

EBIO Departmental Honors committee (2004/2005):

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THE HONORS PROGRAM IN ECOLOGY AND EVOLUTIONARY BIOLOGY

Graduating with departmental Honors in EBIO requires good grades (a GPA of about 3.3 or better, both overall and in the major), writing an Honors Thesis based on a research project, taking the 1-credit seminar EBIO 4980, and 1-3 credits of independent research (EBIO 4990). Research can involve work in the lab, in the field, or in the library. Library projects are less common than lab and field projects, but they can be appropriate if a good review or synthesis of some topic is timely and makes a contribution. While students may enter the Honors Program as juniors and conduct their research during the summer before the senior year and the senior year, they are strongly encouraged to begin their research much earlier. Please contact the Honors Department office in Norlin Library (M400; 492-6617) or visit their website (<http://www.colorado.edu/honors/>) for more details about the overall Honors program, and for official registration in the program.

A successfully completed Honors Thesis is a very valuable asset in applications to Graduate Programs, Medical School, or other programs or agencies. These programs often consider a research experience like this as an indicator of future success that is more significant than high grades. Getting involved in research will allow you to gain extremely valuable hands-on experience and enhance your critical thinking ability in ways the classroom experience cannot. Furthermore, this research experience will allow a professor to get to know a student better than from a classroom setting, enabling the professor to provide a very personal and insightful letter of recommendation to any future employer or program. Such a letter is often the decisive factor in successful applications.

EBIO Honors Requirements: Students eligible for admission, with a cumulative GPA of 3.3 or higher, are encouraged to enter the Departmental Honors Program. A combination of honors independent study/research credit and an honors course are offered to facilitate this.

EBIO 3980 (1 credit) provides an introduction to the departmental Honors program. It consists of a lecture component on Honors research, thesis, and defense, as well as a seminar component where students present the findings from their library research, conducted under guidance of a faculty mentor, and hear presentations by graduating Honors candidates on their thesis research. **EBIO 3980 is recommended, but optional, and may be taken before a student's third year.**

EBIO 3990 (1-3 credits) consists of individual library research on a potential Honors thesis topic under the guidance of a faculty mentor. **EBIO 3990 is recommended, but optional, and may be taken before a student's third year.**

EBIO 4980 (1 credit) must be taken during the final academic year prior to graduation. It consists of a lecture component on honors thesis writing and defense as well as a seminar component where honors candidates present their thesis research in a practice defense talk. **EBIO 4980 is required to graduate with EEB departmental honors [beginning with Spring, 2005, graduates & will be offered in Spring, 2005].**

EBIO 4990 (1-3 credits) must be taken during the final academic year prior to graduation. It consists of the final phase of honors research and thesis preparation under the guidance of a faculty mentor. **EBIO 4990 is required. THUS, EBIO 4980 (1 CREDIT) AND EBIO 4990 (1-3 CREDITS) ARE REQUIRED TO GRADUATE WITH EBIO HONORS.**

Students must contact one of the EBIO Honors committee members prior to their official application to the Honors program. This application is due by the second week of October for graduation in the spring, and by the second week of April for graduation in the fall (see Honors Program website for specific dates). For this application, the student must complete the Honors application form that includes a brief project description. UROP (Undergraduate Research Opportunities Program) funds are often available for student research support, and if the student has already prepared a UROP proposal, this document can be attached in lieu of the project description. The original application form is submitted to the Honors office in Norlin and a copy to the EBIO Honors Committee chair.

Work on the Project: The advisor usually helps the student find space and equipment for the Honors project, but may not always be able to do so; hence these details and the expenses involved may have to be worked out by the student. Research with animals or animal tissues must be in compliance with NIH/USDA Guidelines and have approval of the CU Animal Care Committee. Any activity involving human subjects must be in compliance with the guidelines of the CU Human Research Committee. The student is responsible for ascertaining that use of

animal/human subjects has been reviewed and approved or for submitting a proposal for such use with the guidance of the faculty sponsor. Guidelines for generation and disposal of hazardous waste must be followed and, if applicable, students must take a training course on the disposal of hazardous waste.

