1. **Introduction**

In the Department of Biological Sciences the MSc degree is awarded only following the successful completion of a public lecture and a final oral examination. Both the lecture and the examination are adjudicated by an examining committee and focus on the contents of the thesis, and any conditions or recommendations from the examination committee. *All examining committee members must attend the student’s public seminar, as it is an integral part of the final examination.* Please note that the student’s public seminar that is normally held prior to the exam is advertised at [www.biology.ualberta.ca](http://www.biology.ualberta.ca) at least one week in advance of the seminar.

2. **Objectives of the Final Oral Examination**

The precise content of the examination is up to the examining committee. Normally, the final oral examination is strictly a defense of the thesis and a test of knowledge in discipline(s) relevant to the thesis.

Students are strongly advised to discuss the content and format of the examination with their supervisory committee well before the anticipated date.

3. **Thesis contents and format**

Acceptable formats for theses are outlined on the FGSR website: [http://uofa.ualberta.ca/graduate-studies/current-students/academic-requirements/thesis-requirement-and-preparation](http://uofa.ualberta.ca/graduate-studies/current-students/academic-requirements/thesis-requirement-and-preparation)

The student is responsible for ensuring that their thesis is in a format acceptable to FGSR. Questions regarding thesis format should be directed to FGSR.

4. **MSc Final Oral Examination - Summary of deadlines**

4 weeks prior:

1. **The supervisor** (not the student) recommends an arm’s length examiner by completing the departmental nomination form and submitting the completed form to the Graduate Student Services Office, CW 312, see link for form. ([http://www.biology.ualberta.ca/programs/graduate/current-students/forms/](http://www.biology.ualberta.ca/programs/graduate/current-students/forms/)).

2. **The supervisor** (not the student) recommends an examining committee and the date/time/room number of the exam by completing the departmental notice of exam form and submitting the completed form to the Graduate Student Services Office, CW 312, see link for form. ([http://www.biology.ualberta.ca/programs/graduate/current-students/forms/](http://www.biology.ualberta.ca/programs/graduate/current-students/forms/)).

3 weeks prior: Distribution of MSc thesis: FGSR requires that the completed thesis be distributed to all members of the examining committee, **including the chair**.
Fees, registration and thesis submission dates:

5. Composition of Final Oral Examination
The examining committee is made up of the supervisory committee (2 members), an arms’ length member and a Chair (who is not an examiner). Normally, all members of the examining committee must be physically present at the exam. A maximum of one examiner only may attend via telephone or teleconference.

**Examiners who are not full-time academic staff**
Rarely, it might be appropriate to appoint examiners who do not hold full-time faculty appointments (e.g., Professors emeriti, PDF’s, etc.) or who are not employees of the University (e.g., scientists from government agencies or industry). In these cases, permission is requested of the FGSR by submitting to the Associate Chair (Graduate Studies), a resumé of the proposed examiner and a covering letter from the supervisor briefly explaining the appropriateness of the appointment.

**Outside participants - Can others attend the final closed thesis defense?**
FGSR regulations state that faculty members of the student’s major department may attend, but should so notify the Chair of the examination beforehand.

Attendance and participation by *ex officio* members of the supervisory committee during the questioning part of the defense will be permitted. They participate in the examination, but are not permitted to participate in the discussion of the student’s performance. Attendance by faculty members of the student's major department who are not on the Final Examination Committee depends on approval by the Associate Chair (Graduate Studies) and the Chair of the examination. Such visitors do not participate in questioning and must withdraw before discussion of the student's performance commences.

The Dean of FGSR may attend and participate fully in the examination.

6. Appointment and responsibilities of chair and examiners at Final Oral Examination
   a) Chair
   Final oral examinations for both the MSc and PhD are chaired by a member of the Department appointed by the Associate Chair. Chairs are chosen more or less in alphabetical order from within the student's research interest group, although input from students and/or supervisors is welcomed. The Chair of the examination should not have had previous formal advisory contact with the student. Such Chairs have three primary responsibilities:

   i) to maintain the interests and high standards of the Department,
   ii) to ensure a fair examination for the student and,
   iii) to ensure that all required courses to date have been completed, and any other outstanding requirements listed in the student's file have been met.
The Chair thus serves as a ‘referee’ who ensures fairness, balance and order during the examination. The Chair will moderate the examination and direct the questioning, as well as ensuring that departmental and FGSR regulations are followed. The Chair does not vote.

