toilet break
 - Ideally, instructor should break the exam into parts and allow a toilet break only between parts.
 - For urgent situations, student MUST obtain approval from the instructor/TA to be away from the webcam for the toilet break during the exam
 - Hardware that are required for the live proctoring (Webcam, Microphone, etc.)
 - Students' Zoom configuration
 - Turn OFF the virtual background
 - Turn ON the microphone
 - Turn ON the webcam with a proper position
 - Turn ON the speaker
 - Use group chat only for making inquiries to the instructor during the exam period
 - Other items required in the exam (e.g., calculator and/or rough papers for calculations, rulers, pencil/pen and answer papers for hand-written exams, student ID for identity checking, etc.)
 - Communication with anyone is not allowed during the exam
 - Plagiarism check will be performed for all essay answers
 - Procedure to make inquiries to the instructor during the exam
 - Points will be deducted for not following these rules
 - *Other reminders*
 - Key reminders when using Canvas Assignments:
 - Upload the supported file formats
 - Policy of late exam submissions (if any)
 - Make sure the assignment is submitted, drafted assignments will not be graded
 - Key reminders when using Canvas Quizzes:
 - Avoid taking the quiz with multiple browsers
 - The timer will not pause if students exit the test
 - Make sure you submit the answers by clicking the "Submit" button before the time is up. When time is up, all selected answers will be automatically saved and submitted.

[Refer to the appendix for the sample announcement](#)

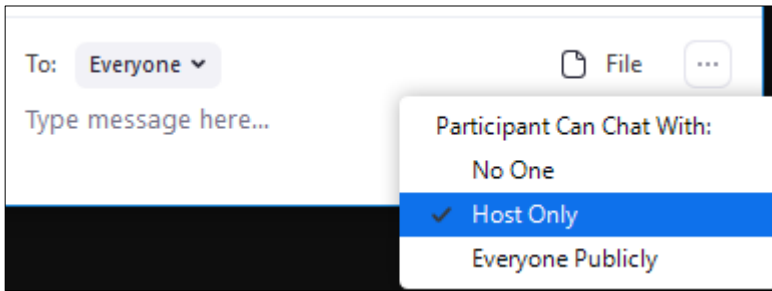
- Add instructions into the Canvas Assignments/Quizzes to remind students of the requirements before the exam starts
- Add an academic honor code module into Canvas (may configure it in a way that students must complete first to unlock exam questions)
- Add an exam module into Canvas and add the Exam item into the module
- Assign additional TAs as proctors
 - A computer can display approximately 25 students without switching pages in 'Gallery View'. We recommend each TA joining the Zoom meeting by two computers to monitor up to 50 students
 - Have back-up TAs in case another TA cannot make it, is late or for other unexpected issues
- Create a WhatsApp Proctor group for check-in and easier communication between all TAs at the same time
- Dry run the exam with students and TAs
 - Perform a **mandatory** practice a few days before the exam. Students and TAs can get familiarized with the operations, check Canvas access, experience exam settings, practice file uploads, practice using Microsoft Lens, etc. This can help flag issues to address beforehand to avoid delays on the exam day.

2. Before the online exam

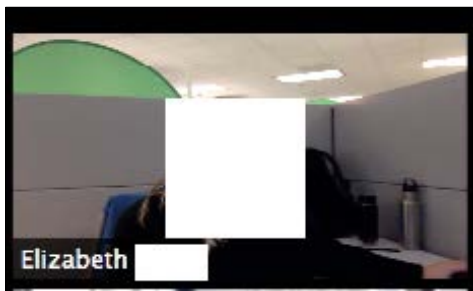
- For exams created in Canvas Quizzes, ensure '[grades are hidden](#)' in Canvas Gradebook, so students can't see their score after
- Check in with TAs/Proctors on WhatsApp to ensure everyone is ready and in their Zoom Meeting Rooms
- Publish the Academic Honor Code in Canvas, post the Honor Code link in the Zoom Chat for students and check 'Gradebook' to ensure all students completed it before starting the exam
- If you need to communicate with students, you may use Canvas Announcements or e-mail
- Start the Zoom meeting 15 mins earlier
- Assign the TAs as the co-host



- Set the group chat to “**Host only**”, the group chat is only for receiving inquiries from students during the exam



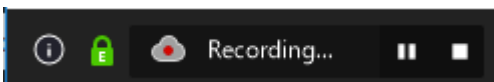
- Check if students’ set-up is appropriate, such as:
 - Webcam is on and is in a proper position, which shows the face and the real background



