

## SOUTHEAST MISSOURI STATE UNIVERSITY

Environmental Science Program  
AP Institute: Environmental Science

GI 635  
New: Fall 1999

- I. **Catalog Description and Credit Hours of Course:** A course designed to assist high school environmental science teachers in offering Advanced Placement Environmental Science as part of their curriculum. 8 days, from 8:00 a.m. – 5:00 p.m. each day, lab and lecture. Summer. 3 credit hours.
- II. **Prerequisites:** The student/applicant is a certified high school science teacher.
- III. **Objectives of the Course:**
  - A. To prepare students to teach AP Environmental Science in their high schools.
  - B. To provide students with hands-on experience with active learning (classroom, laboratory, and field) exercises that may be used in instruction of their AP Environmental Science course.
  - C. To provide students with concise summaries of key concepts in fundamental areas of environmental science.
  - D. To provide students with an extensive compilation of topic-related resources that may be useful in development and instruction of their AP Environmental Science course.
- IV. **Expectations of Students:** To attend class and actively participate in class discussions and in all classroom, laboratory, and field exercises.
- V. **Course Outline:** The following outline of course content and time allocations is tentative and will require adjustment each time the course is offered to accommodate variations in the availability of participating faculty.
  - A1. Introduction to AP Environmental Science (1 day) Instructors: Dr. Steve Overmann and a to-be-named AP Environmental Science instructor
  - B1. Environmental Science and the Internet (1/4 day) Instructor: Dr. Steve Overmann
  - B2. Environmental Science Software and Simulations (1/4 day) Instructor: Dr. Steve Overmann
  - B3. Plant Competition and Experimental Design & Analysis (1/2 day) Instructor: Dr. Steve Overmann
  - C1. Aquatic Concepts and Exercises (3/4 day) Instructor: Dr. Joe Bidwell
  - C2. Environmental Microbiology Concepts and Exercises (1/4 day) Instructor: Dr. Jim Champine
  - D1. Soil Science Concepts and Exercises (3/4 day) Instructor: Dr. Mike Aide

- D2. Remote Sensing and GIS Concepts and Exercises (1/4 day) Instructor: Dr. Gary Cwick
- E1. Environmental Chemistry Concepts and Exercises (1 day) Instructors: Drs. Mohammed Ali and Phil Crawford
- F1. Environmental Law Concepts and Exercises (1/2 day) Instructor: Dr. John Kraemer
- F2. Environmental Health Concepts and Exercises (1/2 day) Instructor: Dr. John Kraemer
- G1. Environmental Economics Concepts and Exercises (1/4 day) Instructor: Dr. Bill Weber
- G2. Environmental Ethics Concepts and Exercises (1/4 day) Instructor: Dr. Bill McKinney
- G3. Waste Management Concepts and Exercises (1/2 day) Instructor: Dr. Steve Overmann
- H1. Field Trips to Local Facilities (1 day) Instructor: Dr. Steve Overmann

VI. **Required Reading Materials (See Notes 1 and 2)**

College Entrance Examination Board. 1997. *Advanced Placement Course Description: Environmental Science (May 1998, May 1999)*. New York: The College Board, 39 pp. and xxxii pp.

College Entrance Examination Board. 1998. *A Guide to the Advanced Placement Program (May 1999)*. New York: The College Board, 56 pp.

College Entrance Examination Board. 1998. *AP Environmental Science Scoring Rubrics and Sample Papers 1998*. New York: The College Board, 60 pp.

Ertel, E.W. 1997. *Teacher's Guide -- AP Environmental Science (Draft Copy)*. New York: Educational Testing Service, 86 pp.

Note 1. The most recent copies of these publications will be used in the course.

Note 2. These publications will be supplied free of charge to student participants in the course.

VII. **Basis for Student Evaluation:** The course will be graded on a pass-fail basis. Credit will be awarded for successful participation in all course activities.

VIII. **Participating Faculty:**

- A. AP Environmental Science Instructor - To be Determined (Area to be determined and Co-Lead Instructor)
- B. Southeast Missouri State University Faculty

1. Dr. Michael (Mike) Aide, Department of Geosciences: Soil Science Concepts and Exercises
2. Dr. Mohammed Ali, Department of Chemistry: Environmental Chemistry Concepts and Exercises
3. Dr. Joseph (Joe) Bidwell, Department of Biology: Aquatic Concepts and Exercises
4. Dr. James (Jim) Champine, Department of Biology: Environmental Microbiology Concepts and Exercises
5. Dr. Gary Cwick, Department of Geosciences: Remote Sensing and GIS Concepts and Exercises
6. Dr. Phillip (Phil) Crawford, Department of Chemistry: Environmental Chemistry Concepts and Exercises
7. Dr. John Kraemer, Department of Biology: Environmental Health and Law Concepts and Exercises
8. Dr. William (Bill) McKinney, Department of Philosophy: Environmental Ethics Concepts and Exercises
9. Dr. Stephen (Steve) Overmann, Department of Biology: Course Coordinator and Co-Lead Instructor
10. Dr. William (Bill) Weber, Department of Economics: Environmental Economics Concepts and Exercises