CHEM 016.3 Syllabus & Schedule  Spring 2016

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. Wherever possible chemical demonstration are done in class to illustrate the concepts. 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:
1. 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.
2. Be able to understand what chemical formulas mean, what holds them together, and get some ideas about its chemical and physical properties.
3. Be able to appreciate the significance of chemistry in your daily life. Understand food, air, water, and soil. Understand chemical energy and its relation to other forms of energy.
4. Be able to evaluate issues related to chemistry described in communications media.
5. Be able to make informed decisions as consumers and voters.
6. Be able to debate a consumer science topic, question scientific conclusions, and write a summary.

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 56776
Class Meets every Friday 10:00 to 12:50 AM in Remsen 017

Textbook:
http://www.roberts-publishers.com/

Class Schedule & tentative exam schedule:
Note: Class meets every Friday as per QC’s Friday class schedule. Here is the breakdown of class meeting dates with anticipated chapter coverage and exam dates.

Jan 29: Chapter 1
Feb 5: Chapter 2
Feb 9* (*Tuesday with Friday schedule): Chapter 3. Classes don’t meet on Feb 12 (Lincoln’s birthday)

**Feb 19: Exam 1** covering chapters 1 to 3. Regular class will follow after class exam. Chapter 4

Feb 26: Chapter 4,5
Mar 4: Chapter 5,6
Mar 11: Chapter 6
Mar 18: Chapter 8
Mar 23* (*Wednesday with Friday schedule): Ch. 9. Classes don’t meet on Mar 25 (Good Friday)

**Apr 1: Exam 2** covering chapter 4, 5, 6, 8, , 9. Regular class will follow after class exam. Ch. 10

Apr 8: Chapter 11
Apr 15: Chapter 12
[Classes don’t meet Apr 22 & 29 for spring break]
May 6: Chapter 13

**May 13: Exam 3** covering chapters 10 to 13

Final Exam: A term paper is required instead of final exam.

**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.

**Class Quizzes:** You can expect quizzes during every class given once or twice during a class period. These test your understanding of what was done in class and if you are keeping up with the reading and homework. You will get 25% base points for taking the quiz and 75% for the actual quiz performance. Up to two quiz absences may be waived for a valid reason because there will be no make-up quizzes.

**Term Paper:** Choose one of the following two topics.

Topic 1: “How to balance the relentless pursuit of improvising and replacing non-biodegradable consumer items with the environmental hazards”.

Topic 2: “Raising animals for food is not sustainable if human population continues to grow”. If you agree, why do you agree and what are possible solutions to the problem. If you disagree, why do you disagree and under what conditions it may become a problem.

Analyze the topics from various angles – ethical, moral, health, economy, science, policy, etc. Do your research from newspapers, credible internet sources, scientific magazines, journals, etc. Your writing should be mostly based on references from reputed sources and to a smaller extent on personal experiences. However, do not write your personal opinions without any supporting evidence. Set formatting to 1” margins, double-spaced, font-size 12. There should be a clear introduction, main body which lays your thoughts and arguments logically, concluding paragraph, and bibliography. All inclusive, aim for a total of 5 or 6 pages.

Submit your term paper by 5 PM on May 20th. It should be submitted as a word or pdf file electronically on blackboard. Blackboard checks for plagiarism. Except for bibliography, term paper should contain your original writing. Term paper will be graded on originality, clarity, and content.

**Course Grading:**
- Class exams: 60%
- Quizzes: 20%
- Term Paper: 20%
Course Policies:

1. No cell phones or computers allowed in class.
2. Bring a calculator and periodic table to every class.
3. 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.