Faculty of Mathematics

Procedures for Remote MMath Thesis Defenses, PhD Thesis Proposals, and PhD Thesis Defenses

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1. Introduction

These instructions apply to MMath thesis defenses, PhD thesis proposals, and PhD thesis defenses during the COVID-19 emergency period in which the university is operating remotely. Units may have different names for some of these exams; for example, a PhD thesis proposal in some units is called the "oral comprehensive." The information here applies irrespective of the name.

2. Special notes about PhD Defenses

For PhD Thesis Defenses only, the University has assembled a detailed instruction sheet here:

https://uwaterloo.ca/graduate-studies-postdoctoral-affairs/current-students/thesis/phd-thesis- examination-regulations/process-remote-thesis-defence

It is important that the candidate and his/her committee read these instructions carefully at least two weeks in advance of the exam. In particular, these instructions specify how the thesis must be displayed, and also require all remote committee members to prepare a report in advance.

"Section 2" of the above website specifies the technical details of how to set up a remote exam with IST. The remainder of this document describes an alternative way to set up a remote exam with CSCF/MFCF. The candidate, in consultation with his/her supervisor and committee, may choose either procedure.

The advantage of the procedure described here is that the candidate will be supported by Math staff members (CSCF and MSCF) and will have the option of using M3-3001.

MMath thesis defenses and PhD thesis proposals are not supported by IST or MGO, and therefore the only supported technology is the one described herein.

3. Advanced preparation

The candidate, in consultation with his/her committee, has the option of sitting the exam at home (remotely) or in M3-3001. M3-3001 offers a fast internet connection and teleconferencing equipment. Please read this document to understand the capabilities and limitations of each choice.

If the candidate wishes to use M3-3001, the room must be booked. All bookings are through the Math Grad Office, mgo@uwaterloo.ca.

A Microsoft Team must be set up one week in advance of the exam. This should be done regardless of whether the exam will use M3-3001. If the candidate and committee are unanimous in preferring to use another technology over Teams such as Zoom, then the chair should request permission to use an alternate technology from the Associate Dean (in the case of a PhD Thesis Defense) or the Grad Chair (in the case of all other exams). Support from CSCF or MFCF may be limited.

In the case of a PhD Thesis Defense, the request to set up the Microsoft Team will be initiated by MGO. MGO will also set up a voice-only conference call as a backup in case other electronic procedures fail.

In the other cases, MMath Thesis Defense, PhD Thesis Proposal, the request to set up the Microsoft Team will be initiated by the Graduate Chair or Graduate Coordinator of the student's home unit. The home unit has the option of setting up a conference call as a backup.

To open a ticket in RT for all of Math except CS (i.e., for AM, C&O, PM, S&AS), visit the website https://uwaterloo.ca/math-faculty- computing-facility/ Select the large button "Report a problem or submit a request."

For CS, send the request to the following email address: cscfhelp@uwaterloo.ca

The request should specify the date and time of the exam, the nature of the exam (MMath Thesis Defense, PhD Thesis Proposal, or PhD Thesis Defense), and the complete list of participants: the candidate and all committee members including external member.

The Team will include all participants as well as one staff member from CSCF or MFCF. The staff member should provide the candidate and supervisor with contact information, ideally, a cell phone number. In some cases, Greg Preston may fill the role of the technical staff member.

A test-run of the exam must be scheduled to ensure that the technology is functional. At a minimum, the test-run should include the candidate, supervisor, the CSCF/MFCF staff member, and chair. It is preferable to include the external member as well. In the case of PhD Thesis Defenses, MGO will set the time for the test-run and inform the committee, candidate and CSCF/MFCF staff member. In the case of an MMath Thesis Defense or PhD Thesis Proposal, the supervisor and candidate should arrange the time of the test-run with the rest of the committee and staff member. If the exam will use M3-3001, then the test-run should also use this room, and this usage of the room needs to be booked with MGO.

For a candidate using M3-3001, additional advanced preparation includes making his/her presentation available to the room computer. We recommend two actions: (a) put the presentation on an external USB stick or external hard-drive, and (b) save the presentation in a cloud file system, e.g., vault.cs.uwaterloo.ca for CS candidates or O365 OneDrive for all candidates.

