

BOROUGH OF MANHATTAN COMMUNITY COLLEGE  
The City University of New York  
Department of Science

**Title of Course:** Fundamentals of General, Organic and Biological Chemistry I

**Class Hours:** 3

**Course Code:** CHE 121

**Laboratory Hours per Week:** 3

**Semester:** Spring 2025

**Instructor Information (Phone#, Office#, email):** Daniel Torres Rangel; N699E; dtorresrangel@bmcc.cuny.edu

**Credits:** 4

**Course Description:** This course is a two-semester course sequence that introduces principles and concepts of general, organic and biological chemistry. The laboratory will provide experimental applications of these chemical topics. Recommended for students intending to transfer to bachelor's degree nursing and allied health science curricula. CHE 121-CHE 122 cannot be granted credit to fulfill degree requirements for A.S. (Science) and for A.S. (Engineering Science). Students intending to apply for admission to programs such as Dentistry, Exercise Physiology, Medical Laboratory Science, Medicine, Pharmacy, Physician Assistant, Physical Therapy, or Veterinary Medicine need to enroll in CHE 201 instead of CHE 121 to meet admission or curricula requirements for these programs. Students intending to apply for admission to programs such as Diagnostic Medical Imaging (Sonography), Exercise Science, Public Health, Radiology, or X-ray technician need to determine whether admission or curricula requirements for these programs require CHE 121 or CHE 201.

**Prerequisites:** RDG 062, ENG 088 or ESL 062, and MAT 051.

**Corequisites:**

Course Student Learning Outcomes (Students will be able to?)	Measurements (means of assessment for student learning outcomes listed in first column)
1. Students will be able to explain that living systems are made of elements and compounds with different chemical and physical properties. Water is a common solvent.	1. Students will be able to explain that living systems are made of elements and compounds with different chemical and physical properties. Water is a common solvent.
2. Students will be able to compare different kinds of chemical bonds in compounds, to contrast the names and formulas of the compounds and to explain their solubility in water.	2. Exam questions, quizzes and laboratory assignments.
3. Students will be able to identify different types of chemical reactions as well as the contrast of endothermic and exothermic reactions.	3. Exam questions, quizzes and laboratory assignments.
4. Students will be able to describe that many biological molecules are made of building blocks consisting of smaller organic molecular components with different functional groups.	4. Exam questions, quizzes and laboratory assignments.
5. Students will be able to apply mathematical skills solving problems such as density, moles, percent concentrations (mass/mass, mass/volume, and volume/volume), molarity, unit conversions and gas laws.	5. Exam questions, quizzes and laboratory assignments

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.)

General Education Learning Outcomes	Measurements (means of assessment for general education goals listed in first column)
☑ Quantitative Reasoning- Students will be able to use quantitative skills and the concepts and methods of mathematics to solve problems.	To record experimental data with correct significant figures in the lab. To solve quantitative problems, e.g. density, concentrations, and conversions. To plot graphs with experimental data.
☑ Scientific Reasoning- Students will be able to apply the concepts and methods of the natural sciences.	Exam questions, homework assignment, laboratory assignments and case studies.

**Textbook:** Book chapters will be provided for free.

Timberlake, Karen C., General, Organic and Biological Chemistry: Structures of Life, 6th Edition. Pearson Prentice Hall (2018). ISBN-10:0134730682. ISBN-13:978013473068 (recommended not required)

**Required Laboratory Goggles** Appropriate chemical-resistant protective eyewear (goggles) must be purchased for use in the laboratory. The bookstore is carrying them (\$7.00).

**Other Resources Use of Technology (If Applicable)**

**Evaluation and Requirements of Students**

Face2face quizzes: 35%

Face2Face Final examination: 25%

Laboratory: 20% (only if Face2face quizzes average  $\geq 60$ )

HomeWork: 20% (only if Face2face quizzes average  $\geq 60$ )

**Class Participation**

Participation in the academic activity of each course is a significant component of the learning process and plays a major role in determining overall student academic achievement. Academic activities may include, but are not limited to, attending class, submitting assignments, engaging in in-class or online activities, taking exams, and/or participating in group work. Each instructor has the right to establish their own class participation policy, and it is each student's responsibility to be familiar with and follow the participation policies for each course.

**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](http://www.bmcc.cuny.edu). For further information on integrity and behavior, please consult the college bulletin (also available online).

**Gender-Inclusivity**

BMCC community members have the right to use and be referred to according to their preferred name, title, and/or personal pronouns. Everyone also has the right to use all spaces according to their self-identification, including restrooms and locker rooms. To learn more about how to change your preferred name and affirm your gender identity at CUNY (including requesting a new ID card and/or email address), go here: <https://www.bmcc.cuny.edu/student-affairs/lgbtq/> Anyone who has experienced harassment related to gender or sexual identification, who needs assistance, or who wishes to file a complaint, can contact the Office of Compliance and Diversity: <https://www.bmcc.cuny.edu/about-bmcc/compliance-diversity/>.

**FREE BMCC STUDENT SUPPORT SERVICES**

BMCC is committed to the health and well-being of all students. It is common for everyone to seek assistance at some point in their life, and there are free and confidential services on campus that can help.

