



Integrated Program in Neuroscience

Candidacy Exam Policy and Procedures

Objectives

The purpose of the candidacy exam is to determine whether the student demonstrates the necessary research skills and academic achievements to continue in the PhD program, and has a feasible plan for completing their PhD.

Examiners must assess three factors:

1. The scientific preparedness of the student.
2. The feasibility of the research plan for the PhD
3. Ability to present oral arguments to motivate their program, and to defend those arguments.

Scientific Preparedness of the Student

Students must exhibit a doctoral level of maturity in identifying the central problems in their field and motivating their research questions and hypotheses, in laying a defensible set of claims, in arguing for their approach to the research methods, analysis, and interpretive paradigm, and to do all of this in clear, concise, and accessible style and presentation. Factors to consider in evaluating the scientific preparedness of the student are:

- a) Background knowledge of the discipline—demonstrating understanding of the development of ideas in the field, why certain problems are important, etc.
- b) Understanding of the rationale for the proposed research aims—is the student's research problem well-motivated?
- c) Ability to conduct independent and original research—the student ought to present preliminary data to demonstrate capacity to carry out research and the feasibility of the proposed methods.
- d) A well-developed set of hypotheses and studies that, when competently completed, would make important and novel contributions to the field: Clearly stated and scientifically rigorous.
- e) Familiarity with methodology and a plan for acquiring expertise and/or collaborations if needed.
- f) Interpretation of results obtained and future directions

Research Proposal

Students must construct a well-argued plan for their PhD. A PhD requires significant resources in terms of funds, training, expertise, and time. A well-developed plan shows that the student has a full grasp of all the resources required to complete their PhD and has also identified potential caveats, with a feasible plan for how to overcome them. The student must provide evidence to support the plan and the potential backups—i.e., how do they know something takes as long as they propose, or that x number of participants *will* be found, etc.

The Oral Presentation

The oral presentation is an important academic skill and the student’s moment to compel others with their ideas. A well-thought-out talk engages the examiners and makes them fully appreciate and understand what the student is thinking and why they are thinking it. For guidance on preparing a talk, some online resources include:

- <https://www.elsevier.com/connect/how-to-give-a-dynamic-scientific-presentation>
- <http://scientific-presentations.com/>
- <https://procomm.ieee.org/using-a-storyboard-to-plan-a-presentation-2>

The student’s supervisor is an ideal instructor on effective presentation and the student is strongly encouraged to review a talk outline and/or a storyboard with them. The student is *strongly* advised to practice with *individual* lab members in addition to the group and solicit *critical feedback*, with enough time between practice sessions to incorporate the feedback and present again.

Timeline for PhD students

Given the importance of the Candidacy Exam and the consequences of failure, all PhD students are required to complete (i.e., pass) the Candidacy Exam by the end of **PhD3** (except Rotation Students with a Masters, for whom the rotation year is not counted). *Scheduling candidacy exams during the Summer is extremely difficult, thus if your exam deadline is August 31, you should aim to complete (or at least have fully organized and scheduled) your exam by the prior April 30 and have notified the IPN office of the details.*

PhD students must register for **NEUR 700** in their second semester of PhD 3. Students who do not complete their candidacy during this semester will receive an HH (“to be continued”) in NEUR 700. They must pass their exam in the subsequent semester.

Entry Year	Deadline to have passed the Candidacy exam
PhD 1	36 months after the start of the PhD program
PhD 2	24 months after the start of the PhD program
Rotation	36 months after the start of the PhD program

Timeline for MSc Fast-track students

IPN MSc students can enroll in NEUR 700 and take the Candidacy Examination in their third semester or their fourth semester (this does not count summer semesters). Students who have not passed their Candidacy by the end of their fourth non-summer term *will not be permitted to fast-track* and will have to complete the MSc Thesis. Students planning to fast-track should apply on Slate for PhD admission as soon as they enroll in NEUR 700 and before the PhD application deadline. They will not be asked to pay an application fee if they notify the IPN admissions office of their plan to fast-track in advance.

Logistics

The student will be enrolled in NEUR 700 course (Candidacy Exam course) as described above. The student and the supervisor must define the examination committee, including securing an [External Examiner](#) (a professor outside of the student's advisory committee). It is the student's responsibility to arrange the date, time and venue of their Candidacy Exam, such that their supervisor, co-supervisor (if applicable), Advisory Committee, External Examiner and Mentor can all attend.

Note that IPN encourages in-person exams whenever possible. However, if the meeting is held via Zoom, the Zoom link must be sent to the entire committee, as well as to ipn@mcgill.ca. **It must also be appended in the Outlook calendar invite.** The Zoom link may be created by the student, but the Mentor, who will Chair the examination, must be “**host**” throughout the examination.

In the first month of NEUR 700, the students should secure their examining committee and schedule the exam to take place prior to the end of the semester in which they are enrolled in NEUR 700. The student must send an electronic calendar invitation on the McGill Exchange system (i.e., Microsoft Outlook system) to their supervisor, exam committee members (including external examiner and IPN mentor), with an invitation to ipn@mcgill.ca. The student will then attach all examination-related documents (see below) to this calendar invite. The student must subsequently email their exam documents (see below) as well as the Zoom link from the mentor to the examiners and ipn@mcgill.ca, and also attach a copy to the calendar invite [no later than two weeks before the exam](#).

