Comprehensive Course (ANATCELL9605)

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Purpose

The purpose of the Comprehensive Exam is to evaluate the student's ability to conduct research at the level of a PhD student. Thus, the student needs to show the ability to form hypotheses, design studies to test the hypotheses, and anticipate expected outcomes and caveats of these experiments, independently, without guidance from the supervisor or peers.

This is an evaluative course. It is expected that students learn these skills by interaction with their Supervisor(s), their research colleagues, and their peers.

Format and Writing Process

To test the student's abilities, the student will write an operating grant proposal as an independent exercise, including a summary page and a full grant proposal. The summary page must not exceed 1 page, and the full grant proposal must not exceed 10 written pages (including figures), using 12-point font for the text and 2 cm margins all around. Additional pages are permitted for references. Students may elect to write the grant from the broad perspective of whichever Tri-council agency (CIHR, NSERC, SSHRC) is best suited to their chosen topic. Only the actual proposal and summary page are required, additional components such as CV and budget are not needed. The range of topics is unrestricted except the grant must not be the same as the research of the student and must be an original idea. *The exception is MD/PhD students who can write the grant on their own thesis topic.* The topic is subject to approval by the GAC.

The grant is to be written by the student as an **independent exercise**. However, the student will consult with Mentor(s) during the initial stages. The Mentor(s) will provide feedback as to the scope of the research and the specific aims during the preparation of the initial summary page only. The Mentor(s) will not edit (or write) the summary page, but rather provide feedback concerning the hypotheses and proposed experiments and may point the student in the right direction to think about expected outcomes and potential caveats of the experiments. Typically, the student will have several meetings and/or email exchanges with the Mentor(s) over the course of several weeks. Once the summary page is submitted, the Mentor(s) will no longer be permitted to provide feedback on the scope of the research.

Evaluation and Examination Process

1. ***Mentors***: One or more Mentors may be selected by the student in consultation with the Supervisor and may include the Supervisor but not the Examiners.

2. ***Examiners:*** The Examining Committee will consist of one GAC member with appropriate expertise in cell biology, neurobiology, and/or clinical anatomy; one member of the ACB graduate program; and one extra-departmental examiner. The student, in consultation with their Mentor(s), will select two faculty members from the ACB graduate program listed in order of preference and two extra-departmental faculty members listed in order of preference that could be approached to serve as examiners for the comprehensive exam. The GAC examiner will be assigned. The GAC will approach examiners in the order listed by the student. However, there may be instances where the student will need to provide additional names. The student should solicit the advice of the Mentor(s) and/or supervisor when considering examiners. The final Examining Committee is subject to approval by the GAC, and a member of the GAC will usually chair the oral exam.

3. ***Written Component:*** After the submission of the summary page, the student will have 4 weeks to write and submit the full written grant proposal. The student must submit an electronic copy of the full grant proposal and one paper copy (for the program files) to the Graduate Assistant and the Associate Chair for Graduate Studies. Examiners may request additional paper copies as needed.

   The Examiners will evaluate grant within 1.5 weeks of submission. For the evaluation of the written component, emphasis will be placed on the ideas, hypotheses, experimental designs and discussion of outcomes and caveats.

   The proposal will be rated as either “Acceptable”, “Acceptable with Minor Revisions”, or “In Need of Major Revision”. All three Examiners must find the grant proposal “Acceptable” and/or “Acceptable with Minor Revisions” to proceed to the oral exam. If the grant is deemed “In Need of Major Revision”, the student will receive written feedback and will have 3 weeks to correct the deficiencies in the proposal and resubmit. Failure to obtain an “Acceptable” or “Acceptable with Minor Revisions” rating following resubmission will result in the failure of the ANATCELL9605 course.

4. ***Oral Exam:*** Once the written proposal has been accepted, an oral exam focused on the grant proposal will take place 2 weeks after the date of initial grant submission. The oral exam will follow the traditional MSc exam format; a short 15-minute presentation followed by 2 rounds of questioning (15 minutes & 10 minutes) from the Examiners.

   The primary goal of the oral exam is to test the student’s critical thinking skills. Questions can be related to any of the topics included in the grant and will be designed to test the student’s ability to “think like a scientist”. In addition, students may also be tested on general background knowledge related to the discipline of the grant and technical considerations within the proposal. The supervisor is encouraged to be present during the examination but may not speak or participate in the examination or evaluation process.

