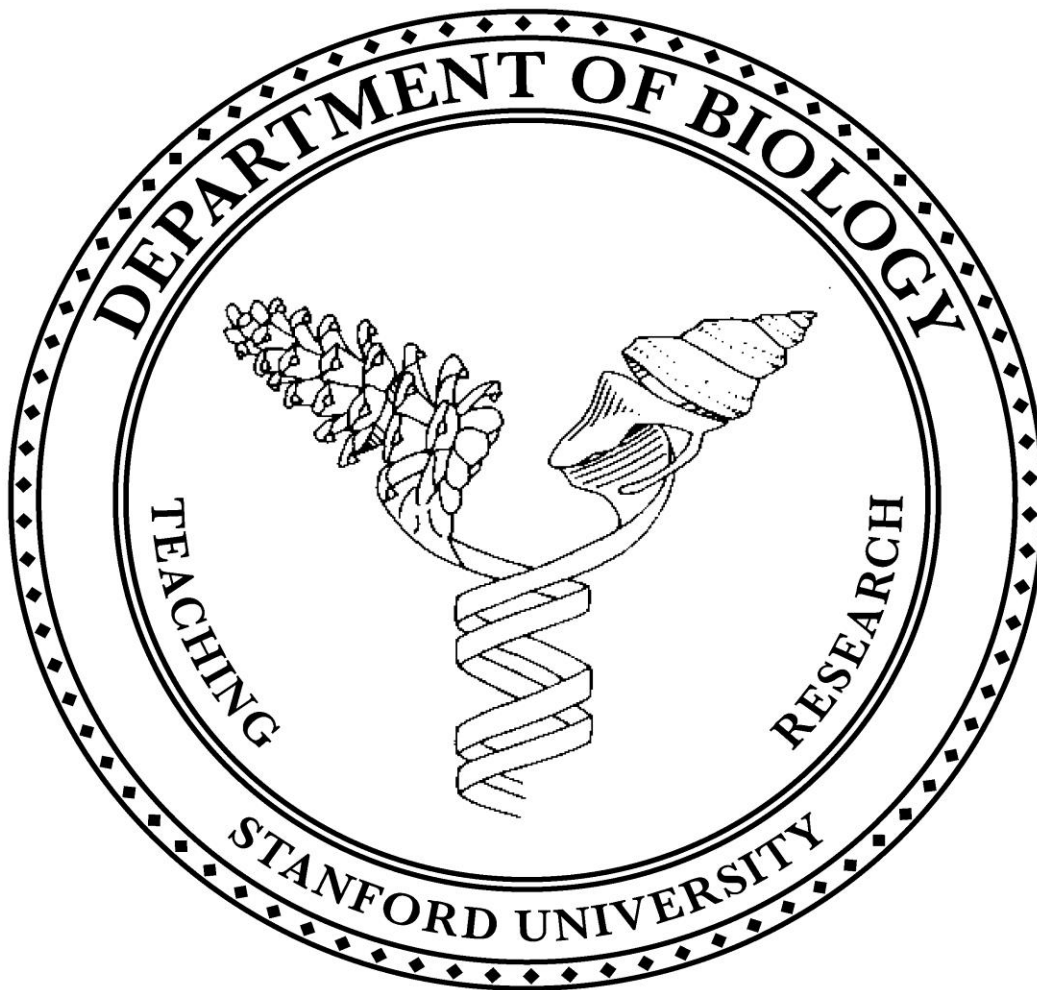


**Ph.D. Handbook**  
2015 – 2016



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## Departmental Contact Information

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### **Student Services Office**

Gilbert Building, Room 108

Stanford, CA 94305-5020

(650) 723-1826

Office hours (including summer quarter): Monday – Friday: 8:00am-4:30pm (closed 12:00pm-1:00pm)

<https://biology.stanford.edu/>

### **Student Services Staff:**

Claudia Ortega, Student Services Officer

(650) 723-1826

[ciortega@stanford.edu](mailto:ciortega@stanford.edu)

LinkedIn: Stanford Biology (group)

Dan King, Student Services Manager

(650) 723-5413

[dking20@stanford.edu](mailto:dking20@stanford.edu)

### **Faculty Research Directories:**

Biology Faculty/Research

<https://biology.stanford.edu/faculty>

Community Academic Profiles – university-wide faculty research profiles

<http://med.stanford.edu/profiles/>

### **Biology-Related Sites On/Off Campus:**

Carnegie Institute – Department of Plant Biology

<http://carnegiedpb.stanford.edu/>

Biosciences PhD Programs

<http://biosciences.stanford.edu>

Carnegie Institute – Department of Global Ecology

<http://globalecology.stanford.edu/>

Hopkins Marine Station

<http://hms.stanford.edu/>

Jasper Ridge Biological Preserve

<http://jrpb.stanford.edu/>

Falconer Biology Library

<http://lib.stanford.edu/falconer>

## Ph.D. Degree Program Overview

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Training for a Ph.D. in biology is focused on learning distinct skills required for being a successful research scientist and teacher. First and foremost is learning how to ask important questions and then devise and carry out experiments to answer these questions. Students will work closely with an established adviser during this learning process and also meet regularly with a committee of other faculty members to ensure they understand the importance of diverse perspectives on experimental questions and approaches. Students should learn how to critically evaluate pertinent original literature and to stay abreast of scientific progress in their areas of interest. In addition, students should learn how to organize and produce professional presentations and write manuscripts for publication. During their training, students also need to learn how to become effective teachers by using the resources available for developing these skills. These include working closely with faculty in classes and teaching independently in different settings.

The department strongly believes that learning these skills are essential parts of the Ph.D. education. It's very important that the learning process for a Ph.D. be accomplished within 5 years so students can begin their own scientific careers in a timely fashion. To achieve this, students, together with their advisers and committee members, need to set realistic milestones for their time in graduate school.

The Ph.D. program is divided into three separate tracks with different requirements:

1. Molecular, Cellular, Developmental and Genetic (Cell/Mol)
2. Integrative/Organismal (I/O)
3. Ecology, Evolution and Population Biology (Eco/Evo)

Please note that students studying with faculty advisers at Hopkins Marine Station are placed into one of these three categories.

### Learning Outcomes

The Ph.D. is conferred upon candidates who have demonstrated substantial scholarship and the ability to conduct independent research and analysis in biology. Through completion of advanced coursework and rigorous skills training, the doctoral program prepares students to make original contributions to the knowledge of biology and to interpret and present the results of such research

*The department reserves the right to make changes at any time without prior notice. It is the student's responsibility to review the Graduate Handbook on an annual basis.*

# Departmental Requirements for All Students

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Following is a list of milestones and forms that Ph.D. students are expected to complete, as well as their corresponding deadline. All forms and papers must be turned into the Student Services Office, Gilbert 108.

## First Year

<u>Item</u>	<u>Track</u>	<u>Due Date</u>
First Year Advising Committee form	all tracks	within first 2 weeks of Autumn Quarter
Lab Rotation Evaluation form*	Cell/Mol	end of each rotation
NSF Application	all tracks**	November 4 (Life Sciences)
Teaching Evaluation form	all tracks	end of each quarter in which you TA
First Year Progress Report	all tracks	January 31
Adviser/Lab Decision	all tracks	May 1
Seminar Evaluation form	all tracks	May 15
First Year Paper form and paper	Eco/Evo, I/O	May 15
First Year Evaluation form	all tracks	May 15
IDP Meeting	all tracks	August 1

\* Required if student is rotating

\*\* Required for eligible students

## Second Year

<u>Item</u>	<u>Track</u>	<u>Due Date</u>
NSF Application	all tracks**	early November for all fields of study
Teaching Evaluation form	all tracks	end of each quarter in which you TA
Dissertation Proposal paper	Cell/Mol	November 1
Dissertation Proposal form & presentation	Cell/Mol	November 15
Annual Committee Meeting form	Cell/Mol	May 15
Dissertation Proposal paper	Eco/Evo, I/O	May 15
Dissertation Proposal form & presentation	Eco/Evo, I/O	June 15
Application for Candidacy form	all tracks	no later than the end of Summer Quarter
IDP Meeting	all tracks	August 1