The required documents two weeks prior to exam are:

1. *Proposal Submission Form, signed by supervisor, committee members and student*
2. *Unofficial Transcript*
3. *IPN Progress Reports to date*
4. *Exam Poster*
5. *Thesis Proposal*

Candidacy Exam Format

Written Proposal

The student must present a written thesis proposal prepared according to the guidelines set by GPS. The proposal should be 20-25 pages in length and double-spaced. This page length does not include the bibliography and figures. The proposal must demonstrate the following:

- Background knowledge of the discipline—demonstrating understanding of the development of ideas in the field, why certain problems are important, etc. Essentially—What is the ongoing conversation or debate in the field?
- Understanding of the rationale for the proposed field of research—is the student's research problem well-motivated?
- Ability to conduct independent and original research—the student ought to present preliminary data to demonstrate capacity to carry out research. However, this need only be *preliminary* results sufficient to address feasibility, rather than publication-ready.
- A well-developed set of hypotheses and studies that, when competently completed, would make important and novel contributions to the field. These must be clearly stated and scientifically rigorous
- Familiarity with methodology and a plan for acquiring expertise and/or collaborations if needed.
- Interpretation of results obtained and future directions

Procedure

The Candidacy Examination committee will consist of the student's Advisory Committee, the External Examiner, and the Program Mentor, who will act as the Chair of the Exam. The student's supervisor(s) must attend the exam as an observer but cannot speak during the formal presentation or question period segment of the exam.

A. Prior to the examination

- Prior to the start of the meeting, the Committee will meet without the student to review the student's progress with the Supervisor, flag any areas of concern, and discuss the written Thesis Proposal.
- If the exam is held over Zoom, anyone other than the examining committee, supervisor, and mentor (hosting the session) must be placed in a waiting room.

B. Oral Presentation

The exam will then begin with a formal presentation by the student, reviewing the background and the rationale for the proposed study, the specific hypotheses and objectives, the methodology, results obtained to date and future directions. The

duration of this presentation should not exceed 30 minutes. The Committee should reserve questioning until the end of the student's presentation except when important clarifications are required.

C. Oral Examination of Scientific Preparedness

After the presentation, the student will be asked to respond to questions from the examining committee. The goal of the examining committee is to determine if the candidate meets the criteria specified above for Scientific Preparedness. This section of the exam will typically last one hour. The Exam Chair (Program Mentor) will act to ensure that the examination is conducted in an orderly and constructive manner. During this period the supervisor is required to remain silent. The oral presentation is open to the public, but the oral examination will take place in a closed session.

D. Evaluation

At the end of the oral exam, the committee will ask the candidate to leave the room (placed in a waiting room) so that the examining committee can meet in closed session.

The deliberation will be carried out in two stages:

- The attestation of the supervisor
 - The subsequent departure of the supervisor and deliberation of the committee in absence of the supervisor.
- a. Attestation of the Supervisor
- The Chair will ask the Supervisor to attest to the accuracy of the presentation and the proposal. The committee must gauge whether the student effectively represented the planned project or whether important components were left out of the presentation. The Chair will allow the Committee Members to ask the Supervisor for any clarifying questions in their attempt to understand and evaluate the Candidacy Proposal. This provision is meant to allow the Committee Members to make sure the student competently defended the project understood and agreed to by the Supervisor.

Following the attestation, the Supervisor will also be asked to leave so that the committee can deliberate in the absence of the supervisor and the student.

- b. Deliberation and decision of the committee
- The examining committee will determine whether the student's proposal is defensible and feasible, and whether the presentation was adequate. To be declared:
- a. The exam outcome (as defined below)
 - b. Identify any areas of concern and suggest corrective action
 - c. Offer any other advice to be provided to the student.

The supervisor must leave for the deliberation period. The supervisor will not cast a vote to determine whether the performance was satisfactory/unsatisfactory.

Comments and judgment will be recorded on the [Ph.D. Candidacy Evaluation Form](#), and the Chair will communicate the results to the student.

Candidacy Exam Outcome

Each of the six components of section 2 of the evaluation form will be rated as satisfactory or unsatisfactory. The overall result of the candidacy exam will be determined as follows:

1. Satisfactory

If four or more components are rated as *satisfactory*, the student may be deemed to have passed the candidacy exam and will receive a Pass grade on the NEUR 700 course.

2. Unsatisfactory

If three or more components of the exam are rated as *unsatisfactory*, the overall meeting outcome will be graded as “*unsatisfactory*”. Under this condition, the GPS regulations state that in the case where a PhD student is unsuccessful at the first attempt of the exam:

1. A grade of “HH” will be recorded for the NEUR 700 course on the student’s transcript.
2. The student will be given four to six months to retake the whole candidacy exam. A student who is successful in the second attempt will be given a pass and a grade of “P” will replace the initial “HH” for the NEUR 700.

A MSc student hoping to fast-track to the PhD must pass the exam on the first attempt and will not be permitted a second try. In the case of a failed fast-track attempt, the student will not advance to PhD candidacy but will instead write the MSc thesis.

In the case where a student is unsuccessful at the second attempt, or does not attempt a second time, or does not pass the exam within the prescribed timelines on the table above:

1. The student will be deemed to have failed the candidacy exam.
2. A grade of “F” will be entered for the NEUR 700 course replacing the “HH” grade.
3. The student will be withdrawn from the program.

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