

Summer 2026  
Stony Brook University  
Department of Chemistry  
College of Arts and Sciences

CHE 131: General Chemistry IB, Section 01 (Online Course)

Instructor: Dr. Susan Oatis

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Office Hours: Tuesday and Thursday 1:00 PM – 2:30 PM

Lecture: Monday and Wednesday 9:00AM – 1:20 PM

Recitation: Tuesday and Thursday

R32: 5:30 – 6:50 PM

R33: 7:00 – 8:20 PM

R34: 1:30 – 2:50 PM

R35: 1:30 – 2:50 PM

R36: 7:00 – 8:20 PM

Teaching Assistants: (office hours will be posted in Brightspace) TBA

**COURSE DESCRIPTION:** This is the initial course in the four-semester General-Chemistry/Organic-Chemistry sequence CHE 131/132/321/322. This sequence provides the necessary foundation for students who wish to pursue further coursework in Chemistry. The General Chemistry courses provide a broad introduction to the fundamental principles of chemistry, including substantial illustrative material drawn from the chemistry of inorganic, organic, and biochemical systems. The emphasis is on basic concepts, problem-solving, and factual material. The principal topics covered are stoichiometry, the states of matter, chemical equilibrium and introductory thermodynamics, electrochemistry, chemical kinetics, electron structure and chemical bonding, and chemical periodicity. Students will be placed into CHE 131 based on their performance in an Online Chemistry Placement and Preparation (OCP) process. Two lecture sessions and two recitation workshops per week. May not be taken for credit in addition to CHE 129 or CHE 152. This course has been designated as a High Demand/Controlled Access (HD/CA) course. Students registering for HD/CA courses for the first time will have priority to do so.

**Prerequisite:** Online Chemistry Placement and Preparation (OCP) Process

**Co-requisite:** MAT 125 or higher

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COURSE OBJECTIVES: Expand students' knowledge in the field of chemistry, foster critical and analytical thinking, quantitative reasoning, problem solving, teamwork, oral and written communication, and metacognition.

LEARNING OBJECTIVES: Students will gain an understanding of the following:

- a. the fundamental properties of atoms, molecules and various states of matter with particular emphasis on the nature of matter
- b. fundamental atomic structure, simple quantum mechanical treatments, predict molecular geometries, molecular orbital theory and periodicity.
- c. the fundamentals of acid/base, redox and precipitation reactions
- d. calculations of enthalpy of reaction, given specific thermodynamic data
- e. fundamentals of nuclear reactions and rates of radioactive decay
- f. use of stoichiometry, the concept of a mole and molar mass
- g. calculations and manipulations of the gas laws
- h. bonding models for simple organic and inorganic molecules, naming of ionic and covalent compounds

COURSE REQUIREMENTS:

- Text: Chemistry: A Molecular Approach (ISBN 9780137831999), Tro, 6th ed. Pearson, 2022 (EBook included with Mastering subscription)
- Mastering Chemistry: (ISBN 9780137831999 18-weeks subscription) To access the Reading Assignments/Dynamic Study Modules/Online Homework. This is included with the purchase of the main textbook. A separate registration document/instruction will be provided on Brightspace.
- Scientific Calculator with exponents, powers, and logarithms (graphing calculators are permitted).
- Spare batteries for your calculator and response pad.
- #2 pencils and erasers for each exam.
- Ring binder to organize your work.
- Brightspace account is where all announcements, policies, and information will be posted. For help accessing Brightspace click Help and Support at the site.
- Stony Brook Email Account accessible at [stonybrook.edu/mycloud](http://stonybrook.edu/mycloud). For help with Google Apps for Education see <http://it.stonybrook.edu/help/kb/logging-in-to-google-apps-for-education>.

HARDWARE/SOFTWARE MINIMUM REQUIREMENTS:

2

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- PC with Windows 10 or 11
- MacOS 10.12 or higher, OSX 10.11, OSX 10.10
- iOS 11.0 or higher (iPads are not recommended for this course)
- Zoom
- High speed internet connection
- Word processing software (Microsoft Word - SBU provided, Google Docs - free, etc.)
- Webcam and a microphone (Workshops)
- Printer (optional)
- Ability to download and install free software applications and plug-ins (note: you must have administrator access to install applications and plug-ins).

