

# Dept. of Computer Science - MSc Thesis Defence Guidelines and Expectations for all Participants

## Introduction

The purpose of this document is to inform all the parties involved with M.Sc. Defences of their responsibilities, and to ensure that defences are rigorous and proceed smoothly.

## For The Student

### Your Thesis:

1. Your thesis goals and results should be consistent with one another. This is a standard source of complaint from examiners. If, in the introduction to your thesis you say you will do A, then you should report in the conclusions that you did, in fact, do A. Your research must meet the goals you set out for it.
2. Your thesis should be complete and reasonably free from typographical, grammatical and other errors prior to distributing it to your committee. Distributing an incomplete or poorly presented thesis simply to meet a perceived deadline may result in failure. Remember that, at your defence, your examiners must sign that both the defence and the thesis itself are acceptable.
3. The thesis that you are defending should, subject to minor modifications resulting from unexpected discoveries during the research, look like the one described in the thesis proposal that you submitted to the GSC and had approved. Significant changes require submission of a new proposal.

### Your Committee:

4. Your committee should be composed, whenever possible, of examiners who are as close as possible to your area of work or who can provide useful expertise in some area(s) related to your work. Select your committee in consultation with your advisor so that they will be able to accurately judge your work. This will also help to focus the questioning during the defence, and this is to your advantage.

### Your Defence:

5. The Faculty of Graduate Studies (FGS) online thesis guidelines web page states that: "In general, the thesis should show that the students have mastery of the field in which they present themselves and are fully conversant with the relevant literature." This is also true of your defence presentation and is a key thing that your examiners will be looking for in their questions. This means you must be well prepared for the defence both in terms of depth (knowledge of your work) and breadth (understanding of how your work fits into and affects the broader Computer Science community).
6. Rehearse your presentation many times. Do so in front of others and encourage questions. Be sure that you are prepared to give a clear, focused talk in the allotted time and try to anticipate likely questions.
7. Listen to any question asked and be sure you understand it. Avoid the tendency to anticipate what an examiner is asking. Wait for them to finish the question before formulating your answer.

8. Either answer the questions asked by examiners or tell them that you do not know the answer. You may ask for clarification but do not leave the examiners waiting for more than a couple of seconds for an answer. You must be able to “think on your feet” and should have enough breadth of knowledge of Computer Science generally to be able to extrapolate the impact of your results to other, related, domains.
9. You should always be able to discuss the time and space complexity of any algorithms presented in your thesis.
10. Please note that it is appropriate to use the words “I”, “my”, etc. in both your thesis and your defence presentation instead of “we”, “our”, etc. It is **your** thesis even though your advisor guided you.
11. Bring a copy of your thesis (the same one distributed to the examiners) with you to the defence so it is easy for you to handle questions from the thesis document.

### **For The Advisor**

12. Three forms related to MSc thesis defences are required. The first is the *Master's Thesis/Practicum Title and Appointment of Examiners* form (available on the Faculty of Graduate Studies Website). It requires you to name the faculty who will serve on the student's examining committee. This form also identifies the title of the thesis to be examined. Be aware that once this form is filed, you may not change the title of the thesis without significant administrative delay. On the form, you will need to identify:
  - One internal (to the department) committee member (though there can be more than one internal if the advisor deems this necessary - for example, if the thesis involves elements of more than one area of computer science;
  - One internal-external (external to the department but internal to the university) committee member (this is intended to be an individual at arms-length to the research, and thus cannot be an individual already on the committee in some other capacity, e.g. a co-supervisor);
  - The supervisor and any co-supervisor.

It is the advisor's responsibility to identify the committee members, though the department head must approve the choice of committee members (as per the form itself). The choice of examiners is normally done in consultation with the student (to avoid any personal conflicts) and considering the area of the thesis – please see point 4 above. The department head requires time to examine the committee makeup and ensure that it meets the needs of the thesis (an appropriate check for possibly weak committees), and so this form must be submitted at least one month before the defence. There is no reason that a supervisor should be "shopping" for committee members to read a thesis in a short period of time - plan ahead and choose the committee that best reflects the background needed to appropriately evaluate the thesis.

Note that the Faculty of Graduate Studies normally demands that examiners have a month to read the thesis - this period can be shorter *if all the examiners themselves agree* - but for that to happen, they have to officially be examiners,

which requires that they be appointed via this form. That is, it is permissible to give the committee less than a month to read the thesis, provided they all agree, but they have to be appointed as an examining committee one month ahead irrespective of this.

The second form is the departmental *defence booking* form (available on the department's website). This form includes the abstract of the thesis and the intended date and location, and also requires you to note the date of the appointment of the examining committee, to ensure the one-month rule is followed. This form must be submitted to the grad chair **at least two weeks before the intended defence date**, and the grad chair will then find an independent chair for the defence and pass the information on to the department to promote the defence.

The third form that must be completed is the *Report of the Thesis Examining Committee*. This will be produced by the department after the defence booking form is completed, and will be brought to the defence by the defence chair (though you may wish to visit the defence chair ahead of time and examine this form to ensure that all details on it are accurate). There are two copies of this form - one is to be signed by the committee, and the other is an unsigned form to be bound into the final thesis so that signatures are not publicly distributed. Each committee member will be asked to sign the form twice – once to indicate the acceptability of the thesis and once to indicate that the student has passed the defence. The chair of the defence must also sign to indicate he/she believes the defence was successful. For the student to graduate, all signatures must be obtained. In most cases, some edits of the thesis document are required. It is necessary to withhold at least one signature (normally, the advisor's, but possibly anyone who requests this) until the thesis edits are complete and confirmed.

