

PROPOSED PROGRAM, 1997-98

Title: Introduction to Natural Science

Enrollment: 72 or 96

Credit: 16 per quarter

Faculty: At least one biologist, one chemist, one mathematician; probably will require two biologists to meet anticipated student demand

Topics covered: Biology, chemistry, mathematics, environmental studies

Level: Second year; well-prepared first-year students will be admitted if there is room in the program

Prerequisites: High school algebra

Introduction to Natural Science will provide a standard second-year entry into natural science for students who are primarily interested in the biological and environmental sciences, and who do not need, or are not prepared for, a rigorous study of physics and chemistry using calculus. We will assume students know only high school algebra; their knowledge of mathematics will be assessed, and they will be placed in an appropriate mathematics section of the program.

The heart of the program will be an integrated study of biology and chemistry. We will do a full survey of basic chemical and biological principles, with particular emphasis on understanding principles and learning to think about chemical and biological problems. Because of the centrality of ecological and evolutionary concepts, and because of the importance of environmental issues in the modern world, the study will be oriented toward these concepts and problems. We will introduce biology by focussing on large ecological concepts. In a regular seminar series, we will discuss environmental problems, the current state of the world's environment, and the role of science in these issues.

To emphasize learning through active personal involvement, rather through faculty lectures, the bulk of the work will take place in workshops, problem-solving sessions, and laboratories, including computer labs. Students should be prepared to devote considerable time each week to independent and collaborative work: reading, writing papers, solving assigned exercises, and laboratories. They will reap benefits in proportion to their own efforts.