**Advocacy and Resource Center (ARC)** <https://www.bmcc.cuny.edu/student-affairs/arc/> room S230, 212,220,8195, [arc@bmcc.cuny.edu](mailto:arc@bmcc.cuny.edu). If you are having problems with food or housing insecurity, finances, health insurance or anything else that might get in the way of your studies at BMCC, contact the Advocacy and Resource Center (formerly Single Stop) for assistance. Please contact us at [arc@bmcc.cuny.edu](mailto:arc@bmcc.cuny.edu), call 212-220-8195, or come by the office at room S230.

You may also contact the Office of Student Affairs, S350, 212-220-8130, [studentaffairs@bmcc.cuny.edu](mailto:studentaffairs@bmcc.cuny.edu), for assistance.  
**Counseling Center** [www.bmcc.cuny.edu/counseling](http://www.bmcc.cuny.edu/counseling), room S343, 212-220-8140, [counselingcenter@bmcc.cuny.edu](mailto:counselingcenter@bmcc.cuny.edu). Counselors assist students in addressing psychological and adjustment issues (i.e., depression, anxiety, and relationships) and can help with stress, time management and more. Counselors are available for walk-in visits.

**Office of Compliance and Diversity** <https://www.bmcc.cuny.edu/about-bmcc/compliance-diversity>, room S701, 212-220-1236. BMCC is committed to promoting a diverse and inclusive learning environment free of unlawful discrimination/harassment, including sexual harassment, where all students are treated fairly. For information about BMCC's policies and resources, or to request additional assistance in this area, please visit or call the office, or email [olevy@bmcc.cuny.edu](mailto:olevy@bmcc.cuny.edu), or [twade@bmcc.cuny.edu](mailto:twade@bmcc.cuny.edu). If you need immediate assistance, please contact BMCC Public safety at 212-220-8080.

**Office of Accessibility** [www.bmcc.cuny.edu/accessibility](http://www.bmcc.cuny.edu/accessibility), Students who need academic accommodations in connection with a disability must initiate the request with BMCC's Office of Accessibility (OA). Students need to register with the Office of Accessibility in order to officially disclose their disability status to the College and to determine eligibility for appropriate reasonable accommodations (including any prior IEPs or 504s). Please contact the OA at the start of the semester (or as soon as possible) to coordinate any accommodation request/s: [www.bmcc.cuny.edu/accessibility](http://www.bmcc.cuny.edu/accessibility), Room N360 (accessible entrance: 77 Harrison Street), 212-220-8180, [accessibility@bmcc.cuny.edu](mailto:accessibility@bmcc.cuny.edu).

### Lab policies

1. You will not be allowed to carry any work in the lab unless you submit all two pages of the lab release form, back and front, via BB.
2. You will not be allowed in the lab unless you bring your safety goggles. Safety glasses will not be permitted.
3. If you are seen once without safety goggles during lab work, the instructor will invite you to leave for 15 minutes. If you are seen twice, you will have to go home.
4. You will not be allowed in the lab unless you bring a printed copy of the corresponding lab experiment to be carried out.
5. In the lab, foods or drinks are not allowed.
6. If you come to the lab with a printed lab experiment which contains missing pages you will be penalized with 5 points.
7. Pre-lab should be carried out at home and presented to the instructor at the beginning of the experiment. An empty pre-lab page will be collected with your name in case the work is not done.
8. If you are done with the lab work, the instructor will evaluate and signs your work. Lab work without a signature are non gradable.
9. Lab work will be submitted via BB as a single PDF during the lab session, never later than that. Late submissions will be penalized with 5 points a day.
10. If you finish the lab work late, after the lab ending time, you will be penalized with 5 point.
11. There are no make-ups for missed lab sessions. However, I will allow a single absence without penalty.
12. E-books are not allowed, you need a paper copy of the experiment.
13. If you miss a lab session you miss the grade of the corresponding work carried out during that session.
14. If you arrive late to the lab, after one hour, your lab will not be graded.

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Name

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Signature

\_\_\_\_\_  
Date

### Lecture policies

1. If you signed up to class late and start the semester later than regular students, you have 5 days from when you are officially listed to class to hand out any missing HW, lab work (pre and post lab), and take any quiz. After that period you will not receive any points for missing work.
2. Lab and HW components of the grade will only be taken into account if your quiz average is above 60.
3. If you miss the final quiz your final grade will be computed using a zero for the final quiz.
4. There are no make-ups for missed quizzes or HW.
5. If you submit any HW late you will subtracted 5 points a day.
6. You need to bring a scientific calculator to class and your phone does not count as one.
7. For level 2 classes (CHEM 202) you need a graphing calculator (Casio is a good brand)
8. Class work can only be done during class, hence your attendance is critical for this grade component.
9. If you miss a class with a classwork component you miss the corresponding grade.
10. You may bring a cheat sheet on 8.5x11 paper to the exam written on both sides. No more than a single sheet will be allowed under any circumstance. If you are seen in a quiz with more than a single page, the instructor has the right to reduce your quiz grade by 20 points.
11. Assignments in which you had tech issues during submission will be waived unless you reach out on the day of the deadline.

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Name

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Signature

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Date