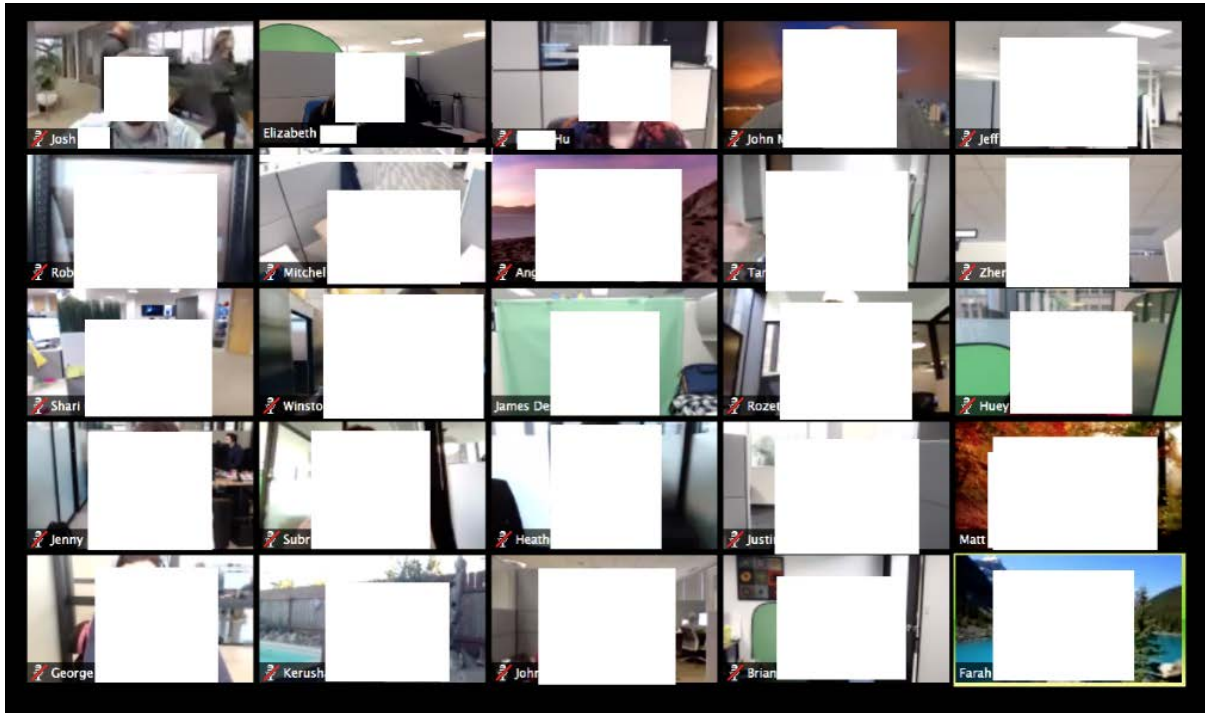
- Virtual background is turned off
- Student name in the Zoom meeting must be the official name
- Microphone is on
- Remind students to keep the speaker ON for receiving instructions/announcements during the exam and keep the student ID near them for instructor/TA to check the identity
- After students are settled, announce the exam start time and end time and key ground rules verbally
- Publish the exam several minutes before the exam start time to avoid sudden increase of network traffic in Canvas at the beginning of the exam. This is particularly important for large classes with hundreds of students
- Post the Exam link for students in the Zoom Chat and notify students verbally that the exam has started

3. During the online exam

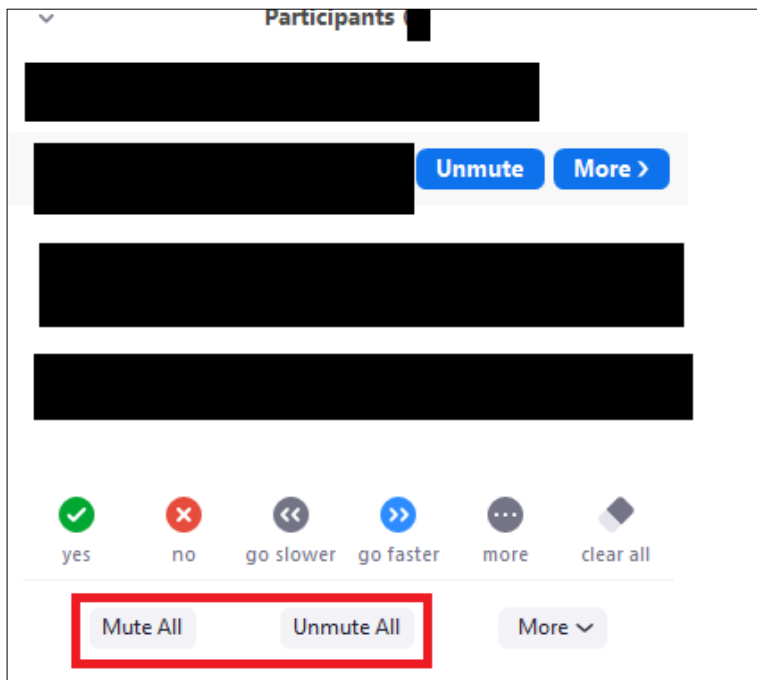
- Ensure the Zoom meeting recording is in progress and ask students to show their student ID to the webcam



