

SOUTHEAST MISSOURI STATE UNIVERSITY

Department of Biology

BI-840

Cave Life for Teachers

New - Summer 1999

- I. Catalog Description and Credit Hours: Caves are a fragile ecosystem that get little attention. Understanding who lives in a cave will not only benefit the cave resource of the state, but can be tied into the changing teaching standards of Missouri. This course will use caves to facilitate the traditional disciplines taught in school. (1)
- II. Prerequisite(s): Students should have a B.S. or a minimum of 45 hours of undergraduate credit.
- III. Purposes or Objectives of the Course:
 - A. To familiarize teachers with what can exist in a cave.
 - B. To promote sound understanding of the ecology of cave dwelling creatures.
 - C. To facilitate ideas for using cave ecology in a classroom setting.
 - D. To provide teachers with connections between caves and teaching requirements using interdisciplinary techniques.
- IV. Expectations of Students:
 - A. Know what types of organisms live in a cave and their needs.
 - B. Understand how cave animals interrelate to one another.
 - C. Explain the value and fragility of a cave ecosystem.
 - D. Extend the skills and knowledge they have developed to their classroom.
 - E. Have the skills needed to continue studying caves in an interdisciplinary manner.
- V. Course Content or Outline (Hours):

Preceding the course, participants will conduct an exhaustive literature review on a cave dwelling organism from a predetermined list. They will record specific life history information about that organism. The information will be used in activities during the course on the second day. Course will be taught at the Jerry J. Presley Conservation Education Center in Eminence, Missouri.

 - A. Cave icebreaker (1/2)
 - B. Conservation concepts as applied to caves (1)
 - C. World cave life perspectives (1)
 - D. Troglodytes and Troglophiles (1)
 - E. Karst introduction and demonstration (1/2)
 - F. Project WET Groundwater activity (3/4)
 - G. "Hidden Resources" video (1/2)
 - H. Travel to and instructions for Round Spring Cave (2 1/2)
 - I. "Cave for Rent" assignments (1 1/2)
 - J. Echolocate for bats; caving equipment (1 1/2)
 - K. Eyes in the Night (1)

- L. Habitat divisions "Cave for Rent" (1/2)
- M. Guano estimation (1/2)
- N. Cave journaling (1/2)
- O. Bat metabolism and activity (3/4)
- P. Early humans as cave life and their stone art (1 1/4)
- Q. Cave biogeography and karst topography (1/4)
- R. Cave biomass pyramid (1)
- S. Cave colorations and activity (1/2)
- T. Cave ethics and conservation - go caving smart! (1)
- U. Wrap up and evaluations (1/2)

VI. Textbook and/or Supplemental Materials:

Moore, G., and N. Sullivan. 1997. Speleology. National Speleological Society, St. Louis. All other materials will be provided by the Missouri Dept. of Conservation.

VII. Basis of Student Evaluation:

- A. Students will be expected to create a profile of a cave dweller from a predetermined list and write about it for an elementary audience.
- B. Students should participate in all given activities and attend all sessions.
- C. Students will create a lesson plan appropriate for their classroom.