4. Exam procedure for a candidate at home

All the preparatory steps outlined in Section 3 should take place including the test run. During the actual exam, the candidate should open Teams on his/her home computer and use the screen-share feature to share the presentation. If the presentation requires handwriting by the candidate (the equivalent of a white-board), the candidate will need to use a tablet or writeable device. CSCF and

MFCF do not support individual users' own tablets, so it is the candidate's responsibility to make sure this works.

During the committee deliberation following the presentation, the candidate should hang up from the Teams call. The Chair will receive instructions either from MGO or the Graduate Director/Coordinator of the unit on how to report the exam results.

5. Exam procedures for a candidate in M3-3001
All preparatory steps outlined in Section 3 should take place including the test run.

a. Safety and Hygiene
We strongly recommend that only the candidate use M3-3001, with all other committee members participating remotely. Under no circumstances should more than three people occupy M3-3001 because the room is not large enough to maintain proper physical distance requirements for more than three people.

Staff will leave a limited number of cleaning supplies in M3-3001. The candidate may also bring his/her own supplies and wipe equipment. We are not able to offer assurances about the sanitation of the room. All users of M3-3001 are asked: Please wash your hands thoroughly before and after using the room. Avoid touching your face while using the room. Please do not put the microphones closer than 20 cm to your face. If the candidate has health concerns about use of the room, he/she may contact either the home-unit grad chair or the associate dean confidentially ahead of time.

Please do not use M3-3001 if you have a cough on the day of the exam. In this case, reschedule the exam for a different time, or else switch to a home-based exam. If you develop a cough or other Covid-19 symptoms in the 14-day period following your use of M3-3001, please inform Occupational Health as well as MGO.

b. Access to the room
M3-3001 is locked and requires fob access. The CSCF or MFCF staff member will instruct the candidate on how to obtain the fob. Suggestion to the candidate: As soon as you unlock the room, prop the door open with a doorstop or your backpack and return the fob to the location specified. In this way, you won't get locked out of the room by accident.

c. Bring a laptop
We recommend bringing a personal laptop to M3-3001 as a backup means to carry out the exam if the room equipment fails. However, we do not recommend simultaneous use of a personal laptop and the equipment in M3-3001; this results in a more complex configuration that CSCF/MFCF staff may not support. If you use your personal laptop for the exam, then you should connect to the internet using Eduroam; the Eduroam username has the form XXXX@uwaterloo.ca, and use your Watiam password.

d. Switching on the room equipment
Begin by using the touch panel located on the table. Select TV, then Room PC. Select the 80" display. If your presentation has audio, select the 'Audio' tab and choose where the source will be coming from, for example, Room PC.
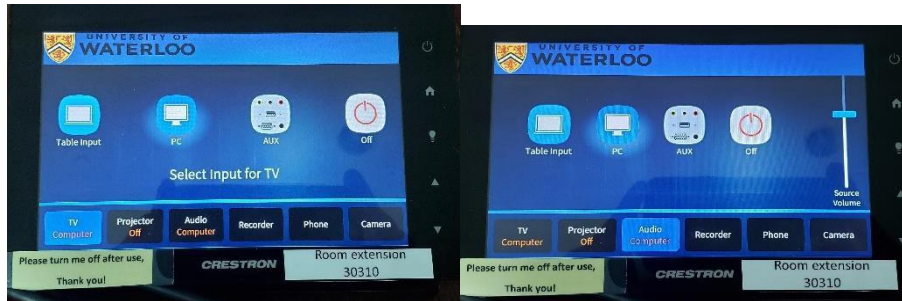
e. Logging in

The Room PC is accessible to any Nexus account. The log-in computer screen should appear on the display selected in the previous step. The candidate should log in with his/her Nexus account using the wireless keyboard and mouse located on the table. Please note: the first time logging in may require more time as the computer loads the user profile.

f. Inserting USB

If the candidate's talk resides on a USB stick or external hard-drive, this can be connected to back of the PC on the top shelf.

g. Microphones

There are four wireless microphones on a charging dock in the computer cabinet. The candidate should take one; if other committee members are present, each should take one. The microphones will either flash red (off) or green (on). To cycle between each setting, only a 1-second press on the mic button is needed. Please note that they are directional mics and work best when they are pointed at and held close to your mouth.

