

QE GUIDELINES FOR STUDENTS

Purpose of the Examination

The aim of the Qualifying Examination is to evaluate the student's preparedness for a research career. 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 molecular and cellular biology to solve current problems in the area of the student's thesis research and in allied fields. The examination is 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 biological research at a number of levels. For eligibility see also "Course Requirements for Graduate Students".

Eligibility

A student must have passed with a grade of B or better three approved courses. If coursework is not complete, students will not be allowed to take the exam. In all cases, extensions for the qualifying exam will not be given past the fall semester of the student's third year. On a case-by-case basis, students may be allowed to take the qualifying exam before the Spring semester of their second year. Approval for taking the exam early is based upon prior coursework and research experience and is at the discretion of the Advisor and the GAC.

Qualifying Examination Timetable

<i>Date</i>	<i>Participants</i>	<i>Required/Need to have</i>	<i>Checklist</i> ✓
DECEMBER			
1 st Week	2 nd Year Students, Head Graduate Adviser, and 2 nd Year Advisers	Attendance at first QE informational meeting.	
JANUARY			
1 st Week	2 nd Year Student and 2 nd Year Advisers	Meet with 2 nd year advisers and discuss ideas for inside proposal and choice of topics for the outside papers. Discuss possible outside members.	
Last Week	2 nd Year Advisers, Head Grad Adviser, and GAO staff member	Committee assignments are made. Advisers must notify outside members of the request for committee service and confirm their participation. The GAO will notify students of the final committee assignments. Once committee is set, students should start meeting will all QE committee members to understand expectations.	

FEBRUARY			
Last Week	2 nd Year Students	Exam date must be scheduled. You must schedule your exam at least six weeks in advance to meet all timelines. Notify the GAO immediately once the date is set but no later than four weeks prior to the exam date. All students should have met with their entire QE committee prior to the exam.	

COUNTDOWN

<i>Countdown to Exam Date</i>	<i>Participants</i>	<i>Required/Need to have</i>	<i>Checklist</i> ✓
Within one week of committee approval	2 nd Year Students	Meet with QE Chair to discuss <i>inside</i> proposal	
Six weeks prior to the exam	2 nd Year Students	Provide QE Chair with outline of <i>inside</i> proposal	
Four weeks prior to the exam	2 nd Year Students	Provide QE Chair 1 st draft of <i>inside</i> proposal	
Three weeks prior to the exam	QE Chair	Feedback to student on <i>inside</i> proposal draft	
Ten days prior to the exam	2 nd Year Students	<i>Inside</i> proposal to all QE committee members	
One week prior to the exam	2 nd Year Students	Confirm exam date, time, & location with <u>all</u> committee members	

Committee Membership

- Qualifying Examination Committees will be comprised of four faculty; ***the Chair and the outside member must be*** members of the Berkeley Academic Senate.
- Adjunct faculty in MCB are eligible to serve, but not as Chair.
- Three of the four faculty must be members of the Department of Molecular and Cell Biology (MCB).
- At least one of these three must be from the Division of MCB with which the student is affiliated, and at least one of the three must be from another Division of MCB.
- The fourth member must be from a department on the Berkeley campus other than MCB (e.g., Integrative Biology, Plant Biology, Chemistry, Public Health, etc.). See the GAO for current listing of suggested faculty.
- Barring unusual circumstances, the spouses or close personal relations of the thesis mentor should NOT serve on a student's Qualifying Exam Committee.
- The 2nd year advisers in consultation with the Head Graduate Adviser will make QE committee assignments. Committee composition is based on the different divisional areas (papers) chosen by the student (see Format of the Examination).
- Once the Qualifying Examination Committee has been appointed, the 2nd Year Adviser will contact the Outside faculty to ask them to serve and to inform them of the QE format. Once the committee is finalized, the student should introduce himself/herself to the members and briefly describe the areas to be covered in the examination.

Scheduling

- The student is expected to schedule and take the examination before the formal end of the Spring Semester. The GAO will provide a list of suitable meeting rooms for the examination. If you are having difficulty scheduling a room you may contact the GAO for additional assistance.

Inside Proposal

- The student should inform the advisor of the subject of his/her dissertation research area and discuss the choice of topics for the outside reading list. The exam will include the general breadth area of Molecular and Cell Biology.
- Based upon the timeline above, the student presents detailed outlines for his/her inside research proposal. The inside proposal must be focused on the specific problem being addressed in the student's dissertation research.
- In preparing the proposal that describes the student's own dissertation research, the student is encouraged to consult frequently with his/her thesis mentor.
- Proposal Format - 12 pt type, double spaced, see below for details.
 - Abstract and Aims – limited to one page
 - Background & Significance – limited to three pages
 - Progress Report (if not included in Research Plan) – limited to one page
 - Research Plan – limited to five to six pages
 - Figures – limited to two pages
 - References
- After the completed proposal has been submitted to the Chair, it will be evaluated by the Chair (or by another member of the committee designated by the Chair) as per the timetable above. The purpose of the evaluation is not to identify explicitly or correct specifically any logical flaws or experimental defects, but is to establish whether the proposal provides an adequate basis for examination of the student. However, the Chair does have the responsibility to inform the student if either proposal is unacceptable and to direct revision of the proposal to the extent needed for its approval.

Format of the Examination

- Students are required to talk with all members of their qualifying exam committee in advance of the exam to obtain an understanding of faculty expectations, including an appreciation of the scientific background expected.
- Faculty chairs of all committees are required to attend a spring semester meeting led by the Head Graduate Adviser, in advance of all QEs, to discuss expectations and standards for evaluating the QEs.
- The QE will include a written proposal on the thesis work that will be discussed during the oral examination.
- The second part of the exam will involve questioning the students on a "body of scientific material".
- Students will be expected to have command of material from two separate MCB divisions. In general one of these divisions, the "inside" division, will be the one that is the mentor's primary affiliation; however the student may choose as his/her inside division the one that is the mentor's secondary affiliation or even another division entirely. The student will also select an "outside" division.

- The 2nd Year Adviser will ask the student to confirm the identity of the inside and outside divisions.
- The "body of scientific material" will be defined by 16 journal articles chosen by each division from 4 different areas (i.e. 4 papers in each area). Each student will be responsible for all 4 areas of the inside division and those from 2 areas of the outside division.
- Students should study not only the "facts" as presented by these papers, but the methods and logic underlying the conclusions, the general history and background discussed in the paper that set the general stage for the contribution, and the place of the paper within the context of current knowledge of the field. Preparation should include how the student might use such methods to advance his/her own work. Such an issue might arise naturally during the course of the discussion of the thesis proposal.
- Typically a Qualifying Examination lasts about three hours

After the examination:

The Chair of your QE committee is required to write an evaluation including an analysis of your strengths, weaknesses, and the recommendations of your committee. This feedback/evaluation will be sent to you and your mentor. In the case of a failure or partial failure this write-up is forwarded to the 2nd Yr. Adviser and the Graduate Division.

Exam Failures and Retakes

In case of a failed exam, the student may not re-take the exam for at least three months but must re-take the exam prior to the end of the following semester.