



Integrated Program in Neuroscience Candidacy Exam Policy and Procedures

Implementation timeline for the new candidacy policy

To facilitate the transition to this policy, and to address the COVID-19 pandemic and its effect on student progress, the following implementation of this policy will occur in two phases:

Phase 1: Students due to enter the 3rd year of their PhD in Fall 2021 (Fall admission cohorts), or students already in 3rd year of PhD or later (i.e., behind schedule in completing their Candidacy) will be registered in NEUR 700 in Winter 2021 and may extend this registration into Summer 2021. They are obliged to have *passed* their Candidacy Exam prior to August 31st, 2021. Students in this cohort must submit their proposal and project plan no later than May 30th, 2021 to avoid receiving the first Failure.

COVID exceptions:

For Phase 1 students, two criteria will be adapted, and examiners will be instructed accordingly. Note that these do not impact the deadline for the Candidacy Proposal, but impact the criteria used to judge the student's performance and progress on their test

1. *Preliminary Data:* If the student and the advisor can attest that obtaining results was impeded during COVID, examiners will be asked to focus chiefly on the proposal and the plan itself in evaluating the student's candidacy.
2. *Personal Situation:* In addition to COVID impact on study progress, students may also provide evidence of personal factors that were caused by COVID that ought to be considered in judging their progress. Such evidence may be in the form of notes from licensed health care or mental health practitioner, or a compelling personal account, outlining the likely period that the COVID impact was influential on the student's progress.

What to submit:

Requirements for the contents of the candidacy proposal remain the same as before, with the addition of the Project Management Plan. This Plan document will normally be required to be submitted along with the Project Proposal (i.e., 2 weeks before the exam), but for Phase 1, students may submit the Project Management Plan one week prior to their scheduled examination.

Phase 2: Students who will enter the 3rd year of their PhD in Fall 2022 or Winter 2023 must aim to pass their candidacy during their registration in NEUR700 (i.e., in their second semester of their second year in the PhD program). Failure to complete the exam in second semester of PhD3 (or failing to register in NEUR700 for the designated semester) will result in a first fail on the candidacy.

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 solid plan for completing their PhD

Examiners must assess three factors:

1. The scientific preparedness of the student.
2. The ability to create a feasible 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 motivate 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.

Note that due to COVID, the requirement for preliminary results will be relaxed

- 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 Plan

Students must exhibit 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 have also identified potential issues, 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.

A template for a Project Management [Plan](#) will be provided to the students to complete and include as appendix to their proposal. The Project Management Plan must be signed by the student's PI as well as at least two researchers with a PhD (i.e., Post-Doctoral Fellow, Research Associate, or Faculty) with familiarity with this type of project or the techniques and approaches used in the student's project.

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 included:

<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 advisor 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

Given the importance of the Candidacy Exam and the consequences of failure, all Ph.D. students are required to complete (i.e., pass) the Candidacy Exam by the end of **PhD3** (except for Rotation Students).

Students will be registered for **NEUR 700** in their second semester of PhD 3. Students who do not complete their candidacy during this semester will receive an HH in NEUR 700, equivalent to one failure of the candidacy exam. They must pass their exam in the subsequent semester. A second Fail will require the student to withdraw from the program.

Students will receive training during NEUR 700 on preparing a proposal (literature research, scientific argumentation, compelling writing, and project management) and will have opportunities of working with peers in a blinded fashion to obtain feedback on their proposal and presentation, in preparation for their examination.

Entry Year	Deadline to have <u>passed</u> 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

Logistics

The student will be automatically enrolled in NEUR 700 course (Candidacy Exam course) in the timeline as described above. The student and the advisor must define the examination committee, including securing an [External Examiner](#). 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.

During the COVID pandemic, all examinations will be held via Zoom. The Mentor, who will Chair the examination, must be “**host**” throughout the examination and will be responsible for providing the Zoom link to the entire committee, including the student, and appending it in the Outlook calendar invite.

In the first month of NEUR 700, the students must 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 the 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) 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 and student*
2. *Unofficial Transcript*
3. *IPN Progress Reports to date*
4. *Exam Poster*
5. *Thesis Proposal*
6. *Project Management Plan , signed by the supervisor and two other PhD researchers.*

COVID exemption: the Project Management Plan can be submitted one week prior to the exam date.

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.

Note that due to the COVID pandemic, the requirement for preliminary results is relaxed.

- 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
- 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 / **Student's Representative**. The student's supervisor 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 and the Project Management Plan.
- Chair to give a review of the student (what the background of the student is, how they got here; what they want to do)

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. Oral Examination of Project Plan

Following the examination of the student's scientific preparedness, the committee must then examine the student's project plan, ensuring that the student has a clear and feasible research plan, comprehensive understanding of the resources, expertise and training required to realize their project, and a well-justified budget.

E. 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, as well as the feasibility and resources allocated according to the Project Management Plan. The committee must gauge whether the student effectively represented the planned project or whether important components were left out of the presentation/proposal/project plan. 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 and plan. 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, whether the project plan is feasible, and whether the presentation was adequate.

- 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 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 all the six components are rated as satisfactory and the Project Management Plan is approved as feasible, the student will 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* or if the Project Management Plan is deemed inadequate, the overall meeting outcome will be graded as "*unsatisfactory*". Under this condition, the GPS regulations states that in the case where a 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 up to four 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.

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.