- Monitor students closely through the **'Gallery View'** in Zoom, and take attendance under **'Manage Participants'**



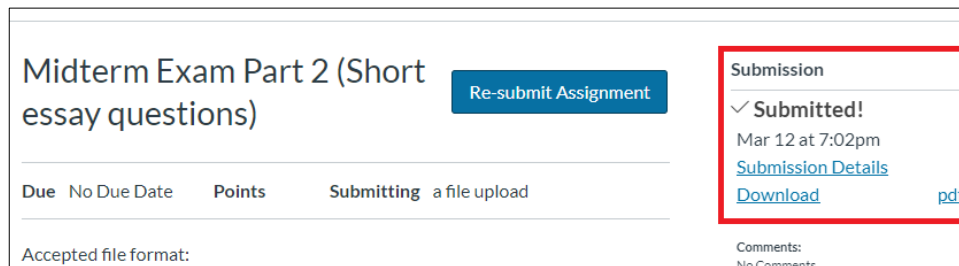
- **'Mute All'** during the exam to avoid disturbance, but recommended to **'Unmute All'** occasionally to ensure students are doing the exam in a proper environment



- During the exam, randomly pick students to do another identity check and room check through the webcam. These actions deter cheating. Use this procedure on suspicious students as well.
- Strictly follow the toilet break policy as stated in the ground rules
- Check the group chat messages frequently as students may raise issues through the group chat
- Remind students 15 minutes before the exam ends to submit the work to Canvas before the exam due time

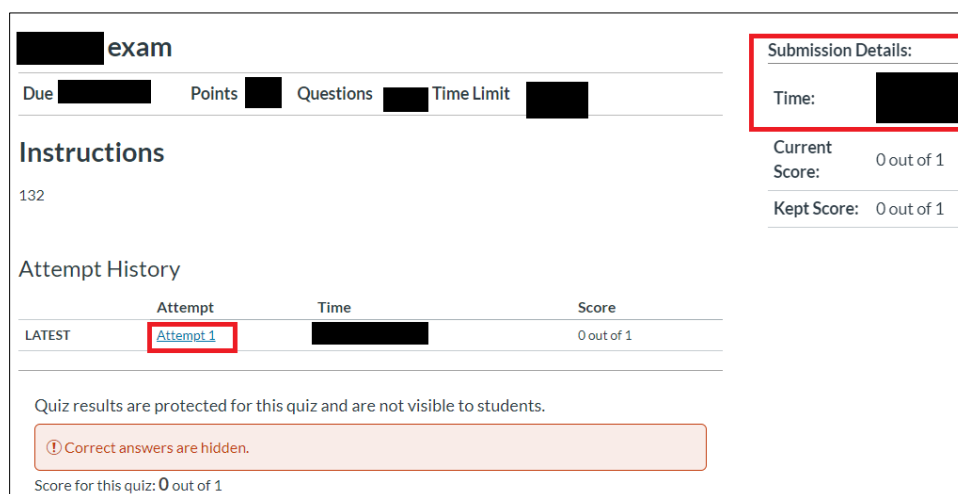
4. Submit the online exam

- Inform students verbally in Zoom that the exam has ended
- Exams in **Canvas Assignments**
 - Give 10 mins buffer for students to upload the attachments to Canvas Assignments, a 15-min buffer is recommended for students to submit hand-written exams to Canvas Assignments
 - Remind students to submit their answers to Canvas Assignments properly. Refer to the screenshot below for an example of a successful Canvas Assignment submission



