



DEPARTMENT OF  
Ecology & Evolutionary Biology

## Path to Graduation

Junior Fall

Junior Spring

Senior Thesis Research

Senior Fall

Senior Spring



---

## Junior Year Fall Semester

Once Juniors enter EEB, the fall semester is organized to help acquaint students with each faculty member's current research interests and projects, with the goal of helping each Junior find a mentor for the senior thesis. The program for **Junior Independent Work** begins with a mandatory Tuesday evening Junior Tutorial.

### Two components of the Junior Tutorial

- Research presentations from each faculty member organized into two seminar sessions, and
- Joining a short faculty-led seminar on special topics relevant to EEB research, during which time students write their Fall Junior Project.



Though

these presentations are concise, this overview of research ideas is designed to help students identify faculty with whom they share research interests. Students are asked to select up to five faculty with whom they might do their senior thesis work. Students are required to write a short paragraph describing their interest and submit to the undergraduate coordinator, who then works with the faculty and departmental representative to ensure that each student meets with at least three faculty in October to discuss senior thesis possibilities. Students and faculty are matched by the end of October, and students should know their senior thesis adviser by Fall Break.

At this time, Juniors are expected to attend the Research Compliance Seminar with University representatives to learn more on how to construct and submit a research protocol application.

During the second half of the fall semester, the **Junior Tutorial** continues as students participate in small, faculty-led seminars focused on critical reading of scientific peer-reviewed papers relating to a major issue in current biology. After Fall Break, students are divided into four groups. Each group will meet with their supervising faculty member for three discussion sessions in which the faculty introduces major issues in current biology via primary literature. In general there are four of these seminars: in Evolution and Genetics, Ecology and Conservation, Behavior and Physiology, and Disease Dynamics. It is during these discussions that each Junior will decide on a relevant topic on which to write their paper, the **Fall Junior Project (JP)**. The Fall JP is the primary component on which each student is evaluated and is due to their faculty leader a week before Dean's Date in January (there is no minimum page requirement for the Fall JP).

## Choosing a senior thesis research topic

The Junior Fall is the critical time to evaluate the type of research experience you want to pursue. Broadly, the thesis research options are: library thesis, laboratory-based research, theoretical and modeling work, and field-based work. All efforts will require specific and rigorous statistical and analytical methods. Students will need to consider the timeline, as well as potential logistics and funding challenges of thesis work prior to commitment. By the end of the Junior Fall semester, each student will have **selected and joined a research group** and started developing a research topic on which the senior thesis will be based.

Reading Period: For those who study abroad in the Spring Semester in the field, it is expected that you meet with your senior thesis advisor and work out as much of the proposed research project as possible.

[Back to Top ^](#)

---





## Junior Year Spring Semester

During the first month of Junior Spring students work with their faculty adviser to finalize their research project for the Senior Thesis.

## Senior Thesis Research Proposal

In March, students must have their **Senior Thesis Research proposal** and budget complete in order to upload them into SAFE (Student Activities Funding Engine) and request funding from multiple University sources. At this time students submit the research protocol application and seek the approval from the applicable office within the Office of Research Integrity and Assurance (RIA).

## Spring Junior Project (JP)

The most common pattern is for the **Spring JP** to serve, with faculty permission, as the foundation and proposal for the Senior Thesis. This is typically in the format of a literature review and project proposal. The Spring JP is due to the thesis advisor the week before Dean's Date.

Though the Senior Thesis Research Proposal may be similar in content to the Spring JP, it has to be formatted and organized to meet the requirements of the University funding agencies.

---



## Senior Thesis Research Project

While hypothesis development and experimental design are expected to be the focus of Junior Spring, data collection typically begins in the summer between junior and senior year once students have received their funding and research protocol approvals. About half of the theses in EEB involve field work. As is clear from the descriptions of faculty research interests, there are opportunities worldwide. If a student has elected to do a library thesis, the student does not need to begin work on the thesis until the fall and is free to pursue other options for the summer. Data collection is usually complete by Senior Fall, however in some cases data collection can continue through early Senior Spring. The culmination of the senior thesis entails submission of the written thesis, a poster show, and the comprehensive examination. It is essential to develop time management skills early on in this thesis effort.

## A sampling of past thesis topics is a good guide to thesis possibilities

- Can Coral and Substrate Diversity Predict Coral Reef Fish Community Structure?
- The Ebola Virus: Likely Hosts and Causes and an Analysis of Outbreaks
- Bogs in Southeast Alaska: A Natural History and Literature Review
- Competing Land Use Pressures in Kenya
- The Evolution of RNA Editing in Slime Molds
- Long Canyon, Idaho: Protection of a Wilderness Area
- Gene Chip Technology
- MHC and Female Mate Choice in a Captive Population of Guinea Baboons
- Troop Movement and Position as it Relates to Male Dominance in Kenyan Baboons (*Papio papio*)

Additional examples can be found in Thesis Central

---

## Senior Year Fall Semester



By the end

of the Fall semester, students are expected to complete their data collection and to have begun to embark on data analysis. At times, seniors find they need additional funds to complete their thesis research. There is limited funding available from the Office of the Dean of the College (ODOC), and those proposals are due in SAFE in October.

There are numerous resources available to provide analytical guidance. Students may seek out the assistance of the **Princeton's Statistical Consulting services**

([http://dss.princeton.edu/online\\_help/](http://dss.princeton.edu/online_help/))

. EEB graduate students are also often available to provide advice and feedback.

**Back to Top ^**

---

## Senior Year Spring Semester

*Senior Spring is an exciting time!* Research and analyses are nearing completion, and each student is constructing their written document, and their research poster to display and summarize their



research, which are due late April. Students participate in the **EEB Poster Show** in early May. Faculty evaluate the poster presentations and prizes are awarded at Class Day.

## Comprehensive Exam

Comprehensive Exams take place over the course of two days the first week of Spring Final Exams. Students meet with their adviser and a second reader assigned by the departmental representative. This comprehensive exam consists of two parts: a defense of thesis research followed by an examination of general knowledge in the biological sciences based on the departmental courses taken at Princeton. (Note: Students should not make travel plans until the date of their exam has been set.)

## Departmental Honors

Honors are based on performance in the eight departmental courses and all independent work, which consists of the Fall JP, the Spring JP and the Senior Thesis Research project. About a third of our majors are awarded honors.



## Departmental Prizes

At the Senior Class Poster Show faculty evaluate the posters and award departmental prizes accordingly. The prizes vary from year to year, depending on the nature of students' research.

Typically nine prizes are awarded at Class Day. The highest prize is the Canon Memorial Prize which goes to the student who presents the most outstanding poster.

[Back to Top ^](#)