

This syllabus is provided as a general informational guide. Some of the information may vary depending on the specific course section and instructor. Different sections of the same course may require different textbooks. Verify the section specific textbook information in the CUNY's Academic Course Schedule Web Page. Modifications of the grading system presented here will be communicated by the instructors of the sections when they meet the class.

BOROUGH OF MANHATTAN COMMUNITY COLLEGE

City University of New York

Department of Science

Title of Course FUNDAMENTALS OF CHEMISTRY

CHE 118 Section _____

Semester SPRING 2017

Credits 4

Class hours 3

Lab hours 2

Instructor Information

Name:

Telephone:

Office:

Email:

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. **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.**

Basic Skills MATH 051, ENG 088, ACR 094

Prerequisites None

Co-requisites None

Student Learning Outcomes	Measurements (means of assessment for student learning outcomes listed in first column)
1. Students will be able to learn the fundamental principles and concepts of chemistry.	1. Examinations, homework assignments and laboratory experiments
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.	2. Examinations, homework assignments and laboratory experiments
3. Students will be able to associate the fundamental principles of chemistry with the basic topics (such as respiration) needed for Health Technology Programs.	3. Examinations, homework assignments and laboratory experiments
4. Students will be able to acquaint with the scientific method by analyzing the manner in which chemists gather and evaluate information.	4. Examinations, homework assignments and laboratory experiments

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Below are the college's general education learning outcomes, the outcomes that are checked in the left-hand column indicate goals that will be covered and assessed in this course. (Check at least one.)

<input type="checkbox"/>	General Education Learning Outcomes	Measurements (means of assessment for general education goals listed in first column)
x	Communication Skills- Students will be able to write, read, listen and speak critically and effectively.	Students will answer occasional insightful questions both during lecture and pre-lab as well as submit written responses to textbook homework assignments and lab manual reports.
x	Quantitative Reasoning- Students will be able to use quantitative skills and the concepts and methods of mathematics to solve problems.	Students will solve problems requiring algebraic manipulation and exponential notation as well as to analyze graphical experimental data.
x	Scientific Reasoning- Students will be able to apply the concepts and methods of the natural sciences.	Examinations, homework assignments and laboratory observations.
<input type="checkbox"/>	Social and Behavioral Sciences- Students will be able to apply the concepts and methods of the social sciences.	
<input type="checkbox"/>	Arts & Humanities- Students will be able to develop knowledge and understanding of the arts and literature through critiques of works of art, music theater or literature.	
<input type="checkbox"/>	Information & Technology Literacy- Students will be able to collect, evaluate and interpret	
<input type="checkbox"/>	Values- Students will be able to make informed choices based on an understanding of personal values, human diversity, multicultural awareness and social responsibility	

Required Text-**Introductory Chemistry-Concepts and Critical Thinking, 7th Edition;**
Charles H. Corwin, Pearson Prentice Hall

Required Laboratory Manual- Laboratory Manual for Introductory Chemistry-Concepts and Critical Thinking,
 6th Edition; Charles H. Corwin, Pearson Prentice Hall

Other Resources- A scientific calculator.

Use of Technology (if applicable)- Blackboard may be used at the instructor's discretion.

Evaluation & Requirements of Students

For Lecture: a minimum of three non-cumulative unit exams of one hour each for a total of 50% and a cumulative final exam of two hours for 25%. For Laboratory: completion of all required laboratory experiments and submission of all required laboratory reports for 25%.

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.

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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).

OUTLINES TOPICS -LECTURE

<u>WEEK</u>	<u>CHAPTER/TOPIC</u>
1	Ch. 1 Introduction and Ch. 2 The Metric System
2	Ch. 3 Matter and Energy
3	Ch. 4 Models of the Atom
4	Ch. 5 The Periodic Table
5	Ch. 6 Language of Chemistry
6	Ch. 7 Chemical Reactions
7	Ch. 8 The Mole Concept
8	Ch. 9 Chemical Equation Calculations
9	Ch. 10 Gases
10	Ch. 10 Gases
11	Ch. 12 Chemical Bonding
12	Ch. 11 Liquids and Solids
13	Ch. 13 Solutions
14	Ch. 14 Acids and Bases
15	Review and Final Examination

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OUTLINES TOPICS- LABORATORY (TENTATIVE)

<u>WEEK</u>	<u>EXPERIMENT</u>	<u>EXP. #</u>
1	Safety	Safety- Rules and Video
2	Instrumental Measurements (The Metric System)	2
3	Density of Liquids and Solids	3
4	Physical and Chemical Properties	5
5	Atomic Fingerprints	6
6	Families of Elements	7
7	Identifying Cations in Solution	8
8	Identifying Anions in Solutions	9
9	Analysis of Alum	13
10	Analysis of a Penny	10
11	Empirical Formula	12
12	Generating Hydrogen Gas	16
13	Generating Oxygen Gas	17
14	Analysis of Vinegar	20
15	Review for Final Exam	