ABI 187: Animal Biology Seminar
The ABI Practicum, ABI 187, 189 and 189d
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The ABI Practicum provides an opportunity for students to develop research skills, demonstrate critical thinking, write a substantial paper with close faculty interaction, and be creative in a scientific environment. ABI 187 seminar leads you through deciding on a practicum project, writing the practicum proposal, finding a mentor, and together with the mentor, selecting the classes to fulfill the restricted electives requirement. This document serves as an explanation and prospectus for the practicum and ABI 187 seminar, and is available to any ABI student anytime. Hopefully you have already begun developing your practicum project. If not, do not put off planning the practicum until the last minute. ABI 187 Animal Biology Seminar provides the structure for planning the ABI practicum and effectively launches it.

The Animal Biology (ABI) major consists of core biological sciences courses that build on animal biology from molecular foundations to the ecological and evolutionary levels of organization. After completing the core courses, usually at the beginning of the junior year, ABI students design their own academic program. Thus, at this turning point students determine most of their future at UCD. The program combines a research project (practicum) under the guidance of a faculty mentor together with supportive coursework. ABI 187 Animal Biology Seminar, offered every Fall and Winter Quarter, prepares and guides students through the process of selecting the research project and designing this academic program. The ABI research experience remains unique among undergraduate science majors at UC Davis. By graduation, in addition to completing coursework on the principals of biology, every ABI student has designed and conducted a research project, and written a final report of their findings.

Unlike most majors, ABI almost uniquely offers a great deal of freedom in the choice of classes and research projects. However, the anxiety of freedom troubles many students: what do I do and how do I go about it? Ultimately, no one wants to make a decision that prevents or delays graduation! Preparing early remains the best way to avoid such problems. Students usually take ABI 187 seminar in the Fall Quarter of the junior year. Delaying this seminar until the senior year rushes the practicum project in order to graduate on time, often unsuccessfully. Thus, take this class before the senior year, and if possible, before the junior year as a sophomore. Transfer students should take ABI 187 during the first fall or winter quarter at UCD.

Start thinking about the practicum project and look for faculty with related research programs. Politely make an appointment and ask about working on one of their projects as an assistant. When you interview faculty, take copies of this document, and the ABI Practicum Mentor handout and explain these to him or her. If the situation seems auspicious, politely ask if he or she would be willing to be your practicum mentor. Internships are a great way to gain experience and learn if you really like a particular field of animal biology, and also to meet and develop relationships with potential mentors. Begin this process now.
Appropriate Practicum Projects

The practicum may be experimental biological research, or a problem-solving issues paper. These take on the same basic scientific inquiry and report structure. Practicum projects may be off campus, and the primary mentor need not be a UCD faculty member, however, in this case students must additionally have an on-campus faculty member as a co-mentor. An Internship does not constitute a practicum in and of itself, but may be an entrée to a practicum project or mentor.

Experimental biological research

Essentially this constitutes a standard scientific inquiry with hypotheses that make predictions about future observations derived from experiment, using the process and principles of science. In general, a student or team of students conducts such an inquiry in the laboratory or field. The research project may be independent of, or be within the mentor’s program of research, most often the later. The student receives mandatory safety and other training to complete the work. With mentor guidance the student may collaborate with a graduate student or post doc. Students develop a protocol, set up the experiment, collect, analyze and interpret the data, and write a research paper in the format of a scientific journal publication. This becomes the Practicum Report. The discussion section of the paper should argue the significance of the research in the greater context of science and societal interests.

Issues paper

A student or team selects some animal-related issue and conducts a standard scientific inquiry with hypotheses that make predictions about future observations that derive from library, interview based survey and similar sources. Thus, the “Issues paper” differs from an experimental biological research project only in that the observations come from the literature, interview, opinion surveys and the like. The research paper exhibits the exact same logical construction, format and structure as for experimental biological research. The discussion of this paper evaluates the findings in relation to economics, society, stakeholder interests, animal welfare or environment, and makes relevant conclusions. The mentor again guides all aspects of the work.

What are ABI 189 and 189d?

ABI 189 units measure your practicum work. Students sign up for units over two quarters while actively engaged in completing the practicum project. Arrange a CRN with your mentor and the staff advisor at the beginning of the first of the two quarters work. Credit hours vary, but plan on three hours of practicum work for each credit hour.

ABI 189d gives each student working on their practicum an opportunity to discuss progress and problems with an advisor and other ABI students once a week during the first quarter of practicum work. This fosters discussion of your research topics and efficient problem solving. During Fall, Winter and Spring quarters every year, an advisor will be available for set office hours.

A student cannot register for these courses until a completed and Mentor signed Practicum Proposal is turned in to the Academic Advisor and approved.