\*\* Required for eligible students

## Third Year

<u>Item</u>	<u>Track</u>	<u>Due Date</u>
Annual Committee Meeting form	all tracks	May 15
Teaching Evaluation form	all tracks	end of each quarter in which you TA
IDP Meeting	all tracks	August 1

## Fourth Year

<u>Item</u>	<u>Track</u>	<u>Due Date</u>
Request for TGR Status form	all tracks	135 units and all requirements done
Reading Committee form	all tracks	with TGR form
Committee Meeting & Timeline to Defense	all tracks	May 15
IDP Meeting	all tracks	August 1

## Fifth Year

<u>Item</u>	<u>Track</u>	<u>Due Date</u>
Autumn Progress Report	all tracks	November 15
Spring Progress Report	all tracks	May 15
Publishable Manuscript	all tracks	prior to graduating
IDP Meeting	all tracks	August 1

## Thesis Defense

<u>Item</u>	<u>Track</u>	<u>Due Date</u>
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Draft of Dissertation	all tracks	Due to committee 30 days prior to defense
University Oral Exam Schedule form	all tracks	2 weeks prior to defense

## First Year Advising

**Autumn Quarter:** Faculty members are assigned to serve on a student's First Year Advising Committee. The First Year Advising Committee is comprised of faculty members from the student's proposed area of specialization. This committee evaluates the student's background, recommends an academic program and helps in choosing the eventual dissertation research adviser and Dissertation Reading Committee.

Meetings take place during orientation week or the first week of classes. Together students and faculty will establish a course of study, taking into consideration (1) area of specialization; (2) training in accessory areas such as language, math, physical sciences and computer science; and (3) breadth in biology. Students who have not chosen a specific area will need to work closely with their committee to plan for exploration of alternatives. The First Year Advising Committee will also help students select and arrange lab rotations (if applicable), teaching opportunities and remind students of their academic and administrative responsibilities. Students should bring the First Year Advising Committee Meeting form (1A) to their meeting and return the signed form to the Student Services Office following the meeting, no later than the Monday before the final study list deadline.

**Winter Quarter:** The First Year Advising Committee will meet with the student early in Winter Quarter to evaluate his or her progress. Discussions should cover the student's progress in coursework, teaching and lab rotations. A signed First Year Progress Report from (1B) must be submitted to the Student Services Office following the meeting and no later than January 31<sup>st</sup>.

**Spring Quarter:** The First Year Advising Committee will meet with the student early in Spring Quarter to evaluate his or her progress. Discussion should focus on thesis lab selection and future course work and/or teaching. The committee is also expected to help develop an academic plan for the second year and suggest potential faculty for the student's Dissertation Reading Committee. A signed First Year Evaluation Report form (1C) must be submitted to the Student Services Office following the meeting and no later than May 15<sup>th</sup>.

## Ethics/Responsible Conduct of Research Course

All students are required to take an Ethics course. This course should be taken in the first year of the program.

**BIO 312:** Ethical Issues in Ecology and Evolutionary Biology – required for Eco/Evo students. Offered Autumn Quarter.

**MED 255:** Responsible Conduct of Research – required for Cell/Mol and I/O students. Offered all four quarters.

## Teaching

Regardless of the source of support, each Ph.D. student is required to serve as a Teaching Assistant (TA) and/or Course Assistant (CA) for two Biology (BIO or BIOHOPK) courses. Ideally students will complete their TA requirements within their first 2 years in the program.

One quarter must be in the undergraduate core lecture or lab courses (BIO 41, 42, 43, 44X or 44Y – also BIOHOPK 43 or 44Y). Students can teach in the core courses more than once but most students choose to TA advanced undergraduate electives to complete the teaching requirement. **Summer teaching positions cannot be used to fulfill teaching requirements.** Textbooks for courses are provided free of charge for teaching assistants. Please ask the instructor for a free desk copy; if one is not available, you can purchase any required texts – see student services staff.

The department requires teaching experience for two reasons. First, the department has practical needs for teaching assistance and must satisfy some of these needs with graduate teaching assistants. Second, the teaching experience is valuable for students who later choose to pursue academic careers where they will be expected to teach and develop courses as well as for students who pursue any career in which public speaking, presentation skills and program planning are used.

TA selection/appointment process:

- A list of courses offered and available TA positions are emailed to students annually, typically in August
- Students will apply for specific TA positions by contacting the Student Services Office who will then send the list of applicants to instructors
- The student must clear with their adviser that they are going to TA a course before accepting a TAship
- The course instructor and/or the student must confirm arrangements with the Student Services Office

Teaching responsibilities should be clearly understood before a student accepts a teaching position. Typical teaching responsibilities include the following:

- Assist in the preparation and grading of exams, problem sets, etc.
- Hold regular office hours
- Assist in preparation and distribution of course handouts
- Attend lectures
- Provide student course feedback to instructor
- Initiate and plan discussion sections
- For lab courses: set up experiments, check equipment and supervise clean-up

In order to fulfill their teaching requirements, students have their teaching supervisors complete the Teaching Requirement form (4). Students must submit the form to the Student Services Office.

Students who plan to TA for one of the core labs (BIO 44X or 44Y) are **required to attend** a training course, BIO 291, the preceding quarter. Registering for BIO 291 to obtain units is optional.

Optional Teaching:

Students who wish to do more teaching after they have fulfilled the requirement may ask to be considered, though faculty must give first priority to students who have not yet completed their requirements. Occasionally students want to design a new course; this is possible, but teaching requirements must already be completed and student must have written approval from his/her adviser to design and teach a class. Students interested in this should see staff in the Student Services Office 3-6 months in advance of possibly offering the course.

## Pre-Doctoral NSF Fellowship Applications

All eligible **first and second** year Ph.D. students are required to apply for a National Science Foundation Graduate Research Fellowship (NSF). If a student already has an outside fellowship, he/she is not required to apply for the NSF. Typically the application deadline is early November. Please see the NSF website for deadlines: <https://www.fastlane.nsf.gov/grfp/Login.do>.

All students are encouraged to apply for any/all fellowships for which they are eligible. Students are encouraged to consult their faculty advisers when preparing fellowship applications.

## Laboratory Safety Training

All biology lab personnel are required, under regulations from various governmental agencies, to be trained in laboratory safety pertaining to their lab. During orientation, each new graduate student is required to attend the



scheduled health and safety training session. Prior to working in the lab, new students are required to complete a number of Stanford University Environmental Health & Safety training courses online and any specialized classroom training that is required for the lab he/she will be entering. The department's safety officer will give a general safety overview and provide a **Safety Training Certificate** form, outlining the required and suggested courses for each student.

Required courses may include but are not limited to some of the following:

- General Safety & Emergency Preparedness
- Chemical Safety for Labs
- Biosafety
- Ergonomics
- Radiation Safety
- Laser Safety
- Compressed Gas Safety
- DOT: Shipping Biological Goods or Dry Ice

In most labs, the Lab Safety Coordinator is responsible to see that every person entering the laboratory has completed the safety training. In labs with no Lab Safety Coordinator, the Principal Investigator (P.I.) is responsible for health and safety training.

Every laboratory has a *Stanford Safety Manual*, which describes the Health and Safety program at Stanford, and the Emergency Response Plan for the department. Reference materials can be found on the EH&S website with a list of training videos and journals. There are CD-ROMs containing Material Safety Data Sheets (MSDS) and the Hazardous Waste Training Program available in the Falconer Biology Library.

Additional training is required when students begin to use protocols involving radioactivity and or animals. Students who may be using radioisotopes must also attend the university's radiation safety course and pass the radiation safety examination. Arrangements to take this class are made through the Health Physics Division of the Department of Environmental Health and Safety. Students involved with animals may be required to take additional safety training

## Dissertation Proposal: Two-Part Qualifying Exam in Second Year

During the second year, each student must pass a **two-part** qualifying exam.