Exam Dates (all listed dates are EST, **In-Person**):

Exam 1: Wednesday June 3, 2026 9:30 AM – 11:00 AM (Chapters 1-4)

Exam 2: Wednesday June 17, 2026 9:30 AM – 11:00 AM (Chapters 5-8)

Exam 3: Monday June 29, 2026 9:30 AM – 11:00 AM (Chapters 9-11, 21)

Final Exam: Wednesday July 1, 2026 9:30 AM – 12:30 PM (Cumulative)

#### Attendance and Make Up Policy

- You should attend the workshop sections to which you are assigned. All section changes will be handled through Solar. Instructors will not sign change of section forms. If you have difficulty attending workshop section in which you are registered, email Dr. Oatis.
- There are no make ups for missed lectures, workshops, or midterm examinations. All absences will be scored as a zero; the lowest quiz grade is dropped at the end of the semester; exam scores are not dropped.
- All students must take the final exam. Unexcused absence will result in a score of 0. A student who is unable to take the final exam because of illness or other extenuating circumstances must contact an instructor before or within 24 hours following the exam. Only then will a grade of incomplete (I) be assigned. The make-up final will be given Monday July 13, 2026 from 8:00 – 11:00 AM. Failure to take the final or make-up exam will result in a course grade of F.

Description and schedule of lectures and assignments:

MW Class Lectures: Monday and Wednesday 9:00 AM – 1:20 PM EST. Lecture notes will be posted on Brightspace before each class. Lectures will be conducted via Zoom. Zoom Meeting link is available on Brightspace. You will need to bring to each class pens or pencils, a calculator and a notebook. You will benefit most from lecture if you complete the reading assignment prior

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to lecture. Workshop (Recitation) Sessions: Recitations will be conducted using Zoom. You will need to bring to each workshop pens or pencils, a calculator, and a ring binder containing your work for the class. A quiz will be given during the last 30 minutes of recitation. The chemistry workshops are intended to help you maximize your performance in introductory chemistry courses. During workshops you will work with a team of students on activities designed to increase your understanding of course topics, your ability to apply these in simple contexts, and your ability to solve problems. If you follow the guidelines, this approach will help everyone in your team learn as much as possible during workshops. If you find chemistry challenging, your classmates and the instructor will help you gain the insights you need to understand concepts and solve problems. If you find chemistry easy, you will find your performance improving as you explain things to others. Attendance is required. Regular online homework assignments will be posted at the conclusion of each chapter covered in lecture. Homework must show the worked-out solutions to each problem. If the work is not shown, no points will be granted. Exams (composed of a combination of multiple-choice, numerical short-answer and ordering) are based on materials covered in the lectures, text and workshops. You will bring to the exam, your University ID (or another valid picture ID), pencils with erasers and a scientific calculator with spare batteries. Graphing calculators are permitted. Exams will only be given in person. Accessing additional devices (such as cellphones, secondary electronic devices etc.) will not be permitted for the exams or quizzes. A review of all relevant materials will be conducted prior to each exam. Success on these exams will require that you understand important concepts, as well as their use in solving problems relevant to the course material. If you understand assigned problems in this way and test your understanding on problems that are not assigned, you are more likely to do well in this course.

GRADING: Course grades will be based on the following percentages (all grades will be available on Brightspace):

Homework: 120 points

Exam 1: 100 points

Exam 2: 100 points

Exam 3: 100 points

Final Exam: 200 points

Attendance: 10 points (Must attend all recitations to receive 10 points, no partial points will be awarded)

Quizzes: 120 points

Total 750 points

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Final percent grades will be rounded up (to the tenth's place). Final letter grades will be based on the following cutoffs: A:  $\geq 90.0\%$  A-: 85.0 – 89.9% B+: 80.0 – 84.9% B: 75.0 – 79.9% B-: 70.0 – 74.9%

C+: 65.0 – 69.9% C: 60.0 – 64.9% D+: 55.0 – 59.9% D: 50.0 – 54.9% F:  $\leq 49.9\%$

#### CLASS PROTOCOLS:

- All lectures and workshops will be conducted using Zoom.
- Microphones: During lecture, please keep your microphones muted unless you want to ask a question. During workshops, microphones should be active to engage in team discussion.
- Webcams: During lectures, you may keep your webcams off unless you ask a question. During workshops, webcams should be active.
- Questions regarding class topics are always welcome. Questions that are not directly related to class topics should be directed to the instructor immediately before or after class, and instructors will do their best to be available at these times. If the instructor is not available immediately before or after class, questions can be taken during office hours or sent to instructor email.
- Stony Brook University expects students to: maintain standards of personal integrity that are in harmony with the educational goals of the institution; to observe national, state, and local laws and University regulations; and to respect the rights, privileges, and property of other people. Any behavior that interrupts the ability of instructors to teach, the safety of the learning environment, and/or students' ability to learn will be reported to University Community Standards. Students who display such behavior may be asked to consult with one of the course instructors or asked to leave a class session, whereupon University Police will be notified. Information on campus policy regarding student disruptions can be found at <http://www.stonybrook.edu/sb/behavior.shtml>.

