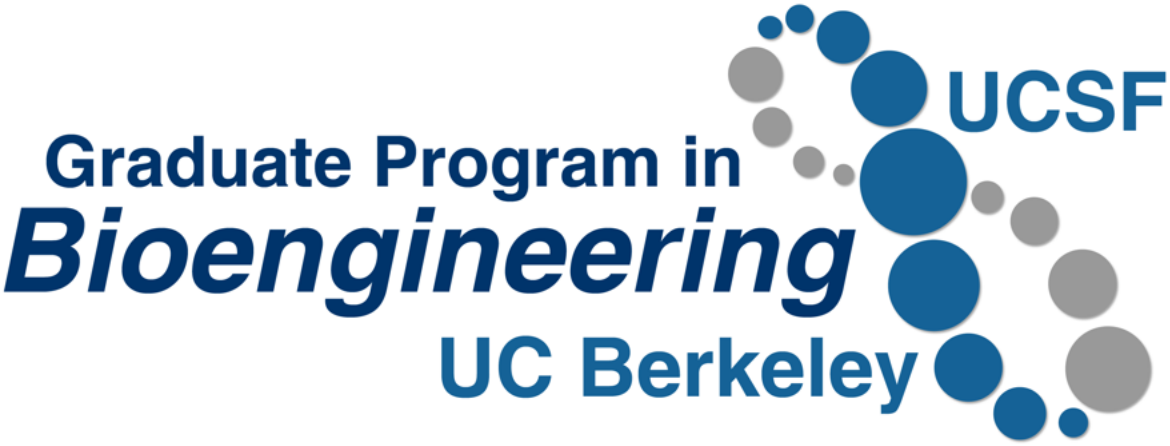

UC Berkeley – UCSF
Graduate Program in Bioengineering

Graduate Student Handbook
2023-2024

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1. INTRODUCTION

The University of California, San Francisco (UCSF) has long been a center of research and graduate training in biomedical sciences. The University of California, Berkeley is universally acknowledged for excellence in engineering, physical and life sciences. The close proximity of the two institutions has fostered numerous collaborations among faculty members on the two campuses and has introduced quantitative approaches to addressing fundamental problems in biological and clinical science. It was in recognition of this synergy that scientists on the two campuses proposed the formation of a joint graduate group in Bioengineering.

This fully integrated educational program was approved in 1983 and is authorized to offer Ph.D. degrees conferred jointly by the Graduate Divisions of both campuses. Over the past thirty-plus years the UC Berkeley – UCSF Graduate Program in Bioengineering ("the Program") has become one of the pre-eminent educational programs in the country and is well known for the diversity and excellence of the training it provides.

Participation in the Program is interdepartmental as well as intercampus, as it combines the research activities of faculty from more than twenty departments from all four professional schools at UCSF (Dentistry, Medicine, Nursing, and Pharmacy) with six departments from the College of Engineering at Berkeley and several non-engineering departments such as Molecular and Cell Biology, Psychology, Optometry, Chemistry, Chemical Engineering, Integrative Biology, Plant and Microbial Biology and Public Health.

The objective of the Program is to offer Ph.D. degrees, and admission depends upon a students' commitment to a program of study that allows them to complete that goal, although some students do obtain a Master's degree during their tenure. Doctoral students are expected to learn to bring the methods of modern engineering to bear on problems in biology and medicine, and also to learn how to teach others to do the same.

This Graduate Student Handbook describes the unique character and policies of the Graduate Program in Bioengineering, and highlights their overlap and interface with policies governing UCSF, UC Berkeley, and the larger UC system. All students admitted to the Program are subject to the policies of either Campus or the University at large, which supersede those of the Program.

2. PROGRAM ADMINISTRATION AND ORGANIZATION

An Executive Committee whose members comprise faculty from both campuses and representatives from the student body oversees the Program. Reference the Executive Committee page here for the list of current faculty, staff, and student members. Advising, curriculum development and admissions are directed by faculty committees that are drawn from experienced members of the Program and represent a wide range of research interests. Dedicated administrative staff at UCSF and Berkeley provide a bridge between the faculty, students, and Graduate Divisions on both campuses and manage the daily operations of the Program.

The Program works hand in hand with the academic units on the two campuses that have been formed to support faculty members with a primary focus on Bioengineering. The UC Berkeley Department of Bioengineering, formed as part of the College of Engineering in 1998, oversees a vibrant undergraduate program of approximately 400 students, as well as the Berkeley side of the Program. The UCSF Department of Bioengineering and Therapeutic Sciences (BTS) houses the academic and administrative support for the Program at UCSF. Exemplifying the collaborative and cross-disciplinary nature of the Program and UCSF, BTS was formed in 2009 as a joint department between the UCSF Schools of Pharmacy and Medicine.

Although resources are allocated separately on the two campuses, the curriculum and educational program in Bioengineering are fully integrated, with joint participation from faculty serving on committees and mentoring students.

3. ACADEMIC OVERVIEW

Academic Requirements

Entering students are expected to have a B.A. or B.S. in engineering, biology, or other science. Typically, this includes a two-year college mathematics sequence, a one-year sequence in each of physics, chemistry and computer science, and extensive upper-division work in either engineering or biology. The mathematical level should include calculus, differential equations, and linear algebra. Outstanding students who are lacking in some of these areas may be admitted with the condition that they complete any necessary undergraduate coursework while in the Program.

The Program's academic requirements are discussed in more detail below. The normative time to graduation is 5 years, with approximately 4 semesters spent in completing rotations, formal course work and the qualifying examination followed by 6 semesters performing research, culminating in the dissertation. Students entering with a Master's degree may be able to shorten this by one or two semesters based upon previous coursework and research that they have completed. Please note, Berkeley operates on a semester-based academic calendar, while UCSF uses a quarter system.

Summary of Requirements

Graduation from the Program is dependent on the successful completion of the following requirements. More details, including necessary forms, can be found in the subsequent sections.

1. **Course Requirements and Program of Study**

   All students in the Program must complete the following course requirements:

   A. Area Requirements: (breadth requirements, many satisfied by previous coursework)
   B. Major Area and Minor Area: (depth requirements completed by graduate courses) Major = 16 semester (24 quarter) units. Minor = 8 semester (12 quarter) units.
   C. First Year Seminars: Bioengineering 200 (UCB) and Bioengineering 280/281 (UCSF)
   D. Bioengineering Teaching Techniques: Bioengineering 301 (UCB) or equivalent pedagogy course
   E. Ethics: Bioengineering 201 (UCB) or equivalent, taken in the first and fourth years
   F. Grad 202: Racism in Science (UCSF) (**Must be taken Fall of incoming year**)

2. **Grade Point Average (GPA) Requirements**

   Students are required to maintain a cumulative grade point average of 3.0 in academic coursework.

3. **First Year Research Rotations and Research Mentor Selection**

Students complete three research rotations with Program core faculty members during their first year in the Program. After completion of these rotations at the end of the spring semester, students select a rotation mentor as their dissertation Research Mentor.

4. Graduate Student Instructor/Teaching Assistantship

All students must complete a minimum of one 10-hour Teaching Assistant (TA) or Graduate Student Instructor (GSI) assignment. Can be completed at either UCB or UCSF. Does not need to be a BioE course.

5. Qualifying Examination

Students identify qualifying exam committee members during their 2nd year and hold the qualifying exam (written and oral presentation) by the end of the Fall of their 3rd year.

6. Advancement to Candidacy

After successful completion of the qualifying exam, students submit the proper Graduate Division and Program forms to formally advance to candidacy.

7. Research Conference Presentation

Students must present (poster or a talk) at a research conference at least once. This can include presenting at the Program's annual retreat.

8. Annual Progress Reports

Students are required to meet with their academic advisor and/or dissertation committee each year and submit annual progress reports.

9. Dissertation

Students write a dissertation compiling the results of their graduate research. Upon written approval of their dissertation committee, students file their dissertation with the Graduate Division of their home campus.

10. Exit Seminar

Graduating students hold a concluding research seminar to present their graduate work.

Satisfactory Academic Progress within the Program

Standards of Scholarship

The Graduate Divisions at UCSF and Berkeley have different policies on Academic Standing. It is strongly recommended that students review the most current versions of these policies on the respective Graduate Division websites. The Program will uphold University standards.
Berkeley Guide to Graduate Policy, Section E: Academic Standing

http://grad.berkeley.edu/policy/#post-137

UCSF Graduate Division Bulletin, Section General Regulations
https://graduate.ucsf.edu/policy-student-progress

Meeting Graduate Student Policies
Admission and continued enrollment in the graduate program is contingent upon meeting all policies regarding academic progress for graduate students at UC, general standards for the award of graduate degrees, and the conditions and procedures that govern academic standing and degree candidacy. Failure to meet any of these requirements and conditions may result in loss of funding and/or impede or terminate a student's progress toward their degree goal. (See section 3.11, Probation and Dismissal).

Program Milestones related to Satisfactory Academic Progress

Satisfactory academic progress includes, but may not be limited to, the following milestones:

1. Satisfactory progress towards three (3) research rotations in the first year of study for students who are not directly admitted to a laboratory. Satisfactory research rotations are to be recorded by submission of completed rotation authorization and rotation evaluation documents for each rotation and rotation research course grade assignment.
2. A GPA of 3.0 or higher Successful completion and outcome of the qualifying examination by December 31 of the student's third year in the program
3. Advancement to candidacy within 6 months of passing the qualifying examination
4. Satisfactory progress in the lab, noted by the faculty mentor/adviser as recorded by the annual progress report (APR) forms.
5. Satisfactory conduct within the laboratory, at program and university sponsored events, both on an off campus
6. Completion of one (1) research presentation at a scientific conference before the dissertation is filed
7. Submission of the signed, completed program of study before the dissertation is filed
8. Regular yearly meetings of students with their dissertation committee post-qualifying exam
9. Timely submission of all required paperwork (review rotation schedule dates and APR due date)
10. Successful completion of an approved TA/ equivalent teaching experience before submission of the dissertation

3.1 Course Requirements and Program of Study

The Program of Study is a plan of coursework required to meet a student's specific degree goals. The Program of Study is developed in consultation with the student's Graduate Adviser and submitted to the administrative office of the student's Home Campus by April 1 of the first year.

While this form must be submitted in the first year, it can be modified in subsequent years as necessary. In its entirety, the Program of Study includes Major and Minor areas of study, general Area Requirements, a set of required Bioengineering seminars, and an ethics course. These items are detailed below.

Area Requirements

All students must complete the Area Requirements listed in Table below at some time during their academic career. Many students entering the program will have at least some of these requirements completed before the begin their first year, as courses from previous institutions may be used to satisfy this requirement.

UCSF Home Campus Area Requirements

At UCSF, Graduate Advisors strongly prefer these requirements to be completed within the first two years of study. Incoming year 1 UCSF students should review their transcripts from previous institutions and prepare the area requirements form prior to meeting with their graduate advisor for the first time. The UCSF graduate advisor is responsible for signing off on whether the area requirements have been satisfied or not. The UCSF program manager does not approve course offerings for area requirements.

Courses may be selected from appropriate offerings at Berkeley or UCSF and are usually completed in the first year. Students may also apply courses taken prior to entering the program toward Area Requirements, if approved by their Graduate Adviser. All proposed courses should be listed on the Area Requirements Form, which must be updated annually to reflect changes. The Area Requirements form must be completed and submitted with approving signatures to the Program Administrator on the Home Campus during the Spring Semester of the first two years.

Some of the courses used to satisfy Area Requirements may also be counted toward the Major or Minor areas (see next section), but they must be taken while enrolled as a student in the Program.

Students should consult their Graduate Advisers in selecting the Major and Minor Fields of study so that their Program of Study provides a strong knowledge base in biology and engineering. In planning for the Major and Minor, it should be noted that Berkeley is on the semester system and UCSF is on the quarter system and that 1.5 quarter units are counted as equivalent to 1 semester unit.

