

GUIDELINES AND PROCEDURES FOR ADMISSION TO CANDIDACY (ATC) EXAMINATIONS

A. Purpose of the Examination

1. To determine whether the student is competent to pursue graduate studies in Biology.
2. To identify any specific weaknesses in the student's background relevant to the proposed research area.
3. To evaluate the student's overall ability and to assess requests for program transfers.
4. To assess whether the proposed research is suitable for a graduate thesis.

B. Nature of the Examination

The student is asked to prepare a 5-7 research proposal (see guidelines below). This should provide a suitably documented account of the project that the student wishes to undertake for an MSc or PhD degree. The written research proposal along with the ATC Form Part 1: Student Report is to be presented to members of the examining committee at least one week prior to the set examination date to allow for sufficient time to read and assess the quality of the proposal. The proposal should be understandable to biologists without direct expertise in the field. The research proposals should be submitted electronically, by the student, to all members of the examining committee; however, students must provide a hard copy for any examiner that requests one. A copy of the ATC Form Part 1: Student Report should also be submitted to the Graduate Coordinator at least one week prior to the examination date.

During preparation for the ATC the student should initially consult extensively with the supervisor on the rationale behind the proposed project, important background literature, resources available, practical limitations, and the nature of the ATC examination. The student will independently produce a proposal, and the Supervisor/Co-supervisors is expected to review 1-2 drafts. Before the ATC, consultation by the student with the rest of the Supervisory Committee will generally be limited to specific factual questions, and the committee members will generally not be expected to review drafts of the proposal. In cases where a committee member possesses expertise in a field which is outside that of the Supervisor's, but relevant to the project, more extensive consultation may be appropriate.

The Examining Committee consists of at least the following individuals:

- A Chairperson
- An External Examiner
- Supervisory Committee Members (Supervisor or two Co-supervisors and at least two other individuals)

Note: It is important that when forming a supervisory committee, students and supervisors review and follow Departmental and Faculty of Graduate Studies (FGS) guidelines on membership. For information of Supervisory Committee membership contact the Graduate Coordinator or Secretary. Information can also be found within the Graduate Program Procedures on the Department of Biology website (<http://www.dal.ca/faculty/science/biology/programs/graduate/program-procedures.html>) and within the FGS regulations (<http://academicalendar.dal.ca>).

To promote consistency and uniform standards, a Stream Chair may chair the examination. In the event that a potential Supervisory Committee member would be unavailable, the student will inform the Graduate Coordinator who will find an alternative examiner. The External Examiner, usually from within the University, is selected based upon suggestion from the supervisor/co-supervisors. At least two examiners, in addition to the supervisor/co-supervisors and Chair must be present for the ATC exam to be valid. Only one member of the examining committee may take part remotely via telephone or video conferencing.

The examination begins with a 15-20 minute verbal presentation of the proposal by the student, highlighting the goals of the work, the research strategy and the expected contribution to new knowledge. It is unnecessary and indeed undesirable, to give detailed descriptions of research methods and protocols in the verbal presentation. The Chairperson and the examiners then question the student on the proposal and on relevant concepts bearing

on the proposal. Supervisor/Co-supervisors does not examine the student, but may participate in the final assessment and is expected to channel helpful information back to the student. The student is then asked to leave the room for the *in camera* meeting. Once a consensus is reached on the outcome of the examination the student is then asked to return so that she/he can be informed of the results.

The examiners will be aware that the ATC proposal is not a detailed outline of research procedures but may, nevertheless, question the student's general knowledge of methodology required for the project and theory relating to it. At the same time the examiners will keep in mind that the ATC is not a comprehensive examination. Questions will arise from the scientific content of the work presented and will not range disconnectly over the entire field. The student is being examined for competence by evaluating his/her ability to put together a viable research project and to defend both the rationale and the methodology. In the process, the student must demonstrate mastery of the science on which the work is based. The Chairperson is expected to intervene on behalf of the student if examiners' questions are not consistent with the purpose of the ATC examination.

C. Scheduling and Submission

Students are expected to complete the ATC examination within nine months of the start of the MSc or PhD program (double for part-time students).

When ready, the student in consultation with the supervisor(s) selects potential date(s) for the examination and consults the Supervisory Committee members as to their availability. At least three weeks in advance, contact the Graduate Secretary to set up the examination and at the same time provide the names and contact information of members of the examining committee (including Supervisory Committee and External Examiner). The Graduate Secretary will arrange and notify the student and the examining committee of the date, time and place and find a Chair for the examination.

The student should provide a copy of the *ATC Form Part 1: Student Report* to the Graduate Coordinator and electronic copies (e.g. PDF) of the research proposal with the *ATC Form Part 1: Student Report* attached to all examiners (including the Chair) at least one week before the examination. Note that each examiner has the option to request and receive a hard copy of the research proposal.