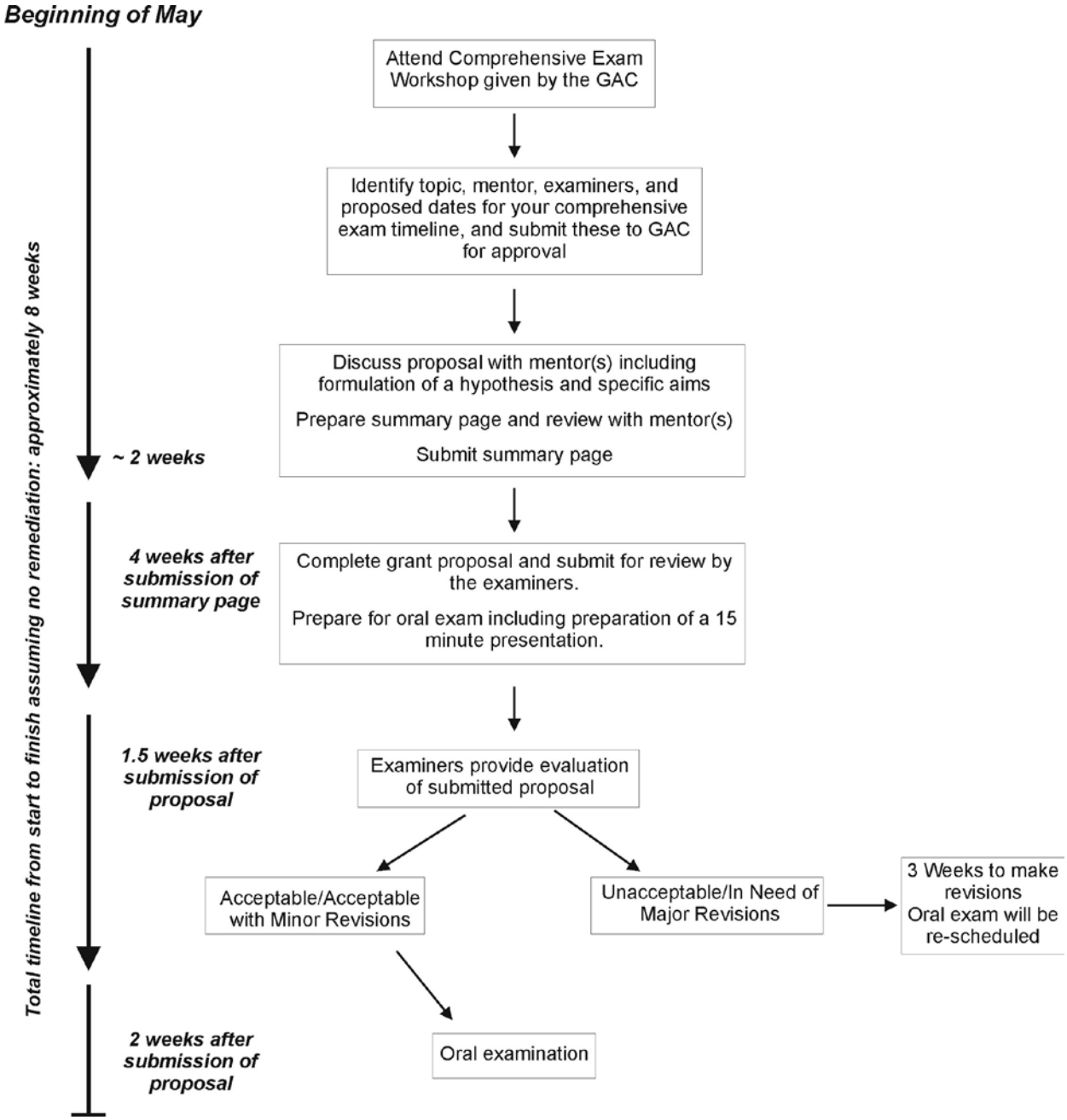
   After the oral examination, the Examiners will deliberate in the absence of the student and the supervisor and provide a grade of Pass or Fail by majority consensus. Oral and written feedback will also be provided to the student and shared with the supervisor.

If the student fails the oral exam, a second oral exam will be scheduled 3 weeks later. The second oral exam will again focus on the approved research proposal (which cannot be changed) but the questions may change. Failure to pass the supplementary exam will result in the failure of the ANATCELL9605 course.

5. ***Plagiarism***: The grant application is to be written by the student, in his/her own words. Grants may be screened using online software such as www.turnitin.com to detect plagiarism. The online software is accessible to both faculty and students for analysis. Students that are unclear about the precise definition of plagiarism should discuss the matter with the Associate Chair for Graduate Studies or a member of the GAC. Some information is available from the Faculty of Graduate Studies at http://grad.uwo.ca/section_ten.htm. Plagiarism is an extremely serious academic offence that will result in the failure of the ANATCELL9605 course and the dismissal from the PhD program.

Timeline

Students are expected to devote the majority of their time to preparing for and completing the comprehensive exam during the months of May and June (*see below*). Supervisors are asked to respect this and should not expect the student to spend much (if any) time on experiments during this time period. Students with research activities (i.e. presentation at a scientific meeting) that conflict with the *Comprehensive timeline should consult the Associate Chair for Graduate Studies prior to May to arrange an alternate timeline.*


Beginning of May
Attend Comprehensive Exam Workshop given by the GAC
Identify topic, mentor, examiners, and proposed dates for your comprehensive exam timeline, and submit these to GAC for approval
Discuss proposal with mentor(s) including formulation of a hypothesis and specific aims
Prepare summary page and review with mentor(s)
Submit summary page
~ 2 weeks
4 weeks after submission of summary page
Complete grant proposal and submit for review by the examiners.
Prepare for oral exam including preparation of a 15 minute presentation.
1.5 weeks after submission of proposal
Examiners provide evaluation of submitted proposal
Acceptable/Acceptable with Minor Revisions
Unacceptable/In Need of Major Revisions
3 Weeks to make revisions
Oral exam will be re-scheduled
2 weeks after submission of proposal
Oral examination
Total timeline from start to finish assuming no remediation: approximately 8 weeks