

MISSION & GOALS

BIOLOGY @ TRUMAN

MISSION

At Truman State University, the mission of the Biology Discipline is to prepare students for life-long learning about biology and its involvement in technology and society. To do so, the Biology Faculty seeks to provide exemplary and innovative instruction in (1) courses that fulfill the Science portion of general education and/or liberal arts requirements, (2) a broad-based curriculum designed to provide Biology majors with a strong foundation in classical and modern biology, (3) selected graduate courses for M.S. and M.A.E. students, and (4) specialized service courses, especially for those majoring in health-oriented disciplines (e.g., Nursing and Exercise Science). Additionally, our mission is to provide an educational environment in which undergraduate and graduate students plan, conduct and communicate results of their original research. Within each of these categories, biology is presented as an experimental and observational endeavor, and as one way of knowing - that is, a way to ask questions about the world and to systematically seek answers to those questions.

GOALS FOR ALL WHO STUDY BIOLOGY

Because Truman is a liberal arts institution, it is difficult to distinguish between separate goals for majors and non-majors, as it is difficult to predict the career paths to be followed, and the decisions to be made, by any Truman graduate. All students will be faced with the challenges of using the biology they have learned to make wise choices in their lives. We expect that most biology majors will encounter greater opportunities (than non-majors) to achieve these goals because of the broader and deeper experience they have in the discipline; nevertheless, we feel that all students studying biology at Truman will:

- ◆ ACQUIRE a sense of biophilia, or a love of life and all things living. They will appreciate the entirety of the living world and its wonderful complexity, and display a respect for life and the diversity of its expression. Students will understand that the “worth of an organism is found in its contribution to our understanding about life, not necessar-

ily in our ability to convert it into money or prestige” (Janovy, 1985). We would also like students to recognize that all organisms possess an inherent worth beyond their value to our understanding.

- ◆ KNOW how biologists have historically accumulated the body of knowledge that we identify as part of our discipline.
- ◆ UNDERSTAND that scientific beliefs are derived from accumulated evidence and are constantly subject to modification.
- ◆ BECOME FAMILIAR with experimental design and the use of statistics in the analysis of biological data.
- ◆ GROW in their ability to critically read biological literature.
- ◆ BE ABLE TO COMMUNICATE effectively about biological subjects.
- ◆ GAIN EXPERIENCE and skill in the use of a diversity of modern scientific instruments.
- ◆ HAVE KNOWLEDGE of the major ethical issues being addressed by professional biologists, of the role of biology in society, and of the impact of social phenomena upon the study and practice of biology.
- ◆ UNDERSTAND AND APPRECIATE critical environmental and social issues, such as those affecting human health, population growth, biodiversity, and resource conservation.
- ◆ DEVELOP their ability to think carefully and thoroughly about problems and to make insightful observations.

GOALS FOR UNDERGRADUATE BIOLOGY MAJORS

Undergraduates majoring in Biology will also:

- ◆ BE STIMULATED and challenged by a balanced, yet flexible, curriculum which encourages investigation and active learning.

- ◆ BECOME FAMILIAR with a diversity of taxonomic groups and be exposed to different levels of biological organization - molecular, cellular, organismal, and population/community - as a consequence of advancing through the required curriculum.
- ◆ BE GIVEN OPPORTUNITIES for in-depth exploration of selected areas of biology via their chosen elective courses.
- ◆ CONFRONT the facts and methods of other disciplines, some closely related to biology and some more distantly related, thus illuminating links among biology classes, science support classes, and liberal arts core experiences.
- ◆ RECEIVE a strong yet broad foundation in biology and thus be intellectually prepared for advanced study in graduate and/or professional schools.
- ◆ BE PREPARED TO BRING maturing intellect and energies to any of a myriad of immediate career opportunities.
- ◆ BE PREPARED TO ACCEPT the responsibilities of scientific leadership.

GOALS FOR THE M.S. BIOLOGY PROGRAM

- ◆ TO PROVIDE the additional knowledge and maturity necessary for M.S. recipients to be actively recruited by the nation's foremost institutions granting doctoral-level graduate and professional degrees, and by various companies and governmental groups.
- ◆ TO AWARD an average of three (3) M.S. degrees within a given calendar or academic year.
- ◆ TO FACILITATE the mission of the undergraduate program in Biology by involving graduate students as models in communities of learning, in teaching laboratories, and in selected advanced elective courses.
- ◆ TO FACILITATE the mission of the M.A.E. program by offering graduate Biology courses required for M.A.E. students possessing bachelor's degrees in Biology.
- ◆ TO GRADUATE STUDENTS who have presented their work at regional or national scientific meetings.
- ◆ TO GRADUATE STUDENTS who publish their work in refereed scientific journals.
- ◆ TO SERVE the needs of the broader Kirksville and northeast Missouri communities.

GOALS FOR FACULTY AND STAFF OF THE BIOLOGY DISCIPLINE

In order to help students achieve the goals listed above, the Biology Faculty is committed, individually and collectively, as a community, to:

- ◆ THE WELL BEING of non-majors in addition to majors.
- ◆ A BALANCED undergraduate curriculum that evolves with the discipline.
- ◆ A SYNERGISM between teaching and research that impacts classroom instruction.
- ◆ SERVICE to the several communities (both within and outside the University) to which we belong.

In order to provide an outstanding teaching and learning environment within which students are taught and nurtured, Biology faculty and staff members will:

- ◆ DEMONSTRATE a clear understanding of the liberal arts and sciences mission of the University.
- ◆ CREATE excitement for learning in our classrooms and laboratories by using varied approaches, including (but not restricted to) lectures, investigative, open-ended laboratories, independent laboratory, field, and/or library projects, field trips, and other means of discovery-based learning, to impart skills and knowledge.
- ◆ FULFILL the teacher-scholar ideal by guiding students in collaborative research and by recognizing that such activity is a form of teaching.
- ◆ AS ACTIVE ADVISORS, encourage advisees to set personal goals and help them assess their progress towards these goals.
- ◆ REMAIN PROFESSIONALLY active beyond the confines of Truman State University.
- ◆ MAINTAIN DIVERSE expertise within the discipline of biology.
- ◆ CONTINUE professional development throughout the entirety of their careers.
- ◆ PARTICIPATE in and contribute to Discipline, Division, and University governance.
- ◆ BE LEADERS in campus and community service.