

BIOLOGY (BIO)

College of Biological Sciences

BIO 001 – Introductory Biology: Ecology & Evolution (4 units)

Course Description: Fundamentals of ecology, evolution, and heredity. Processes that generate and maintain biological diversity, spanning genes to ecosystems.

Learning Activities: Lecture 3 hour(s), Discussion 1 hour(s).

Credit Limitation(s): No credit to students who have taken BIS 002B.

Grade Mode: Letter.

General Education: Science & Engineering (SE); Quantitative Literacy (QL); Scientific Literacy (SL); Visual Literacy (VL).

BIO 001L – Introductory Biology Lab: Ecology & Evolution (1 unit)

Course Description: Inquiry-based, hands-on field and lab experience in ecology, evolution, and heredity. Processes that generate and maintain biological diversity, spanning genes to ecosystems.

Prerequisite(s): BIO 001 (can be concurrent)

Learning Activities: Laboratory 2.5 hour(s).

Credit Limitation(s): No credit to students who have taken BIS 002B.

Grade Mode: Letter.

General Education: Science & Engineering (SE).

BIO 002 – Introductory Biology: Molecules to Cells (4 units)

Course Description: Molecular basis of life, illustrating mechanistic underpinnings and evolution. Fundamentals of molecular biology, cellular biology, and metabolism.

Prerequisite(s): BIO 001 C- or better; or consent of instructor.

Learning Activities: Lecture 3 hour(s), Discussion 1 hour(s).

Credit Limitation(s): Not open for credit to students who have taken BIS 002A.

Grade Mode: Letter.

General Education: Science & Engineering (SE).

BIO 002L – Introductory Biology Lab: Molecules to Cells (1 unit)

Course Description: Inquiry-based, hands-on laboratory experience in molecular and cellular biology. Interactions and responses of cells to a changing environment.

Prerequisite(s): BIO 001L C- or better; BIO 002 (can be concurrent).

Learning Activities: Laboratory 2.5 hour(s).

Grade Mode: Letter.

General Education: Science & Engineering (SE).

BIO 003 – Introductory Biology: Cells Through Organisms (4 units)

Course Description: How multicellular organisms solve life's problems. Basics of cell communication, cell organization into tissues and organs, and examples of how organisms across the tree of life address challenges such as sensing and responding to the abiotic and biotic environment, acquiring resources, maintaining homeostasis, preventing disease, and reproducing.

Prerequisite(s): BIO 001 C- or better; BIO 002 C- or better.

Learning Activities: Lecture 3 hour(s), Discussion 1 hour(s).

Credit Limitation(s): Only 3 units of credit for students who have taken BIS 002D.

Grade Mode: Letter.

General Education: Science & Engineering (SE).

BIO 150 – Course-Based Undergraduate Research Experience in Biology (2 units)

Course Description: Course-based undergraduate research experience. Hands-on participation in inquiry-based, discovery research on questions of broad relevance and significance in the biological sciences. Experimental design, modern techniques, and data analysis, with critical synthesis and presentation of findings.

Prerequisite(s): Consent of instructor.

Learning Activities: Lecture/Discussion 1 hour(s), Laboratory 3 hour(s).

Grade Mode: P/NP only.

General Education: Science & Engineering (SE).