SOUTHERN CALIFORNIA UNIVERSITY OF HEALTH SCIENCES
Accelerated Sciences Division

Syllabus Table of Contents

COURSE INFORMATION

Course Number (Prefix Code): CHEM211L
Course Name: General Chemistry I Lab

Course Description: In this course, students will be given a quantitative introduction to atomic and molecular structure, states of matter, basic thermodynamics, and the chemistry of solutions. Key concepts will be illustrated through sample problems discussed during class. Through this course, students will become conversant in chemical terminology, symbols, and formulas, and appreciate how chemistry relates to medicine and impacts their larger society. Students will also learn how to manipulate mathematical equations that describe atomic and electronic interactions. States of matter will be categorized, and the Periodic Table of the Elements will be studied to understand chemical periodicity and bonding. Gas laws will be introduced to demonstrate how the properties of large populations of atoms and molecules can be predicted. Finally, the laws of thermodynamics will be described, including the concepts of enthalpy and entropy, which can be used to predict the outcomes of chemical reactions.

Course Delivery Model(s): On-Ground, Online Interactive, Online

Time Requirement:

Laboratory Hours per term:	30
Total Hours per term:	30
Course Duration (weeks):	5
Credits:	1

Credit Hour Verification: This list represents the average amount of time a student is expected to spend to successfully complete this course.

	Activity Type	**Online Hrs/wk**
Course Time	Discussion forums/Participation	1
Academic Engagement	Audio/Video recordings	3
	Homework (Pre-labs and Reports)	2
	Study (assessment prep)	2
	Exams (outside of class)	1
Total	**For the course per week**	**9**
	For the term	**45**

Prerequisites & Co-requisites: none
Recommended Prerequisites or Co-requisites: CHEM211

This course may be taken again for credit the following number of times (repeatable): 5

LEARNING OUTCOMES, OBJECTIVES, & ALIGNMENT

Student/Course Learning Outcomes (SLOs)
In successfully completing this course, students will be able to:

SLOs
1. Explain the fundamental principles of chemistry.
2. Use dimensional analysis to solve quantitative problems.
3. Describe and define the general properties of gasses using gas laws.
4. Apply the laws of thermodynamics to analyze energy flow in reactions
5. Predict the shapes and properties of molecules based on the electronic structure of molecules
6. Explain the nature of chemical reactions through the application of stoichiometry.
7. Demonstrate proficiency in basic chemical lab techniques.

TEXTBOOKS & MATERIALS

Required Textbook(s): N/A

Learning Management System: Canvas. If a student is unfamiliar with the Canvas learning management system, please visit the manuals and learning guides available in the Canvas Student Guide. It is important that students are comfortable and competent in using this system, as all course material and communication will be done via Canvas.

Navigating Canvas – the Canvas site has a large set of Canvas tutorials and videos for students.

Additional Required Materials:
Students may be required to access course-specific digital resources, software platforms, or learning tools as identified in the course schedule or Canvas course site.

Calculator Requirements (When Applicable):
Certain courses, including Mathematics, Chemistry, and Physics, require the use of a calculator.

- **Chemistry and Physics courses:** Only scientific calculators are permitted during quizzes and examinations.
- **Mathematics courses:** Scientific or graphing calculators may be permitted depending on course-specific requirements. Students must verify approved calculator types with the instructor prior to use.
- Graphing calculators are not permitted in Chemistry or Physics examinations and may be restricted in some Mathematics courses.

Provided Materials: Lab manual access which includes all experiments and assessments, available through the Canvas learning platform or external platform/course page.

TECHNOLOGY & EQUIPMENT REQUIREMENTS

Click here to view the SCU technology requirements

External resources: ALEKS

Browser and Computer Requirements for Canvas: This course requires that students have access to Google Chrome or Microsoft Edge.

Examination System: This course uses an online exam proctoring service. The software runs as a browser extension in Google Chrome or Microsoft Edge and creates a remote proctored testing environment. It uses your computer screen, webcam, external camera, and microphone while you take exams through Canvas from your chosen location. You must also acquire an external camera as part of your examination set up.

A strong and stable internet connection is required for the system to work properly.

During the exam, you, your computer screen, and your testing environment may be recorded. An

external camera is mandatory so the instructor can view your room and workspace during the exam.

Only the following individuals will have access to exam recordings:

- The instructor(s) for the course
- Teaching Assistant(s)
- The proctoring software company
- SCU proctoring administrators

The required browser extension must be installed before taking any exam. You may remove it after completing the exam.

A practice exam will be provided so you can become familiar with the system and identify any technical issues before the first graded exam. You will find this in the exam preparation assignment category on your Canvas course page.

Suggestions for completing online coursework: Save work often; this includes backing it up on multiple devices or cloud applications. When submitting final papers on the Canvas learning management system (LMS), ensure that all files have been uploaded properly. Also make sure to keep a hard copy of all papers/projects in case of an unforeseen technological failure or outage.