1. Written dissertation proposal that outlines the student's projected dissertation research
2. Oral defense of the dissertation proposal

**CELL/MOL:** The written dissertation proposal must be submitted to the Student Services Office and student's Dissertation Proposal Committee by November 1<sup>st</sup> and the proposal defense must be completed by November 15<sup>th</sup>. The dissertation proposal is evaluated by a committee of four faculty members. The student's primary adviser is present (but not as a voting member) at the oral examination, which is administered by the other three members of the Dissertation Proposal Committee (*ideally two from the department and one from an outside department to serve as examiners*). Students must submit the Dissertation Proposal form (6) to the Student Services Office by the November 15 deadline.

**I/O:** The written dissertation proposal must be submitted to the Student Services Office and student's Dissertation Proposal Committee by May 15<sup>th</sup> and the proposal defense must be completed by June 15. The dissertation proposal is evaluated by a committee of four faculty members. The student's primary adviser is present (but not as a voting member) at the oral examination, which is administered by the other three members of the Dissertation Proposal Committee (*ideally two from the department and one from an outside department to serve as*

*examiners*). Students must submit the Dissertation Proposal form (6) to the Student Services Office by the June 15 deadline.

**ECO/EVO:** The written dissertation proposal must be submitted to the Student Services Office and student's Dissertation Proposal Committee by May 15<sup>th</sup> and the proposal defense must be completed by June 15. The dissertation proposal is evaluated by a committee of three faculty members in an oral presentation. The committee consists of the student's primary adviser and a minimum of two other faculty. Students must submit the Dissertation Proposal form (6) to the Student Services Office by the June 15 deadline.

## Dissertation Proposal Committee Responsibilities and Proposal Guidelines

The Dissertation Proposal Committee evaluates the written dissertation proposal and administers/evaluates the dissertation proposal defense. The Dissertation Proposal Committee also assists in such aspects as initial choice of dissertation topic, planning and execution of research, dissertation and related publications writing and planning a career. The student is responsible for scheduling these meetings. Members of this committee also typically serve on the Dissertation Reading Committee and the Oral Examination Committee, but in consultation with adviser and other faculty, students have the option to change committee members in the future if needed.

### **Guidelines for 2<sup>nd</sup> Year Dissertation Proposal (Committee, Paper and Examination) for Cell/Mol and I/O Students**

**Dissertation Proposal Committee Requirements:** Three faculty members (not including the adviser), ideally two from the department and one from an outside department, serve as examiners. The primary adviser should attend but is not involved in the examination. The role of the primary adviser is to introduce the student, clarify questions or content when necessary, otherwise serving as an observer.

**Guidelines for Proposal Paper:** The paper should follow the NIH research proposal guidelines. The content should include the following:

1. Introduction and specific aims
  - Brief introduction addressing biological question including 3-4 specific aims
2. Background and significance
3. Preliminary data
  - Preliminary data should be included if relevant
  - This can be included before the research design or as each aim is proposed
4. Research design and methods for each aim
  - Overview and rationale for aim
  - Experimental plan
  - Expected results
  - Limitations/contingency plans

Length of document should not exceed 10 pages, excluding figures and references. References should contain information such as article title (e.g. in the style of Cell rather than Science).

**Oral Exam:** The length of the oral exam will be up to 90 minutes. At the beginning, the student will be asked to leave the room and the student's primary adviser will discuss the student's overall progress in the laboratory and the state of completion of coursework and TA requirements. One member of the committee, who is not the student's primary adviser will be designated as chair.

The oral part of the qualifying exam is not a seminar—it is an evaluation of the student's ability to:

- Summarize the field of study, including past and current work from others

- Generate a working hypothesis
- Develop a plan that could be completed in 3-4 years
- Understand the logic of experimental design
- Develop a decision tree based on (all) possible results of experiments
- Draw conclusions and adapt hypotheses depending on results

The examination should include a few slides that summarize the background, hypothesis, specific aims, preliminary results (if available) and experiments. To plan the number of slides, students should assume that the total time with no interruptions will be 15-20 minutes (i.e. 2-3 min/slide = <10 slides).

Following the oral defense, the student will be asked to leave the room and the committee will then discuss the written and oral parts of the exam, the student's progress and whether the student has passed or failed. The chair of the committee will summarize the discussion in the presence of the student. The chair is responsible for writing the summary in the Dissertation Proposal form (6) provided by the student, ensure that all committee members agree and sign and submit the signed form to the Student Services Office.

Should the student fail one or both parts of the exam, the committee should identify specific areas that need to be addressed, and agree on the next steps, including re-writing and/or a second oral defense. This discussion should be summarized on the Dissertation Proposal form (6) and followed by an e-mail from the committee to the student outlining the problems, what the student needs to do to pass and a timeline to complete this task. Student services and the chair of the Graduate Studies Committee should be cc'ed on this email.

### **Guidelines for 2<sup>nd</sup> Year Dissertation Proposal (Committee, Paper and Examination) for Eco/Evo**

**Dissertation Proposal Committee Requirements:** The student should form his/her Dissertation Proposal Committee well before the anticipated date of the dissertation proposal defense and should consult committee members in a timely manner to make sure their expectations are clearly understood and to allow time to produce a professionally effective proposal.

**Proposal Requirements:** In general, the student should prepare a written document and spoken presentation sufficient to support a 30 minute presentation of the goals of the thesis, typically including preliminary data, models, etc. as appropriate which are relevant to at least the first goal, and should be prepared thereafter to discuss questions raised by the committee in professional scientific depth.

Students are strongly encouraged to speak directly with their adviser and committee if they have specific questions or concerns regarding the format and content of the written proposal and/or procedures for the oral examination.

**Once a student successfully defends his/her dissertation proposal and is admitted to candidacy at the end of second year, the Dissertation Proposal Committee typically becomes his/her Dissertation Reading and Oral Examination Committee.**

### Candidacy

All students must advance to candidacy by the end of their second year. This is contingent upon satisfactory completion of course work, teaching and the dissertation proposal. If a student does not meet the requirements for advancing to candidacy by the end of second year, the student is subject to dismissal from the Ph.D. program. *PLEASE NOTE: Prior to candidacy, at least 3 units of work must be taken with each of four Stanford faculty members. Three units of work can include lectures, labs, seminars, teaching, research, directed readings, and independent study.* Please see the university's policy on candidacy in the Bulletin at <http://exploreddegrees.stanford.edu/graduatedegrees/#doctoraltext>.

## Committee Meetings

Students must meet with their advising committee in Spring Quarter each year. Students are required to submit a two page written progress report to their committee at each meeting. It should contain an overview of the information to be presented/discussed at the meeting (1 ½ pages) as well as goals for the next meeting (½ page). The written progress report and signed Committee Meeting form must be submitted to the Student Services Office following the committee meeting and no later than May 15.

- 2<sup>nd</sup> Year (Cell/Mol students only): due by May 15
- 3<sup>rd</sup> Year (all students; all tracks): due by May 15
- 4<sup>th</sup> Year and beyond (all students; all tracks): due by May 15. The 4<sup>th</sup> year committee meeting written progress report should describe the following:
  - a. Progress towards goals
  - b. A timeline to graduation within 5.5 years
  - c. A timeline towards publication(s)
  - d. If applicable, a written petition for extending the time to graduate beyond 5.5 years with an explicit anticipated date for graduation; a petition could be for health, personal or scientific reasons

The meeting must also include a formal slide presentation and timeline to degree completion with specific milestones outlined. Career planning should begin at this meeting.

- 5<sup>th</sup> year (all students; all tracks): due November 15. The student will send each committee member an updated progress report of work done and the timeline of experiments to graduation no later than November 15. Student services staff should be formally notified that the report was generated, sent and evaluated by the committee. Progress report should be two pages maximum, using bullet points for key topics and student must request feedback from committee within two weeks of submitting the report. No in-person meeting is required unless committee requires one.
- 5<sup>th</sup> year (all students; all tracks) no later than the end of 5<sup>th</sup> year, but at least 6 months prior to defense, a formal committee meeting including slide presentation to finalize degree completion, which must occur no later than winter quarter of 6<sup>th</sup> year (5.5 years total in the Ph.D. program).