13. Please resist the urge to bring a student to defence before they are ready even if you receive pressure from the student. By publishing graduation deadlines well in advance, students should have no grounds to put pressure on you to try to rush the defence to meet deadlines at the last minute.
14. Defences during the reserved “seminar” time slot are preferred since holding defences at this time will allow more students to attend. Advisors should check for conflicts when scheduling defences at this time with, in particular, the person offering the “Research Methodologies” class which meets in this time period.
15. According to Faculty of Graduate Studies regulations, your student's thesis needs to be distributed to the examining committee 1 month before the defence date. This rule can only be “bent” with the unanimous agreement of all examiners.
16. The advisor is responsible for booking the room for the defence and any necessary equipment (e.g. an LCD projector). The room should be booked for 30 minutes in advance, and 30 minutes after the defence (this normally means a 2.5 hour booking). You should have the “report on thesis” form prepared in advance by staff in the general office and it is your job to bring it to the defence. Paper advertisements of the defence should be posted in conspicuous areas and an

- electronic announcement including the title and abstract should be sent to the 'staff' and 'grad' e-mail aliases.
17. During questioning of the student, do **not** (in any way) answer questions asked of the student by other examiners until after the student has left the room.
  18. Also, do not "lead" the student to answering another examiner's questions no matter how painful it may be to avoid doing this. Further, only the student should ask for a clarification of another examiner's questions.
  19. Finally, please encourage your other students to attend MSc defences since it will help to prepare them for their own.

**The following summarises the deadlines the advisor needs to keep in mind:**

- I. at least 3 months prior to thesis defence: ensure final acceptance of thesis proposal.
- II. at least 1 month prior to thesis defence: appointment of examining committee; distribution of thesis; agree on defence date and reserve location.
- III. at least 2 weeks prior to thesis defence: complete Defence Booking form.
- IV. 1 week prior to thesis defence: send email notification to 'staff' and 'grad' email aliases.
- V. Defence day: ensure the room is set up properly; email a reminder to the committee and 'staff' and 'grad'.

**For The Committee**

20. Timeliness is important. Student stress increases if examiners are late. Please be punctual.
21. Please stick to asking questions. Changes to the document's structure and contents can be addressed offline. It is fine to ask questions related to needed changes but deal with the change itself after the defence.
22. Always remember that it is possible (and sometime appropriate) to fail a student on their defence. A student must demonstrate reasonable mastery of their chosen area to pass. Remember that a student gets two chances to successfully pass their defence before they are required to withdraw.
23. A committee member has the right to withhold signing the thesis approval line on the Report of the Thesis Examining Committee until the candidate shows that the agreed-upon revisions have been carried out. If the revisions are minor, or don't require a particular committee member's expertise to review, the usual practice is to have the advisor withhold signing until the student has completed the revisions to the advisor's satisfaction.

**For The Chair**

24. The department will supply you with two copies of a form (*Report of the Thesis Examining Committee*) for reporting the defence - please make sure both copies are with you when the defence begins. Verifying correctness of these forms (examiner's names, possible co-supervisors, thesis title) is also suggested. Note that the thesis title must match that which was submitted to FGS when the committee was formed. Only one copy of this form is supposed to be signed - the

- other is to be left blank and will be included in the thesis that will ultimately go into the library, in order that signatures remain private.
25. The time guidelines for defences are: 25-30 minutes for the talk by the student followed by, normally, 30 – 45 minutes of questions. Questioning may be extended if necessary but only under exceptional circumstances should it be allowed to exceed 60 minutes.
  26. Questioning by the committee takes place in two rounds in which each examiner has the opportunity to ask questions. Normally, the internal-external examiner is asked to go first and the advisor goes last. If time permits, after the two rounds of examiner questions, the chair may invite the audience to ask questions. Should the audience ask questions, the chair of the defence should remind the committee during their deliberations that the student's handling of such questions is **not** to be considered in evaluating the student.
  27. The chair has the right and responsibility to terminate a line of questioning if they feel it has been exhausted. Further, the chair should take action to preclude inappropriate assistance provided to the student as described in points 17 and 18 above.
  28. While the chair is not in a position to judge the thesis, she/he **is** in a position to judge the defence and should do so by choosing to sign or not sign the defence form accordingly. Normally, the Report of the Thesis Examining Committee is the final thesis report. However, if any one of the examiners feel the candidate has failed either the oral or thesis component, a “not approved” report is filed with FGS on a *Master's thesis/practicum final report* form available from the FGS website (that is, the decision to pass must be unanimous). In addition, the chair must supply a written report describing the nature of the problem. Usually, however, deficiencies in the thesis can be addressed in revisions and are handled by the advisor as outlined in point 12 above.

### **For The Audience**

29. You are encouraged to attend all defences and **may** be invited to ask questions at the end of the defence, time permitting.
30. Please be quiet throughout the defence and be sure that all cell phones and other sources of distraction are turned off. Remember that you must go through your own defence!
31. Timeliness is important. Once a student has started presenting, people should not be entering and leaving the room and distracting the student. If the defence is worth going to, it is worth being on time for!