

Technology & Society (4:005)

Fall 2007

Location/Time: 225 Chemistry Building
Tuesdays and Thursdays 1:05-2:20pm
Exam Time: Mondays 5:30-7:00pm

Instructor: Dr. John S. Kirk
Office: 261 Chemistry Building
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Office Hours:
Tuesday 2:30-3:30pm, Wednesday 1:30-2:30pm, Friday 10:00-11:00am, or by appointment

Required Course Materials:

- *Chemistry in Context: Applying Chemistry to Society*, American Chemical Society, 5th Ed.
- Handheld calculator with exponents, logarithms, square roots, etc.

IMPORTANT: Programmable or graphing calculators CANNOT be used during exams.

Course Description: Exploration of societal and technological issues from a chemical perspective. The course emphasizes chemical and scientific literacy as a means to better understand topics like air and water (and the trace materials found in them that are referred to as pollutants); energy from natural sources (e.g., solar and renewable forms), from fossil fuels (like gas, oil and coal) and from nuclear fission; materials like plastics and polymers and their natural analogs, proteins and nucleic acids; and chemical reactivity and molecular interconversions from simple examples like combustion to complex instances like genetic engineering and the manufacture of drugs. Calculations and mathematical manipulations are minimal, and no college-level science preparation is required.

Course Objectives: The student will be introduced to the language and basic principles of chemistry and application of these to the technology of today's society.

Course Website: A website is available on ICON (<http://icon.uiowa.edu>) and has been designed to facilitate your success in the course. If you are currently enrolled in 4:005, you should be able to access the course website. If not, please alert the instructor of this course as soon as possible. This site is meant to supplement this syllabus and will contain an electronic version of the syllabus, online quizzes, abridged lecture notes, practice tests, and announcements (including the time and location of exams and make-up exams).

Course Administration: Go to the Chemistry Center, Room 231 CB, for add/drop signatures, make-up exam scheduling, course handouts, and alternate textbooks for loan, and other administrative matters. Complaint procedures and policies on cheating can also be obtained here. The Chemistry Center hours are 8am-12pm and 1pm-5pm on weekdays except Fridays

when the hours are 8am-12pm and 12:30pm-4:30pm. The Chemistry Center Manager is Lin Pierce, 335-1341 or lin-pierce@uiowa.edu.

Special Needs: Students with special needs which require modifications in testing or seating arrangements or other types of assistance should first contact the Office of Student Disability Services, 3101 Burge Hall (335-1462) and then the Chemistry Center.

Online Quizzes: Quizzes will be administered online through the ICON website. Questions will be multiple choice and use of course material (i.e. textbook, lecture notes, etc.) is allowed. Quizzes can be taken at the student's leisure, but must be completed by 5 pm on the Friday after completion of the corresponding chapter. These deadlines will be announced on the course website.

Examinations: There will be three unit exams and a comprehensive final. The exam dates are listed below along with *tentative* chapters to be covered. The first three exams will be held in MacBride Auditorium. The location of the final exam will be announced later. Students should bring a #2 pencil, their University ID, and a basic scientific calculator (programmable or graphing calculators are not allowed). You must leave all book bags, cell phones, and wireless devices at the front of the exam room. Cheating will not be tolerated.

Exam #1: September 24th, 5:30-7:00pm – Chapters 1,2,3

Exam #2: October 22nd, 5:30-7:00pm – Chapters 4,5,6

Exam #3: December 3rd, 5:30-7:00pm – Chapters 7,8,9

Final Exam: December 21st, 12:00-2:00pm – Comprehensive

Make-up Exams: Students are expected to attend all scheduled events and maintain assignment deadlines. You will have the opportunity for a make-up exam if your excuse for illness, mandatory religious obligations, University activity, etc. conforms to the University policy as explained in the Schedule of Courses. You must present documentation (e.g. a doctor's note) to the Chemistry Center (231 CB) within 3 calendar days of the missed event. Students may take one make-up exam per semester.

Grading: The final grade will be a composite of the three unit exams, the comprehensive final, and graded homework. Plus and minus grades, where appropriate, will be given.

- 3 Unit Exams = 300 pts
- Final Exam = 100 pts
- On-line Quizzes (10 x 5 pts) = 50 pts
- Total = 450 pts

Recommended Grade Distribution of
the College of Liberal Arts and
Sciences for Elementary Courses

| Grade | % of Class |
|-------|------------|
| A | 15 |
| B | 34 |
| C | 40 |
| D | 8 |
| F | 3 |

Average GPA = 2.5 out of 4.0

Academic Misconduct: Cheating is discussed in the *College of Liberal Arts and Sciences Students Handbook*, http://www.clas.uiowa.edu/students/academic_handbook/ix.shtml. Cheating will not be tolerated in this course. If you are suspected of cheating, you will be notified in writing. In such cases, the academic misconduct policy will be followed with penalties that can include an F in the course or expulsion from the university. See the CLAS handbook for further details.

Classroom Conduct: While attendance will not be taken during class, it is *highly recommended* that students attend all lectures. Discussion and example problems presented during lecture may have direct bearing on exam and quiz questions. It is expected that students attending lecture will respect the lecturer and other students by remaining reasonably quiet during class. *Please turn down or turn off cell phones during lecture.* During some periods, students may be asked to respond to instructor questions or discuss a topic with other students around them. Disrespectful comments or actions will not be tolerated.