

Rationale for Earth Sciences 155 Energy and Environment

Over the past century, economies of Western nations have developed explosively, fueled by cheap energy from fossil fuels. However, current world events underscore the tenuousness of these oil and gas sustained economies. Decreased production and uncertain future production have led to sharply rising prices for energy, and may be just the precursor to a cascade of impacts on our affluent lifestyles. In this class, students will evaluate a spectrum of topics on energy and the environment. While non-renewable, traditional energy sources (fossil fuels and nuclear energy) will be examined in detail, emphasis also will be placed on renewable, alternative (e.g., ethanol) and natural (e.g., wind, solar, and water) sources. With this increased technical insight, students will develop a thorough appreciation of the science and technology needed to critically and factually assess all possible energy resources in a context of energy efficiency and Earth sustainability.

This undergraduate level course on energy and the environment will provide students with the basic foundation and broader perspective required for other courses in the earth sciences. Students outside the earth sciences will benefit from this introductory-level course by the development of an increased awareness of the issues surrounding fossil fuel consumption, and the viability of other alternative and natural energy sources. It is anticipated that enrollment for this course will grow steadily from less than 10, to 40 or more with increasing departmental and university exposure.

The course will be cross-listed and team taught by faculty from the School of Earth Sciences and the School of Environment and Natural Resources. The combined efforts of SES and SENR will ensure a thorough coverage of the subject from a primarily physical perspective (SES) and biological foundation (SENR).