#### COURSE RESOURCES:

Brightspace: should be checked regularly for announcements, reading and homework assignments, lecture notes, help room schedules, sample exams from previous semesters, and other important matters. Support for Brightspace is available through the information at [brightspace.stonybrook.edu](http://brightspace.stonybrook.edu).

#### Getting Help:

- Help with concepts or assignments is available during office hours or by appointment.
- Issues with the Workshops should be addressed to your Workshop Instructor. Issues that cannot be resolved by your instructor should be taken to Dr. Oatis during her office hours as posted on Brightspace under Announcements.

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- Questions about course content, organization, grades, exams, or personal problems should be addressed to Dr. Oatis, immediately after lectures or during office hours.
- Office hours for all instructors are posted under Announcements in Brightspace.
- Additional academic help may be available through the Residential Tutoring Centers ([studentaffairs.stonybrook.edu/res\\_programs/rtc/](http://studentaffairs.stonybrook.edu/res_programs/rtc/)) or the Academic Success & Tutoring Center ([stonybrook.edu/commcms/academic\\_success/](http://stonybrook.edu/commcms/academic_success/)).

**STUDENT ACCESSIBILITY STATEMENT:** If you have a physical, psychological, medical or learning disability that may impact your course work, please contact Student Accessibility Support Center, ECC (Educational Communications Center) Building, Room 128, (631) 632-6748. They will determine with you what accommodations, if any, are necessary and appropriate. All information and documentation is confidential. Students who require assistance during emergency evacuation are encouraged to discuss their needs with their professors and the Student Accessibility Support Center. For procedures and information go to <https://www.stonybrook.edu/sasc/>.

**ACADEMIC INTEGRITY STATEMENT:** Each student must pursue his or her academic goals honestly and be personally accountable for all submitted work. Representing another person's work as your own is always wrong. The faculty is required to report any suspected instances of academic dishonesty to the Academic Judiciary. For more comprehensive information on academic integrity, including categories of academic dishonesty, please refer to the academic judiciary website at [www.stonybrook.edu/commcms/academic\\_integrity](http://www.stonybrook.edu/commcms/academic_integrity).

In this course you are strongly encouraged to work with others to master the material in the text, lecture notes and workshops. However, in working with others to arrive at your response to a question, you must understand and be able to explain the rationale behind your response and not just report someone else's answer. It is intellectually dishonest to report someone else's work and understanding as your own. Therefore, violations of the following will result in a course grade of F and a report to the Academic Judiciary.

- You must work independently when asked to do so.
- You must take the examinations/quizzes independently with no assistance from any other person, without the aid of any unauthorized materials, and without access to any electronic communication devices.

**CRITICAL INCIDENT MANAGEMENT:** Stony Brook University expects students to respect the rights, privileges, and property of other people. Faculty are required to report to the Office of Judicial Affairs any disruptive behavior that interrupts their ability to teach, compromises the safety of the learning environment, or inhibits students' ability to learn. Faculty in the HSC Schools and the School of Medicine are required to follow their school-specific procedures.

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Further information about most academic matters can be found in the Undergraduate Bulletin, the Undergraduate Class Schedule and the Faculty-Employee handbook.

Table 1: Tentative schedule of lectures and exams\*

1.1–1.9	Matter, Measurement, and Problem Solving
2.1–2.9	Atoms and Elements
3.1–3.10	Molecules and Compounds
4.1–4.5	Chemical Reactions and Chemical Quantities
5.1–5.9	Introduction to Solutions and Aqueous Reactions
Exam I (Ch 1-4)	
6/3	
6.1–6.10	Gases
7.1-7.9	Thermochemistry
8.1-8.6	The Quantum-Mechanical Model of the Atom
9.1-9.9	Periodic Properties of the Elements
Exam II (Ch 5-8)	
6/17	
10.1-10.10	Chemical Bonding I: The Lewis Model
11.1–11.10	Chemical Bonding II: Molecular Shapes, Valence Bond Theory, and Molecular Orbital Theory
Exam III (Ch 9–11)	
6/29	
21.1-21.10	Radioactivity and Nuclear Chemistry
3.11, 22.3–22.8	Organic Chemistry
23.4–23.5	Monomers & Polymers; Biological Macromolecules
Exam IV Final (cumulative)	
7/1	

\*Exams dates will not change.

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