



## DEPARTMENT OF INTEGRATIVE BIOLOGY

### Guidelines for Members of Thesis Examination Committees

The following guidelines have been prepared to assist members of Thesis Examination Committees to follow, as far as possible, a uniform procedure in the evaluation of theses, and in the conduct of the candidate's oral defense of the thesis, so that all candidates are subjected to uniformly fair examinations. Members should also refer to the Graduate Calendar. Where policy in the Graduate Calendar appears to differ with that here, the policy in Graduate Calendar shall take precedence.

1. In the interest of the candidate, and of the Department, matters relating to the thesis and defense should not be discussed outside of the Graduate Faculty.
2. There will be no communication between the candidate and the Examination Committee on any aspect of the thesis until the examination.
3. After the necessary steps in the review of the thesis have been taken, the Examination Committee will meet for the oral defense of the thesis.
4. The Chair of the Examination Committee will be responsible for conducting the oral examination, and has a responsibility to intervene and moderate when appropriate.
5. Thesis examinations are entirely open to the public. The examination will begin with a formal seminar of not more than 40-45 minutes length and will be held in a room separate from that in which the candidate will be later questioned (see 6, below). The presentation will begin with a formal introduction of the candidate to the audience by the Chair of the Examination Committee. This portion of the examination will not exceed one hour including questions from the audience. At this time, the Chair will only entertain questions from the audience, for a period not to exceed 15-20 minutes, depending on the length of the presentation. At the discretion of the Chair, in consultation with the candidate, a brief intermission may follow the presentation, after which the Examination Committee, the candidate and interested public will reconvene in a room designated for the question period. At this point, the Chair will only permit questions from the Examination Committee. To keep disturbance to a minimum after questioning of the candidate has commenced, visitors will not be permitted to leave the examination room at any point during the examination, except at breaks designated by the Chair. The entire examination, including the presentation, should not exceed 2.5 hours for the M.Sc. and 3 hours for the Ph.D. If the time is extended, it should be done only to benefit the candidate and to enable the Committee to come to a just decision.

6. The Chair will open the questioning period by calling on members of the Examination Committee by turn to question the candidate.

The order of questioning by faculty is as follows for the M.Sc. examination: the Departmental Examiner [also referred to as the Graduate Faculty Member if examiner is external to the department], the Advisory Committee Member and finally the Advisor. For the Ph.D., the order is the same except that the External Examiner is the first to question the candidate. The Departmental Examiner [Graduate Faculty Member] or the External Examiner, as the case may be, may take as much time for questioning as she/he desires, subject to the reasonable expectation that adequate time will be left for other examiners to ask questions within the time limit of the respective exams (see 5 above). In the case of a Ph.D. final examination, if the External Examiner is absent, the Chair of the Examining Committee will ask the questions provided by the External Examiner. Should the Chair feel that any examiner is taking an inordinate amount of time, however, she/he may intervene and direct questioning by another examiner. The candidate's Advisor is expected to participate as an equal and active member of the Examination Committee.

The questions should be directed so as to reveal the candidate's knowledge of the area of research, and to help evaluate the level of her/his standing as a scientific investigator. Should the Chair feel at any time during the questioning period that the nature of the questions tends to deviate from the set objectives, she/he has the responsibility to intervene and moderate.

7. At the end of the questioning period, the Chair will ask the candidate, the members of the faculty who are not members of the Examination Committee, and the public to leave the room so that the Examination Committee can proceed with the decision-making process.
8. The Chair will advise members of the Committee regarding the formalities to be followed in making the recommendations to the Dean of Graduate Studies. The Committee will also be made aware of any areas of concern as expressed in any written statements submitted by individual members of the candidate's Advisory Committee, but not until after the Examination Committee's own part of the examining process is concluded. This procedure is intended to prevent prejudging the candidate. The Chair may deem it necessary to recall the student for a further period of questioning.
9. The chair serves to administer and ensure the proper conduct of the examination. The Chair is expected to exercise full control over the proceedings and does not participate directly in questioning the candidate during the examination. In unforeseen circumstances where an examiner is unable to attend due to, e.g., sudden illness, accident, etc., the chair will attempt to receive questions to ask on behalf of the absent member, to be answered by the student to the satisfaction of the examiners.
10. Finally, the Chair will ask the other committee members to exercise a single vote on the acceptability of the thesis and the oral defense. Any abstention is regarded as a negative vote. The Committee will then be asked to sign the Report of Master's (or Doctoral) Examination Committee form which reports "both the defense and the thesis to be" satisfactory or unsatisfactory (the Chair does not evaluate the acceptability of the thesis and oral defense). A candidate is deemed to have passed if not more than one of the examiners votes negatively.

An acceptable thesis comprises a scientifically defensible account of the student's research on a particular, well-defined research problem or hypothesis with, in the case of the M.Sc. degree, the practical expectation that the research could be completed and the thesis defended in not longer than six semesters. Paramount to the notion of acceptability of the thesis is its quality with respect to the underlying rationale (problem identification), the approach used to address the problem, and the evaluation of the results. Final acceptance of the M.Sc. thesis ordinarily implies that the work is sufficiently meritorious to warrant publication in scholarly media. An acceptable Ph.D. thesis is judged also by the expression of mature scholarship, critical judgement, and contribution to knowledge, and approval implies that it is judged sufficiently meritorious to warrant publication in reputable, refereed journals in its field.

In the case of both M.Sc. and Ph.D. examinations, the evaluation of the thesis and the oral defense will consider whether the candidate has demonstrated

- 1) an understanding of her/his contribution to, and familiarity with, the broader discipline of study;
- 2) an understanding of the method(s) of science;
- 3) that data are analyzed in a manner appropriate to the objectives of the thesis, recognizing that there may be multiple statistical methods that might yield variable results, and that the student understands the implications, limitations, and assumptions of the statistical procedures used;
- 4) an understanding and familiarity with the analytical techniques and laboratory procedures used, especially where such procedures were done by someone other than the candidate; and
- 5) that the thesis is reasonably free of grammatical errors and errors of style (e.g., errors in citations, thesis structure, formatting).

When members of an Examination Committee require changes to the thesis before they deem it to be acceptable, the Examination Committee must agree on the changes required in reference to the five criteria outlined above. The Chair of the Examination Committee will provide, in writing to the candidate by the end of the second full business day following the exam, these changes. The Examination Committee will also consider the different expectations for an MSc (publication in scholarly media) and PhD (publication in refereed journals) research when suggesting the required changes. In these circumstances, the Certificate of Approval Form should be signed appropriately by the members of the Examination Committee except for the Chair who will withhold her/his signature and keep the form in her/his possession until the necessary changes have been made. The Chair of the Examination Committee has a responsibility to moderate the requirements of an Examination Committee member if she/he considers them to be contrary to the spirit of these guidelines.

11. A candidate who does not pass may be given the opportunity for a second examination, at the discretion of the Chair of the Department. In such cases, the Chair of the Examination Committee will provide in writing to the candidate, by the end of the second full business day following the exam, a list of the concerns of the Examination Committee that need to be addressed before any second examination is attempted. The Department Chair will make a decision permitting a second examination on the advice of the Examination Committee.