Table 1: Area Requirements

Area	Semester Units	Quarter Units
Anatomy, Physiology and Biology	9	13.5
Biochemistry, and Chemistry beyond General Chemistry	3	4.5
Engineering in a traditional discipline and Computer Science	7	10.5
Mathematics (beyond linear algebra and differential equations) and Statistics	2	3.0

Major and Minor Areas

The Program of Study identifies a Major field in which the student will complete sixteen semester units of graduate level coursework and a Minor field comprising eight units of graduate level or equivalent coursework exclusive of seminars and research. All of these courses should be taken on a graded basis. There are the following exceptions:

1. Students who already hold a Master's Degree or professional degree (M.D., D.D.S., or D.V.M.) when entering the program may use courses from their prior degree program toward their Minor field, if approved by the Head Graduate Adviser. In this case, the Major field must be in an area complementary to the student's prior training.

2. The major area of study should be composed mainly of graduate course work; however up to six units of undergraduate upper division courses toward the major area of study may be applied. The inclusion of any upper division courses requires approval from the Head Graduate Adviser and must be justified in writing.

3. Whenever possible, courses should be letter-graded. A course with the S/U option is only considered acceptable for meeting the requirements toward the Major field if the student is able to present sufficient justification for the inclusion of the course. A request for exception for such courses must be submitted in writing to the student's Graduate Adviser and approved by the Head Graduate Adviser.

First Year Seminars

First year students attend Fall semester seminar courses, Bioengineering 200 (Berkeley), and Bioengineering 281 (UCSF). The purpose of these seminars is to introduce students to the broad range of bioengineering research that is associated with biological applications. The seminars offer an opportunity for first year students to be exposed to a diverse range of Bioengineering research areas and to core Program faculty with whom they may be interested in conducting a research rotation.

Bioengineering Teaching Techniques

All Students teaching for the first-time on the Berkeley campus must take a 300-level pedagogy course, regardless of prior teaching experience or previous courses taken at other universities.

Students must enroll in Berkeley BioE 301, Teaching Techniques for Bioengineering, or its equivalent in another department, before or during the term in which they serve as a GSI/TA.

The Berkeley BioE Department offers Bioengineering 301, which offers training in effective teaching methods, check the schedule of classes for updated scheduling information.

Ethics

Students take Bioengineering 201 (UCB), UCSF GRAD 214 or equivalent in the first and fourth years, or as necessary. This requirement adheres to the NIH guidelines for Responsible Conduct of Research (RCR) training.

Grad 202: Racism in Science (UCSF)
This introductory course provides the historical background of systemic racism in scientific research, see additional description here.

3.2 Grade Point Average (GPA) Requirements

Graduate students are required to maintain a cumulative grade point average of 3.0 in all academic coursework and must make satisfactory progress toward their degree. Eligibility for certain extramural fellowships typically requires a GPA of 3.6 and above.

The “official” Grade Point Average (GPA) is posted on the Home Campus transcript. Students are responsible for reviewing both campuses’ transcripts to ensure the grades are properly posted and classes taken are accurately listed. Contact the appropriate registrar’s office for questions or issues regarding transcripts.

Berkeley transcripts are available on-line at CalCentral: http://calcentral.berkeley.edu
UCSF transcripts are available on-line at the UCSF Student Portal:
https://saa.ucsf.edu/studentportal

Full-time Student Status

Graduate students are required to maintain full-time student status at all times during the academic year. For all students, full-time status is considered enrollment in 8 quarter units or 12 semester units of graduate or upper division courses each Fall, Winter and Spring quarter / semester. Units may be formal coursework or research units.

Summer Registration

Students should not register for summer courses unless their fellowship requires it. Students who register for summer courses will be fully responsible for the tuition and fees for these courses.

The Graduate Division policy states full-time graduate study is incompatible with full-time employment. During the academic year, the University may not employ graduate students more than 50% time in any capacity. Employment at 100% time is permitted during the summer term. Registered graduate students should not be appointed to any academic title other than those appropriate for students, e.g. Graduate Student Researcher, Graduate Student Instructor, Teaching Assistant, or Reader.

3.3 First Year Research Rotations and Research Mentor Selection

Learning Objectives and Purpose:
The objective of the research rotation is to provide students an integrated and inquiry-based approach and environment to become familiar with different areas of research. Rotations provide first-hand experience in a variety of techniques and approaches to biomedical, biological, clinical and engineering problems. Students learn new experimental techniques, obtain experience in unique research laboratories, explore lab culture (including mentoring practices and lab community) with the goal of identifying a faculty research mentor and laboratory in which to pursue and conduct dissertation research.

The research being performed during a rotation is to be regarded as a preliminary academic training experience and, in the event of a student continuing in a research lab after the rotation

period, is not required to form part of the eventual thesis project (though it may do so). Students perform rotations in core BioE Program faculty members' laboratories during the first year and should join a research group by the end of the rotation period.

Academic Progress:
Rotation projects involve independent research. Each student's performance during a rotation is evaluated by the rotation sponsor (faculty member). The student and rotation sponsor are required to provide evaluation comments in a written report at the conclusion of the rotation period to the Program. Academic progress is monitored by Graduate Advisers and the Head Graduate Advisors, who review rotation evaluation reports and assign course credit/grades for the research course. Students are invited to present their results to faculty and peers at the end of each rotation period. Each rotation is to be independent of other rotations; two rotations with the same research sponsor are not allowed. Failure to provide rotation evaluations at the end of each rotation period will be taken into account for grade assignment.

First Year Research Rotation Selection

Students should actively interview and seek rotation projects with Core faculty during the month of September of the first year. They should also consult with their advisers to help identify potential opportunities. Prior to starting a research rotation, the student and proposed faculty sponsor must complete a Research Rotation Authorization form indicating the research rotation project title and confirming the rotation commitments of time, support and resources. This form is available below in the Appendix of this Handbook, and must be signed by the Graduate Adviser to validate fulfillment of the rotation requirement. Research Rotation Authorization forms are due by the Monday prior to the start of each rotation period.

Students should perform three 8-week rotations in different Core Program faculty laboratories during the first year. The rotation schedule corresponds roughly with the UCSF quarter system and should facilitate placement of most students in the thesis lab by July 1 of the first academic year. Actual dates will vary by year.

Lab Rotation Availability

Faculty labs with rotation availability can be viewed here.

Rotation Schedule Dates

Year one students: Please add these dates to your calendar as soon as possible.

1st Rotation Authorization Form Due: 09/08/2023
1st Rotation: 09/18/2023-11/09/2023
1st Rotation Evaluation Due: 11/16/2023

2nd Rotation Authorization Form Due: 12/22/2023
2nd Rotation: 01/02/2024-02/23/2024
2nd Rotation Evaluation Due: 03/08/2024

3rd Rotation Authorization Form Due: 02/29/2024
3rd Rotation: 03/04/2024-04/26/2024
3rd Rotation Evaluation Due 05/10/2024

Dissertation lab selection form due: Friday, 05/03/2024

While the goal of a rotation is ultimately to select a lab for dissertation research, there should be no immediate commitment from either the student or faculty mentor during the rotation period. It should be understood, however, that faculty who host rotation students in their labs must be potentially capable of supporting the student in subsequent dissertation work.

Students are encouraged to speak with each faculty member with whom they have an interest in pursuing dissertation research. Students should discuss potential dissertation projects, lab space, and availability of support (which may vary depending on the number of other students seeking positions in the same lab). Students should actively avoid rotating in labs that cannot guarantee them a funded position post-rotation. All options should be carefully considered by the student before the selection is made, and students are strongly encouraged to consult with other BEAST students, rotation lab members, and Academic Advisers as needed. More information can be found in the Research Mentor Selection section below.

In rare cases, students who are unable to arrange a match with one of the three rotation labs may perform a fourth rotation with the approval and guidance of their Academic Adviser.

Upon completion of the third rotation, students are required to finalize dissertation lab selection by the established deadline.

Rotation Reporting Requirements

Each student's performance during a rotation is evaluated by the rotation sponsor (faculty member). The student and rotation sponsor are required to provide evaluation comments in a written report at the conclusion of the rotation period to the Program. Academic progress is monitored by Graduate Advisers and the Head Graduate Advisors, who review rotation evaluation reports and assign course credit/grades for the research course. Students may also present their results in more depth at the Annual Retreat or give a presentation as part of the Bioengineering Student Talks series (BEST), described in more detail in Section 4.2.

Faculty Rotation Support

Faculty sponsors should provide the appropriate experimental infrastructure to rotation students, including workspace and access to equipment, reagents, and supplies. Faculty sponsors in general do not provide financial support (stipend or fee) to first year students, except under special circumstances as described below.

A rotation conducted in the second year may require faculty commitment to support some or all of the stipend and/or fees during the rotation period. Faculty who sponsor students for admission must also be prepared to support students during rotations, even if performed in another lab. Even in cases where the faculty sponsor provides financial support to the student, it should be recognized that research rotations are meant to satisfy an academic purpose and should not be viewed as a means for obtaining additional salary support.

In general, the same stipend level guaranteed by the Program will be maintained during rotations. Additional information about rotations and rotation policies can be obtained from the Head Graduate Advisers and program staff.

The Program's administrators will contact faculty sponsors to provide instructions for paying students as appropriate. To guarantee a smooth transition from one source of support to another, students and faculty are encouraged to notify the administrators of any planned rotations as early as possible.

Research Mentor Selection

The Research Mentor is responsible for overseeing all aspects of the student's research training. The Graduate Divisions on both campuses require that the student choose a Research Mentor / Dissertation Chair who is a member of the Academic Senate, and the Research Mentor must be a core member of the Program. Students who wish to perform research in the laboratory of someone who is not a member of the Academic Senate must have a co-mentor who is a member of the Academic Senate and serves as the Dissertation Chair or Co-Chair.

The choice of an appropriate Research Mentor is a critical factor in each student's success. Rotations are an opportunity to investigate whether a particular mentor and laboratory are a good fit. Resources for selecting Research Mentors include Graduate Advisers, Head Graduate Advisers, Peer Advisers, research group meetings, and the list of faculty research interests on the Program's web site. Most students select a Research Mentor at the end of their first year after three rotations, and students are required to select a Research Mentor by the middle of their second year. Upon doing so, students must submit the Dissertation Lab / Mentor Commitment form to the administrator at their Home Campus. This form, found in the Appendix of this Handbook, outlines and affirms the financial commitment being made by the Mentor to support the student's dissertation research.

3.4 Graduate Student Instructor/Teaching Assistantship

Graduate students are required to serve as a Graduate Student Instructor (GSI) or Teaching Assistant (TA) for at least one semester as part of their professional development. Students typically complete this requirement after their second year but may do so at any time during their training, so long as they have completed the required pedagogy course, BioE 301 or other equivalent pedagogy course at Berkeley before or during the term in which they serve as a GSI or TA. Assignments may include lecture or laboratory courses, generally based on students' preferences. The requirement may be met by an appointment in any campus department, however, the student must notify the program administrator for their Home Campus. A typical GSI/TA assignment are 10 hours per week (25% appointment) or 20 hours per week (50% appointment). a To gain additional teaching experience, advanced graduate students may serve as a GSI/TA for additional terms. Initial preferences for meeting the GSI/TA requirement and additional plans for teaching should be discussed with the students' Graduate Advisor and Research Mentor.

Students must enroll in Berkeley BioE 301, Teaching Techniques for Bioengineering, or its equivalent in another department, before or during the term in which they serve as a GSI/TA. Completion of the requirement will be monitored by verification of a GSI/TA appointment in the payroll system and by student evaluations submitted at the end of the term. Additional requirements for Berkeley GSIs/TAs include attendance at one of the Berkeley Teaching Conferences held before each semester and the completion of the GSI Professional Standards and Ethics Online Course, see add'l campus requirements here, https://gsi.berkeley.edu/basics-for-gsis/first-time-requirements/.

