Environmental Systems and Societies

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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: Conservation and Biodiversity Dates: August-September
Content:
• Population dynamics, resources, natural capitol, wild species, resource consumption, preservation, data collection and observation

Summative Assessment Tasks
• Chapter 10 and 11 Assessment
• Sharkwater Documentary Paper
• Mark and Recapture Lab
• Transect Studies
• IA-Germination
Unit 2: Human Populations and Resource Use  Dates: October - December

Content:
- Energy resources, renewable energy, non-renewable energy, energy consumption

Summative Assessment Tasks
- Chapter 12, 13, and 14 assessment
- Energy Source Comparison presentation
- Kilowatt Hours video and paper reflection
- Energy Consumption Modeling lab using household data

Unit 3: Pollution Pollution Management  Dates: December - February

Content:
- Nature of Pollution, Detection and monitoring, approaches to pollution management, historical pollution issues, eutrophication, solid waste, atmospheric pollution, acid deposition and mining

Summative Assessment Tasks
- Chapter 17, 18, 19 and 21 Assessment
- Air pollution Lab
- Historical Man-made disasters debate and research
- Solid waste, recycling and compost field trip
- Mining Lab

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