BOROUGH OF MANHATTAN COMMUNITY COLLEGE
City University of New York

Department of Science

Title of Course COLLEGE CHEMISTRY II
CHE 202 Section _____

Credits 4

Class hours 4
Lab hours 3
Instructor Information
Name:
Office:
Room:
Email:

Course Description
This is the second semester of a two-semester course sequence that involves the study of chemical principles including atomic and molecular theories, molecular structure, and reactivity. The laboratory will include experiments illustrating the chemical principles.
Two terms required. Required in A.S. (Science) and A.S. (Engineering Science). Fulfills science requirement for A.A. (Liberal Arts). Two terms required.
Prerequisites/Co-requisites
CHE 201

Student Learning Outcomes
1. Students will be able to learn the concepts and principles of chemistry.
2. Students will be able to recognize the importance of and develop a skill in problem solving.
3. Students will be able to relate chemistry to all areas of science.
4. Students will be able to unify the diverse topics of chemistry

Required Text & Readings
1. Jones, L. and Atkins, P., *Chemistry: Molecules, Matter and Change, 4th Ed,* W.H. Freeman, 2000
(BMCC Library Call #: QD31.2.A75)

2. Wentworth, R. A. D., *Experiments in General Chemistry 7th Ed*, Houghton **Mifflin, 2002**
(BMCC Library Call #: QD31.2.E22)

Other Resources

Use of Technology (if applicable)

Evaluation & Requirements of Students
There will be a minimum of four one hour examinations, a comprehensive final examination and fulfillment of all laboratory assignments.

Outline of Topics

Lecture

Chapter/Section	Topic	Pages
Chapter 11	Organic Chemistry, Polymers, Biopolymers	
11.1 Hydrocarbons		472 –474
11.2 Alkanes		474 –477
11.3 Alkenes and Alkynes		477 –479
11.4 Aromatic Compounds		479 –484
11.5 Alcohols		485 –485
11.6 Ethers		488 -488
11.7 Phenols		488 –488
11.8 Aldehydes and Ketones		489 -490
11.9 Carboxylic Acids and Esters		490 –491
11.10 Amines and Amides		491 –493
11.11 Structural Isomers		494 –495
11.12 Geometrical and Optical Isomers		496 –498
11.13 Addition Polymerization		499 –502
11.14 Condensation Polymerization		502 –506
11.15 Physical Properties		506 –508
Chapter 12	Solutions	
12.1 The Solution Process		525 –525
12.2 Solubility		525 –526
12.3 Ionic Compound Solubilities		527 –528
12.4 Polarity and Solubility		528 –532
12.5 Colloids		532 –533
Biomemetic Materials (Case Study 12)		534 -535
12.6 Pressure and Gas Solubility		533 –537
12.7 Temperature and Solubility		537 –537
12.8 Enthalpy of Solution		538 –549
12.9 Individual Ion Hydration Enthalpies		540 –541
12.10 Solubility and Disorder		541 –543
12.11 Measures of Concentration		544 –549
12.12 Vapor Pressure Lowering		549 –551
12.13 Boiling Point Elevation and Freezing Point Depression		551 –555
12.14 Osmosis		555 –559
Chapter 13	Chemical Kinetics	
13.1 Definition of Reaction Rate		570 –571
13.2 Instantaneous Rate of Reaction		571 –572
13.3 Rate Laws		572 –579
13.4 Complicated Rate Laws		579 –579
13.5 First Order Integrated Rate Laws		579 –583
13.6 Half Life for a First Order Reaction		583 –584
13.7 Second Order Integrated Rate Laws		584 –586
13.8 Effect of Temperature		587 –591
13.9 Origin of the Temperature Dependence		591 –595
13.10 Catalysis		595 –598
13.11 Living Catalysts: Enzymes		598 –598
13.12 Elementary Reactions		599 –603

Laboratory

College Attendance Policy
At BMCC, the maximum number of absences is limited to one more hour than the number of hours a class meets in one week. For example, you may be enrolled in a three-hour class. In that class, you would be allowed 4 hours of absence (not 4 days). In the case of excessive absences, the instructor has the option to lower the grade or assign an F or WU grade.

Academic Adjustments for Students with Disabilities
Students with disabilities who require reasonable accommodations or academic adjustments for this course must contact the Office of Services for Students with Disabilities. BMCC is committed to providing equal access to all programs and curricula to all students.

BMCC Policy on Plagiarism and Academic Integrity Statement
Plagiarism is the presentation of someone else's ideas, words or artistic, scientific, or technical work as one's own creation. Using the idea or work of another is permissible only when the original author is identified. Paraphrasing and summarizing, as well as direct quotations, require citations to the original source. Plagiarism may be intentional or unintentional. Lack of dishonest intent does not necessarily absolve a student of responsibility for plagiarism.

Students who are unsure how and when to provide documentation are advised to consult with their instructors. The library has guides designed to help students to appropriately identify a cited work. The full policy can be found on BMCC's web side, www.bmcc.cuny.edu. For further information on integrity and behavior, please consult the college bulletin (also available online).