3.5 Qualifying Examination

An oral qualifying examination must be taken by the Fall Semester of each student's third year; any student who misses this deadline may be subject to academic probation. Students who fail either Part I or II must take a second examination approximately three months following the failure. Passage of the examination is required for advancing to candidacy for the doctoral degree.

Committee Requirements

The oral examination is administered by a committee of four faculty members selected by the student by the end of their 2nd year, and who agree to serve on the student's committee. Students select their committee members with the advice of their Research Mentor, Graduate Adviser, lab members, and other BEAST students. The committee should reflect the breadth of the student's background, with expertise in the student's proposed research area and/or Program of Study.

The requirements are:

1. All 4 committee members must be members of the Academic Senate at Berkeley or UCSF.

2. At least three committee members should be core faculty members of the Program, found here: http://bioegrad.berkeley.edu/faculty.

3. The committee chair must be both a core member of the Program and a member of the Academic Senate of the student's Home Campus.
** The student's Research Mentor may not serve on the qualifying committee.*

4. One committee member must be a core member of the Program from the non-home ("opposite") campus of the student, so that both campuses (Berkeley and UCSF) are represented on the committee. Both biomedical (or biological) and engineering disciplines should be represented.

5. An additional non-chair member of the committee should be a core Program member and a member of the Academic Senate at the student's Home Campus.

6. The remaining committee member may be any Academic Senate member from either campus.

Information about membership in the schools' Academic Senates can be found at:
http://academic-senate.berkeley.edu/bylaws/2-membership
https://senate.ucsf.edu/frequently-asked-questions
These requirements are reflected in the standard committee below:

Member 1 (Committee Chair): Core member from student's home campus
Member 2: Core member from opposite campus
Member 3: Core member from student's home campus
** for Berkeley-based students, this person serves as the Academic Senate Representative*
Member 4: May be any Academic Senate member from either campus

To formally constitute a committee, students first complete the Program's "Constitution of Qualifying Examination Committee" form found in the Appendix of this handbook. After receiving Program approval, students must then submit a petition to their Home Campus Graduate Division to formally constitute their committee. This must be done at least three weeks prior to the exam date. Home Campus Graduate Division petitions to formally constitute a Committee are found online:

UCSF: Found on UCSF Student Portal
Berkeley: Found on student's CalCentral

Students in rare circumstances that are seeking a qualifying exam committee outside of these requirements should consult with their Head Graduate Advisor to put forth a petition to the

Program's executive committee, and, in some situations, the student's home campus Graduate Division*.

* A student may petition for one faculty member who is not a member of the Academic Senate.

UCSF: Non-Senate Members are automatically routed to the program chair for approval in the qualifying exam application within the student portal.

Berkeley: http://grad.berkeley.edu/policy/degrees-policy/#f49-exceptions-to-policies-on-Committee-membership

Content of the Examination

In this examination, students demonstrate their ability to recognize and attack research problems of fundamental importance, to propose appropriate theoretical, experimental or computational approaches to address these problems, and to display comprehensive knowledge of their disciplinary area and related subjects.

Part I of the Examination

The first part of the qualifying exam is organized around the presentation of a research proposal for a project that would last 6-12 months and should not cover the student's entire thesis. Written proposals should be 3-4 pages in length, outlining the general goals of the project, their significance and the methods used to approach them; and submitted to the committee three weeks before the exam. The exam itself consists of an oral presentation which is typically (but not necessarily) presented in Powerpoint. Slides should be easily readable (22-24 point minimum font suggested) and references properly cited. Most students present approximately 15-20 slides, plus a few backup slides.

Q&A: The student's presentation will be interrupted with in-depth questions probing the student's grasp of the basic challenges and principles underlying the project, the details of their methods and competing approaches, the statistical methods employed, and the significance of the project within a wider context. Involved questions are often answered at the chalkboard or whiteboard. The Q&A is time intensive. Part I typically takes approximately 2 hours. The most common failure mode is to inadequately answer the questions of the committee.

Sample Structure of the Qualifying Exam Research Proposal Part I

While students may choose to depart from this sample structure, below is a typical Part I talk structure. The organization listed below is suggested and should not be taken as a rule. STUDENTS SHOULD DISCUSS THE EXACT REQUIREMENTS/EXPECTATIONS WITH THEIR COMMITTEE, ESPECIALLY THEIR CHAIR, PRIOR TO THE EXAM.

1. **Motivation for Project:** What broad clinical, engineering, or biological problem do you plan on tackling and why is it important? Include information on your clinical, engineering or scientific collaborator(s) and how they will mentor you.
   Example: Type II diabetes has high morbidity, mortality and health cost burden.

2. **Open Challenge or Scientific Question to be Addressed.** Define the challenge your project will address and explain why solving it would be enabling in a clinical, engineering, or scientific sense.
   Example 1: The prevention of fouling of in vivo glucose sensors would allow for closed-loop control of a diabetic patient's glucose levels, alleviating the disease's trauma.
   Example 2: Control of stem cell differentiation into insulin-secreting cells would make possible autologous pancreatic transplant therapies.
3. **Engineering Specifications and/or Scientific Study Design Constraints.** Here, you should provide quantitative specifications for devices, chemistry, algorithm or simulation. For scientific studies, specify the size required for a statistically reliable study.
   Example 1: A useful *in vivo* glucose sensor needs 5% accuracy, 1-minute temporal response, safe *in vivo* recharging, and 1-year lifetime.
   Example 2: Optically imaged transplant stem cells must be detectable in vivo at 10^5 cells/mm^3 with 100-micron resolution and a scan time of less than 1 minute.
4. **Prior Work on the Problem.** Review and explain fundamentally why others have not fully solved the open challenge or answered the scientific question.
5. **Approach**. Introduce your approach with a high-level description that explains why your method or your study should fundamentally be superior to competing approaches. Disclose any drawbacks to your approach and planned workarounds.
6. **Implementation.** Describe the implementation of your approach with a detailed description, including progress and lessons learned.
7. **Preliminary Findings.** Show any preliminary data (if applicable) including theory, simulations and measured data with appropriate controls. Justify your choice of control experiments. Describe your plans for collecting statistically meaningful data, mitigating risk, and improving performance. Note any conference or journal publications that you have submitted.
8. **Future Work**. How will you extend your project and proposal's results to the broader challenge? List your key deliverables (e.g., presentations, manuscript submissions, patent disclosures, etc.) on a timeline.

Part II of the Examination

Part II consists of questions exploring relevant areas of science and engineering, usually related to subjects of the major and minor identified by the student. Also included are questions pertaining to statistical and ethical aspects of Bioengineering. Part II of the exam typically takes 15-30 minutes.

Responsibilities of the Student and Chair of Qualifying Examination

1. The student should select and solicit the Chair at least 2-3 months before the anticipated exam date.
2. The Chair should meet with the student to discuss the composition of the qualifying committee at least 2-3 months prior to the exam.

3. The Chair should ensure that the proposal (3-4 pages in length, outlining the general goals of the project, their significance and the methods used to approach them) is distributed to the committee members at least 4 weeks before the exam to allow sufficient time for feedback to the student.
4. The Chair should explain the format of the exam (explained above) to the student.
5. The Chair needs to remind the student to complete the Graduate Division procedures and documentation at least 3 weeks before the proposed date of the exam.
6. The Chair needs to obtain the student's file and transcripts a few days before the exam and take them to the exam (from Bioengineering Program Offices).
7. Following the exam, the Chair needs to discuss the outcome with the student.
8. If the student fails, a second examination has to be arranged. This final exam can be limited to the section that failed initially if agreed upon by the committee (all members of the committee have to be present and have to take part in the exam).
9. The Chair needs to strongly advise the student to interact with all committee members and their research mentor before the re-take.

3.6 Advancement to Candidacy

After students have passed their qualifying examinations, they must submit forms to advance to candidacy. Students should submit these as soon as possible, and within six months of passing the Qualifying Exam. Delays in advancing to candidacy may jeopardize the validity of the examination and limit the time in candidacy. At this stage, advancing to candidacy simply requires completing the Graduate Division and Program forms that identify the members of the Dissertation Committee and paying the candidacy fee ($90). See Section 3.9 Dissertation (Selecting Dissertation Committee) for more details.

Basic requirements to Advance to Candidacy in the Program include:

1. Passing the qualifying examination.
2. Maintaining the minimum 3.0 grade point average in all upper division and graduate coursework taken in graduate standing with no more than two courses having been graded as incomplete.

Please note: Non-resident tuition (NRT) is waived after advancement to candidacy.

More information, and the required Graduate Division forms, are found below:
UCSF: https://graduate.ucsf.edu/forms (and on Student Portal)
Berkeley: http://grad.berkeley.edu/academic-progress/forms/ (and on CalCentral)

3.7 Research Conference Presentation

Students are required to present at a research conference at least once. This requirement may be fulfilled by a poster presentation or a research talk. This requirement includes, but is not limited to, a research presentation at the annual Program retreat. For more information about the annual Program retreat, please see section 4.1 Annual Retreat. Students should report the date, location, and presentation title on their Annual Progress Report forms.

3.8 Annual Progress Reports

Students are required to meet with their academic advisor and/or dissertation committee each year before the annual progress report due date and submit annual progress reports to their program administrator, along with other relevant forms and unofficial transcripts. These can be found in the Appendix, with additional information found in Section 5.2 Required Forms and Documentation.

Annual Progress Report Due Date: April 1st , 2024

3.9 Dissertation

Students complete a dissertation based on original laboratory research.
To initiate this process, students must satisfy the following requirements:

1. Advancement to candidacy
2. Selection of a Dissertation Committee
3. Preparation of a dissertation proposal

Selecting the Dissertation Committee

The Dissertation Committee shall consist of three to five faculty members representing both campuses. The Graduate Divisions of both UCSF and Berkeley require that the Chair and two other members of the Dissertation Committee, designated as readers, are members of the Academic Senate at UCSF or Berkeley. The fourth and fifth members of the Dissertation Committee are intended to give breadth of input to the dissertation but do not sign off on the dissertation. These non-signing members should be listed on the internal Group form, but not on the form submitted to the Graduate Divisions.

Composition of the Dissertation Committee is subject to the approval of the Home Campus Graduate Dean and is governed by these Graduate Division rules:

1. The Dissertation Chair may be any core member of the Bioengineering Graduate Group faculty who is also a member of the Academic Senate from the student's home campus. (In most cases, the Research Mentor becomes the Dissertation Chair.)

2. Faculty members within the Group who are not Academic Senate members (such as Adjunct or Clinical faculty) may not serve as the Chair of the Dissertation Committee or be designated as a reader, but may serve on the Committee as a co-adviser if recommended by the Bioengineering Executive Committee and approved by the Dean of the Graduate Division on their Home Campus.

   For UCSF: Non-Senate Members are automatically routed to the program chair for approval in the advancement to candidacy application within the student portal.

   For UC Berkeley, the petition procedure is explained at: http://www.grad.berkeley.edu/policies/faq.shtml#4

   ** If a student wishes to choose a Research Mentor / Dissertation Chair who is not a core member of the Bioengineering Graduate Group, he/she must obtain approval from the Head Graduate Advisor and/or the Executive Committee.*

3. One of the readers on the Dissertation Committee must be a member of the Academic Senate from the student's Home Campus.
   ** for Berkeley-based students, this person serves as the Academic Senate Representative*

4. One of the readers on the Dissertation Committee member must be a core member of the Program from the non-home ("opposite") campus of the student.

5. All committee members should have expertise enabling them to provide critical and helpful advice in the area of the dissertation. Committee members must also be willing to read and evaluate the dissertation.

Committee Change Procedures

The committee should serve the needs of the student. As projects proceed in new directions, perspective changes, or the student feels the committee is not meeting his/her needs, the composition of the committee can be changed by the student in consultation with his/her graduate advisor and dissertation advisor.

The procedure for committee change approval through UCSF graduate division is through the online student portal. Students who wish to change their committee members must consult with their graduate advisors before beginning the committee change process.

