

Student Learning Outcomes for the Course 1307

*At the conclusion of the **lecture portion** of this course students should be able to:*

- 1 Describe modern evolutionary synthesis, natural selection, population genetics, micro and macroevolution, and speciation.
- 2 Describe phylogenetic relationships and classification schemes.
- 3 Identify the major phyla of life with an emphasis on plants and animals, including the basis for classification, structural and physiological adaptations, evolutionary history, and ecological significance.
- 4 Describe basic animal physiology and homeostasis as maintained by organ systems.
- 5 Compare different sexual and asexual life cycles noting their adaptive advantages.
- 6 Illustrate the relationship between major geologic change, extinctions, and evolutionary trends.
- 7 Demonstrate an understanding of genomic organization and molecular genetics including recombinant DNA biotechnology, differential gene expression and development.

Student Learning Outcomes for the Course 1107

*At the conclusion of the **laboratory portion** of this course students should be able to:*

1. Apply scientific reasoning to investigate questions and utilize scientific tools such as microscopes and laboratory equipment to collect and analyze data.
2. Use critical thinking and scientific problem-solving to make informed decisions in the laboratory.
3. Communicate effectively the results of investigations.
4. Demonstrate knowledge of modern evolutionary synthesis, natural selection, population genetics, micro and macroevolution, and speciation.
5. Distinguish between phylogenetic relationships and classification schemes.
6. Identify the major phyla of life with an emphasis on plants and animals, including the basis for classification, structural and physiological adaptations, evolutionary history, and ecological Significance.
7. Describe basic animal physiology and homeostasis as maintained by organ systems.
8. Compare different sexual and asexual life cycles noting their adaptive advantages.
9. Illustrate the relationship between major geologic change, extinctions, and evolutionary trends.