EVALUATION OF STUDENT LEARNING

Grading scale:

Grade	Percentage Range
A	90% - 100%
B	80% - 89.99%
C	70% - 79.99%
D	60% - 69.99%
F	<60%

Assessments:

Assessment Name	#	Weight	SLO Linkage
Participation (Attendance, Engagement, prelab Readiness)	5	15	1-7
Exam Preparation Quiz	1	10	
Lab Work (prelab, lab activities, post labs, virtual labs, worksheets)	20	25	1-7
Lab Notebooks	10	10	1-7
Exams	2	40	1-7
		100%	

Course Topics:

Module	Module Title	Topic	Assessment Activity	SLO
1	Basic Measurements	Exp 1: Chemistry Lab Tutorial Exp 2: Chemistry Lab Safety – Personal Safety Exp 3: Using a Balance Exp 4: Using a Graduated Cylinder Exp 5: Using an Alcohol Thermometer Exp 6: Using a Pipet and Buret Exp 7: Using a Ruler Exp 8: Density of a Plastic Cube	Lab Notebook Participation	1, 2, 7
2	Reaction Stoichiometry	Exp 9: Quantitative Analysis Exp 10: Reactions in Solution (Balancing Equations) Exp 11: Reactions in Solution Exp 12: Synthesis of Calcium Carbonate	Lab Notebook Participation	2, 6, 7
3	Thermochemistry & Gas Laws	Exp 13: Enthalpy of Neutralization Exp 14: Heat Capacity of a Calorimeter Exp 15: Ideal Gas Law Constant Exp 16: Diffusion & Graham's Law	Lab Notebook Participation	2, 3, 4
EXAM 1				
4	The Quantum Model of the Atom	Exp 17: Models of the Hydrogen Atom Exp 18: Periodic Trends	Lab Notebook Participation	1, 2
5	Molecular Structure	Exp 19: Molecular Models – VSEPR Exp 20: Apply Beer's Law to Determine Concentration of Dye	Lab Notebook Participation	2, 5
EXAM 2				

UNIVERSITY, PROGRAM & COURSE POLICIES

University Policies

All university policies apply to this course and all others. For full policy information please consult the SCU Catalog. Additionally, program policies apply to students in each program as described in the Catalog and in SCU Health Handbook for clinical courses.

Accessibility Services and Accommodations

The Office of Student Services provides support to students with disabilities requiring accommodation in concert with the lead faculty for this course. All students are encouraged to request accommodation as far in advance of when the accommodation will be required to allow the University to process the request and provide approved accommodation. To begin the process please request a consultation with the designated Accessibility Services Officer as soon as possible. Once the Office of Student Services approves the request, the letter of accommodation will be provided to the student and lead faculty member via email. The student should be certain to follow-up with the lead faculty member to plan for the specific accommodation needs for the course. Program requirements cannot be modified to accommodate a disability.

Please see the SCU catalog for details regarding Accessibility Services and Accommodations.

A complete list of University Services is available through MySCU, including:

- Tech Support information
- Tutoring Services
- Veterans Support Services
- Student Advocacy and Accountability resources

Learning Resource Center: Students can use the library's resources which provide students with an excellent collection of books, journals, electronic databases, and websites as well as consult with the librarian to help with the course.

Catalog Authority Statement

This syllabus is intended to provide an overview of course expectations, requirements, and policies. In the event of any conflict between the information contained in this syllabus and the official Southern California University of Health Sciences Catalog, the Catalog shall take precedence as the authoritative source of university policies and procedures.

Students are responsible for reviewing and complying with all policies and requirements published in

the University Catalog.

Academic Integrity

Students at this university are expected to maintain the highest degrees of professionalism, a commitment to active learning, and display integrity both in and out of the classroom. See the SCU Academic Integrity Code.

Attendance

SCU policy defines attendance for all courses and specifies online courses as active, weekly participation in the course as described in the syllabus. Examples of activities could include, but are not limited to:

- Participating in weekly online chats or discussions
- Submitting or completing assignments
- Commenting on other student contributions
- Actively engaging in the course on Canvas and the external assignment platform at least three times per week

See the Academic Policies page in the SCU Catalog for more details on the Attendance Policy.

Drop Date

It is a student's responsibility to determine unenrolling from a course. Refer to the SCU Academic Calendar for dates and deadlines for registration. Also refer to SCU Academic Policies for additional information about the drop period.

Incomplete Policy

Under emergency/special circumstances, students may petition for an incomplete grade. See the SCU Catalog for Policies about Incomplete Grades for more complete information.

PROGRAM SPECIFIC POLICIES

Course Communication Expectations

The most up-to-date information for this course will always be posted on the Canvas course page. Students are responsible for checking Canvas announcements, Canvas messages, and their SCU email regularly for updates, schedule changes, assignment reminders, or important course information. The instructor may update deadlines, instructions, or course materials as needed, and these changes will be communicated through Canvas.