Berkeley-based students can request a change to their committee via the Higher Degree Committee Form in CalCentral.

Dissertation Proposal Preparation

In consultation with their Research Mentor / Dissertation Chair, students submit a research proposal to the Dissertation Committee. This is a document that outlines what will be accomplished in the dissertation project and should be filed within six months of passing the Qualifying Examination. It must be approved by the members of the Dissertation Committee and should be updated as necessary.

Dissertation Committee Meetings

Students are required to meet annually with their Dissertation Committees to discuss their research project, review results, and chart directions for completing their dissertation. Students should work with their committees to schedule these meetings before April of each year. The first meeting should take place not later than 6 months after passing the qualifying exam.

Either the student or committee may initiate more frequent meetings as needed. Meetings may be held when necessary without all committee members present. For each meeting, the student is responsible for preparing a written summary outlining the dissertation project, progress on this project and objectives for completion of the dissertation. This should include a time table. A copy of this summary is to be given to the BioE Program Office. Students should present and critically discuss the progress and status of their project. Students should be current on the literature in relevant areas and should be prepared to discuss broader issues of relevance and importance as well as experimental data.

The committee has the responsibility at each meeting to meet separately with the dissertation advisor (without the presence of the student) and student (without the presence of the dissertation advisor) at the beginning or end of the meeting to have confidential discussions on any subjects relevant for the student’s progress and welfare.

The Committee should provide candid advice to both the student and advisor with the goal of facilitating progress towards the best possible dissertation, as well as a timely progression toward the Ph.D. The committee should consider at each meeting: project strengths and weaknesses, the realism of the time table; the student's familiarity with the relevant literature; student's experimental strengths and weaknesses; and the adequacy of advice provided to the student by the Ph.D. advisor and others. The committee should provide advice in a positive manner to provide as much support as possible to the student in what is a very difficult undertaking.

The committee has the responsibility, particularly for dissertation projects that may be overly ambitious, to set deadlines for obtaining significant results that would justify continuation of the student's approach, and to explore with the student potential fall-back projects if the present project fails. Between meetings, the committee members will be willing to meet with the student for advice and discussions.

The chair has the responsibility to ensure that any concerns about the student’s progress, interests, or welfare in his or her laboratory are conveyed to the BioE Executive Committee. The

chair should be acquainted with services provided by the university and the Program to enhance student welfare and should facilitate student use of these services when appropriate. The chair has to submit the Dissertation Committee Update form and the student's summary after each committee meeting.

Filing the Dissertation

Details for preparing the dissertation are available from the Graduate Divisions, and are on the graduate division's websites. When requesting a title page at the respective Graduate Division, it is necessary to identify oneself as being part of the intercampus group in order to have both campuses listed on the title page and diploma. Prior to graduation, each student is required to present an exit seminar on the research results. This exit seminar is open to all Group faculty members and students as well as any other members of the University community.

UCSF Dissertation Guidelines: UCSF Graduate Division dissertation submission guidelines and deadlines are found here: https://graduate.ucsf.edu/dissertation-thesis-guidelines.

UCB Dissertation Guidelines: UCB Graduate Division dissertation writing and filing guidelines are found here. Please also review the UCB BioE Graduate Checklist to plan for graduation.

3.10 Graduation Procedures

Exit Seminar

Students will present a formal, minimum 45-minute seminar on the results of their research prior to graduation. This exit seminar will be open to Program faculty members, students, and others in the University community.

The following are guidelines for the exit seminar:

1. Dissertation complete and submitted
2. The student's Research Mentor will attend the exit seminar and is responsible for any costs associated with the exit seminar including room rental fees and refreshments.
3. Program faculty members and students will be invited to attend the exit seminar by the student, typically through an email to the Program listservs: Students beastmail@berkeley.edu and Core faculty bioeng-core@lists.berkeley.edu.
4. The student will notify their Home Campus Program administrative office of the date, time, and location of the exit seminar.

Exit Interview

Prior to graduation, students must complete Exit Interviews with:

1. Graduate Adviser, to review academic progress and career plans.
2. Head Graduate Adviser, to discuss career plans.
3. Program Administrator on the Home Campus, to ensure their files contain the final Program of Study, area requirements, and transcripts. Students are asked at this time to provide future contact information for the alumni database, as well as current career information, such as employer, position title. Students are encouraged to report future career and contact changes to the Program administration.

3.11 Academic Probation and Dismissal Procedures

The following represents a summary statement regarding academic probation and dismissal procedures as applied for graduate students in the Berkeley-UCSF Graduate Program in Bioengineering. Additional specific details and guidelines of this policy can be found:

- UC Berkeley Grad Division: http://grad.berkeley.edu/policy/coursework-grading-probation-and-dismissal-policy/
- UCSF Grad Division: http://senate.ucsf.edu/0-bylaws/stugr.html
- UCSF Policy on Student Progress: http://graduate.ucsf.edu/policy-student-progress

Criteria for satisfactory academic progress include the following:

- A specified grade-point average above a 3.0 in all upper division and graduate coursework taken in graduate standing
- No more than two courses having been graded as Incomplete
- UCSF Graduate Division requires Incomplete grades be removed within 1 year
- Required coursework, program of study, and program requirements completed in a timely fashion and at a given level of performance
- Completion/passing of the Qualifying Exam; according to the BioE Handbook section on Qualifying Examinations
- Acceptance by a faculty member who agrees to supervise the student's research and to serve as chair of the dissertation committee
- Advancement to candidacy within 6 months of completing the qualifying examination
- Satisfactory standing on yearly progress reports from dissertation committee and graduate advisors

Procedure for notification of insufficient progress includes the following in writing from the Head Graduate Advisor to the student:

- Nature of the problem or deficiency

- The steps to be taken to correct the deficiency
- A reasonable period (typically aQuarter or Semester term) in which to correct the problem or to show acceptable improvement
- The consequences of failing to resolve the deficiencies (e.g., dismissal)
- An approximate date on which the student's record will next be reviewed

Dismissal decisions will be made following an in-depth review of the student's academic performance conducted by the Program's Executive Committee. The Graduate Division will be notified that the student is undergoing an in-depth academic review for early dismissal consideration. Following the review, the dismissal process will adhere to the student's home campus guidelines.

4. OTHER

4.1 Annual Retreat

The Program holds an annual retreat for students and faculty at which research is showcased. The retreat is generally held over a weekend in the fall. It is an excellent opportunity to learn about contemporary Bioengineering research, seek out lab rotations, and hear of openings for rotations and dissertation projects. Research mentors pay the registration fees for students who are working in their labs. Students without a mentor (e.g. rotation students) attend using travel funds or by fee waiver. The Annual Retreat planning is spearheaded by a student Retreat Committee in coordination with the UCSF Program Manager and the Program's Executive Committee. Attendance at the retreat is expected annually for all students.

4.2 Bioengineering Student Talks (BEST)

The Bioengineering Student Talks (BEST) are organized by student volunteers and provide opportunities for students to practice presenting their research to their colleagues. BESTs are scheduled during the academic school year and occur at both UCSF and Berkeley as needed. Students who wish to practice for their qualifying examination are encouraged to present, as are students from any year who are going to make presentations at scientific meetings, as well as graduating students preparing for research talks at job interviews.

Goals

- To learn about research projects of students in the group
- To receive peer critique of research and valuable feedback
- To gain public speaking experience
- To give practice talks for qualifying exams and conferences
- To learn to communicate to people who are not in your field

Format

Most BESTs are given as a computer presentation (e.g. Powerpoint slides), but students are encouraged to use a format relevant to them, including, but not limited to, a qualifying exam, conference talk, or a job talk. The presentations should be professional and include background information, the relevance of the project and an overview of the past, present or proposed research.

Content

- Practice of talks to be given at future conferences
- Pre-quals talks
- Rotation reports for 1st and 2nd year students
- Project/thesis proposals

Coordinators
One UCSF-based and one Berkeley-based BEAST student are elected each year as the BEST Coordinators and are responsible for arranging conference room bookings and ordering food. Students wishing to give a BEST presentation should work with the BEST Coordinators to schedule a date and time.

4.3 Graduation

Students are encouraged to participate in the commencement ceremonies held in May at both Berkeley and UCSF. Upon completing their dissertation, students become eligible to participate in the graduation ceremonies, and receive their diplomas that list both Berkeley and UCSF as the degree-granting institutions.

UCB students, please review the UCB BioE Graduate Checklist to plan for graduation.

4.4 Optional Master of Science

Students in the Program may also complete the requirements for a Master's degree as part of their doctoral program. Students who wish to earn the optional Master's must consult with the Head Graduate Advisor and Program Administrator of their Home Campus. The acceptable plan to earn **a masters is Plan I** which requires a thesis and formal coursework as outlined below.

Plan I Requirements:

1. Completion of 20 semester units, eight of which are graded graduate level courses in the major field of study, not including seminars. Of the remaining 12 units, up to three may be individual research, while the remaining must be advanced undergraduate or graduate courses in the major or other fields of study.
2. Completion of a Master's Thesis. The Master's Thesis must be read and approved by at least three Program faculty members who must come from both campuses.

5. ADVISING OVERVIEW

The Chair of the Program, on behalf of the Executive Committee, nominates the Graduate Advisers. The Graduate Division Deans at both UCSF and Berkeley receive these nominations and make the formal appointments that legitimize the Graduate Advisers' signatures on either campus. The Head Graduate Advisers at UCSF and Berkeley oversee all advising activities.

Graduate Academic Advisers

The Graduate Adviser is the official deputy of the Dean of the Graduate Division in matters affecting graduate students in the Program. Thus, the relationship between the Graduate Division and the Graduate Adviser is a very close one, involving a high degree of cooperation. The objects of both are the same: to guide students in an orderly fashion through the various steps necessary for the attainment of their higher degrees.

The Graduate Adviser formally approves students' Programs of Study, recommends their advancement to candidacy, considers their petitions to add or change majors, to add or drop course, or to apply for withdrawal or readmission, and speaks for the Program on matters concerning the progress and standing of individual graduate students. In all these matters, the Graduate Adviser must judge whether or not a student's request or proposed action is in order, is in the best interests of the student and the program, and is feasible under existing regulations.

The role of the Graduate Adviser will vary depending on a student's home campus and year in the program.

UCSF Graduate Advisers

View the UCSF Graduate Adviser's Guide here: UCSF Graduate Advisor's Guide

At UCSF, Graduate Advisers (also known as "Graduate Advisors", "Grad Advisors" and "Advisors") are matched to incoming students prior to registration, based on the students' stated areas of interest. Students may be matched to an adviser outside the students given research area. However, all UCSF graduate advisers should be able to advise students on matters of course selection, program of study and career planning. If a graduate adviser is unable to provide sufficient advice on a given topic, they should be able to connect the student with appropriate information and resources. If necessary, students may later request a different, potentially better-matched adviser by contacting the program administrator and the Head Graduate Adviser (see below).

Students who transfer home campus from UC Berkeley to UCSF will be assigned a new graduate adviser at UCSF for the remainder of their duration in the program.

UCSF Graduate advisers meet with and advise students throughout their time in the program, from orientation until their graduation date. Students are expected to work with their advisers to schedule a time to meet at least 1-3 times each year. During these meetings, students and advisers should review academic and research progress and discuss goals both within and beyond the program.

UC Berkeley First Year Faculty Adviser

At UCB, First Year Faculty Advisers (also known as Graduate Advisers) are assigned byUCB's Program Administrator. The UCB First Year Faculty Adviser assists in guiding students during their first year, including rotation selection, course selection, general advising and serves as signatory for required first year of study forms and any fellowship progress update forms prior to a student selecting a Research Mentor and joining a laboratory.

Moreover, the First Year Faculty Adviser speaks for the Program on matters concerning the progress and standing of individual graduate students during their first year only. In all these matters, the faculty adviser must judge whether or not a student's request or proposed action is in order, is in the best interests of the student and the program, and is feasible under existing regulations.