## Individual Development Plan and Annual Planning Meetings

All Biosciences PhD candidates and their faculty mentors in the Schools of Medicine and H&S are required to create and discuss their Individual Development Plan (IDP) on an annual basis.

The IDP and annual planning meeting with the adviser are intended to help the student:

- Take ownership of their training and professional development.
- Pause and reflect! Amidst daily research activities, it is easy to lose sight of longer-term goals.
- Think intentionally about their short-, mid- and long-term training and development goals.
- Identify and use resources to help them achieve your goals.
- Have open and direct dialogue with their mentor(s).
- Establish clear expectations/steps.

Students and their advisers share responsibility for completing the IDP, as well as the consequences of not completing the IDP by the deadlines below. Failure to comply with IDP requirements will

- negatively impact Stanford's ability to receive NIH funding; and
- incur a hold on student registration that prevents stipends from being funded.

## IDP Process and Deadlines

1. Schedule your annual mentoring meeting with your adviser **by June 1**.
2. Download and complete the appropriate IDP form; it will prompt you to assess your skills and progress, set developmental goals and identify any training needs.
3. Hold the meeting with your adviser by **August 1** to discuss your IDP, review progress, set goals and clarify expectations
4. Verify by **August 1** that you have met and discussed your IDP with your adviser

See <http://biosciences.stanford.edu/current/idp/> for more information and IDP forms, including extensive FAQs and resources for both faculty and students.

## Publishable Manuscript

In order to graduate, students must have one publishable manuscript or paper to which they have been the major contributor. Students are not required to have the manuscript already published in order to graduate; however, the paper must be ready for submission for publication.

## Dissertation Defense and Dissertation Submission

The conferral of the Ph.D. is dependent upon successful completion of an oral exam and dissertation submission, along with completion of all other departmental and university requirements. The Department of Biology requires students to finish their PhD within 5.5 years. Students are required to complete their defense and submit their dissertation no later than the end of Winter Quarter of their 6th year. The oral exam is a public seminar followed by a closed session with the student's Oral Examination Committee. **At least 30 days before the oral exam, a substantial final draft of the dissertation must be turned in to the student's Oral Examination Committee.** The student should check in with the committee and incorporate any changes by the time of the exam. The exam cannot be formally scheduled or publicly announced until the student receives approval from the committee. The student should, however, start scheduling a date and time with the committee earlier than that, to ensure that everyone is available on the projected date. The dissertation presented at the defense is expected to be in the final form that will be submitted to the university barring any changes suggested by the student's committee at the defense. University guidelines for dissertations are available online at:

<http://studentaffairs.stanford.edu/registrar/students/dissertation-thesis>. For more detailed University policies regarding these two requirements please see the Bulletin at <http://exploreddegrees.stanford.edu/graduatedegrees/#doctoraltext>.

# Track Specific Requirements for First Year Students

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## Molecular, Cellular, Developmental and Genetics Track

### Courses

All courses must be completed prior to Spring Quarter of the 4<sup>th</sup> year, except for the required first year courses as noted.

- **BIO 301:** Frontiers in Biology – two quarter course taken Autumn and Winter quarters of 1<sup>st</sup> year
- **MED 255:** Responsible Conduct of Research – offered every quarter, taken 1<sup>st</sup> year
- **BIOS 200:** Foundations in Experimental Biology – Autumn Quarter, taken 1<sup>st</sup> year
- One additional course in *each* of the following four scientific areas to be decided upon by the student and the First Year Advising Committee. Up to two of these courses may be “mini courses” in the Biosciences (BIOS).
  - Cell Biology
  - Biology of Molecules
  - Genetics/Genomics
  - Quantitative Methods

Descriptions of available courses can be accessed through <http://explorecourses.stanford.edu/>. Please note that there is a university requirement that all Ph.D. students must complete at least 3 units of work with each of four Stanford faculty members. Three units of work can include lectures, labs, seminars, teaching, research, directed readings and independent study. This is required by the university to advance to candidacy. Students need to plan accordingly.

### Lab Rotations

Completion of rotations in at least two different laboratories for a total of 20 weeks during Autumn and Winter quarters is required of all first year students. At least one lab rotation must be with faculty in the Department of Biology. Due to potentially limited lab space, students are encouraged to set up rotations as early as possible. Signed Lab Rotation Evaluation forms (2) are due at the conclusion of each rotation. Students may complete more than two rotations but students should keep in mind that rotations will not be full-quarter rotations and need to plan accordingly.

### Adviser/Lab

By May 1, each first year student is required to join a lab in which to perform dissertation research. The faculty member in charge of the lab must agree to accept the student, becoming the student’s primary adviser. The student must email student services and cc the adviser of their lab decision. If the student cannot make a decision at that time, he/she must convene a meeting with his/her First Year Advising Committee, and inform the student services office to formally request an extension. The student will need to report on his/her previous rotations, provide a definitive plan for an additional rotation and a time-line to make a decision.

### Seminar Presentation

The seminar requirement is fulfilled by presenting a 50-minute talk in BIO 301. At least two faculty members from the Department of Biology must attend the seminar and evaluate the presentation. Evaluation will consist of meeting with each faculty member within one week following the seminar to obtain comments. If the faculty members approve the presentation, they will sign the Seminar Evaluation form (3) at this time. In some cases, they may require an additional talk before signing.

*Note: Written petitions for exemptions to requirements are considered by a student's Advising Committee and the Graduate Studies Committee Chair. Approval is contingent on special circumstances and is not routinely granted.*

## Integrative/Organismal Track

### Courses

All courses must be completed prior to Spring Quarter of the 4<sup>th</sup> year, except for the required first year courses as noted.

- **BIO 301:** Frontiers in Biology – two quarter course taken Autumn and Winter quarters of 1<sup>st</sup> year  
*\*I/O Hopkins students may have the option of taking BIO 302, 303 and 304 and should consult with their advising committee*
- **MED 255:** Responsible Conduct of Research – offered every quarter; must be taken in 1<sup>st</sup> year
- In addition to BIO 306 and MED 255, students may be required to take a set of courses to be determined by the advising committee.

Please note that there is a university requirement that all Ph.D. students must complete at least 3 units of work with each of four Stanford faculty members. Three units of work can include lectures, labs, seminars, teaching, research, directed readings and independent study. This is required by the university to advance to candidacy. Students need to plan accordingly.

### Lab Rotations

In the first year, students are encouraged, but not required, to carry out research rotations to help them select an adviser/research lab. Since lab space is potentially limited, students are encouraged to set up rotations as early as possible. If students rotate in labs, they are required to submit signed Lab Rotation Evaluation forms (2) at the conclusion of each rotation.

### Adviser/Lab

By May 1, each first year student is required to join a lab in which to perform dissertation research. The faculty member in charge of the lab must agree to accept the student, becoming the student's adviser. The student must email student services and cc the adviser their lab decision. If the student cannot make a decision at that time, he/she must convene a meeting with his/her First Year Advising Committee, and inform the student services office to formally request an extension. The student will need to report on his/her previous rotations, provide a definitive plan for an additional rotation and a time-line to make a decision.

### Seminar Presentation

The seminar requirement is fulfilled by presenting a 50-minute talk. The student must arrange for at least two faculty members from the Department of Biology to attend the seminar and evaluate the presentation. Evaluation will consist of meeting with each faculty member within one week following the seminar to obtain comments. If the faculty members approve the presentation, they will sign the form at this time. In some cases, they may require an additional talk before signing. The Seminar Evaluation form (3) must be submitted to the Student Services Office no later than May 15 of a student's first year in the program.

### First Year Paper

Each student must prepare and submit a paper before the end of the first year that will be evaluated by the First Year Advising Committee. This paper should be a step toward the development of a dissertation proposal and may consist of an analysis of new data or a literature review and synthesis. The paper must be read, commented upon, and agreed to as satisfactory by a minimum of two faculty members from the Department of Biology. The First

Year Paper Evaluation form (5) and a copy of the first year paper must be submitted to the Student Services Office no later than May 15.

