ESEC A140: MEDITERRANEAN BIOME ECOLOGY

Item	Value
Curriculum Committee Approval Date	12/08/2021
Top Code	049900 - Other Biological Sciences
Units	1 Total Units
Hours	36 Total Hours (Lecture Hours 9; Lab Hours 27)
Total Outside of Class Hours	0
Course Credit Status	Credit: Degree Applicable (D)
Material Fee	No
Basic Skills	Not Basic Skills (N)
Repeatable	No
Grading Policy	Standard Letter (S), • Pass/No Pass (B)

Course Description

The Mediterranean Biome includes chaparral and coastal sage scrub in North America, mallee scrub in Australia, mattoral in South America, fynbos in Africa, and maquis in Europe. This course surveys this biome through an investigative approach. Field trips are required. Transfer Credit: CSU.

Course Level Student Learning Outcome(s)

1. Assess ecological relationships within a Mediterranean biome.
2. Analyze data and form conclusions based on research and experiments.
3. Describe differences between different habitats within the Mediterranean biome.

Course Objectives

- 1. Describe the abiotic factors of the Mediterranean biome.
- 2. Describe the biotic factors of the Mediterranean biome.
- 3. Investigate the ecological relationships among the organisms and their habitat.
- 4. Assess the affects of non-native species on the health of the biome.
- 5. Conduct an experiment to understand an ecological process in the Mediterranean biome.
- 6. Maintain a field notebook.
- 7. Compare the ecology of the various habitats on Earth classified within the Mediterranean biome.
- 8. Understand the global role of the Mediterranean biome.

Lecture Content

I. Mediterranean Biome Characteristics A. Geographical influence B. Annual temperature and precipitation C. Soil types D. Role of fire II. Habitat Types A. North America: chaparral and coastal sage scrub B. Africa: fynbos C. Australia: mallee scrub D. South America: mattoral E. Europe: maquis III.Mediterranean Biome Organisms A. Plant adaptations B. Animal adaptations C. Additional organismsIV. Organism Interactions A. Predation B. Competition C. Mutualism D. Parasitism E. Commensal

Lab Content

I. Research and Experimentation A. Literature search B. Forming a testable question C. Designing an experiment D. Analyzing data E. Forming conclusions

Method(s) of Instruction

- Lecture (02)
- Lab (04)

Instructional Techniques

Lecture, discussion, field work, and data analysis.

Reading Assignments

Students will spend 1 hour per week reading the provided text material and literature from their research.

Writing Assignments

Students will spend 1 hour per week maintaining their field journals and writing their results from projects/experiments.

Out-of-class Assignments

Students will spend 1 hour per week researching the literature for projects, completing assignments, and designing experiments.

Demonstration of Critical Thinking

1. Assessing experimental data to formulate conclusions.2. Answering exam questions.3. Participation in class discussions

Required Writing, Problem Solving, Skills Demonstration

1. Designing an experiment.2. Maintaining a field journal.3. Participation in field data collection and analysis.

Eligible Disciplines

Biological sciences: Masters degree in any biological science OR bachelors degree in any biological science AND masters degree in biochemistry, biophysics, or marine science OR the equivalent. Masters degree required. Ecology: Masters degree in ecology or environmental studies OR the equivalent OR see interdisciplinary studies. Masters degree required.

Other Resources

1. Selected readings about the Mediterranean biome, associated organisms, and scientific methodology.