Once the student chooses a faculty mentor and joins a laboratory, primary mentoring and advising shifts to the Research Mentor.

Head Graduate Adviser

The two Head Graduate Advisers (UCSF and Berkeley) are appointed based on their considerable experience as Graduate Advisers. They are responsible for overseeing and signing documents pertaining to graduate enrollment, degrees, financial aid, student progress and student standing. They are also available to all students for consultation on any matters relating to the program and serve as 'back-up' when the student's assigned Graduate Adviser is not available.

Area Adviser

The Area Advisers are Program faculty on each campus with expertise in a particular research area. Area Advisers provide any Program student with focused, in-depth, area-specific advising including selection of curriculum, program of study, faculty mentor, qualifying exam and dissertation committee membership. The list of area advisers is available online.

Peer Adviser

Students have an active group of Peer Advisers that provide support to their colleagues. Every entering student is assigned at least one Peer Adviser and is encouraged to consult them on a broad variety of matters, including choice of courses and rotations. The Peer Advisers have

prepared a summary of information for new students called: “Into the Belly of the BEAST”, available on the BEAST wiki.

5.1 Research Mentor

As described in the section on selecting a Research Mentor, this key faculty member is responsible for overseeing all aspects of the student’s research training. The Research Mentor and student work closely together toward the first major milestone: completion of the qualifying examination. To assist students in being successful, mentors should participate with the student in choosing an appropriate topic, selecting the members of the committee, preparing and reviewing the proposal, and overseeing practice sessions for the examination.

Where necessary, mentors identify additional coursework that would help students to gain the background necessary for completing their research and encourage students to attend relevant workshops and research conferences.

It is critical for Research Mentors to continually monitor the progress students are making towards completing their dissertation. This should include helping students publish sections of their work in peer-reviewed journals and present material at national and international conferences. Other responsibilities are to chair annual meetings of dissertation committees that provide concrete feedback to students as to the progress towards their degree.

While some students hold extramural fellowships, the majority will require financial support from their Research Mentor. It is therefore critical that Research Mentors have resources that are sufficient to see dissertations through to completion.

Once a student has committed to pursue their dissertation research with a particular Research Mentor, that mentor is responsible for providing the following, for the length of the student’s dissertation project:

1. Stipend that meets the Program annual requirements as established by the Executive Committee in conjunction with the UCSF and Berkeley Graduate Divisions.
2. Registration fees and non-resident tuition (if applicable)* as established by each campus in conjunction with the Office of The President.
3. Conference registration fee for the annual Program Retreat
4. Travel to appropriate conferences and meetings
5. Expenses associated with research activities

*Usually only pertains to first year graduate students and continuing international students.

Progress Review

Students meet annually with their Graduate Adviser and, once applicable, their Research Mentor and Dissertation Committee. These meetings are to review their progress and outline remaining requirements. Students complete an annual Progress Report and other required

forms with appropriate signatures and submit them to the Program office of their Home Campus each year. Program administrators communicate due dates each year via email. Required forms are listed below and are available in the Appendix.

5.2 Required Forms and Documentation

Please refer to the Appendix for Program forms.

Forms that require additional reporting to the student's Home Campus Graduate Division are noted.

APR: Annual Progress Reports Due: April 1st, 2024

All students annually update and submit these forms:

1. Program of Study
2. Area Requirements
3. Unofficial Transcript (found at UCSF student portal and/or UC Berkeley CalCentral)
4. Annual Progress Report (submit appropriate form for candidacy status; Pre-Candidacy or Advanced to Candidacy)
5. Dissertation Committee Update (**only** students advanced to candidacy)

First Year Only -Specific Forms:

1. Research Rotation Authorization (each rotation)
2. Research Rotation Evaluation (each rotation)

Students fill out the following forms typically only once:

1. Research Mentor/Dissertation Chair Commitment
2. Optional Constitution of Qualifying Examination Committee Worksheet**
3. Optional Constitution of Dissertation Committee Worksheet**

**Additional reporting to Home Campus Graduate Division required. E-forms are found on UCSF's Student Portal and Berkeley's CalCentral. These worksheets are not required to be submitted in the annual progress report packet.

Every April, the Head Graduate Advisers chair a meeting of Graduate Advisers on their respective campuses to review material submitted by each student and report their progress to the executive committee.

6. ADMINISTRATIVE OVERVIEW

Home Campus

Students are assigned in their first year to a Home Campus, Berkeley or UCSF, based on research interests and initial funding source. Upon the start of the second year, the Home Campus must be changed if the student's selected Research Mentor holds their faculty appointment on the opposite campus. If there are other circumstances, contact Program Managers. The Home Campus is where fees are paid and health services are based (except for emergencies when students will be covered at any Emergency Room). Forms for qualifying exams, advancement to candidacy, and dissertation status are submitted to the Graduate Division of the Home Campus. The Home Campus will also be a factor in the composition of the qualifying and dissertation committees.

All students in the Graduate Program in Bioengineering have full access to courses, research opportunities, and facilities (including the libraries and student unions) on both campuses regardless of Home Campus assignment.

Home Campus change is possible prior to taking the qualifying examination and requires academic justification with the approval of the Head Graduate Advisers by petitioning both Berkeley and UCSF Graduate Divisions. Consult the program staff for details if considering a Home Campus change.

Student Health Coverage

Berkeley Student Health Services:
http://uhs.berkeley.edu/students/insurance/

UCSF Student Health Services:
http://studenthealth.ucsf.edu/

UCSF SHIP Questions:
https://studenthealth.ucsf.edu/insurance/

UCSF Emergencies and after-hour care:
https://studenthealth.ucsf.edu/emergencies-after-hours-care

Communication

Students who have questions regarding program policies or requirements should communicate with their Home Campus Program Manager.

Most communication for the group is conducted through email. Students are issued a Berkeley email account when they make their statement of intent to register. The Program does not provide mailboxes.

All students plus the Program staff are included on a list serve entitled
beastmail@lists.berkeley.edu

All Program Faculty plus staff are included on private list serve.

Changes to Contact Information
Students are required to keep the Program administrative staff and the Office of the Registrar on the Home Campus informed of current contact information, including address and phone numbers.

Students must update any changes to contact information via Cal Central (Berkeley) and the UCSF Student Portal.
UCB: https://calcentral.berkeley.edu
UCSF: https://saa.ucsf.edu/studentportal/

Registration

Students are required to register for school each quarter/semester during the academic year and maintain full-time student status (8 quarter units or 12 semester units). **In general, students should not register for summer courses on either campus.** Students are required to register (and pay fees) for summer school only if their fellowship requires it. Students meet with their Graduate Advisers to review course enrollment plans each term.

All incoming students on either campus must complete the UCSF supplemental application as soon as they are able in order to be registered on the UCSF campus. Students should use the reference number provided to them via email from the UCSF Program Administrator.

Withdrawals

Students choosing to leave the program before completing a degree must officially withdraw from the university. If choosing to return at a later date, they must apply for readmission. At UCSF, any student who does not check in with the program or their mentor, and does not respond to communications from their mentor, may be subject to dismissal from the program and administrative withdrawal.

6.1 Dual Campus Registration Guidelines

Enrollment requirements vary depending on the home campus status of a student. See below for specific requirements.

Enrollment Requirements for every Berkeley Fall and Spring Semester

	Berkeley Home Campus Students	UCSF Home Campus Students
Taking classes at Berkeley	Register online at Berkeley using CalCentral (full-time enrollment is 12 or more units)	Register online at Berkeley CalCentral, Submit UCSF Study List Filing form
Not taking classes at Berkeley	Register at Berkeley using CalCentral, at least 12 research units (299) if applicable, and verify course enrollment at UCSF	No action is required

Enrollment Requirement for every UCSF Fall, Winter, and Spring Quarter

	Berkeley Home Campus Students	UCSF Home Campus Students
Taking classes at UCSF	Submit Study List Filing online on UCSF Student Portal	Submit Study List Filing online on UCSF Student Portal (minimum 8 units, using research units if necessary).
Not taking classes at UCSF	No action is required	Submit Study List Filing online on UCSF Student Portal (minimum 8 units of research: Pre-candidacy Bio 250, Candidacy Bio 299)

Registration Resources Online

UCB CalCentral: Registration, Schedule of Classes, etc.
http://calcentral.berkeley.edu

UCSF Office of the Registrar online services
http://registrar.ucsf.edu/registration/how-register

UCSF Office of the Registrar web page for registration
https://saa.ucsf.edu/studentportal/

UCSF Course Catalog: http://coursecatalog.ucsf.edu/
Bioengineering Course Catalog: http://guide.berkeley.edu/courses/

6.2 Berkeley Registration

Registration means 1) enrolling in classes; 2) paying fees, and 3) having no blocks to registering.

The student is responsible for enrolling in classes, checking to make sure all fee payments have been made on their behalf and clearing registration blocks as soon as possible.

At Berkeley, students enroll in classes through CalCentral. UCSF Home Campus students also utilize this system when signing up for Berkeley courses. (Students cannot enroll in UCSF courses through CalCentral.)

Students use their CalNet ID and passphrase to access CalCentral. CalNet IDs are created when students join the Program.

CalCentral Registration Timeline:

Phase I begins in April and ends in July.
Phase II begins in July and ends in August.

Students are assigned an appointment date to use CalCentral for each phase. Once the appointment expires, students can access registration on CalCentral through the end of each phase during Open Hours (Monday through Friday from 7:00 to 8:00 am and 7:00 pm to Midnight). Registration through CalCentral is available through the end of the third week of classes.

To be registered at Berkeley, every Berkeley based student must enroll for a minimum of 12 Berkeley units each semester (note that full-time enrollment for graduate students is 12 units). If a student is not taking classes, or their classes do not add up to the required 12 units, the student must register for additional independent research units with their faculty research mentor, i.e BIOE 299 or equivalent or 298 (group research / journal club). Refer to the Berkeley schedule of classes for course enrollment information.

UCSF-based students are not required to carry a full course load at Berkeley. However, all students taking courses at Berkeley are to follow the procedures described here and observe the relevant deadlines. UCSF-based students not taking courses at Berkeley will continue to be affiliated with the University.
Any schedule changes (whether the student is UCSF or Berkeley based) made after the third week of classes will require a “Petition to Change Class Schedule.” The petition must be signed by the student and the professor of the class the student is adding, if applicable. The original signed petition must be submitted to the Berkeley program administrator the week prior to the last day of instruction.

Late Registration

It is essential that all students be registered by the 15th day of classes. Certain penalties apply to students who do not register on time and there are significant budget consequences to the department when students fail to register by the census date. A "Petition for Late Enrollment / Registration" will need to be submitted and a Late Enrollment Fee of $150 is charged to continuing students who fail to use CalCentral to enroll in at least one class by the end of Phase II. In order for students to be eligible to hold a ASE or GSR appointment, they are required to meet minimum requirements and criteria listed here: https://grad.berkeley.edu/financial/appointments/handbook/#eligibility. Failure to do so may impact appointment eligibility and benefits.

Failure to Register

Students who are not registered have access only to those University facilities that are accorded to the general public, and they may not consult with faculty about matters pertaining to their programs. International students who choose not to register must continue to pay for health insurance, moreover are subject to policies set forth by the United States Citizenship and Immigration Services. Such students will be "administratively cancelled" and will have to petition for re-entry and pay a fee if they want to register at Berkeley again.

6.3 UCSF Registration

Each quarter, all students should check the UCSF Student Portal summary tab for registration holds and update relevant information (e.g. address). The UCSF Office of the Registrar has strict due dates and will charge students a late fee for missed due dates.

UCSF Home Campus students must register every quarter at UCSF by filling out their study list.

Every Quarter, UCSF Home Campus students must file a UCSF Study List online on the UCSF Student Portal with a minimum of 8 units. If necessary, students enroll in research credit to reach the minimum 8 units using the course BioE 250: Research. In a student's final quarter, students may instead use BioE 299: Dissertation if they do not hold a GSR appointment.