*Note: Written petitions for exemptions to requirements are considered by a student's Advising Committee and the Graduate Studies Committee Chair. Approval is contingent on special circumstances and is not routinely granted.*



# Ecology, Evolution and Population Biology Track

## Courses

All courses must be completed prior to Spring Quarter of the 4<sup>th</sup> year, except for the required first year courses as noted.

- **BIO 302, 303, 304:** Current Topics and Concepts in Population Biology, Ecology and Evolution – students must enroll in Autumn, Winter and Spring quarters of 1<sup>st</sup> year
- **BIO 312:** Ethical Issues in Ecology and Evolutionary Biology – must be taken in Autumn Quarter of 1<sup>st</sup> year
- In addition to BIO 302, 303, 304 and 312, students may be required to take a set of courses to be determined by the advising committee.

Please note that there is a university requirement that all Ph.D. students must complete at least three units of work with each of four Stanford faculty members. Three units of work can include lectures, labs, seminars, teaching, research, directed readings and independent study. This is required by the university to advance to candidacy. Students need to plan accordingly.

## Seminar Presentation

The seminar requirement is fulfilled by presenting a 50-minute talk. The student must arrange for at least two faculty members from the Department of Biology to attend the seminar and evaluate the presentation. Evaluation will consist of meeting with each faculty member within one week following the seminar to obtain comments. If the faculty members approve the presentation, they will sign the form at this time. In some cases, they may require an additional talk before signing. The Seminar Evaluation form (3) must be submitted to the Student Services Office no later than May 15.

## First Year Paper

Each student must prepare and submit a paper before the end of the first year that will be evaluated by the advising committee. This paper should be a step toward the development of a dissertation proposal and may consist of an analysis of new data or a literature review and synthesis. This can be satisfied in a number of ways which all involve **new writing**, undertaken since entering the Stanford program. These may include:

- a new draft research manuscript; a previously published paper will not do, because it may have received much editorial modification in the review process.
- some other piece of new writing, such as a review paper from a course, or an initial literature review of a potential thesis topic. In this case the paper should ordinarily be not less than 10 double-spaced pages in usual sized font, and not more than 10 single-spaced pages plus references. It should be written in the style of a standard scientific paper.

The paper should be read, commented upon, and agreed to as satisfactory by two Eco/Evo faculty. The First Year Paper Evaluation form (5) and a copy of the first year paper must be submitted to the Student Services Office no later than May 15.

*Note: Written petitions for exemptions to requirements are considered by a student's Advising Committee and the Graduate Studies Committee Chair. Approval is contingent on special circumstances and is not routinely granted.*

## Administrative Information

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### Satisfactory Degree Progress

The university's requirements for satisfactory degree progress for graduate students are found in the Bulletin at <http://exploredegress.stanford.edu/graduatedegrees/#degreeprogress>.

In addition, the department requires satisfactory and timely completion of each year's general and track specific requirements. Students are required to pass all courses in which they are enrolled and earn a grade of B- or better in all courses applicable to the degree that are taken for a letter grade. Students not making satisfactory degree progress are subject to departmental academic review and/or dismissal.

### Registration/Enrollment

**All students in the Ph.D. program are required to register Autumn, Winter, Spring and Summer quarters.** All students must register for exactly 10 units each quarter until they advance to Terminal Graduate Registration (TGR) status (135 units) unless otherwise instructed by the department.

Access to Stanford student privileges (housing, financial aid, access to courses and facilities, etc.) is contingent upon timely and accurate completion of these primary activities each term:

1. Quarterly registration for courses on-line via Axess; minimum of 10 units of courses and/or research.
2. Updating contact information in Axess.
3. Payment of university bill. The department pays for tuition and Cardinal Care; student is responsible for other costs.
4. Completing and confirming a final study list by the university's quarterly deadline (study list = courses/units in which the student wishes to enroll).

Deadlines are set for each of these activities. These deadlines can be found on the login page on Axess. Deadlines include: submission of the study list, dropping or adding courses or units, selecting credit/no credit (CR/NC) grading instead of letter grading for a course, withdrawing from a course, etc. Students who fail to meet the above deadlines will be responsible for paying any associated late fees.

All students are strongly encouraged to read and keep as a reference the *Stanford Bulletin* which is available online: <http://exploredegress.stanford.edu>.

### Terminal Graduate Registration (TGR)

TGR is a full-time student status and comes with a lower tuition rate which acknowledges that formal course work is no longer needed because the student's main activity will be dissertation research. TGR status is granted once the following requirements are satisfied: advancement to candidacy, completion of all required courses and degree requirements and accrual of 135 units.

The Student Services Office will notify students when they become eligible for TGR. Students must complete the following forms prior to the start of the quarter in which they become eligible for TGR (typically Spring Quarter of the 4<sup>th</sup> year):

- Request for TGR Status form
- Doctoral Dissertation Reading Committee form

All TGR students must enroll in **BIO 802 or BIOHOPK 802H for zero units**, by selecting their primary adviser's section. Course work is no longer considered necessary during this advanced stage of study; however, students are allowed to take 1-3 units during TGR quarters if they choose to. Talk to the staff in the Student Services Office to inquire about this.

## Continuous Registration

Graduate students are required by the Department to register for Autumn, Winter, Spring and Summer quarters each year until the degree is conferred. Unregistered students will not receive university or department funds, have university paperwork processed, be eligible to take the university oral examination or be able to fulfill any other university requirements.

## Internships

Participation in internships requires approval from the student's adviser because the student will likely take time away from their academic work. Students must discuss their internship intent and plans with their adviser and explain what he/she will be doing, how it will benefit their training, and their plan for accomplishing their academic goals once they return to the lab. Such a discussion will be mutually beneficial for the student and adviser to set expectations and get guidance from their adviser on how to pursue their academic goals.

The student must email student services their internship plan and cc the adviser. The email should include internship dates, if it's a paid and if the work will be directly related to their dissertation or if it's professional development. Students are required to inform the Student Services Office immediately of their internship plan and may be required to complete necessary forms, such as, a Leave of Absence Form.

## Leave of Absence

If a break in continuous formal study is needed, graduate students must request a formal leave of absence from their adviser and the department chair, and the agreement must be provided to the staff in the Student Services Office. The maximum period of leave granted is one year. The Leave of Absence petition is required. Graduate students on a leave of absence do not receive any financial support from the department. Students should consult with student services staff, if considering this option; staff will discuss administrative resources, impacts, etc.

If the student is not able to resume studies by the quarter originally approved by the Department Chair, a one-time extension may be requested. If he/she wishes to return after an approved leave of absence has expired, the student must apply for reinstatement. Renewed financial support from the department cannot be guaranteed in the event of an extended leave of absence. There are no guarantees that the Registrar's Office will approve a second year.

## Responsibility for Grading

Grading (letter grades, student-elected credit/no credit (CR/NC), or satisfactory/no credit (S/NC) options) for research work within the department should be discussed between the graduate student and the research advisers in whose labs they work.

**Students are responsible for making sure grades are reported.** If asterisks (\*), incomplete grades (I), grade not reported (GNR) or No Credits (NC) appear on the end quarter grade report; students should check with their instructor immediately. The Student Services Office can assist students in clearing up missing and incomplete grades by forwarding the appropriate instructions and/or university forms to course instructors. Please contact instructors in a timely manner to ensure that grades are submitted.

## Honor Code and Fundamental Standard

### Honor Code

<http://studentaffairs.stanford.edu/communitystandards/policy/honor-code>

The Honor Code is the University's statement on academic integrity written by students in 1921. It articulates University expectations of students and faculty in establishing and maintaining the highest standards in academic work:

- The Honor Code is an undertaking of the students, individually and collectively:
  - that they will not give or receive aid in examinations; that they will not give or receive unpermitted aid in class work, in the preparation of reports, or in any other work that is to be used by the instructor as the basis of grading;
  - that they will do their share and take an active part in seeing to it that others as well as themselves uphold the spirit and letter of the Honor Code.
- The faculty on its part manifests its confidence in the honor of its students by refraining from proctoring examinations and from taking unusual and unreasonable precautions to prevent the forms of dishonesty mentioned above. The faculty will also avoid, as far as practicable, academic procedures that create temptations to violate the Honor Code.
- While the faculty alone has the right and obligation to set academic requirements, the students and faculty will work together to establish optimal conditions for honorable academic work.

