

**DEPARTMENT OF ECOLOGY AND EVOLUTIONARY BIOLOGY
DEPARTMENT OF MOLECULAR, CELLULAR, AND DEVELOPMENTAL
BIOLOGY
UNDERGRADUATE TEACHING ASSISTANTS (UTA)**

Recent advances in biology have coincided with advances in the science of learning. Advances in neurobiology, educational psychology and theories of learning are improving science instruction at all levels, including college science courses. The introductory biology curriculum must expose students to the scientific process, convey scientist's passion, curiosity and creativity about understanding the living world and encourage the development of reasoning skills. The newly revised introductory biology curriculum attempts to do all these things. In our introductory biology discussion sections, we are incorporating journal articles to foster scientific reasoning and enhance student learning. Several of our biology undergraduates have expressed interest in participating in teaching experiences during their undergraduate careers. Incorporating undergraduate teaching assistants (UTAs) into our introductory courses has the potential to enrich the educational experiences of students in the introductory courses because immediate peers are often best able to convey topics to novice students as they can often better recall their recent challenges in learning key concepts in biology. Faculty and graduate students often are not able to recall the challenges they faced in learning these concepts as memories of their freshman college experiences fade. The UTAs are likely to deepen their understanding of biology concepts and the process of science, while gaining valuable leadership experience and improving their confidence. The chemistry department has a long tradition of using UTAs in several introductory courses, and these UTAs have benefitted tremendously and gone on to graduate and professional schools or careers in education at high rates.

Historically, undergraduate student teaching assistants in biology have served mostly in the former biochemistry course taught by the Keller plan (Bio 311), which involved self-paced modules working with peer tutors. This course is no longer offered. In addition, students interested in obtaining teaching experiences during their undergraduate careers have been able to work with individual faculty and obtain academic credit (but not concentration credit) through EEB or MCDB 302. Many of these students went on to *Teach for America* and other programs that involve teaching in high schools.

We are proposing to expand the use of UTAs to provide more opportunities for undergraduate students in biology or science education to obtain this kind of experience. Our proposal will allow UTAs to be instructors of discussion or laboratory sections under the direct supervision of a faculty member, for 100- or 200-level courses in Biology oriented to both concentrators and non-concentrators. In general, UTA's will teach one discussion or laboratory section in a given semester. UTA's may also assist GSIs or faculty instructors in upper division courses.

A. APPLICATION AND SELECTION PROCESS

Undergraduate students interested in being student instructors must have a minimum of a 3.3 GPA and junior or senior status. In September and in January, a list of courses that are accepting UTA's for the following term will be posted on the Program in Biology website. To apply, students should submit to the instructor of the course they wish to teach: a) a statement of why they would like to teach and their qualifications, including any previous teaching experience; b) transcript (unofficial copy is acceptable). Applications will be due the end of November for students proposing to teach in winter term, and the end of April for students proposing to teach in spring or fall term.

B. REQUIRED TRAINING AND CREDIT

It is strongly recommended that UTA's take either the standard GSI training course for Program in Biology GSIs and/or the two-credit course on science pedagogy, EEB 401. Waivers to this requirement require approval of the course instructor. At the course instructor's discretion, the latter may be required prior to or concurrently with the term in which they are teaching. UTA's can then either register for EEB 302 or MCDB 412 to obtain course credit for their teaching experience, which does not count toward their concentration. Alternatively, experienced UTA's can receive an appropriate stipend.

C. EVALUATION

All UTA's will be observed by the course instructor and/or a GSI mentor during the semester and meet with the observer following each observation. At the end of each course, the instructor will provide to the Biology Program Committee brief summaries of these observations, as well as an overall comparison of grades on exams and in section assignments for enrolled students in sections with UTA's and with GSI's. The Biology Program Committee will review these data and E&E scores to evaluate the success of the program by course and overall each year.

The faculty in EEB and MCDB will review the entire program after two years to decide on whether or not to continue.

Approved by EEB Executive Committee:

May 5, 2010

Revision approved by MCDB Executive Committee:

May 12, 2010

Revision approved by MCDB Executive Committee:

December 15, 2010

Revision approved by EEB Executive Committee:

March 7, 2011