Review the UCSF registration procedures here:

- Registration: (http://registrar.ucsf.edu/registration/how-register)
- Study List (Course Filing): (http://registrar.ucsf.edu/registration/study-list-filing)
- Deadlines: https://graduate.ucsf.edu/registration-policies-and-deadlines

UCSF's online system does not include Berkeley courses. Students that take Berkeley courses will see these added to their UCSF transcripts once grades are exchanged between each campus' Registrar's Office.

Berkeley Home Campus Students:

Berkeley Home Campus students that are not taking UCSF courses are not required to submit a study list filing, but they should review and update their contact information on the UCSF Student Portal. Students that are taking UCSF courses should complete the study list filing for that quarter.

6.4 Filing Fee Status

Students must be registered OR on filing fee status when they file their dissertation. Filing Fee Status is an alternate status used in lieu of registration and is appropriate for students who have completed all course work and who have no occasion to use University facilities or to make use of faculty time other than for the final reading of their dissertation. *Filing Fee status is not equivalent to registration.* This status allows students to file their dissertation without having to pay registration fees.

International Students should contact their Home Campus Program Administrator and Campus International Office before registering for filing fee to confirm that this status is a viable option.

Filing Fee Status may only be used once. If the student does not complete the final degree requirements during their eligibility period, the fee is forfeited and the student must pay regular registration fees during the semester in which they do complete those requirements.

Limitations of Filing Fee status
Students on Filing Fee status *may not take course work or use any University facilities not accorded the general public*. Services such as Financial Aid, Student Health and Student Union membership are not available, except by special arrangement in some instances. Nor may they hold graduate student appointments (GSR, GSI or TA).

Applications and campus-specific Filing Fee policies are available from the Graduate Division offices on each campus.

Berkeley Graduate Division Policy & Procedure: https://grad.berkeley.edu/policy/#d2-filing-fee

UCSF Filing Fee status:

When it is required: Students who wish to graduate in the summer quarter at UCSF must go on filing fee status. The filing fee status application must be completed and submitted *at least one week prior* to the quarter in which they intend to be on filing fee status. Filing fee status does not guarantee SHIP, badge access to campus resources, or the ability to file a study list. Filing fee status will also require a student's payroll appointment to be stopped for the term which the student is listed as on filing fee. Students may request that their PI continue funding their stipend payment through a nonfederal fund, if one is available. Not all faculty members have nonfederal funds, and so a student who wishes to graduate in the summer quarter should discuss these implications with their mentor before or during their final dissertation committee meeting.

Optional use of filing fee: Students and their mentors may decide collectively that filing fee status is an appropriate cost-saving measure if the student is planning on graduating during the academic year (Fall, Winter, Spring).

Who pays the cost of the filing fee? At UCSF, the BioE program covers the cost of filing fee for all UCSF home-campus students. Mentors are responsible to cover their students' stipends up until their last day of their graduating quarter. Should a faculty member not be able to cover the cost of a student's stipend on nonfederal funds, the use of filing fee status is *not* recommended.

UCSF Filing Fee Form

UCSF Graduate Division
Graduate.division@ucsf.edu
415/476-2111
UCSF Registrar's Forms

7. FINANCIAL OVERVIEW

Financial Support

Financial support is provided to all students for the duration of the doctoral program, and is contingent on students maintaining satisfactory academic progress. Support includes stipend and fees (which includes comprehensive health and dental insurance). Non-resident tuition for out of state students will be covered for the first year; all eligible students must obtain California residency by their second year.

The Executive Committee sets the annual minimum level of stipend support within the parameters established by the Graduate Divisions and bargaining contracts. The current minimum annual stipend is $46,000. During the first year, academic student support is typically provided by a combination of training grant and/or fellowship sources. This may include extramural fellowships. In the second year, students are partially supported by teaching appointments, by internal or extramural fellowships that they have obtained and by appointments with the research mentors that they have selected.

One factor that allows the Program to maintain a large student body is the ability of some to secure extramural fellowships. Continuing students are responsible for applying for such fellowships. The Program keeps students informed of available fellowship opportunities and provides necessary supporting documentation for applications.

The Financial Aid Office (UCSF) and the Graduate Funding Office (Berkeley) are resources for information on many different kinds of specialized fellowships, scholarships, loans, and other opportunities. Students are urged to apply for any extramural pre-doctoral fellowships, and all students are required to complete the FAFSA (Free Application for Federal Student Aid), which can be found at:

http://www.fafsa.ed.gov/

Due to the restrictions of many funding agencies, opportunities for international students are limited. Applicants who are not U.S. citizens or permanent residents do not qualify for California residency and are not eligible for certain types of support. Funding sources for international students do include fellowships, research assistantships and non-resident tuition (NRT) scholarships.

Once a student begins dissertation research under the guidance of their Research Mentor, that faculty member becomes responsible for the student's financial support. The arrangements of this support are specified in the Dissertation Lab / Mentor Commitment form. Students are responsible for discussing funding with their Research Mentor. This discussion should occur early in the relationship. In addition to stipend and fees, Mentors also provide support for registration fees for the annual Program Retreat and participation at national conferences.

7.1 Residency

California Residency and Nonresident Classification

California Residency is a classification for University tuition purposes. A California resident (defined by UC policy) is a financially independent adult who has lived in California for more than one year prior to the first day of instruction for the term during which they are claiming residency.

Students who do not meet these criteria or have not applied for Residency status are considered nonresidents and subject to nonresident tuition (NRT) as well as registration fees. The Program does not support NRT beyond eligible students' first year, on the assumption that all eligible students (e.g. not international students) will apply for reclassification as a California Resident.

Continuing students eligible for California residency are strongly encouraged to begin establishing residency upon arrival in California. To gain resident classification students must submit a petition to their Home Campus Registrar's office (at Berkeley online via CalCentral: http://calcentral.Berkeley.edu/) showing that they have lived in California for more than one year.

The deadline to file the petition is the last working day before the first day of instruction of the term for which they are seeking residency status (typically, Fall of the second year). Students may review the complete policy and procedures available from the Home Campus Registrar's Office and online:
UCB : Residency Unit , How to apply and direct email contact: orres@berkeley.edu
UCSF http://registrar.ucsf.edu/registration/residency

Eligible students who do not petition for California residency will be responsible for paying their own NRT.

Common documents needed with the petition for change classification are:

- Documents confirming arrival in California prior to the start of fall semester of the previous year
- CA driver's license or state identification card (if non-driver)
- CA vehicle registration
- CA Voter registration card
- CA bank statements
- Documents confirming prior summer whereabouts (e.g., job offer letters, summer session, registration, etc.)
- Prior year's W-2 and State and Federal Income Tax Returns.

- Berkeley campus Personnel Action Notice confirming last Fall employment

For specific residency questions, contact the Berkeley Registrar's Office (510) 642-1614; email orres@berkeley.edu or the UCSF Registrar's Office (415) 476-8280.

Direct Deposit

All students are encouraged to register for direct deposit as soon as they are able. All students regardless of campus should register for non-payroll (UCSF) and EFT (Berkeley) direct deposit to receive electronic transfers of funds from the university.

UCSF Rotation Students and Students without an HR (payroll) appointment
UCSF Non-Payroll Direct Deposit Form (send form and documents to studentssvcdesk@ucsf.edu)
UCSF Students with an HR (payroll) appointment
UCSF Payroll Direct Deposit (UC Path)

UC Berkeley Students
Berkeley Non-Payroll Direct Deposit (Cal Central > MyFinances > Billing and Payments)
Berkeley Payroll Direct Deposit Instructions (UC Path)

GSR appointments for bioengineering graduate students are initiated in the faculty mentor's department with their financial or human resources assistant. Research Mentors should address questions to the Program's administrators.

7.2 Fees

This section should be read in conjunction with the preceding **Section 7.1 Residency: California Residency and Nonresident Classification.**

UCSF Fees include the University Registration Fee, Educational Fee, Student Health Insurance premium, Student Union fee, Graduate Student Association fee (see fee details at the UCSF Graduate Division).

Berkeley Fees include the Student Services Fee, Tuition, Health Insurance fee, Class Pass fee (AC Transit), and Berkeley campus fee. See more details on fees at the Registrar's Office.

The fees listed above are covered as part of each student's support package, in addition to the annual stipend, during the academic year. Fees are paid to the student's Home Campus each academic term **except for the summer session fees**, which are not included. Students are responsible for informing their Home Campus administrator in a timely manner of any fee issues, including holds and unpaid fee notices.

7.3 Online Resources

Berkeley Registrar's Office
http://registrar.Berkeley.edu/Registration/feesched.html

Berkeley Graduate Fee Remission Eligibility
http://grad.berkeley.edu/financial/fee-remissions/

Berkeley Graduate Studies Handbook
http://www.grad.berkeley.edu/policies/ggp/ggp.pdf

UCSF Registrar's Office
http://registrar.ucsf.edu/registration/fees

UCSF Graduate Division Financial Support
https://graduate.ucsf.edu/financial-support

Defined Contribution Plan (DC Plan)

For information regarding DC Plan and Medicare, contact:

- HR Assistant processing your appointment.

Online DCP References:

UCSF Human Resources
http://ucsfhr.ucsf.edu/benefits/residentsfellows/info.html?x=1254

Berkeley U.C. Defined Contribution (DC) Plan
https://grad.berkeley.edu/financial/appointments/handbook/#safehabordeducs

Taxes

Since the university cannot offer tax advice, or accept responsibility for the tax consequences of any information provided, students requiring tax assistance should contact a tax adviser.

UCSF Graduate Division Tax Information: https://graduate.ucsf.edu/tax-information
UCSF Financial Aid Services Tax Info: https://finaid.ucsf.edu/financial-literacy/help-taxes
UCB Billing & Payment Services 1098-T Form:
https://studentbilling.berkeley.edu/loan-services-and-repayment/form-1098-t-tax-benefits
UCB ASUC Student Legal Clinic,Eshleman Hall, Level 3, Room 312F, asuclegalclinic@gmail.com.

Fellowship and Training Grant Income

The Universities do not issue a W-2 for fellowships or training grants to degree candidates, and does not withhold taxes from the stipend portions of fellowships or training grants. Instead, this income is reported via a 1098-T (see below, Non-payroll payments).

Non-payroll payments

UCSF Home Campus students in their first-year rotations, receiving training grant funding through UCSF, or students in UCSF labs with fellowships that cause their FTE % to drop below 25% may be paid through non-payroll stipend. Please note that taxes are not withheld from non-payroll stipends and students are required to keep track of their own tax withholdings if receiving stipends from non-payroll sources.

1098-T

Berkeley 1098T-
https://studentbilling.berkeley.edu/loan-services-and-repayment/form-1098-t-tax-benefits

At UCSF, students receiving stipend payments from non-payroll sources can access their 1098-T via the student portal under the "finances" tab. Please note that your 1098-T will only be issued at the institution where your tuition and fees are paid, and may not include stipend, tuition and fee amounts from other institutions. For questions regarding your non-payroll appointment, please contact your UCSF Home Campus Program Administrator.

Payroll Appointments: GSR and GSI

Students who receive some or part of their funding through GSR and/or GSI/TA appointments receive wages, which are subject to income tax withholding. The University will issue a W-2 to any student who held a payroll appointment at the end of each calendar year. Tax withholding amounts may be adjusted by completing a W-9 form, which should be available in the office where the payroll appointment is set up.

International Students

The University reports awards made to international students to the IRS. A percentage of such fellowship stipends is withheld for federal tax, unless the student's home country has a tax treaty with the United States that exempts its citizens from withholding. State tax is withheld for international students and other nonresidents of California if they receive over $1,000 per month or $10,000 per calendar year. Students may call the Foreign Tax Unit of the disbursements Office (415/642-3002) to see if there are tax treaties between the United States and their country of residence.

