

CCB Qualifying Exam Guidelines

Purpose of the Examination

The aim of the Qualifying Examination is to evaluate the student's preparedness to carry out research and write a doctoral dissertation. The examination provides a means for a faculty committee to assess the ability of the student to use his/her knowledge and understanding of the fundamental facts and principles of computational biology and to solve current problems in the area of the student's thesis research and in allied fields. The examination lasts approximately 2-3 hours and allows the committee to judge the student's ability to think incisively and critically about both the theoretical and practical aspects of research in computational biology.

Selecting a QE Exam Committee

You should assemble your committee mid to late Fall. Please see the [Higher Degree Committee Form](#) for the policy on the composition of the QE Committee.

Exam scheduling

The student is expected to schedule the examination: date, time and location (in the case of zoom QEs, confirm with the committee that it will take place via zoom).

Three hours should be reserved for the qualifying exam, though the exam will often not need the full three hours.

Timelines

Committee & Scheduling:

- 3-6 months before anticipated exam date, consult with PI and start contacting faculty to serve on committee
- 3-6 months before anticipated exam date, submit Committee form to HGA (GSAO cc'd). *Until approved by HGA, you should not schedule the exam.*
- 1-3 months before, once approved, submit committee to Grad Div via CalCentral/eForm (per Grad Div, must be at least three weeks before scheduled exam)
- 1-3 months before, work with committee to schedule the exam (see above) & **immediately inform GSAO of date, time and location**

Preparation (recommended)**:

- 6-8 weeks prior to the exam: Finalize written proposal (consult with your Dissertation advisor and your QE Chair)
- By 4 weeks prior to the exam: Send proposal to all QE committee members
- One week prior to the exam AND day before: Confirm exam date, time, & location with all committee members

If a student anticipates they won't be able to take the exam by June 15th of their second year, they must send a written request for an extension to the HGA (Dissertation advisor and GSAO cc'd) with a brief explanation and a timeline for completing the exam by the following Fall semester.

Preparation for the Exam

Students must present a written dissertation proposal to the QE committee no fewer than four weeks prior to the oral QE. The write-up should follow the format of an NIH-style grant proposal (i.e., it should include an abstract, background and significance, specific aims to be addressed (~3), and a research plan for addressing the aims) and must thoroughly discuss plans for research to be conducted in the dissertation lab.

While the PhD Advisor does not attend the QE, the advisor is expected to provide a confidential letter of support that introduces the student to the committee. The GSAO will solicit this letter directly from the advisor and include it in the student's academic file given to the exam committee.

Format of the exam

- The committee will ask the student to leave the exam room (or zoom room) for a brief time so that they can discuss the student's academic file, the quality of the written proposal, the letter of support from the PhD advisor, and any other evaluations of academic and research progress.
- The student will then return to the room and the student will give a 45 minute presentation of their dissertation proposal. Faculty will ask questions during the presentation, often motivated by the presentation/proposal but faculty questions will also frequently query students on core concepts of the field.
 - During the examination, the student can only make use of a chalkboard/whiteboard.
 - The student may bring into the examination room only a brief "one page" outline upon which they may rely during their presentation.
- At the end of the student's presentation, each faculty member on the committee will take turns asking questions of the student. These questions will generally include more broadly-based questions which examine a student's foundational knowledge of the area.
- The committee will again ask the student to leave the room for the qualifying exam committee to make a decision.
- The student will return to the room and be informed of the outcome – pass, partial fail (failed part(s) but not all of the exam) or total fail (failed all parts of the exam).

Adaptations for Remote QE during COVID

Remote QE exams are not normally allowed, but Grad Div has approved them during COVID. The following are our changes and recommendations for this format:

- For QE exams on zoom, you are allowed to present slides if you so desire.
- You still need to prepare a setup that gives you a way of writing and drawing in response to questions so that you can effectively communicate your ideas
- If you plan to rely on slides for your presentation:
 - We recommend that you practice going back and forth between the slides and writing surface as you will (as before) be asked a great deal of questions during your presentation.
 - Be prepared that even though you have prepared slides, questions may significantly divert you from your prepared material on the slides (e.g. questions about understanding of background material), so prepare a setup that allows for real writing, i.e. do not just depend on using a mouse to highlight or draw in a simple equation here and there, but be able to share an actual writing surface
 - You may also want to consider whether you can create a setup for writing on the your slides for some questions (e.g. a tablet or with your mouse or on paper copies of your slides that you project with your phone), though this is not critical

Exam Failures and Retakes

By Graduate Division's policy, in case of a failed exam, the student may not re-take the exam for at least three months (but should re-take within 18 months of the original committee approval date - if an extension is needed, consult with the GSAO & HGA).

GSAO Timeline

The following is the timeline for the actions the GSAO performs to prepare your QE exam. Keep these in mind so that you make sure you inform the GSAO in time for the GSAO to have your file ready.

- Two weeks before exam: Obtains evaluation letter from Diss advisor for file
- Weeks before exam: Submits zoom exception request to Grad Div
- One week before exam: Provides access to student file to QE Chair (includes letter, application file and UCB transcript). Also provides Grad Div QE policies related to exam and reminder of date/time.
- Day before exam: file access and policies to entire committee.
- Immediately after exam: collects individual "vote" emails from committee members. Uploads to CalCentral as proof of exam.