

ESP 801 – Fall 2009

Physical, Chemical & Biological Processes of the Environment: *an Advanced Introduction to Environmental Science*

1:00 – 1:50 p.m. – MWF – 273 Giltner Hall
Open to all graduate students (3 credits)

This course is being substantially revised for Fall 2009 to target the interests of students in natural sciences, social sciences, agriculture and natural resources, arts and letters, and engineering seeking to understand the scientific principles behind a range of environmental challenges and how these principles affect policy solutions. The goals for the course are:

1. Review the key physical, chemical and biological processes that affect and control environmental quality
2. Develop a systems analysis approach that integrates physical, chemical and biological processes into to a framework that can be used to analyze environmental problems and explore solutions
3. Use this systems approach to analyze a series of environmental challenges involving different media (e.g. soil, water, air, biota), scales (molecular to global), and time frames.
4. Explore different approaches for relating scientific end-points to human and ecosystem impacts
5. Consider and critique the scientific evidence behind proposed policy solutions to a series of environmental problems.

The course will be organized around an alternating series of biweekly assignments involving exercises using the Stella systems modeling software and discussions of papers addressing the science/policy interface. Modeling skills will be developed in class, however it assumed that students will have had exposure to university level science courses.

For more information, please contact the instructors directly:



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