Tax breaks for Graduate and Professional Students

The 1997 Taxpayer Relief Act includes substantial tax breaks for college students and their families. Graduate students who have children or other family members attending college may qualify for the Hope Scholarship Tax Credit for undergraduate study, and graduate students repaying student loans may qualify for the student loan interest deduction.

For more information on the educational provisions of the 1997 Taxpayer Relief Act, see the UCB Student billing website: https://studentbilling.berkeley.edu/loan-services-and-repayment
Berkeley Form 1098-T Tax Benefits:
https://studentbilling.berkeley.edu/loan-services-and-repayment/form-1098-t-tax-benefits
UCSF Form 1098-T Information: https://registrar.ucsf.edu/registration/form-1098-t

More information is available in the following IRS publications:

Educational Expenses	508
Highlights of the Tax Reform Act of 1986	1339
Scholarships and Fellowships	520
Tax Withholding and Estimated Tax	505
U.S. Tax Guide for Aliens	519
U.S. Tax Treaties	901
Your Federal Income Tax	17

8. BEAST and STUDENT AFFAIRS

Bioengineering Association of Students (BEAST)

BEAST (**B**io**E**ngineering **A**ssociation of **ST**udents) is the official organization for the Program's students. There are no dues associated with membership. Members participate in monthly meetings, academic discussions, weekly happy hours, and other fun activities, such as ski trips, movie night, pizza, and more. Officers are elected in the Fall semester. For more information see the Beast Wiki.

BEAST Wiki

URL: http://ucbeast.berkeley.edu

UCSF BioE Graduate Student Room
Mission Bay Campus, Byers Hall
1700-4th ST
Room BH 217
Access by UCSF photo ID card
Amenities: TV, couches, tables, microwaves, refrigerator, white board, desks, sinks
Room capacity: 30
Room Managed by Victoria Starrett (victoria.starrett@ucsf.edu)

UCB Campus Student Spaces:
Rest Zones - (curated by UHS Health Promotion)
Graduate Assembly Spaces
Library Study Rooms

8.1 Graduate Student Resources

The following pages provides links to commonly used resources on both campuses. Please know this is not an exhaustive list of all resources. Please continue to search each campus' websites or contact Program Managers for additional resources if not listed here.

UCB Graduate Student Resources

Berkeley Graduate Division is the resource for information on fellowships, teaching and research opportunities, student life, health, development, housing, and other campus services: http://grad.berkeley.edu/

****Resources Hub for Graduate Students** -** https://grad.berkeley.edu/students/ - Curated list of extensive campus resources by category/topic.

Basic Needs Center – (https://basicneeds.berkeley.edu/home) - acts as a virtual and physical hub with resources and services to support students in their journey to access essential services that impact health, belonging, and overall well-being

Billing & Payment Services (https://studentbilling.berkeley.edu/home) – information about University loans and Campus Accounts Receivable System (CARS) accounts.

Berkeley International Office (http://internationaloffice.berkeley.edu/) – resources and advice on immigration, financial, and personal matters.

Career Center (http://career.berkeley.edu/) – sponsors workshops specifically for graduate students and offers Ph.D. career counseling services by appointment.

Child Care (Early Childhood Education Programs) (https://ece.berkeley.edu/) –information about campus child care programs.

Computing (https://technology.berkeley.edu/home) –general information on computing services for students.

Counseling Services - University Health Services (http://www.uhs.berkeley.edu/students/counseling/) – provides group and individual counseling for students on a variety of personal, academic, and career-related issues.

Disabled Students' Program (DSP) (http://dsp.berkeley.edu/) – offers services and resources for students with disabilities.

Electronic Funds Transfer (EFT) (http://eftstudent.berkeley.edu)

Financial Aid & Scholarships Office (FASO) (https://financialaid.berkeley.edu/current-students/) – important information for graduate students about student loans and federal student aid.

Graduate Assembly (GA) is the graduate student government. That provides resources, intellectual activities, a social network and advocates for graduate students: http://ga.Berkeley.edu/

Graduate Student Instructor (GSI) Teaching & Resource Center (http://gsi.berkeley.edu) - information on requirements for first time GSIs, schedules for workshops on various topics, portal for online ethics course.

Housing (Cal Rentals) (https://housing.berkeley.edu/calrentals) – Berkeley's own rental listings unit and resource for finding local housing.

Libraries (http://www.lib.berkeley.edu/) – home page for the University Library system.

Office of the Registrar (OAR) (http://registrar.berkeley.edu/) – up-to-date information on registration fees, adding/dropping a class, Tele-BEARS, Bear Facts, residency, grades, and more.

Ombudsperson (642-5754, https://sa.berkeley.edu/ombuds)) – neutral, confidential assistance in situations where you feel you have been treated unfairly or need help with a procedural or academic problem.

Parking & Transportation (http://pt.berkeley.edu/) – information about parking permits, campus shuttles, and alternative transportation.

Police (http://police.berkeley.edu/) – information about campus safety programs, night escort service, and emergency preparedness.

Recreational Sports Facility (RSF) (https://recsports.berkeley.edu/rsf/) – information on membership, fitness classes, sports facilities, personal training, and more.

Residency
(https://registrar.berkeley.edu/tuition-fees-residency/residency-for-tuition-purposes/) – information on CA residency and how to petition to be a CA resident.

Student Enrollment Calendar (https://registrar.berkeley.edu/calendar/) – important dates for filing and registration.

Support for Student Parents & Caregivers
(https://grad.berkeley.edu/financial/options-for-financial-support/families/)

The Parents Network https://www.berkeleyparentsnetwork.org/) – newsletters, recommendations, and advice for student parents.

University Health Services (UHS) (http://www.uhs.berkeley.edu/) – information about student medical care, counseling, psychological services, insurance, workshops, and more.

UCSF Graduate Student Resources

- UCSF Graduate Division: https://graduate.ucsf.edu/uc-san-francisco-graduate-division
    - Programs: https://graduate.ucsf.edu/programs
    - Career Planning: https://graduate.ucsf.edu/career
    - Community: https://graduate.ucsf.edu/community
    - Diversity: https://graduate.ucsf.edu/diversity
    - Financial Support & Fellowships: https://graduate.ucsf.edu/financial-support
- UCSF Registrar: https://registrar.ucsf.edu/
    - Student Portal Login: https://saa.ucsf.edu/signon
    - Academic Calendar: https://registrar.ucsf.edu/academic-calendar
    - Deadlines: https://registrar.ucsf.edu/registration/deadlineshome

    - Study List Changes: https://registrar.ucsf.edu/registration/change-study-list
    - Fees: https://registrar.ucsf.edu/registration/fees
    - Forms: https://registrar.ucsf.edu/forms
    - ID Cards: https://registrar.ucsf.edu/registration/id-cards
    - UC Exchange: https://registrar.ucsf.edu/registration/intercampus-exchange
- General Catalog: https://catalog.ucsf.edu/
    - BioE Overview and Details Page (all courses taken by BioE Students): https://catalog.ucsf.edu/programs/bioengineering/
    - University Support Offices: https://catalog.ucsf.edu/university/
- Basic Needs
    - Family Assistance: https://basicneeds.ucsf.edu/family
    - Financial Assistance: https://basicneeds.ucsf.edu/family
    - Food Assistance and Free Produce and Staples Market: https://basicneeds.ucsf.edu/food#Student-Food-Market-at-UCSF
    - Housing Assistance: https://basicneeds.ucsf.edu/housing
    - Transportation Assistance: https://basicneeds.ucsf.edu/transportation
    - Events and Workshops: https://basicneeds.ucsf.edu/events
    - First Gen Support Services: https://catalog.ucsf.edu/university/first-generation-support-services/
- Health and Wellness
    - Disability Services: https://sds.ucsf.edu/
    - Student Health and Counseling: https://studenthealth.ucsf.edu/
    - Primary Care: https://studenthealth.ucsf.edu/covid19-modified-services#primaryCare
    - Emergency Nurse Line: 415-476-1281
    - Mental Health: https://studenthealth.ucsf.edu/covid19-modified-services#mentalhealth
    - Insurance: https://studenthealth.ucsf.edu/insurance
    - Trauma and grief: https://studenthealth.ucsf.edu/topic-specific-resources#traumaGrief
    - Nutrition Services: https://studenthealth.ucsf.edu/nutrition
    - Stress Tool Kit: https://studenthealth.ucsf.edu/stress-tool-kit-and-resources
    - LGBTQ Resource Center: https://lgbt.ucsf.edu/
- Bike Permits and Bike Storage Access: https://campuslifeservices.ucsf.edu/transportation/services/biking
- UCSF Rec Pass:
    - https://campuslifeserviceshome.ucsf.edu/fitnessrecreation/ucsf-student-and-alumni-rec-pass

- Other Resources
    - Student Success Center: https://success.ucsf.edu/
    - Academic Services: https://success.ucsf.edu/academics

- International Students and Scholars: https://isso.ucsf.edu/
- PhD and Career Planning Support: https://career.ucsf.edu/
- Library: https://www.library.ucsf.edu/
- Community Hubs: https://success.ucsf.edu/community
- Emergency Resources: https://success.ucsf.edu/other
- UCSF CARE (Confidential Support): https://careadvocate.ucsf.edu/what-we-do
    - 24-hour confidential hotline (415) 502-8802

- Apps
    - **UCSF mobile app:** https://campuslifeservices.ucsf.edu/bts/services/ucsf_mobile_app#:~:text=UCSF%20Mobile%3A%20access%20more%20info,out%20of%20your%20UCSF%20experience.
    - **Food4Students** (sign up for free food): saa.ucsf.edu/food
    - **WarnMe Emergency Notifications/ UCSF SAFE app:** https://police.ucsf.edu/emergency-management/warnme

Need something else? Get in touch with your program manager.

Office Hours with Victoria
(Make an appointment below)
Virtual M-F
In Person: T/W

Make an Appointment: https://usemotion.com/meet/victoriastarrett/bioemeeting
Email: Victoria.starrett@ucsf.edu
Office Phone: 415-514-4861

Additional information on student organizations can be found on the web at:
UCB: https://callink.berkeley.edu
UCSF: https://studentlife.ucsf.edu/involvement/registered-campus-orgs

9. Appendix: Required Forms and Documentation

This appendix includes Program forms that students are required to complete as they make progress toward their degree. Please note, in some cases additional forms and/or online documentation must be submitted concurrently to the Graduate Division of a student's Home Campus (e.g. Constitution of a Qualifying Examination Committee).

A. Program of Study: Major and Minor
B. Program of Study: Area Requirements
C. Research Rotation Authorization
D. Research Rotation Evaluation
E. Research Mentor/Dissertation Chair Commitment
F. Annual Progress Report: Pre-Candidacy Students
G. Annual Progress Report: Students Advanced to Candidacy
H. Constitution of Qualifying Examination Committee Worksheet
I. Constitution of Dissertation Committee Worksheet
J. Dissertation Committee Update
K. Lab Commitment Form

See Section 5.2 Required Forms and Documentation for additional details. Requirements are as follows:

Students are required to annually update and submit these forms:

1. Program of Study
2. Area Requirements
3. Unofficial Transcript (found at UCSF student portal and/or UC Berkeley CalCentral)
4. Annual Progress Report (submit appropriate form for candidacy status; Pre-Candidacy or Advanced to Candidacy)
5. Dissertation Committee Update (**only** students advanced to candidacy)

First Year-Specific Forms:

1. Research Rotation Authorization (each rotation)
2. Research Rotation Evaluation (each rotation)
3. Lab Commitment Form

Students fill out the following forms typically only once:

1. Research Mentor/Dissertation Chair Commitment
2. Constitution of Qualifying Examination Committee**
3. Constitution of Dissertation Committee**

**Additional reporting to Home Campus Graduate Division required after Program form approval. E-form found on UCSF's Student Portal and Berkeley's CalCentral.