*Please refer to ‘A Brief Supplementary Explanation’ at the end of this document for more details regarding the role of exam Chair.

b) Examiners

Supervisors are required to recommend examiners and confirm that they can attend the examination at the date and time selected by the supervisor.

7. Recommended procedure for Final Oral Examination

Although the actual procedure followed during the examination will be determined by the examining committee, the following is a suggested guide:

1. The Chair explains the purpose of the examination to the student
2. The Chair, in the student’s presence, reviews the student’s record with the committee.
3. The Chair calls for questions on the above material (offers to circulate file to examiners).
4. The Chair recommends an order of questioning and coffee (or other breaks) prior to the start of the examination. The student is given the opportunity to ask questions or make requests before the examination begins. At the discretion of the Chair, the external examiner on the committee is given the opportunity to begin the questioning.
5. Commence questions from the examiners.
6. At the conclusion of the examination the student is given the opportunity to make a closing statement or ask closing questions.
7. After the student has left the room, the examiners deliberate.
8. A final decision is normally arrived at via discussion until a consensus is reached. A distinction should be made between quality of the dissertation and strength of the defense. If all but one member of the committee vote favourably, majority rules. Unresolved problems are reported to the Associate Chair (Graduate Studies), who will contact the FGSR (if required). If two or more examiners cast dissenting votes, the thesis is rejected and a full report is submitted to the Associate Chair (Graduate Studies), who will contact FGSR for final adjudication.

The final decision of the examining committee should be recorded on the FGSR form entitled ‘Thesis Approval/Program Completion.’ If revisions are required, the supervisor may withhold their signature from the form however, the form must be placed in the student file and returned to the Assoc. Chair Grad Studies office at the conclusion of the defense. Once the revisions are completed, the supervisor will sign the form on the student’s file.

The chair of the committee should complete the department’s form: “Report of Final Oral Examination” which provides the Associate Chair (Graduate Studies) with details of the committee’s recommendation.

9. Advise the student of the final decision.
i) **Pass.** No revisions are required.

ii) **Pass subject to revisions.** The student has satisfactorily defended the thesis but the revisions to the thesis are sufficiently minor that it will not require a reconvening of the examining committee. It is expected that the student will make the changes in time to submit the thesis to the FGSR on or before the deadline for the next convocation or no later than 6 months from the date of the exam. Any changes should be checked and approved by the committee chair or supervisor, who does not sign the FGSR ‘Thesis Approval/Program Completion’ form until the required changes are satisfactorily completed. Other committee members may also wish to withhold their signature until they can verify that their required revisions have been made to their satisfaction.

iii) **Adjourned.** Usually this is recommended if there are severe shortcomings in the defense of thesis, although the thesis itself may fall in one of the above categories. The final oral examination should be adjourned in the following situations:

1. The revisions to the thesis are sufficiently substantial (if further research or experimentation or major reworking of sections are required, or if the committee is not satisfied with the general presentation of the thesis) that it will require a reconvening of the examining committee. The committee should not propose that the candidate has passed rather the committee shall adjourn the examination.

2. The committee is dissatisfied with the candidate’s oral presentation and defence of the thesis, even if the thesis itself is acceptable with or without minor revisions.

3. Compelling, extraordinary circumstances such as a sudden medical emergency during the examination.

*If the examination is adjourned, the committee should:*

- Specify in writing to the student, with as much precision as possible, the nature of the deficiencies and, in the case of revisions to the thesis, the extent of the revisions required. Where the oral defence is unsatisfactory, it may be necessary to arrange some discussion periods with the candidate prior to reconvening the examination.

- Decide upon a date to reconvene. If the date of the reconvened oral examination depends upon the completion of a research task or a series of discussions, it should be made clear which committee members will decide on the appropriate date to reconvene. The final date set for reconvening shall be **no later than six months** from the date of the examination. A final decision of the examining committee must be made within six months of the initial examination.

- Make it clear to the student what will be required by way of approval before the examination is reconvened (eg, approval of the committee chair or supervisor, approval of the entire committee, or of select members of the committee).
• Specify the supervision and assistance the student may expect from the committee members in meeting the necessary revisions.

