

**Cover Sheets for Student Learning Outcomes  
Completed forms are due by December 1, 2003**

Received

DEC 09 2003

**Department / Unit:** Division of Biology

**Title of Academic Program:** Microbiology: CIP 260502

Planning and Analysis

**Faculty contact(s) for the list of student learning outcomes for this academic program:**

Brian Spooner, Director  
David Rintoul, Associate Director

**Type of Degree (check one):**

- Bachelor's     Master's     **Ph.D.**     Ed.D.  
 Certificate     Minor     Secondary major     Associate  
 Joint Degree (list the degree types):  
 Other:

List of Student Learning Outcomes for this Degree Program

Recipients of degrees in this program will have demonstrated:

- 1) Awareness of the diversity of life, the evolutionary processes which result in that diversity, as well as the evolutionary relationships and ecological linkages of living organisms.
- 2) Ability to think critically and to integrate factual and conceptual information into an understanding of scientific data.
- 3) Ability to use the scientific method to distinguish between fact, fiction, and faith.
- 4) Ability to communicate biological scientific understanding effectively with individuals who do not have a scientific background.
- 5) Ability to apply mathematical or statistical approaches to understanding biological information.
- 6) An understanding of and appreciation for the role of biological science in a modern society.
- 7) Ability to design experiments with appropriate controls, and to conduct original research in a biological discipline.
- 8) A thorough understanding and/or competency in a specific area of biological science.
- 9) The ability to apply knowledge through critical thinking, inquiry, analysis, and communication to solve problems and to produce original research in the form of a masters thesis or doctoral dissertation.
- 10) The ability to publish or otherwise disseminate the results of their original research.
- 11) The ability to communicate biological scientific understanding effectively with other scientists, and to the public.
- 12) An understanding of professional ethics as applied to biological research, *vis-à-vis* ownership of intellectual property and authorship, collaboration with colleagues both here and at other institutions, and the importance of rigorous adherence to the scientific method.