D. Evaluation

Each member of the examining committee (except the Chair) will independently complete and sign an evaluation form (*ATC Form Part 2: Examiner Report*). After the defence, these are collected by the Chairperson who enters the results on a consensus form (*ATC Form Part 3: Committee Consensus Report*). The examiners discuss the evaluation amongst themselves and with the Supervisor/Co-supervisors; the Chairperson enters the decision, all useful comments, and an overall evaluation on the consensus form (*ATC Form Part 3: Committee Consensus Report*) which is then signed by all present, to indicate their concurrence. The completed and signed ATC Forms (Part 2 and Part 3) are returned to the Graduate Coordinator.

Decision will be by simple majority vote; the alternatives are pass/conditional pass/repeat/fail. The Chair will vote only if the committee vote is tied.

Where the candidate is passed conditionally, the conditions must be entered on the consensus form (*ATC Form Part 3: Committee Consensus Report*) including a timeline for completion. The ATC examination is only considered as passed when all conditions outlined by the examining committee are satisfactorily completed. The supervisor must inform the Graduate Coordinator in writing when these conditions are completed. The Graduate Coordinator will ensure that these conditions are satisfactorily completed.

Students whose performance is unsatisfactory but capable of improvement will be asked to repeat the examination. Where the candidate is required to repeat the ATC examination, the deadline for resubmission must be indicated on the consensus form (*ATC Form Part 3: Committee Consensus Report*). As much as possible,

the student will be re-examined by the same committee. Appropriate classes or remedial effort must be assigned and recorded on the consensus form (*ATC Form Part 3: Committee Consensus Report*).

A failure is given when the student's performance at the ATC Examination indicates that they are not suitable for graduate studies in Biology. Failure results in academic dismissal (according to FGS regulations). If the student wishes to be readmitted, he/she should apply to the Graduate Coordinator to petition FGS for readmission. If readmitted, the student must repeat and pass the ATC Examination within 12 months.

E. Requests for Program Transfer

All such requests must be considered by the examining committee and a recommendation arrived at. If it is positive, the recommendation will be forwarded to the Graduate Coordinator. Where transfers to a PhD program are recommended, the examiners must specify additional classes to be taken and potential date for the Preliminary Examination. Preliminary examinations are to be held 2.5 years after commencing the graduate programme. The exam should be completed at least 12 months before the expected date of defence. In the case of a conditional pass at the ATC examination, transfer to the PhD program will not take place until all conditions outlined at the ATC examination are satisfactorily completed.

F. Compliance

It is the responsibility of the Graduate Coordinator to ensure that all decisions of the ATC examiners are adhered to.

G. Peripheral Benefits

1. Students can expect to encounter many of the elements of an ATC exam at frequent intervals during their career (job interviews, grant applications, etc.). It is therefore, a useful educational experience.
2. Members of the department learn about the research activities of graduate students and of their colleagues.
3. Biology faculty have an opportunity to meet external supervisors.
4. At the end of the ATC exam the Supervisory Committee may hold or arrange a meeting with the supervisor and student.
5. The process helps to assure the maintenance of a high standard of supervision.

GUIDELINES FOR PREPARING THE RESEARCH PROPOSAL

The following outline may be used as a guide to assist student in preparing the research proposal, in terms of text layout, section headings and sub headings. Students should consider each of the areas that will be relevant to their research. The proposal should be no more than 5-7 pages excluding reference list, cover page, figures, tables, time table and appendices. Text should be single space and 12-point font size. Margins should be no less than 1.5 cm. The written research proposal is to be presented to members of the examining committee (including the Chair) at least one week prior to the set examination date.

Cover page*

The cover page is a completed *Admission to Candidacy Examination (ATC) Form Part 1: Student Report* and must be attached to the proposal before distribution to the examining committee. Included in the form is a one paragraph synopsis of the research proposal.

Title

Provide a short descriptive title that reflects the content of the proposal.

Introduction or Background

Provide information on what is currently known or unknown. Clearly state the purpose of study, discuss the rationale for the project and how your research topic will contribute to field.

Aims and Objectives

Clearly outline what you want to prove, demonstrate, analyse, test, investigate or examine? Provide an overall objective or hypothesis and a list of your project aims.

Research Approach or Methodology

Describe how you will achieve each aim, the experimental approach and design. Discuss resources available (special equipment, software or material) and any practical limitations, barriers or pitfalls.

Expected Outcomes or Significance

Use this section to indicate the importance of your research, highlighting originality, knowledge contribution, potential benefits and application of knowledge. Describe expected outcomes and what you expect the proposal will deliver.

References*

Figures and Tables*

Include in this section figures and tables that are relevant to the text within the proposal.

Timetable*

A time table should be included in your proposal. Give a timeframe for each stage of your program including completing objectives, courses, preliminary examination, thesis writing, thesis submission and defence.

Appendices*

Where appropriate, the student may append documents such as detailed descriptions of research methods and preliminary results in support of the proposal.

**Section is not included in the page count for the proposal.*