• Advise the Assoc. Chair (Grad. Studies) in writing of the adjournment and the conditions. When the date is set for the adjourned final oral examination, the department will notify the FGSR. Normally the Dean, Vice-Dean, Associate Dean or Pro Dean attends the examination.

iv) Fail. The quality and substance of the thesis are insufficient to justify the awarding of a degree. If the final examination committee agrees that the student has failed, the committee chair shall provide the reasons for this recommendation and recommendation for the student's program in writing to the Associate Chair, (Graduate Studies) who then advises FGSR in writing of the outcome and recommendation of program. The Dean, FGSR will arrange to meet with the candidate and with department representatives before acting upon any department recommendation. A decision of the FGSR which affects a student's academic standing (ie, required to withdraw) is appealable.

8. Copies of thesis required

Students submit their thesis to FGSR electronically (e-thesis): Students should refer to the FGSR website for complete instructions.

One hard-bound copy is required to be submitted to the department (bond paper is not required). Students should contact FGSR to ensure proper formatting and to determine any deadlines relating to the thesis submission and convocation dates.

9. Public lecture

To recognize the significant accomplishments of a student who has completed the M.Sc. thesis, the student will give a seminar that is open to the public. The seminar will be the same day, or day before, the M.Sc. Final Examination.

The recommended format for the seminar is:

1. The candidate will give a lecture that summarizes the dissertation. This lecture should be limited to 40-45 minutes and should emphasize the major findings of the dissertation. The candidate should not be interrupted during this presentation.
2. The candidate will then respond to a brief round of questions from the audience.

The seminar notice should be forwarded to the Graduate Records Coordinator for advertising at least two weeks prior to the seminar. Seminar notices are sent to all members of the examining committee and are advertised at www.biology.ualberta.ca. See Appendix 2 on how to prepare the thesis seminar notice.
A Brief Supplementary Explanation of the Role and Guidelines for Examination Chairs in MSc and PhD Thesis Defense:

- The examination chair is a non-voting member of the examination committee.
- The role of the examination chair is to ensure that the exam is conducted in accordance with FGSR and departmental rules and standards.
- The examination chair acts as a “referee” to ensure that “fairness, balance and order” have been maintained and that the interest of the student is adequately protected.
- The examination chair moderates and directs the questioning.
- At the end of the examination, the examination chair acts as a neutral member to guide the committee through the process of reaching a decision.
- The examination chair may ask questions if he/she feels that critical and pertinent questions have not been asked or addressed. Alternatively, the examination chair can request the examination committee to refocus or redirect questions to address areas as appropriate.
- If the examination chair feels that the examiners are either too hard or too easy on the candidate, he/she can call a recess to discuss this with the other examining committee members in the absence of the candidate. Likewise, any examiner can ask for a recess and raise concerns of this nature with the examination chair and other examining committee members.
- If at the end of an exam, the chair or an examiner is unhappy with the resulting rigor of the exam or its process, they should inform the Associate Chair (Graduate Studies) of the details in a memo. The Associate Chair will then investigate the issue in question, and in consultation with the Departmental Chair and FGSR take specific actions where appropriate.
- In extreme circumstances, the examination chair can adjourn the examination. In this case, the details of the adjournment and conditions for reconvening the examination will have to be filed to Associate Chair (Graduate Studies) office and to FGSR according to FGSR rules and protocol.
Preparing the thesis seminar notice
(*From R.A. Day's "How to Write and Publish a Scientific Paper)

Basically this notice has only three components: your name, when and where the seminar will take place, and the title and abstract. It is the latter component most dealt with here.

The Title:
Few will read your entire abstract, but many will read the title. Use the fewest possible words that adequately describe the contents of the paper. Most titles are too long (remember, the title is not an abstract). Watch "waste" words such as "Studies on," "Investigations on," and "Observations on." Avoid jargon (most potential attendees will not be experts or specialists in your area). For whom are you giving the seminar? for you? your closest colleagues? the Department?

The Abstract:
A mini-version of the paper, it should provide a BRIEF summary of the Introduction, Methods, Results, and Discussion by: i) stating principal objectives and scope of study, ii) describing methods, iii) summarizing results, iv) stating main conclusions.

Write in past tense. Avoid jargon, abbreviations, and acronyms. Examine every word carefully. Do not use 200 words when 100 will do. Avoid verbal abuse; use clear, significant words rather than abstruse, verbose constructions.