Physics 311 – Connections in Science – Fall 2008

Course Instructor: Philip B. Allen
Course web page: http://www.astro.sunysb.edu/dugs/PHY_311-F08.html
Personal web page: http://felix.physics.sunysb.edu/~allen/
Office: Physics B-146 and Physics B-110 (main office, undergraduate program director’s sub-office)
Telephone: 2-8179 (in B-146); 2-8758 (in P-110)
Office Hours: Monday through Friday 10-12 am in room P-110; or by arrangement.

COURSE DESCRIPTION: A selection of the interrelations between physics and other scientific and technological fields, using modern examples from engineering, medicine, and applied mathematics, among others. The course is taught as a seminar and includes guest lecturers, tours of laboratories, and discussion of classic and current research projects. Appropriate for physics and non-physics majors alike.

Course Topic: The focus for Fall 2008 is “Global Energy Problems.” What are the problems? What should people think or do about these problems? Science here collides with economics, history, politics, and public policy. Connections both within science and outside science will be discussed. Guest discussion leaders will frequently be invited. Tours of facilities may be arranged.

Course Prerequisites: PHY 122/124 or 127 or 132/134 or 142

COURSE OBJECTIVES: To acquire a quantitative understanding of the earth’s energy resources and human energy needs; to think about how human activities interact with climate and other aspects of the environment; to think about economic and political parameters, and what is the role of science in real world activities.

COURSE REQUIREMENTS:

Attendance and Make Up Policy
The course will meet every Monday for the 14 week semester. Attendance is required except as excused by medical document or University-sanctioned event. Most weeks there will be a guest discussion leader. Late arrival to class is rude to the course leaders. Late arrival or late submission of writing will carry penalties.

Description and schedule of Required Readings and/or Assignments.
Please see the course web page for details. There will be assigned readings from the text Physics for Future Presidents by Richard Muller. There will also be assigned reading from various documents. Many relevant documents will be made available, either by links on the course web page, or in the “course documents” section of the course “blackboard” page. Not all these documents are required! Some are posted only as interesting supplemental reading; it is not expected that students will have time or interest to read them all.

Exams
There will be no exams.

Grading:
Class participation (including prompt arrival!) will be recorded through wireless “clicker” responses. The correctness of the response via clicker will generally not factor into the grade, but the act of responding will be. The grade will be based 25% on class participation and based 75% on short (one page) assigned written essays. These assignments will appear on the course web page by Tuesday of each week, and will be due in class the following Monday. There will be options on the essay topic, and sometimes the option of working a relevant physics calculation rather than writing an essay. The eight best essay grades (out of perhaps 11 assignments) will be used for the course grade.
DISABILITY SUPPORT SERVICES (DSS) STATEMENT: If you have a physical, psychological, medical, or learning disability that may impact your course work, please contact Disability Support Services (631) 632-6748 or http://studentaffairs.stonybrook.edu/dss/. They will determine with you what accommodations are necessary and appropriate. All information and documentation is confidential.

Students who require assistance during emergency evacuation are encouraged to discuss their needs with their professors and Disability Support Services. For procedures and information go to the following website: http://www.stonybrook.edu/ehs/fire/disabilities/asp.

ACADEMIC INTEGRITY STATEMENT: Each student must pursue his or her academic goals honestly and be personally accountable for all submitted work. Representing another person's work as your own is always wrong. Faculty are required to report any suspected instance of academic dishonesty to the Academic Judiciary. For more comprehensive information on academic integrity, including categories of academic dishonesty, please refer to the academic judiciary website at http://www.stonybrook.edu/uaa/academicjudiciary/

CRITICAL INCIDENT MANAGEMENT: Stony Brook University expects students to respect the rights, privileges, and property of other people. Faculty are required to report to the Office of Judicial Affairs any disruptive behavior that interrupts their ability to teach, compromises the safety of the learning environment, and/or inhibits students' ability to learn.

CLASS PROTOCOL
Cell Phones should be turned off. Students may bring a soft drink to class, but should not eat lunch in class.

CLASS RESOURCES
Blackboard
Writing Center
Course web page: http://www.astro.sunysb.edu/dugs/PHY_311-F08.html