Examples of conduct that have been regarded as being in violation of the Honor Code include:

- Copying from another's examination paper or allowing another to copy from one's own paper
- Unpermitted collaboration
- Plagiarism
- Revising and resubmitting a quiz or exam for re-grading, without the instructor's knowledge and consent
- Giving or receiving unpermitted aid on a take-home examination
- Representing as one's own work the work of another
- Giving or receiving aid on an academic assignment under circumstances in which a reasonable person should have known that such aid was not permitted

To learn more about citation styles, visit: <https://undergrad.stanford.edu/programs/pwr/resources/documentation-and-citation-resources-writers>.

In recent years, most student disciplinary cases have involved Honor Code violations; of these, the most frequent arise when a student submits another's work as his/her own, or gives or receives unpermitted aid. The standard penalty for a first offense includes a one-quarter suspension from the University and 40 hours of community service. In addition, most faculty members issue a "No Pass" or "No Credit" for the course in which the violation occurred. The standard penalty for multiple violations (e.g. cheating more than once in the same course) is a three-quarter suspension and 40 or more hours of community service.

### Fundamental Standard

<http://studentaffairs.stanford.edu/communitystandards/policy/fundamental-standard>

The Fundamental Standard has set the standard of conduct for students at Stanford since 1896. It states:

Students at Stanford are expected to show both within and without the University such respect for order, morality, personal honor and the rights of others as is demanded of good citizens. Failure to do this will be sufficient cause for removal from the University.

Over the years, the Fundamental Standard has been applied to a great variety of situations. Actions that have been found to be in violation of it include:

- Physical Assault
- Property damage; attempts to damage University property
- Theft, including theft of University property such as street signs, furniture and library books
- Forgery, such as signing an instructor's signature to a grade change card
- Sexual harassment or other sexual misconduct
- Charging computer time or long distance telephone calls to unauthorized accounts
- Misrepresentation in seeking financial aid, University housing, discount computer purchases or other University benefits
- Misuse of University computer equipment or e-mail
- Driving on campus while under the influence of alcohol or drugs  
(<http://studentaffairs.stanford.edu/communitystandards/integrity/driving-influence>)
- Sending threatening and obscene messages to another student via e-mail, phone or voice-mail

There is no standard penalty that applies to violations of the Fundamental Standard. Infractions have led to penalties ranging from formal warning and community service to expulsion. In each case, the nature and seriousness of the offense, the motivation underlying the offense and precedent in similar cases are considered.

Explanations for both of the Honor Code and the Fundamental Standard were taken from the website for the Office of Community Standards. For more information about the Honor Code and the Fundamental Standard, please visit: <http://studentaffairs.stanford.edu/communitystandards>.

## Dismissal from the Program

Students not making satisfactory degree progress are subject to departmental academic review and or dismissal. In cases where a student is subject to dismissal, the department will follow the Guidelines for Dismissal of Graduate Students for Academic Reasons found in the Bulletin at <http://exploreddegrees.stanford.edu/graduatedegrees/#degreeprogress>.

# Financial Aid

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## General Policy

Students will receive funding from a variety of sources (fellowships, training grants, department, faculty, etc.) for a maximum of 5.5 years. All funding is contingent upon satisfactory progress toward degree completion. Students in the Ph.D. program are provided with a stipend/salary, tuition, and health insurance for four academic quarters each year. Departmental financial and/or other sources are used to fund students through three years and three quarters of study after which the student's dissertation research adviser is responsible for his/her financial support.

## Pre-Doctoral Fellowships

All eligible **first and second** year Ph.D. students are required to apply for a National Science Foundation (NSF) fellowship. The application deadline is typically early November. Please see the NSF website for deadlines: <https://www.fastlane.nsf.gov/grfp/Login.do>.

Students in their third year and beyond are strongly encouraged to apply for other fellowships for you are eligible. These include (but are not limited to) the NIH NRSA, Bio-X, DoD NDSEG, SIGF and DARE fellowships.

While the department guarantees funding for all of our students who are in good standing, applying for fellowships is an important part of your graduate training. It not only develops your scientific (and grant) writing skills, but can also assist in further clarifying the aims of your research project. Whether you choose a career in industry or academia, these skills will also be transferable to your chosen field. Finally, receiving additional graduate fellowships adds prestige to your CV and makes you more marketable to employers upon graduation.

Students are encouraged to consult their faculty advisers when preparing fellowship applications. The Financial Aid Office in Montag Hall has a complete listing of other possible fellowships. In addition, the awards database available contains information on over 1,200 awards of academic interest: <http://biology.stanford.edu/funding-information-phd-students>.

To stay updated on workshops and fellowship deadlines, join the Biosciences fellowship mailing list: <https://mailman.stanford.edu/mailman/listinfo/fellowship-mentoring/>.

## Notification of Support

Continuing students will receive a financial support letter at the beginning of Autumn Quarter that states the type and amount of funding for each new academic year. This information will include the schedule for payment (quarterly, bi-weekly or a combination of both) and the enrollment deadline by which each student must register for classes each quarter.

## Funding Levels

All Ph.D. students supported by department or university funds receive the stipend/salary amount established by the Committee on Graduate Admissions and Policies (CGAP) for the fourteen degree programs in the Biosciences.

## Direct Deposit and Billing Information

Axess (<http://axess.stanford.edu>) is the primary link for funding information and other sites relevant to a student's academic career at Stanford. After receiving a SUNet ID, students visit Axess to securely enroll in direct deposit, view pay statements and declare state and federal tax withholding allowances.

## Bill Notification and Payment

It is Stanford University's policy to furnish timely and accurate billing information as well as effective payment options to students and authorized payers. Billing and payment services are delivered electronically through Stanford's online billing and payment service Stanford ePay.

Bill notification is sent to each student's Stanford email address as recorded in Axess. All students with balances will receive a bill notification via Stanford ePay.

Charges and credits from university departments are aggregated in a student's individual account and presented on the university bill in Stanford ePay. The Stanford University bill is made up of three sections: charges, payments/disbursed aid/other and anticipated aid.

## Charges/Fees

Charges are the primary component of the university bill. Charges are compiled from various offices and departments and placed on the bill. Examples of charges a student may see on the university bill:

- **Tuition fees.** These charges depend on the number of units taken. The Department of Biology will process payments for tuition fees (not to exceed the 10 unit tuition rate).
- **Housing, room and dining charges.** These fees are charged by Residential & Dining Enterprises. Other housing charges may include early arrival fees, repair fees and termination of occupancy fees. The Department of Biology does NOT cover housing costs. If a student would like to have housing costs deducted from their paycheck it is the student's responsibility to set up the deductions. For more information on payroll deductions please see <http://studentaffairs.stanford.edu/sfs/bill/overviews-payroll-deduction>.
- **Health Insurance (Cardinal Care) fee.** All registered students are automatically enrolled in Cardinal Care Insurance at the beginning of each quarter. The Department of Biology will pay Cardinal Care for each student.
- **Campus Health Services fee.** This fee supports many of the services provided by Vaden Health Center and is mandatory for all undergraduate and graduate students enrolled in Stanford. The services provided by Vaden Health Center are not covered by health insurance (Cardinal Care) fees. The Department of Biology is not permitted to pay this fee directly; however, the amount of the fee is added to each student's stipend/salary to cover the cost.

## Payments, Disbursed Aid and Other

The payment section of the university bill shows all payments and disbursed financial aid applied to the student account. Payments made via cash, paper checks, eCheck, wire and credit card will reduce the amount shown in the "Charges" section. Most disbursed financial aid will reduce the charges on the university bill. However, in some cases, disbursed aid will go directly to the student in the form of a stipend. Overpayments and stipends are given to the student in the form of a check (mailed directly to the address listed in Axess) or online direct deposit.

