Brief course description

Environmental Systems and Societies is offered as a standard level class. As a cross-curricular and cross-disciplinary subject, ESS is designed to combine the techniques and knowledge associated with group 4, the experimental sciences, with those associated with group 3, individuals and societies. The focus of the ESS course is to provide students an understanding of the interrelationships between culture, communities, ecosystems, abiotic and biotic factors and include theory of knowledge themes throughout the curriculum. Students evaluate the scientific, ethical and socio-political aspects of issues locally and globally. Each student can form knowledgeable, informed opinions about societal impacts on the environmental by making intellectual decisions based on historical data, scientific data and analysis.

Field investigations and laboratory components will support a systematic approach as students examine major ecosystems, biogeochemical cycles, human population dynamics and its impact on Earth’s natural resources and the importance of conserving and preserving natural biodiversity while recognizing cultural traditions.

2012 – 2013 Scope and Sequence: August- December
All Dates are projected and may be subject to change.
You will be sent a second semester January-June Scope and Sequence in January.

Unit 1: Sustainability Dates: August-September
Content:
- Safety, Global environmental picture, Three strategic themes(sustainability, stewardship and science), Three integrative themes(ecosystem capitol, policy/politics, globalization)

Summative Assessment Tasks
- Safety Assessment
- Tragedy of the Commons Laboratory Exercise
- Chapter 1 Assessment

Unit 2: Ecosystems Dates: September-November
Content:
- Organizational Levels, Negative and positive feedback systems, Biogeochemical cycles, Measuring abiotic and biotic factors, Changes in ecosystems, Biodiversity, Conservation
Summative Assessment Tasks
- Food Web Marine System Exercise
- Biogeochemical Flow Chart
- Food Web Laboratory Exercise
- Chapter 2 Assessment
- Chapter 3 and 4 Assessment

Unit 3: Human Populations Dates: November-December
Content:
- Population dynamics, carrying capacity, resource usage and demand, natural capital (resources), population growth and limits

Summative Assessment Tasks
- Population Charts and Graphs Evaluation Exercise (Computer Simulation)
- Population growth inhibitors and accelerators Laboratory Activity
- Chapter 5 Assessment
- Chapter 6 Assessment

Office hours in room 407B 11:00AM to 12:20PM (J,R, and I Days) and Before/After School:
Students are encouraged to use office hours to receive extra learning support. These office hours may be changed due to scheduled faculty meetings, conferences, or unforeseen circumstances