

ENSC 880 PhD Qualifying Examination

Course outline

All Ph.D. candidates are required to pass a qualifying examination in School of Engineering Science. To qualify, the student will submit a concise written research proposal and defend it orally to his/her supervisory committee within the first 24 months of admission or transfer to the Ph.D. program. The proposal defense will be judged according to the feasibility and scientific merits of the proposed research, sufficient breadth and understanding of mat and a good preparation to perform the research. A sound background knowledge, associated with senior undergraduate and first year graduate course material, will be also expected.

Scheduling of the PhD Qualifying Examination

The scheduling of the examination should be arranged at least two weeks prior to the proposed date. Once the candidate and his/her supervisory committee agree on a suitable date/time, the Graduate Program Assistant will book a room.

Conduct of Examination

The student should prepare a written research proposal for at least two weeks prior to the examination date. The document should be reviewed and approved by the Senior Supervisor prior to the submission to the other committee members.

The suggested total length of the proposal is 40 pages or less, in a SFU-approved thesis style. Typically, a proposal consists of the components listed below, with maximum recommended length of each component is given in brackets. It is understood that the structure of the proposal may be field- or problem-specific, so the list below is only a guideline.

Introduction: (10 pages in total)

- Background and Motivation (2 pages)
- Previous Work (6 pages)
- Summary of Proposed Work (1 page)
- Expected Contribution (1 page)

Research Proposal: (23 pages in total)

- Objectives of Research or Hypothesis to be Tested (2 pages)
- Theory (6 pages)
- Experimental/Computational Methodology (7 pages)
- Preliminary Analysis/Modeling and Results, and/or Validation of Methodology (5 pages)
- Anticipated Problems and Solutions (3 pages)

Management: (3 pages in total)

- Work Plan and Schedule (2 pages)
- Required Support and Sources (1 page)

References: (4 pages in total)

It is understood that at this stage of the Ph.D. program, some candidates may not have produced any new findings or results yet. However, clear objectives, expected contributions and the research plan/methodology should be presented. Any preliminary results should be summarized as well.

The oral presentation normally consists of a brief (20-30 minute) presentation of the research proposal by the student, followed by questions and then a deliberation of the examination committee. The duration of the examination should not normally exceed two hours. Each member of the examination committee, starting with the non-Senior Supervisor member(s), will be given an opportunity to question the candidate in two rounds of questions.

Composition of the Qualifying Examination Committee

The Qualifying Examination Committee will consist of the Supervisory Committee members, and will normally be chaired by the Senior Supervisor or a faculty member appointed by the Graduate Program Committee Chair. In the event that the Qualifying Examination Committee Chair is not a member of the supervisory committee, he or she will be appointed by the Graduate Program Committee Chair.