h. Room cameras

If you need to adjust the camera, please use the panel on the table. The tab 'Camera' will take you to the camera controls. There are two cameras in the room, the conference camera (which only shows the conference table and does not move) and the presentation camera. The presentation camera can show both the speaker and the large screen display in the same image. The controls on the table display screen allow this camera to pivot or to zoom in based on the user's needs. Our experiments indicate that handwritten notes on the physical whiteboard are hard to read when broadcast by the room cameras. Instead, the digital whiteboard available with Teams should be used.

i. Presentation and whiteboard

Open Teams on the room PC and open your presentation. Use the screen-share feature of Teams to share the presentation with the committee. The screen-share feature of Teams can also share the digital whiteboard. There are two styluses located on each side of the screen for the candidate to write or draw on the screen. (You may need to select the icon that looks like this: [icon] in the task bar, or the drawing option in your presentation software.)

j. Upon completion

The candidate should hang up from the Teams call during committee deliberation. Once the exam is over, be sure to lock the door and leave the fob in the specified location.

The Chair will receive instructions either from MGO or the Graduate Director/Coordinator of the unit on how to report the exam results.

ACTION ITEMS FOR CANDIDATE AND SUPERVISOR

1. Read this whole document.
2. Contact MGO for procedures regarding your PhD Thesis Defense or your department Graduate Chair/Graduate Coordinator for procedures regarding your PhD Thesis Proposal or MMath Thesis Defense. In particular, ask MGO or your Grad Chair/Grad Coordinator to open a ticket in RT.
3. If you are using M3-3001, contact MGO to book the room.
4. Find out the name and contact info of your CSCF/MFCF support person
5. Familiarize yourself with Microsoft Teams. IST has a pre-recorded training session here: https://uwaterloo.ca/information-systems-technology/services/it-professional-development- itpd-courses/it-professional-development-itpd-course-brochure (Note: skip ahead to 05:00; the video has a false start.) Microsoft's training is: https://support.office.com/en-us/teams
6. If you are using M3-3001:
   a. Store your presentation both on an external device and on a cloud server.
   b. Get instructions on how to obtain and return the fob.
7. Carry out a test of your equipment (either at home or in M3-3001) with as much of the committee as possible (minimum of at least the candidate, supervisor and chair) at least three days in advance. In the case of a PhD thesis defense, MGO will select the time of the test-run. In all other cases, scheduling the test-run is the responsibility of the candidate and supervisor. If the test is in M3-3001, book the room with MGO. In any case, arrange for the CSCF/MFCF staff member to attend the test run.
8. Questions that arise regarding the defense (prior to the actual event) should be posted to the RT system.

ACTION ITEMS FOR MGO

1. For PhD Thesis Defenses: Gather complete information from candidate, GSPA, etc., and open the RT.
2. For all uses of M3-3001: Keep track of room bookings.
3. For PhD Thesis Defenses: Set up a conference call option as a back-up in case of equipment failure, and inform all participants of this backup.
4. For all exams: Ensure that all paperwork associated with exam is flowing correctly.
5. For PhD Thesis Defenses: Review procedures posted by GSPA, and, in particular, inform all committee members about their responsibility to prepare a report in advance.
6. For PhD Thesis Defenses: Select the time of the test-run, book the room (if it will be used), inform the candidate, committee, and relevant MFCF/CSCF staff member.

ACTION ITEMS FOR GRAD CHAIRS AND GRAD COORDINATORS

1. For MMath Thesis Defenses and PhD Thesis proposals: Gather complete information from candidate, supervisor, etc., and open the RT.
2. For MMath Thesis Defenses and PhD thesis proposals (optional): Set up a conference call option as a back-up in case of equipment failure, and inform all participants of this backup.
3. For all exams: Ensure that all paperwork associated with exam is flowing correctly.
4. For MMath Thesis Defenses and PhD Thesis proposals: Select the time of the test-run, book the room with MGO (if it will be used), inform the candidate, committee, and relevant MFCF/CSCF staff member.

ACTION ITEMS FOR CSCF AND MFCF STAFF

1. Be familiar with Microsoft Teams. Set up the Team as per IST's procedures, and include yourself as a Team member. IST's form for setting up a Team is currently here: https://uwaterloo.ca/information-systems-technology/services/microsoft-office-365-education/request-team
2. Exchange cellphone contact information with the candidate.
3. Be on-line and available for both the test-run and actual exam.
4. For all PhD Thesis Defenses, MGO should receive all correspondence associated with the ticket. For MMath Thesis Defenses and PhD Thesis Proposals, the unit grad coordinator should receive all correspondence associated with the ticket.