UC Berkeley - UCSF Graduate Program in Bioengineering

Program of Study: Major and Minor

Last Name: _____First Name: _____

UCSF Home Campus Approval: _____ Date: _____
(UCSF HC Students only, Graduate Advisor's Signature)

UCB Home Campus Approval: _____ Date: _____
(UC Berkeley 1st Year Faculty Advisor OR PI)

Major_____

16 semester units required

(Quarter Units / 1.5 = Semester Units)
Example: 3 Qtr. Units / 1.5 = 2 Sem. Units

Classes	Course #	Campus	Sem Units	Term Taken	Grade	Area Req't.

Major Total Units_____

Minor _____

8 semester units required

(Quarter Units / 1.5 = Semester Units)
Example: 3 Qtr. Units / 1.5 = 2 Sem. Units

Classes	Course #	Campus	Sem Units	Term Taken	Grade	Area Req't.

Minor Total Units_____

Other Requirements

Requirement	*Course #, Title and Faculty Instructor*	*Campus*	*Term Taken*
Teaching Assistant (GSI or TA)			

UC Berkeley - UCSF Graduate Program in Bioengineering

Program of Study: Area Requirements

Last Name: _____ First Name: _____ Date: _____

Area Requirement	Required Sem/Qtr Units	Course Title(s)	Course #	Campus	Units	Term *(e.g. Fall 2016)*	Grade
Anatomy, Physiology, Biology	9/13.5						
Biochemistry & Chemistry beyond General Chemistry	3/4.5						
Engineering in a traditional discipline & Computer Science	7/10.5						
Mathematics & Statistics	2/3						
1st Year Seminar **UCB** Bioengineering 200	na		200	B			
1st Year Seminar **UCSF** Bioengineering 281	na		281	SF			
Ethics 1st Year Ethics 4th Year	na						
Racism in Science: Grad 202	na		202	SF			

UCSF HC Approval: _____
UCSF HC Students only, Graduate Advisor Signature Date

UCB Approval: _____
Berkeley 1st Year Faculty Advisor OR PI Date

UC Berkeley - UCSF Graduate Program in Bioengineering

Research Rotation Authorization 2023-2024

Student Name: _____

Rotation Mentor: _____

Please submit to your home campus administrator by the following dates:
(check one)

_____ 1st rotation (due 09/08)	_____ 2nd rotation (due 12/22)	_____ 3rd rotation (due 02/29)
Rotation 1 Dates (09/18-11/09)	Rotation 2 Dates (01/02- 02/23)	Rotation 3 Dates (03/04-04/26)

Research Project Title:
Describe the research topic and overall objective. Be as specific as possible. If necessary, attach additional comments to this form.

Approval Signatures:

Rotation Mentor _____ Date: _____

Student _____ Date: _____

Graduate/ 1st year Faculty Advisor_____ Date: _____
(Required for exceptional authorizations only)

2023-2024

UC Berkeley - UCSF Graduate Program in Bioengineering

Research Rotation Evaluation 2023-2024

Student Name: _____

Rotation Mentor: _____

Please submit to your home campus administrator after the end of the rotation:
(check one)

_____ 1st rotation (09/19-11/18)

_____ 2nd rotation (01/3-02/24)

_____ 3rd rotation (03/06-04/28)

Rotation Mentor: Describe the student's performance during this research rotation.

Student: Provide an assessment of the experience gained during this rotation.

Approval Signatures:

Rotation Mentor _____ Date: _____

Student _____ Date: _____

UC Berkeley - UCSF Graduate Program in Bioengineering

Research Mentor/Dissertation Chair Commitment

Student Name:_____

Research Mentor/Dissertation Chair:_____

Research Mentor Department:_____

Lab Account Manager/ Financial Analyst: _____

Start Date*:_____

The student's research mentor is responsible for providing the following support for the length of a student's dissertation project:

- **Stipend** that meets the Program's annual requirements established by the Executive Committee in conjunction with the UCSF and UCB Graduate Division requirements.
- **Registration Fees and Non-Resident Tuition** (if applicable*) as established by each campus in conjunction with the Office of The President.
- **Bioengineering Annual Retreat Registration Fee** to attend the Program's Annual Conference & Retreat.
- **Travel** to appropriate conferences and meetings.
- **Expenses** associated with research activities.

*Non-Resident Tuition (NRT) applies to international students and out-of-state first year students only. Eligible students (U.S. citizens and permanent residents) are required to obtain California residency by their second year. *NRT is reduced substantially upon advancement to candidacy.*

I accept this student into my lab for their dissertation research project and agree to the funding and mentoring requirements of the Bioengineering Program.

_____ _____

Research Mentor Signature Date

_____ _____

Student Signature Date

_____ _____

Graduate Advisor (UCSF) or 1st year Faculty Advisor (UCB) Signature Date

*Start Date refers to the first day in which the faculty member is responsible for funding the student, regardless of when they begin academic research in the lab. For year one students who join a dissertation lab at the end of their first year, the start date is usually the first day of their second year.

UC Berkeley - UCSF Graduate Program in Bioengineering

Annual Progress Report: Pre-Candidacy Students

To satisfy Program and Graduate Division reporting requirements, this form should be completed, signed, and returned to your home campus administrator in the Spring, on a date specified via email.

Student Name: _____ **Date:**_____

Year Entered Program: _____ **Student ID #:** _____

Student Comments: Describe annual progress (e.g. rotations, coursework, identified Research Mentor or QE committee, etc.). Use reverse side or additional page if needed.

What is your source of support next year? (Lab funds, fellowship, etc.) _____

Support Details (list fellowship or lab name):_____

Anticipated Date/Term of Qualifying Exam: _____

Student Signature: _____Date:_____

Graduate Advisor (UCSF), 1st year Faculty Advisor (UCB) or PI (UCB):
Student's Progress is: (Select one.)

☐ More than satisfactory ☐ Satisfactory ☐ Improvement Needed

Describe the student's research and/or Program of Study progress. If Improvement Needed, recommend specific areas and methods for improvement:

I have met with and reviewed this student's progress on (date):_____

Faculty signature: _____ _____
Signature *Print name*

Research Mentor Commitment of Support: I commit to financially support and academically mentor the above listed student according to the by-laws of the Bioengineering PhD Program.

$_____
(minimum annual stipend level)

Account manager contact information:

_____ _____
Account Manager Name *Account Manager email*

_____ _____
Signature: Research Mentor Print Name

UC Berkeley - UCSF Graduate Program in Bioengineering

Annual Progress Report: Students Advanced to Candidacy

To satisfy Program and Graduate Division reporting requirements, this form should be completed, signed, and returned to your home campus administrator in the Spring, on a date specified via email. Students advanced to candidacy should also meet with their Dissertation Committee and complete a Dissertation Committee Meeting Update form on an annual basis, at minimum.

Student Name: _____ **Date:** _____

Year Entered Program: _____ **Student ID #:** _____

Date Qualifying Exam Passed: _____ **Date Advanced to Candidacy:** _____

Program Requirements (check if completed):

☐ Program of Study (Courses) ☐ Minimum 3.0 GPA

☐ Research Presentation ☐ Teaching Requirement (GSI/TA)

Student Comments: Describe annual progress (e.g. publications, coursework, research presentation date/location/title, etc.). Use reverse side or additional page if needed.

Student Signature: _____ Date: _____

Research Mentor Section:

Student's Progress is: (Select one.)

☐ More than satisfactory ☐ Satisfactory ☐ Improvement Needed

(If Improvement Needed, recommend areas on students' Dissertation Committee Update form).

Mentor's Commitment of Support: I commit to financially support and academically mentor this student according to the by-laws of the Bioengineering PhD program.

$_____
(minimum annual stipend level)

Account manager name and contact information: _____

_____

Mentor Signature Print Name Date

Graduate Advisor Section (UCSF Only):

I have met with and reviewed this student's progress on (date): _____

_____

Graduate Advisor's Signature Print Name Date

UC Berkeley - UCSF Graduate Program in Bioengineering

Constitution of Qualifying Examination Committee Worksheet

Student Name: _____ Date: _____

Research Mentor: _____ **Home Campus**: _____

Filing instructions: This optional worksheet should be used to plan the student's qualifying exam committee. The formal application for the qualifying exam is available via the student portal (UCSF) and CalCentral (UCB) and should be submitted and approved no later than three weeks before the exam date.

The Qualifying Exam is administered by a committee of four academic senate faculty members. Composition of this Committee is governed by Graduate Division policy and Program guidelines; see Section 3.5 for details. A student's Research Mentor **cannot** serve on this Committee. A standard Bioengineering Qualifying Exam Committee includes the following:

Member 1 (Committee Chair): Core member from student's home campus
Member 2: Core member from opposite campus
Member 3*: Core member from student's home campus
** for Berkeley-based students, this person serves as the Academic Senate Representative*
Member 4: May be any Academic Senate member from either campus

Name	Campus (UCB/UCSF)	Core Faculty?	Academic Title and Department	Email
Member 1 (Chair):		Yes		
Member 2 (Opposite campus):		Yes		
Member 3 (Home campus):		Yes		
Member 4 (non-core):		No		

Students in rare circumstances seeking a qualifying exam committee outside of these requirements should consult with their Head Graduate Advisor to put forth a petition to the Program's Executive Committee, and in some situations, the student's home campus Graduate Division. See Section 3.5 for more details.

Exam Date: _____ Location**:**_____Time**:** _____

UC Berkeley - UCSF Graduate Program in Bioengineering

Constitution of Dissertation Committee Worksheet

Student Name: _____ Date: _____

Research Mentor: _____ **Home Campus**: _____

<u>Filing Instructions:</u> This optional form is for planning purposes only. Students must submit their application to advance to candidacy online in the student portal (UCSF home campus) or in Cal Central (Berkeley). Students may consult with their research mentor (dissertation chair) as well as their graduate advisor (UCSF home campus students only) or HGA for advice on forming the dissertation committee. Failure to do so in a timely manner after the Qualifying Exam may jeopardize exam results. See Section 3.6 Advancement to Candidacy, and 3.9 Dissertation.

The Dissertation Committee consists of the Dissertation Chair (Research Mentor) and at least two additional Academic Senate faculty: one Academic Senate faculty member from the student's Home Campus, and one core member from the opposite campus. Fourth and fifth members of the Dissertation Committee, while optional, can add breadth of input to the student's Dissertation and ultimately serve a beneficial role in the student's academic and professional development.

Name	Campus	Full Academic Title	Email
Dissertation Chair (Research Mentor)			
Second Reader			
Third Reader			
Fourth Member (optional)			
Fifth Member (optional)			

**The two optional committee members are listed on this form, but not required on the Graduate Division form.*

UC Berkeley - UCSF Graduate Program in Bioengineering

Dissertation Committee Update

After advancing to candidacy, students are required to meet with their dissertation committee on an annual basis, either as a group or individually. The purpose of this meeting is to provide research updates and discuss the student's progress toward completing the dissertation. After each meeting, this form should be signed and submitted to the student's Home Campus administrator.

Student Name: _____Date:_____

Year Entered Program: _____ Student ID #:_____

Date Qualifying Exam Passed: _____Date Advanced to Candidacy: _____

Student comments: Describe progress toward attaining your degree during the past year (e.g. publications, abstracts, presentations, etc.). Use an additional page or back side as needed.

Describe remaining requirements and progress necessary to complete the dissertation:

Research Mentor and Dissertation Committee Section:

Student's Progress is: (Select one.)

☐ More than satisfactory ☐ Satisfactory ☐ Improvement Needed

Describe the student's progress on their dissertation this year. If Improvement Needed, recommend specific areas and methods for improvement. Use an additional page or back side as needed.

Expected Graduation Term:_____

Student Signature	**Print**	**Date**
Research Mentor / Dissertation Chair	**Print**	**Date**
Second Dissertation Reader	**Print**	**Date**
Third Dissertation Reader	**Print**	**Date**
Fourth Dissertation Reader (optional)	**Print**	**Date**
Fifth Dissertation Reader (optional)	**Print**	**Date**