

## THE ENERGY AND RESOURCES GROUP MINOR

### Background

The Energy and Resources Group (ERG) is a unique academic unit within the University of California at Berkeley. Our vision is a future in which the twin goals of human well-being and a healthy environment are mutually and sustainably satisfied. ERG's mission is to develop and transmit the critical knowledge needed to make such a future possible. We view society and the environment as an inextricably coupled system. ERG research, therefore, emphasizes (1) science-based knowledge of the environmental consequences of resource use; (2) analytical tools that promote efficiency, conservation, affordability and equity in energy and resource use patterns; and (3) a deep understanding of the social and institutional contexts in which resource and environmental problems arise, and in which creative and ethical solutions can be sustained. It is this synthesis of basic science, practical problem-solving and constructive social critique that defines ERG.

ERG provides a dynamic academic environment in which students, core faculty, and affiliate faculty members communicate and collaborate freely and actively. This rich and diverse network of scholarship is represented in ERG's broad research themes (Technology, Development and Society; Consumption, Resource Use and Equity; Global Change Science; Governance Challenges; and Ecological Economics), and is reflected in its curricular offerings. Most of these themes are not "fields" as defined by traditional academic departments. They have emerged through ERG's integrative approach to research, and through applying our research to energy and resource problems at home and abroad.

Over the past three decades, the Energy and Resources Group has offered upper division courses. Increasingly, ERG is approached by undergraduates desiring a more focused course of study and area of emphasis in energy and resources. As a consequence, the ERG faculty has decided that it would best serve the needs of undergraduates by providing the framework of a minor program of study. A structured approach to studies of energy and resources would have two advantages: (1) Students would receive guidance in selecting a coherent set of courses that could be tailored to their particular interests. (2) An officially recognized "minor" in energy and resources will be of strategic importance when seeking jobs in the burgeoning areas of environmental science and policy.

The **Minor in Energy and Resources** offers undergraduates the opportunity to develop basic knowledge and skills to help them address the complex and interdependent issues associated with interaction of social, economic, political, technical, and environmental factors. It is designed primarily to complement majors in the natural sciences and engineering although students in other majors with the appropriate prerequisites might also choose it. Based on a six-course set of prerequisites in mathematics and natural sciences, the minor is satisfied by completing five upper division courses, with two core courses and three electives. The great challenge of an interdisciplinary but rigorous education lies in training the student to use and to integrate multiple research methods. The core courses provide students with an introduction to

interdisciplinary analysis, and to integrating tools and methods from different disciplines such as economics and ecology. They also cover key energy and resource issues. The electives allow further exploration of these concepts; the electives must consist of one social science course, one natural science or engineering course, and one additional elective of the student's choice. The electives must be taken from the list approved by the ERG faculty or with permission by the ERG undergraduate advisor. The specific rules follow.

## **Minor Program Regulations**

A. The minor program in Energy and Resources is intended as an optional program to encourage coherence in the work undergraduate students undertake outside their major field(s) of study, and as an opportunity to engage in interdisciplinary study.

B. The following minimum criteria will apply to the Energy and Resources Group minor program.

1. The following lower-division courses must be completed: Math 1AB or 16AB; Physics 7AB or 8AB; Chemistry 1A or 4A; and Biology 1B or 11.
2. Five upper division courses are required for completion of a minor program. At least four of the five upper division courses must be taken at Berkeley. At least three of the courses must be in the Energy and Resources Group.
3. Two core courses (ER 100 Energy and Society, and ER 102 Quantitative methods for environmental problem solving) are required for the minor.
4. Three elective courses are required, and must be taken from the list approved by the Energy and Resources Group. At least one elective must be in the social sciences, and one in the natural sciences or engineering. Exceptions may be granted by the ERG undergraduate advisor.
5. All upper division courses used in satisfaction of the minor program must be taken for a letter grade. The ERG undergraduate advisor is authorized to grant exceptions to this rule.
6. The student must achieve at least a C average (2.00) in the upper division courses offered in satisfaction of a minor program.

C. The Energy and Resources Group is responsible for monitoring the minor program.

D. At the time that the student completes the minor program, the Energy and Resources Group shall notify the Office of the Registrar. Completion of the minor program will be noted on the student's transcript of Berkeley work.

E. A student may use a maximum of one upper division course to satisfy requirements of both a major and a minor. Exceptions to this rule must be granted by the college in which the student is majoring. Students are to initiate the request at their college and provide written approval to the ERG minor advisor for concurrence.