## Anticipated Aid

Anticipated aid is defined as any grants, scholarships, stipends, fellowships, or student loans and other aid which has not yet been applied to the charges on the university bill. Anticipated aid allows students and authorized payers to calculate what they need to pay to satisfy the bill. Anticipated aid is not always the amount of aid a student may receive. It is an estimate of what MAY be received. Before the term begins, Anticipated Aid displays to show what aid will be applied to the bill after the student enrolls at least half-time. The bill will include a description of the aid that will apply, e.g. grant, scholarship, stipend or fellowship.

## Loans

Information and application forms for federally subsidized student loans are available online through the Financial Aid Office: <http://www.stanford.edu/dept/finaid/grad/funding/index.html>. If graduate students experience an unexpected financial hardship, it is possible to apply for grant-in-aid (small grants, not loans): <http://www.stanford.edu/dept/finaid/grad/funding/emergency>.

## Taxes

Current U.S. regulations for taxation of graduate student funding are as follows:

- For degree-seeking students, the tuition portion of fellowships and assistantships is exempt from tax.
- Fellowship stipends and assistantship salaries are subject to tax. The amount of tax varies according to the student's total income, dependency status, treaty status for international students and individual circumstances.
- Assistantship salaries are subject to tax withholding.
- Tax is not withheld from fellowship stipends paid to U.S. citizens and Permanent Residents. Students are responsible for making any estimated tax payments.
- Fellowship stipends paid to international students are subject to a 14% withholding, regardless of the number of dependents.
- International students may be eligible for tax exemption on fellowship stipends and/or assistantship salaries if their country of residence has an existing tax treaty with the U.S.
- The cost of fees, books, supplies and equipment required for a course of study may be claimed as a tax deduction. In some instances expenses for conference attendance and fieldwork may also be deducted.
- Students will receive a W-2 form covering Stanford salaries, including assistantships. They will not receive a tax statement of fellowship stipends.

Additional tax information can be found on the Student Financial Services website, <http://studentaffairs.stanford.edu/sfs/tax>.

Bechtel International Center (<http://icenter.stanford.edu/>) offers a number of tax workshops each year for international students.

*Important Note:* This brief discussion of tax items is not to be considered tax advice. Please refer to the IRS (Internal Revenue Service) for detailed information. Where needed, students should seek tax counsel.



# University Requirements

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## GPA and Individual Course Grades

University policy requires graduate students to maintain a 3.0 or higher GPA. Policy also requires that student receive a B- or higher in any class in order for the class to count toward satisfactory degree progress and/or degree requirements.

## Residency

At Stanford, as at other research universities, each advanced degree program has a residency requirement based on the number of academic units required for the degree. For doctoral degree candidates this requirement is 135 units. Students in the doctoral program are eligible for the TGR tuition rate when they have completed the unit-based requirement and all other requirements established by the University and the academic department.

The fundamental reason for this requirement is educational: the minimum residency fixed for each program is the shortest period that students generally need to attain the level of expertise that a particular Stanford advanced degree signifies, by completing specified course work, research, and other degree requirements and by immersing themselves in the intellectual life of this university. Please see the Bulletin for more information on the University's residency policies: <http://exploreddegrees.stanford.edu/graduatedegrees/#residencytext>.

## Admission to Candidacy

Students must be admitted to candidacy by the end of the summer quarter of their second year of study. Admission to candidacy signifies that the department considers the student capable of completing the requirements necessary for earning a Ph.D. degree. Candidacy is valid for five calendar years unless terminated by the department for unsatisfactory progress. An extension of candidacy may be obtained for a maximum of one additional year. Please note that there is a university requirement that all Ph.D. students must complete at least 3 units of work with each of four Stanford faculty members. Three units of work can include lectures, labs, seminars, teaching, research, directed readings and independent study. This is required by the university for admission to candidacy. Students need to plan accordingly.

The university form required for admission to candidacy is available online at: <http://studentaffairs.stanford.edu/sites/default/files/registrar/files/appcanddoct.pdf>. The dissertation proposal requirement must be completed before the Application to Candidacy for Doctoral Degree can be approved. Please see the university's policy on candidacy in the Bulletin at <http://exploreddegrees.stanford.edu/graduatedegrees/#doctoraltext>.

## Dissertation Reading Committee

Students must have at least three faculty members serve on their Dissertation Reading Committee (the department recommends that students select four) who read and certify their dissertation. The Dissertation Reading Committee consists of the principal dissertation adviser and at least two other readers. At least one member must be from the Department of Biology (ideally two members). The Dissertation Reading Committee is generally composed of members who will serve on the Oral Examination Committee. The majority of committee members must be on the Stanford University Academic Council. Students must formally name the members of the Dissertation Reading Committee when TGR registration status is reached. For more detailed University policies regarding these requirements please see the Bulletin at <http://exploreddegrees.stanford.edu/graduatedegrees/#doctoraltext>.

The Doctoral Dissertation Reading Committee form must be submitted to the Student Services Office before registering for TGR.

## University Oral Examination

The University Oral Examination is a requirement for the Ph.D. degree. The purpose of the examination is to test the candidate's command of the field of study and to confirm competence for scholarly pursuits. The examination should be taken as soon as the dissertation is in its final draft and has been provisionally approved by the student's Dissertation Reading Committee.

Students must be registered, have advanced to candidacy and have a Dissertation Reading Committee form on file in the Student Services Office during the quarter in which the University Oral Examination is taken.

## University Oral Examination Committee

The University Oral Examination Committee consists of **at least five members** (four examiners and a university chair from a department outside of biology). At least three of the four examiners must be Stanford Academic Council members. A fourth examiner who is not an Academic Council member may be appointed to the University Oral Examination Committee if that person contributes an area of expertise not readily available from the Stanford faculty. Such appointments require approval by the Department Chair prior to scheduling the oral examination. Students must petition the chair using the Petition for Doctoral Committee Members form.

The student, with the assistance of his/her faculty adviser, is responsible for locating a university chair to serve on the University Oral Examination Committee. The university chair of the committee must be a member of the Stanford Academic Council, and may be a Professor *Emeritus*. The chair may not have a full or joint appointment in biology. However, the chair may have a courtesy appointment in biology. Lastly, the chair may be from the same department as other outside members of the committee.

The University Oral Examination form must be completed, **signed** and delivered to the Student Services Office at least two weeks before the examination date. The Department of Biology requires that the University Oral Examination form be signed by each member of the student's oral committee. Candidates are also required to give each member of their oral examination committee a copy of their dissertation at least one month before the scheduled defense date.

Many potential scheduling problems can be avoided if the date of the examination and the committee membership (including the chair) are fixed as far in advance as possible. It is the responsibility of the student to be sure that these arrangements are made in a timely fashion. If a student is having difficulty with scheduling they should contact student services for assistance and guidance. Faculty should make every effort to adhere to arrangements once they have been made.

For more detailed university policies regarding these requirements please see the Bulletin at <http://exploreddegrees.stanford.edu/graduatedegrees/#doctoraltext>.

Students must schedule the exam with their committee members and request a room from the staff in the Student Services Office. Further instructions about scheduling the exam are available at the Student Services Office.

## Dissertation

The Ph.D. dissertation is expected to be an original contribution to scholarship or scientific knowledge. It must follow the specific written format determined by the university. It is the student's responsibility to review and follow all information and directions for writing and submitting the dissertation. Advanced graduate students should be sure to read the *Directions for Preparing Doctoral Dissertations*

(<http://studentaffairs.stanford.edu/registrar/students/dissertation-thesis>) 6-12 months before planning to defend and submit the dissertation. The university will not accept the dissertation unless the formatting and submission steps are followed exactly.

Once the oral examination is passed and the written dissertation is completed, the dissertation must be filed with the university along with copyright paperwork. The dissertation and accompanying paperwork must be submitted by the deadlines posted in the university calendar. These deadlines are strictly enforced.

All deadlines, instructions and resources for submitting the dissertation can be found at <http://studentaffairs.stanford.edu/registrar/students/dissertation-thesis>.

