

Syllabus for HONS 2070H: Honors Science Chemistry Fall 2010

Instructor: Tim Dore

Office: 514 Chemistry

Office Hours: Open

Meeting Time: 2:30–3:20 AM, Mon., Wed., and Fri.; 2:00–4:45 PM Tue.

Meeting Place: 327 Physics and Astronomy

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Description: The HONS 2070H/2080H sequence teaches concepts of physics, chemistry, geology, and biology in an integrated fashion. The courses consider the evolution of the universe from the primordial state to the present time and human interaction with the environment.

Prerequisites: Permission of Honors. Not open to students with credit in PHYS 1010 or CHEM 1110

Objectives: The HONS 2070H/2080H sequence will integrate four major areas of natural science, and the mathematics and technology that are used in these disciplines, for non-science majors. It is intended to improve the students' abilities to read and interpret information from the sciences so that they can evaluate the impact of science and technology in their lives and careers.

Textbook & Website: Eubanks, Middlecamp, Heltzel, and Keller, *Chemistry in Context* 6th Ed.
http://highered.mcgraw-hill.com/sites/0073048763/student_view0/

Office Hours: Dr. Dore is available any time during normal business hours. To meet with him, telephone him in his office 15 minutes in advance of the time you wish to meet. If he is unavailable in 15 minutes, he will schedule an alternative time with you, usually on the same day. If he does not answer, leave a message, and he will return your call to set up an appointment.

Class Format: Classroom activities will consist of a mixture of lecture and in-class exercises in which students work individually or in self-managed teams. A weekend field trip to Sapelo Island and occasional other trips are required.

Workload: Successful students will spend at least 2 hours preparing for each class by reading in the selected sections in the textbook or other resource and completing any assigned homework. Your preparation will be most effective if you work with a productive study group or partner on a regular basis.

Topical Course Outline

| Date | Topic | Reading |
|---------------|---|------------|
| Oct 11 | The Air We Breathe | Chapter 1 |
| Oct 12 | <i>Lab: Reserved for Physics Final Exam</i> | |
| Oct 13 | The Air We Breathe | |
| Oct 15 | The Air We Breathe | |
| Oct 18 | Ozone and the Ozone Layer | Chapter 2 |
| Oct 19 | <i>Lab: Gases in Air</i> | |
| Oct 20 | Ozone and the Ozone Layer | |
| Oct 22 | Ozone and the Ozone Layer | |
| Oct 25 | Chemistry and Global Warming | Chapter 3 |
| Oct 26 | Quiz #1 | |
| Oct 26 | <i>Lab: Sunscreen Effectiveness</i> | |
| Oct 27 | Chemistry and Global Warming | |
| Oct 29 | FALL BREAK, NO CLASS | |
| Nov 01 | Combustion of Fossil Fuels | Chapter 4 |
| Nov 02 | <i>Lab: Analysis of Acid in Food</i> | |
| Nov 03 | Combustion of Fossil Fuels | Chapter 5 |
| Nov 05 | The Water We Drink | |
| Nov 08 | The Water We Drink | Chapter 6 |
| Nov 09 | <i>Lab: Drinking Water Production</i> | |
| Nov 10 | Acid Rain | |
| Nov 12 | Quiz #2 | |
| Nov 15 | Polymers and Plastics | Chapter 9 |
| Nov 16 | <i>Lab: Polymers and Plastics (in Chemistry 434B)</i> | |
| Nov 17 | Polymers and Plastics | |
| Nov 19 | Pharmaceuticals | Chapter 10 |
| Nov 22-26 | THANKSGIVING BREAK, NO CLASS or LAB | |
| Nov 29 | Pharmaceuticals | |
| Nov 30 | Quiz #3 | |
| Nov 30 | <i>Lab: Percy Julian: Forgotten Genius</i> | |
| Dec 01 | Pharmaceuticals | |
| Dec 03 | Cleaning Products | TBA |
| Dec 06 | Cleaning Products | |
| Dec 07 | Naturally Obsessed: The Making of a Scientist | |
| Dec 13 | Chemistry Final Examination 3:30-6:30 PM | |

eLC Site: Course information, handouts, links, and other resources can be accessed on the HONS 2070H eLearning Commons site.

Homework: Problems from your textbook and other resources will be assigned. Due dates will be announced. Late problem sets will not be accepted. Students are encouraged to collaborate when they work on the homework.

Quizzes: Three quizzes will be given in the chemistry module of the course. They will be held in class on the dates listed on the course schedule. All quizzes will be

taken individually. The scores from these will be combined with the three quizzes from the physics module with the single lowest score dropped. No makeup quizzes will be given for any reason.

Sapelo Trip The Sapelo Island trip will be held September 10-12, 2010.

Writing Assignment: Details about the associated writing assignment will be provided separately. It is due on October 6, 2010.

Final Exams: Each section of the course will have a separate final exam.

Grading: Grades are earned on the basis of achievement. Science comes more easily to some students than to others, so you should not necessarily expect A's to come to you as easily as they do to other students or to you in other courses. Nevertheless, if you work hard, the course should be a satisfying experience. Grading will be determined according to the following scheme:

| | |
|-----------------------|------------|
| Field Trip and Paper: | 15% |
| Homework: | 10% |
| Quizzes: | 50% |
| Physics Final Exam | 12.5% |
| Chemistry Final Exam | 12.5% |
| <hr/> TOTAL: | <hr/> 100% |

Laboratory: Each Tuesday, there is a laboratory period that we will use for a variety of activities, including doing some wet chemistry. For laboratory activities, **you are required to wear a pair of safety glasses**. These will be available for you at each lab period; please return them at the end of the laboratory period. **Wear sensible clothing to lab.** Shoes and shirts are required. Long hair needs to be pulled back. Sandals, open-toed shoes, and high heels, as well as shorts, short skirts, bare midriffs and backs are prohibited. It is best not to wear your good clothes into the lab, since spills are common. The use of portable electronic devices such as iPods, MP3 players, phones, etc. is not permitted in the laboratory.

Honor Code: As a University of Georgia student, you have agreed to abide by the University's academic honesty policy, "A Culture of Honesty," and the Student Honor Code. All academic work must meet the standards described in "A Culture of Honesty" found at: <http://www.uga.edu/honesty>. Lack of knowledge of the academic honesty policy is not a reasonable explanation for a violation. Questions related to course assignments and the academic honesty policy should be directed to the instructor.

Modifications: The course syllabus is a general plan for the course; deviations announced to the class by the instructor may be necessary.