- Request students to 'raise hand' in Zoom after they have submitted their work to Canvas Assignments
- Check the submissions in Canvas before dismissing students
- Exams in **Canvas Quizzes**
 - Remind students to submit their Canvas Quiz properly. Refer to the screenshots below for examples of successful Canvas Quiz submissions
 - Check the submissions in Canvas Gradebook before dismissing the students

Sample for a successful Classic Quizzes submission



5. After the online exam

- Check the Gradebook/SpeedGrader in Canvas against the attendee report from Zoom to ensure that attended students submitted their quizzes/assignments

Appendix: A sample announcement of the midterm exam

Dear students,

The midterm exam will start at **0900 (GMT+8)** on **Wednesday 15 Apr 2020**. The midterm exam contributes 30% of your total course grade. This exam covers the materials from Week 1 to Week 8.

This is a closed book exam. Students are required to take the exam under 'Assignments' in the Canvas course site while joining the Zoom meeting for being proctored during the exam period.

There are two parts in the midterm exam, and you are required to answer both parts:

Asg. Title	Question type	Weight	Start time	End time	Remarks
MT - Part 1	Diagramming questions	50%	0900	1030	<ul style="list-style-type: none">Students should submit the work in JPG/PNG/BMP formatBoth hand-drawn and computer graphics are acceptable
MT - Part 2	Problem-solving questions (calculations and short essays)	50%	1035	1145	<ul style="list-style-type: none">Students can use calculators when answering the problem-solving questionsSubmit the work in DOCX/DOC/PDF formatStudents' essay will be checked for plagiarism

Exam logistics

- Arrive at the Canvas course site and join the Zoom meeting 'Midterm Exam' through Canvas > Zoom Meeting, or Meeting ID: 999-999-999 [at 0845](#)
- The exam will be released by parts at the specified start time
- You are required to sign the academic honor code before you can obtain the exam papers
- You can submit Part 1 earlier once you are done with it. However, the next part will not be released until the specified start time
- You will receive a verbal announcement through the Zoom meeting as soon as a new part is released in Canvas
- You will receive a verbal reminder through the Zoom meeting 15 mins before the part ends

Ground rules

- You are not allowed to refer to any notes, textbooks and internet resources during the exam
- You should take the exam in a quiet, isolated and well-lit place
- You should have a reliable internet connection when taking the exam. No extra time will be granted due to any technical issues
- You should not communicate with anyone by any means during the exam
- In case you have inquiries during the exam, you should contact the instructor through the 'Group Chat' function in Zoom
- Under normal circumstances, toilet breaks will only be allowed in between Part 1 and Part 2 of the exam. Inform the instructor/TA via the 'Chat Tool' if you really need a toilet break and will be away from the webcam during the exam. You must seek approval from the instructor/TA before leaving your seat.
- You will be given a score of zero if plagiarism is found
- You are not allowed to leave the Zoom meeting until the instructor asks you to do so

Configuration in Zoom for live proctoring

- Webcam must be turned ON and is placed in a proper position, showing your face and the real background
- Turn ON the microphone, it may be muted and unmuted by the instructor/TA_during the exam
- Turn OFF the virtual background

- Your name in Zoom must be the official name (i.e. same as the name on your student ID)
- Turn ON the speaker during the exam to receive announcements/ instructions from the instructor/TA
- Points will be deducted for not following these rules

Process of the live proctoring

- You will be proctored by the instructor/TA through your webcam in Zoom during the exam
- Have your student ID on the desk as you will be instructed to show the ID to the instructor/TA for identity check
- Exam announcements will be made verbally through the Zoom meeting, be sure the speaker is ON
- During the exam, you may be asked by the instructor/TA to present your student ID to the webcam for another identity check
- Some students may be asked to move your webcam around to ensure the environment is proper for the exam

Key reminders for submitting exam in Canvas Assignments

- Upload the supported file formats for each part of the exam, which are specified in the 'Remarks' column
- You can still upload the exam to the Canvas Assignments for another 15 mins after the end time, however, 20% will be deducted for late submission (e.g., if you scored 30/50 in Part 1, you will only receive 24/50 if you submit Part 1 later than the specified end time).
- Make sure the assignment is submitted to Canvas Assignments on time. Drafted assignments will not be graded

During the exam, you should contact me through the group chat in Zoom for any inquiries or contact me through WhatsApp at +852 xxxx xxxx in case of any urgent inquiries.

To get yourself familiarized with the exam logistics; you are required to join an exam dry run on 13 Apr 2020 during the lecture time. Details of the dry-run will be provided later.

Warm regards,

<Instructor name>