## Conferral of Degrees and Spring Commencement

Students must apply to graduate online via Axxess for degree conferral. In Axxess, select the “Student Center” tab, select “Apply to Graduate.” Follow the directions given, being careful to complete your application accurately. You must save your application once completed.

Commencement ceremonies are held each June for students who have received degrees in the previous Summer, Autumn, Winter, and Spring quarters. Students who wish to receive their diplomas in-person at June commencement must designate this in Axxess when applying to graduate. Information about commencement activities and distribution of diplomas is posted on line: <http://commencement.stanford.edu/>. Information about the departmental ceremony will be sent to students by the Student Services Office. In addition, students who will graduate during Summer Quarter or the following Autumn Quarter are also eligible to attend the June ceremony. Students who are interested in attending need to contact student services in order to be listed on the ceremony program.

## Committees and Department Activities

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### Departmental Committees

Committees comprised of faculty, graduate students and undergraduate student representatives govern most operational functions of the department.

**Graduate Admissions Committee:** Coordinates the evaluation of graduate application files, meets to rank and make offers of admission to candidates and works to achieve departmental and university diversity goals. This committee is active from December through March.

**Graduate Studies Committee:** Reviews and monitors graduate curriculum, requirements, admissions and financial aid policies and graduate student processes and procedures.

**Ph.D. Interview Visit:** Students assist staff in the Student Services Office with the three-day visit in late February/early March. Responsibilities include recruiting student hosts, scheduling social events and eating free food.

**Jasper Ridge Subcommittee:** Determines policy and activities pertaining to the Jasper Ridge Biological Preserve.

**Library Committee:** Oversees library activities and addresses issues concerning the library, such as operation hours, services and key availability.

**Orientation:** Students help staff in the Student Services Office with activities related to new student orientation for the incoming Ph.D. students.

**Biology Person Helping the Department (PHD):** The at-large department graduate student representative coordinates appointments of student committee members. The PHD handles complaints, concerns, suggestions or requests from students and channels them to the proper department representatives. At an annual meeting a new PHD is chosen and graduate student representatives volunteer for committees.

**Policy Committee:** Makes chairmanship and faculty appointment recommendations, makes new faculty search recommendations and reviews and establishes all policies not governed by other committees. Faculty search subcommittees are formed as directed by the Policy Committee and are responsible for coordinating and evaluating applications and seminars for specific faculty appointments.

**Safety Committee:** Monitors the use of radioactive materials in the department and approves usage requests. This committee meets with University officials at least once a year.

**Seminar Committee:** Selects and invites speakers for the department seminar. The Committee also coordinates housing accommodations for visiting speakers.

**Undergraduate Studies Committee:** Evaluates the undergraduate curriculum, advising system, honors program and core lecture/lab. It reviews and makes recommendations concerning all undergraduate programs, policies, requirements, awards and petitions.

### Seminars

The department's seminar series is scheduled on Mondays from 4:00p.m - 5:30 p.m. in Clark Center Auditorium. Hopkins Marine Station seminars and colloquia are held in the Boat House at the Marine Station on Fridays at

noon. Outside speakers, departmental faculty and other university faculty present their own research at these seminars. Both seminar series are considered an integral part of the Ph.D. program and graduate students are expected to attend the seminars relevant to their area of specialization.

The Carnegie Institution of Washington, Department of Plant Biology, is associated with the Department of Biology and located on the Stanford campus. The Institution offers a weekly plant biology seminar on Fridays at 4:00 p.m. Students should call (650) 325-1521 to be placed on the Carnegie mailing list.

University seminar dates are posted on the bulletin board outside the department's main office. Check the *Stanford Report* for other special lectures held annually.

## Social Activities

Graduate students in the department organize various social activities both related and unrelated to research. Think & Drink is held every Friday at 4:30 p.m. in Lokey Labs 122. Cell and molecular biology students, postdocs and faculty present their research followed by drinks and snacks. Ecology and Evolution Happy Hour is every Friday at 4:00 p.m. on the 4<sup>th</sup> floor of Herrin labs. It's an informal gathering of the ecology and evolution labs of the department to discuss current research.

The Graduate Student Seminar is an exclusive opportunity for Biology graduate students to present their research to a forum of peers every 3<sup>rd</sup> Wednesday of the month at 6:30pm in Gilbert 117. The seminar brings students across the department together each month in an informal setting in which they can hear about their peers' ongoing research, give critical feedback to strengthen each other's work, and to enjoy some snacks, drinks and socializing among Biology peers. It serves to provide an avenue for feedback on one's own project, as well as to help the audience hone critical thinking skills and broaden their perspectives through the diversity of research done by the Biology department.

Students are encouraged to inquire about other activities (lunches, seminars, etc.) from graduate students in similar fields of interest.

## Biology E-mail Lists

Once admitted, students are automatically added to the department's Ph.D. (biosciphd) email list. Students interested in subscribing to other e-mail lists at Stanford for general announcements may do so by going to <https://itservices.stanford.edu/service/maillinglists/tools> and searching for and selecting the link.

Students interested in receiving notifications about seminars on campus, can join **bio-seminars**. This is an open list meant to be used for electronic communications regarding seminars of potential interest to students, faculty, researchers, employees and other members of the Department of Biology.

These are open and public lists meant to be used for electronic communications. Normal network etiquette should be observed (e.g., no advertisements, no chain letters, etc.).

## University Resources

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**Stanford Bulletin** – <http://exploreddegrees.stanford.edu> and <http://explorecourses.stanford.edu>

The Stanford Bulletin is the official statement of Stanford's degree requirements and courses. Explore Degrees lists all University requirements, degree requirements, and other information pertinent to acquiring a degree at Stanford. Explore Courses is the Bulletin's online listing of courses and schedule of classes.

**Graduate Academic Policies and Procedures (GAP)** – <http://gap.stanford.edu>

The information compiled in the GAP handbook is derived from several sources, including primarily the Stanford Bulletin. It is designed to bring together into one resource the guiding policies, their rationale, and the various systems, forms and other tools related to their implementation.

**Office of the Vice Provost for Graduate Education (VPGE)** – <http://vpge.stanford.edu>

The Office of the Vice Provost for Graduate Education (VPGE) works collaboratively with Stanford's schools and departments to enhance the quality of graduate education at Stanford University. Offers fellowships and workshops for graduate students.

**Graduate Life Office** – <http://glo.stanford.edu>

Provides comprehensive and impartial guidance and information about all aspects of life as a graduate student. The Assistant Deans can help you with many personal, academic and financial issues or direct you to someone who can.

**Vaden Health Center** – <http://vaden.stanford.edu>

Point of contact for all things health related including medical care and health insurance.

**Counseling and Psychological Services (CAPS)** – <http://vaden.stanford.edu/caps>

The university's counseling center dedicated to student mental health and wellbeing. Provides individual and couples counseling as well as groups and workshops.

**Bechtel International Center** – <http://icenter.stanford.edu>

Resource center for international students.

**Office of International Affairs** – <http://oia.stanford.edu>

Resources for planning and reporting international travel.

**Office of Accessible Education** – <http://studentaffairs.stanford.edu/oe>

Provides a wide array of accommodations, support services, auxiliary aids to students with disabilities.

**The Bridge Peer Counseling** – <http://thebridge.stanford.edu>

A group of trained student counselors providing peer counseling services.

**Office of the Ombuds** - <http://www.stanford.edu/dept/ombuds/>

Provides impartial dispute and conflict resolution for students, faculty and staff.

**Office for Religious Life** – <http://www.stanford.edu/group/religiouslife>

Provides leadership, services and programming in matters of religion and spirituality.

**Physical Education, Recreation, and Wellness** - <https://www.stanford.edu/dept/pe/cgi-bin/>

Information on gym/athletic facilities, classes and intramural sports.

**Career Development Center** – <http://cdc.stanford.edu>

Career development resources that include career counseling, job opening, networking, workshops and assessments.

**School of Medicine Career Center** - <http://med.stanford.edu/careercenter/>

Career resources specifically supporting the professional development of medical and life science trainees.

**Lane Medical Library** – <http://lane.stanford.edu>

Offers classes and workshops for technology and software programs including Adobe Illustrator and R.