CHEM 016.3 Syllabus & Schedule  Fall 2015

Who should take this course? Chemistry In Modern Society (Chem 016.3) is a course intended for non-science majors and it counts towards general science requirements.

Course Content: This course presents the basic principles of chemistry with intellectual honesty but without the focus on theory and mathematical analysis used in courses for majors. The focus is instead on practical applications of chemistry that we see in everyday life that have significant impact, both good and bad, on human society. The approach throughout is to provide a background of chemical principles and processes and relate them to their impact on human society. Problems involving environmental pollution, energy sources, nuclear chemistry, and human health are discussed. Topics are presented that introduce a new approach, Green Chemistry, to designing chemicals and chemical processes that are beneficial for human health and the environment.

Course Objectives: Understand how observations, the formulation and testing of hypotheses and the scientific method are used to discover the principles of chemistry and prepare materials used in real world applications. Be able to evaluate issues related to chemistry described in communications media. Be able to appreciate the significance of chemistry in your daily life. Be able to make informed decisions as consumers and voters. Be able to debate a consumer science topic, question scientific conclusions, and write a summary.

As part of the course, you will take a current issue, read about it from conventional media sources, debate it in class and write a report.

Instructor Information:
Dr. Gopal Subramaniam
Email: gopal.subramaniam@qc.cuny.edu
Office Hours: Fridays 1 to 2 pm, Remsen 206C

Section Information:
Course code on cunyfirst is ------
Class Meets every Friday 10:00 to 12:50 AM in Remsen 017

Textbook:
You can buy from textbook from any source. The publisher and amazon links are given here for your easy reference.
1. Roberts and Company: Price for new book is $80 (special price as of Aug 18, 2015)
http://www.roberts-publishers.com/

2. Amazon: Price for new book is $54 and up.

Class Schedule & tentative exam schedule:
Note: Class meets every Friday except Sep. 25 and Nov. 27 during the Fall 2015 semester. The following schedule gives an idea of approximate chapter coverage to help you prepare for exams.
Aug 28, Sep 4 & 11: Chapters 1 to 3 covering scientific method and introduction to chemical materials. In-class demonstrations to introduce concepts like density, temperature, physical and chemical change, etc. 

**Exam 1** covering these topics will be on Sep. 18th.

Sep 18, Oct 2, 9, 16, 23, 30: Chapters 4, 5, 6, 8, 9, & 10 covering chemical bonds, air, and water. During this period, students will be assigned consumer science topics to prepare for in-class debate. There will be in-class demonstrations to show the nature of chemical reactions and their energies, properties of gases, etc. 

**Exam 2** covering these topics will be on Nov 6th.

Nov 6, 13, 20, Dec. 4: Each of the class period will have concept-discussions on energy problem, nuclear chemistry, polymers, pollution, etc. along with student-led debate. These are linked to chapter 10 – 13 in the textbook.

**Exam 3** covering the above topics will be on Dec. 11th.

Chemical Demonstrations to illustrate the topics covered will be included in the exams. Hence, pay close attention to the demonstrations and try to understand them. Ask questions. If you missed a class, you need to check with your classmates and gather the notes. See course policy regarding class attendance.

**Debates & Presentations by students in class:** Debate guidelines will be discussed early in the semester and the topics and teams will be assigned by the instructor. There will be grades for citations, presenting ideas in a logical way, raising answering questions during debate. Debate topics will be based on science related to modern society and you are expected to work with your group regularly to prepare and make strategies for presentation and defense. Debate graders are mainly your classmates, but a few additional faculty members may be present. A grading rubric will be available on blackboard to assist you in your debate preparation.

**Term Paper:** A term paper is due by 5 PM Dec 18th. It should be submitted as a word or pdf file electronically uploaded on blackboard. Blackboard checks for plagiarism. Except for bibliography, term paper should contain your original writing. Term paper will be based on your debate topic and it is graded on originality, clarity, and content. A sample term paper will be available on the course website.

There will be no other exam other than the 3 class exams.

**Course Grading:**

- Class exams: 60%
- Class debate: 25%
- Term Paper: 15%

**Course Policies:**

1. No cell phones or computers allowed in class.
2. No make-up exams are given, but if you miss one exam due to unavoidable situations, talk to me. If I approve, I will take the average of the other 2 exams.
3. Bring a calculator and periodic table to every class.
4. Read the textbook before and after lecture class. Do assigned problems for each chapter. If you don’t understand something, see me during office hours or ask me during question-answer time in class, or seek the help of free tutoring offered by the college and chem dept.
5. Attendance is required. 3 or more absences will result in automatic F or WU in the course.