Upon completion of the Honors research, the student prepares an Honors Thesis in the form of a scientific paper following the style customary for publications in the respective research field. For graduation in December, the thesis must be in final form by the first of November. For graduation in May, by the first of April (see Honors Office in Norlin for specific deadlines for each year). In consultation with the thesis advisor, the student must set up a thesis defense committee at the beginning of the graduation semester and find a date and time for the defense. The defense committee must consist of the student's project advisor, a member of the Departmental Honors committee, and a faculty member from outside the department. The written thesis must be submitted to all defense committee members 1-2 weeks prior to the oral defense. Performance during the oral defense should demonstrate not only the student's familiarity with the specific and broader aspects of his/her research area but also the ability to think critically and communicate effectively.

Decision Regarding Honors: Immediately following the oral defense, the defense committee discusses the student's performance during the oral defense as well as the merit of the written thesis and the GPA record of the student. The committee then makes a written recommendation to the CU Honors Council that is not made available to the student. The Honors Council examines the student's record and the department's recommendation and makes the final decision as to whether or not Honors will be awarded and at what level (*cum laude*, *magna cum laude*, or *summa cum laude*). Despite the existence of different award levels, any level of Honors is truly an honor, since only a small fraction of students graduates with Honors. The student will be notified of the final decision of the Honors Council through the Honors office.

List of Advisors and Types of Thesis Projects: Students should feel free to contact any of the EBIO faculty listed below and talk to them about possible Honors Thesis work. In addition, it is also possible to work with a faculty advisor from another department or unit. All that is expected from students at this point is enthusiasm and the will to apply themselves. Some faculty may already have filled available slots in their labs, others may recommend that a student work most closely with one of their graduate or postdoctoral students. This is entirely appropriate and can be highly rewarding. In addition to the names listed below, writing instructor Margie Krest is available to assist with writing the Honors thesis.

Dr. William Adams: Plant ecophysiology; photoprotection; photosynthesis; environmental stress
Dr. David Armstrong: Ecology and biogeography of vertebrates (focus: mammals); field- or museum-based
Dr. Carl Bock: Ecology and conservation of birds and grasslands
Dr. Deane Bowers: Insect and plant ecology, plant-insect interactions, and prey-predator interactions
Dr. William Bowman: Plant ecology; alpine ecosystem science; plant-soil and plant-plant interactions
Dr. Michael Breed: Behavior and ecology of social insects (ants, bees, wasps)
Dr. Sharon Collinge: Habitat loss & fragmentation; patterns of landscape change; restoration ecology
Dr. Alexander Cruz: Behavioral, ecological, and evolutionary studies of birds and fishes
Dr. Barbara Demmig-Adams: Plant antioxidants; carotenoids; library projects on diet-gene interaction
Dr. Pamela Diggle: Development, evolution, and ecology of plant reproductive systems
Dr. William Friedman: Evolution of plants; early diversification of land plants & coevolution with fungi
Dr. Robert Guralnick: Evolution of invertebrates; morphology, genes, and biodiversity informatics
Dr. Jason Knouft: freshwater ecology; ichthyology; herpetology; biogeography
Dr. Yan Linhart: Evolutionary ecology; plants/animal interaction; role of plant chemistry
Dr. Andrew Martin: Molecular genetics; phylogeography; conservation genetics (especially of fishes).
Dr. Jeffrey Mitton: Evolutionary dynamics of mitochondrial and chloroplast DNA
Dr. Russell Monson: Subalpine forest ecosystem function; forest carbon and water cycles
Dr. Richard Noyes: Distribution, biology & evolution of sex in plants; microscopy & DNA-based markers
Dr. Thomas Ranker: Plant systematics; systematics of tropical and neotropical flora; conservation biology
Dr. Steven Schmidt: Microbial ecology; plant/microbe interactions; biogeochemistry; mycorrhizae
Dr. Tim Seastedt: Ecology of invasive plant species; environmental change in ecosystems
Dr. David Stock: Developmental genetic mechanisms of the evolution of teeth in fishes
Dr. Alan Townsend: Terrestrial ecosystem ecology and biogeochemistry; global environmental change
Dr. Carol Wessman: Landscape & regional ecology; disturbance; land-use/cover; remote sensing/GIS