

**QUEENSBOROUGH COMMUNITY COLLEGE  
CHEMISTRY DEPARTMENT**

**CH-120**

**FUNDAMENTALS OF CHEMISTRY**

**PREREQUISITES:**

None

**LECTURE:**

3 Hours per Week

**CREDITS:** 3

**TEXTBOOK:**

INTRODUCTORY CHEMISTRY  
Steve Russo & Mike Silver  
Addison Wesley Longman Publishers  
3<sup>rd</sup> Edition ISBN 0-8053-8298-4

**COURSE DESCRIPTION:**

The course is intended to provide students with basic knowledge of modern theory of general chemistry. The course covers the most essential topics of general chemistry. Topics include elements and compounds; chemical bonding and chemical reaction; physical states and gas laws; intra and inter – molecular forces; properties of solution and chemical equilibrium; acid-base chemistry.

**CURRICULA FOR WHICH THE COURSE IS REQUIRED / RECOMMENDED:**

- A.A. or B.A. in Liberal Arts and Sciences (non-science concentration) and other non-science majors as a laboratory science elective (together with CH 121).
- A.A./B.A. QCC/QC Dual/Joint Degree Program in Liberal Arts and Sciences and Childhood Education as a laboratory science elective (together with CH 121).

**GENERAL EDUCATIONAL OBJECTIVES:**

- To develop critical thinking and understanding of scientific laws and concepts.
- To develop the ability to use reasoning and logic to solve problems in science and applied fields.
- To learn basic mathematics needed to solve these problems.

**SPECIFIC COURSE OBJECTIVES / EXPECTED STUDENT LEARNING OUTCOMES:**

- To develop both an understanding and a working knowledge of the theoretical and descriptive concepts of chemistry.
- To develop the abilities to solve both qualitative and quantitative problems in chemistry.
- To motivate students and increase their awareness of the significance of chemistry in society.

**METHODS BY WHICH STUDENTS LEARNING WILL BE EVALUATED:**

The overall grade will be computed using the following general distribution:

- Examinations and Quizzes
- Classroom Performance and Assignments
- Final Examination

The distribution is determined by the individual instructor.

**NOTE:** The laboratory is a separate 1-credit course (CH-121) with a separate grade. The mandatory ACS assessment exam will be given during the last laboratory class. However, 10% of the score on this test **will be added to students' final average in CH-120**. The instructor will provide additional details.

**ATTENDANCE/ABSENCE POLICY:**

Attendance will be taken at every class. The Student Handbook states that a student will be considered excessively absent from a course and will receive a WU grade if the student has been absent for 15% or more of the total number of contact hours for the course. A WU is computed as an F in the student's GPA.

Students who have valid excuses for missed classes should speak with their instructor and present documentation explaining the reason for the absence. Absences that have been excused by the instructor will not be counted toward a WU grade.

- **If a class meets twice per week:** students will receive a grade of WU if they have **7 or more** excused/unexcused absences.
- **For any lecture that meets only once per week,** students will receive a grade of WU if they have **4 or more** excused/unexcused absences.

**ACADEMIC INTEGRITY:**

Academic honesty is taken extremely seriously and is expected of all students. All assignments must be the original work of the student (and partners or group, if applicable). All questions or concerns regarding ethical conduct should be brought to the course instructor. "It is the official policy of the College that all acts or attempted acts that are violations of academic integrity be reported to the Office of Student Affairs (OSA). At the faculty member's discretion and with the concurrence of the student or students involved, some cases, though reported to the OSA, may be resolved within the confines of the course and department. The instructor has the authority to adjust the offender's grades as deemed appropriate, including assigning an F to the assignment or exercise or, in more serious cases, an F to the student for the entire course" (Adopted from the QCC Academic Integrity Policy, 2/14/2005).

**ACCOMMODATIONS FOR STUDENTS WITH DISABILITIES:**

As stated in the current college catalog, any student who needs specific accommodations based upon the impact of a disability should register with the office of Services for Students with Disabilities (SSD) to be eligible for accommodations which are determined on an individual basis. The SSD office is located in the Science Building, room S132 (718-631-6257). Students should also contact their instructor privately to discuss their specific needs.

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**SYLLABUS**

<b><u>CHAPTER</u></b>	<b><u>TOPIC</u></b>	<b><u>HOURS</u></b>
1	What is Chemistry? Matter and Physical & Chemical Transformations	1
2	The Numerical Side of Chemistry	2
3	The Evolution of Atomic Theory and The Periodic Table of Elements	3
16	Nuclear Chemistry	3
4	The Modern Model of the Atom	3
5	Chemical Bonding and Nomenclature	4
6	The Shape of Molecules	2
7	Chemical Reactions	3
9	The Transfer of Electrons from One Atom to Another in a Chemical Reaction	1
8	Stoichiometry and the Mole	6
11	What if There Were No Intermolecular Forces? The Ideal Gas	3
12	Solutions	4
14	Chemical Equilibrium	2
15	Electrolytes, Acids, and Bases	3