

## B.A. & B.S. BIOLOGICAL SCIENCES



CHARLES E. SCHMIDT COLLEGE OF SCIENCE  
DEPARTMENT OF BIOLOGICAL SCIENCES

## ACADEMIC LEARNING COMPACT

The principle mission of the Department of Biological Sciences is to train students for careers in biological sciences or to pursue advanced training in graduate and professional schools. Through both education and research, our department seeks an increased appreciation and respect for our environment and awareness of the impact of our decisions on local, regional and global issues concerning the economy, personal health and welfare, and the environment.

**CONTENT KNOWLEDGE (Declarative Knowledge):** Students will demonstrate an understanding of cell structure, cell physiology and the molecular processes of cells. Students will be able to describe the features which distinguish the major groups of organisms and the developmental and physiological mechanisms which are fundamental to all living organisms. Students will demonstrate an understanding of the principles of organismal genetics, evolution and ecology.

Students majoring in the biological sciences are required to successfully complete the following core courses:

BSC 1010: Biological Principles

BSC 1011: Biodiversity

MCB 3020: General Microbiology

PCB 4023: Molecular and Cell Biology

PCB 4043: Principles of Ecology

PCB 3063: Genetics

Students' knowledge of the material will be assessed by examinations, typically using multiple-choice and short-answer questions. In upper division courses, examinations consist of advanced objective questions and high level problem solving.

**CONTENT KNOWLEDGE (Technical Skills):** Students will demonstrate proper laboratory practice, use of equipment, and ability to use basic and advanced techniques in several areas of biology.

Students majoring in the biological sciences are required to successfully complete the following core laboratory courses:

BSC 1010L: Biological Principles Laboratory

BSC 1011L: Biodiversity Laboratory

MCB 3020L: General Microbiology Laboratory

In BSC 1010L, students are tested primarily over conceptual material via short answer and essay questions. In BSC 1011L, students are tested with practical examinations on their technical skills. In MCB 3020L, students are tested with practical examinations over a variety of laboratory skills including microscope technique, sterile technique, and tissue culture.

**COMMUNICATION (Written Communication, Oral Communication): Students will demonstrate the ability to speak and write effectively on biological topics.**

Students in BSC 1010L and BSC 1011L are assigned to discussion groups of eight to ten students where they discuss course concepts and are evaluated for group participation. In addition, students are tested for written communication skills via essay and short answer examinations. In MCB 3020L, students also demonstrate their written communication skills by completing laboratory reports, homework assignments, and reviews of technical papers.

**CRITICAL THINKING (Analytical Skills): Students will use critical thinking to evaluate information and data related to behavioral and psychological processes by applying basic principles of scientific methodology including (1) the nature of scientific explanations, (2) threats to the validity and reliability of observations, (3) the limitations of measurement scales, (4) the use of experimental and quasi-experimental designs to test hypotheses and (5) the proper interpretation of correlational and experimental data.**

In PSY 3213 (Research Methods in Psychology), students will complete examinations and write a research paper that will assess students' understanding and application of scientific methodology.

Approved 1-14-2006

**COMPLETE DEGREE REQUIREMENTS APPEAR IN FAU'S UNIVERSITY CATALOG**