

BOROUGH OF MANHATTAN COMMUNITY COLLEGE

City University of New York

Department of Science

Title of Course FUNDAMENTALS OF CHEMISTRY

CHE 118 Section _____

Credits 4

Class hours 3

Lab hours 2

Instructor Information

Name:

Office:

Room:

Email:

Chemistry 118 is for Health Technology Majors (such as Respiratory Therapy) only. Nursing Majors, Liberal Arts Majors and Science Majors should not take this course. If you are in the wrong Chemistry class check with the Science Department, Room N-645, for further information.

Course Description

This is a one-semester course designed especially to meet the needs of students in the Health Technology Programs. Topics to be discussed include modern atomic theory and an introduction to the molecular basis of matter through the study of chemical principles and reactions. Lecture and laboratory are integrally related.

Prerequisites/Co-requisites

Student Learning Outcomes

1. Students will be able to learn the fundamental principles and concepts of chemistry.
2. Students will be able to relate mathematical skills (of arithmetic, elementary algebra, use of scientific notation and calculators and simple logarithms) to the fundamental principles of chemistry.
3. Students will be able to associate the fundamental principles of chemistry with the basic topics (such as respiration) needed for Health Technology Programs.
4. Students will be able to acquaint with the scientific method by analyzing the manner in which chemists gather and evaluate information.

Required Text & Readings

Introductory Chemistry-Concepts and Connections, 4th Edition; Charles H. Corwin, Pearson Prentice Hall

Laboratory Manual-Introductory Chemistry-Concepts and Connections, 4th Edition; Charles H. Corwin, Pearson Prentice Hall

Other Resources

A scientific calculator

Use of Technology (if applicable)

Evaluation & Requirements of Students

For Lecture: a minimum of three non-cumulative unit exams of one hour each and a cumulative final exam of two hours. For Laboratory: completion of all required laboratory experiments and submission of all required laboratory reports.

Outline of Topics

LECTURE

<u>WEEK</u>	<u>CHAPTER/TOPIC</u>	<u>PAGES</u>
1	Ch. 1 Introduction and Ch. 3 The Metric System	2-11, 39-69
2	Ch. 4 Matter and Energy	72- 105
3	Ch. 5 Models of the Atom	106- 135
4	Ch. 6 The Periodic Table	136-162
5	Ch. 7 Language of Chemistry	166-191
6	Ch. 8 Chemical Reactions	192-222
7	Ch.9 The Mole Concept	226-249
8	Ch. 10 Stoichiometry	250-265, 271-279
9	Ch. 11 The Gaseous State	280-292
10	Ch. 11 The Gaseous State	293-307
11	Ch. 12 The Chemical Bonding	310-321, 325-328
12	Ch. 13 Liquids and Solids	340-350
13	Ch. 14 Solutions	368-370, 379-384
14	Ch. 15 Acids and Bases	398-404, 411-418
15	Review and Final Examination	

LABORATORY

<u>WEEK</u>	<u>EXPERIMENT</u>	<u>EXP. #</u>
1	Safety	Video
2	Metric System	2
3	Density of Liquids and Solids	3
4	Physical and Chemical Properties	5
5	Electron Energy Levels	6
6	The Periodic Table	7
7	Cation Analysis	8
8	Anion Analysis	9

9	Writing Chemical Equations	10
10	Empirical Formula	12
11	Mass-mass Stoichiometry	14
12	Molar Volume and Atomic Mass	16
13	Mass-volume Stoichiometry	17
14	Acid-Base Titrations	20
15	Review for Final Exam	

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 site, www.bmcc.cuny.edu. For further information on integrity and behavior, please consult the college bulletin (also available online).