

Bemidji State University

BIOL 4620: Evolution

A. COURSE DESCRIPTION

Credits: 3

Lecture Hours/Week: *.*

Lab Hours/Week: *.*

OJT Hours/Week: *.*

Prerequisites: None

Corequisites: None

MnTC Goals: None

Patterns and processes of biological evolution. Topics include phylogenies, speciation, extinctions, biogeography, adaptations, sexual selection, and behavior, with an emphasis on vertebrates and invertebrates. Prerequisite: BIOL 2360 or consent of instructor.

B. COURSE EFFECTIVE DATES: 08/24/2015 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

1. Adaptations
2. Adaptive Radiation
3. Alternate Mating Strategies
4. Biogeography
5. Coevolution
6. Cultural Evolution
7. Darwinian Medicine
8. Evolution as Fact
9. Evolution as Theory
10. Evolution of Sex
11. Extinctions
12. Fossil Record
13. Game Theory
14. Genetic Drift
15. Genetic Variation in Populations
16. History of Evolutionary Thought
17. Levels of Selection
18. Life History Strategies
19. Mating Systems
20. Modes of Selection
21. Molecular Evolution
22. Mutations
23. Nature of Evolution
24. Origins of Life
25. Patterns of Evolution
26. Phlogenies
27. Population Genetics
28. Precambrian & Cambrian Explosion
29. Punctuated Equilibrium
30. Sexual Selection
31. Social Behavior
32. Speciation

D. LEARNING OUTCOMES (General)

1. demonstrate their ability to synthesize evolutionary principles.
2. demonstrate their understanding of the patterns and processes of evolution.
3. clearly articulate the difference between evolution as fact and evolution as theory.
4. demonstrate their understanding of evolutionary principles by reading and writing a review on an evolutionary book using the appropriate literary style.
5. demonstrate their understanding of phylogenetic relationships among organisms by drawing cladograms using the principle of parsimony.

E. Minnesota Transfer Curriculum Goal Area(s) and Competencies

None

F. LEARNER OUTCOMES ASSESSMENT

As noted on course syllabus

G. SPECIAL INFORMATION

None noted