Communication guidelines during course

- Write in clear, professional language. Avoid texting slang or abbreviations such as “u,” “TLDR,” or “TBH.”
- Do not write entire sentences in ALL CAPS, as this appears as yelling.
- Treat classmates and instructors with respect at all times. Personal attacks, rude comments, or inappropriate responses are not acceptable. Any discussion posts that violate this standard will be removed and the student will receive a warning.
- If you disagree with someone’s comment, respond respectfully and support your perspective with clear reasoning or examples.
- Before submitting a post or comment, review what you wrote. In online communication, it is easy for messages to be misunderstood when tone and facial expressions are absent.
- Avoid very short responses such as “I agree,” “I like it,” or “Funny.” Instead, explain your reasoning, add another idea, or ask a question that continues the discussion.

Email etiquette

When contacting your instructor or classmates by email:

- Use a clear subject line and include your name and course number.
- Write in complete sentences and maintain a professional tone.
- Be respectful and direct when asking questions.
- Allow reasonable time for a response (typically within 24–48 hours).
- Avoid sending multiple emails about the same question before giving enough time for a reply.
- Professional and respectful communication helps create a productive learning environment for everyone.

Professional behavior in an online course is expected to meet the same standards as behavior in an in-person classroom.

Use of Artificial Intelligence (AI) in Coursework

The use of artificial intelligence (AI) tools in Accelerated Sciences courses is governed by specific guidelines to ensure that student learning objectives are met and that academic integrity is maintained. While AI tools may be useful for learning support, their use must not replace independent student work or compromise the learning process.

Unless otherwise explicitly authorized by the instructor, AI use is permitted or prohibited as follows:

Permitted Use (with Disclosure and Citation):
AI tools may be used to assist with discussion posts or participation activities, including case-based

discussions, **only when all of the following conditions are met:**

- The use of AI tools is clearly disclosed to the instructor
- Any AI-generated content is appropriately cited
- The student reviews, understands, and takes responsibility for the submitted work

Failure to properly disclose and cite AI-assisted work may result in a grade of zero for the assignment.

Prohibited Use:
The use of AI tools is strictly prohibited in the following types of coursework:

- Homework assignments
- Laboratory notebooks
- Laboratory reports
- Quizzes
- Examinations
- Any graded assessment where independent student work is required

Use of AI tools in any prohibited assignment or assessment will be treated as an academic integrity violation.

Academic Integrity and Consequences:
Any use of AI that is inconsistent with this policy constitutes a violation of the University Academic Integrity Code and will be subject to review by the instructor and the Academic Programs leadership within the Accelerated Sciences Division.

If a violation is confirmed, the student may receive:

- A grade of zero on the assignment or assessment
- No opportunity to resubmit the work
- Additional disciplinary action as outlined in the University Catalog, if applicable

Student Responsibility:
Students are responsible for understanding when AI use is permitted and for consulting with the instructor if there is uncertainty regarding acceptable use. Questions regarding this policy may also be directed to the Office of the Director of Accelerated Sciences.

Teaching Methods & Instruction

Instructional methods may vary depending on the course delivery model and learning objectives. Courses may include synchronous (live) instruction, asynchronous learning activities, or a combination of both.

Synchronous Instruction:
In courses with scheduled class meeting times, instruction may be delivered in real time by the

instructor. Students are expected to attend scheduled sessions and adhere to course attendance expectations.

Asynchronous Instruction:
In asynchronous courses, students engage with course materials independently yet are expected to meet established deadlines. Instructional materials may include recorded lectures, readings, demonstrations, or other learning resources. Students should anticipate dedicating sufficient time to review course materials and complete required learning activities.

In-Person Laboratory Policies

Laboratory Attendance

Laboratory sessions are a required component of this course. Due to the structured and sequential nature of laboratory instruction, make-up laboratory sessions are not offered unless otherwise approved in advance by your instructor.

Missing laboratory sessions will negatively impact a student's ability to complete required coursework and may significantly affect the final course grade. Students are responsible for attending all scheduled laboratory sessions and arriving on time. Because laboratory activities cannot be replicated outside the scheduled session, missed laboratory work may result in loss of associated points.

Laboratory Preparation

Students are expected to arrive prepared for each laboratory session.

Preparation requirements include:

- Reviewing the assigned laboratory experiment or procedures prior to the scheduled session
- Bringing required materials and laboratory documentation
- Following all laboratory procedures as instructed
- Recording observations and data during the laboratory session
- Collaboration during laboratory activities must follow instructor guidelines. Submission of identical laboratory data or reports may be considered an academic integrity violation
- Completing and submitting original laboratory work and reports as required

All laboratory work must represent the student's own effort in accordance with the University Academic Integrity Code.

Laboratory Safety Requirements

Students must comply with all laboratory safety requirements at all times while in the laboratory environment.

Required safety practices include:

- Wearing approved safety goggles at all times during laboratory activities
- Wearing closed-toe shoes while in the laboratory
- Wearing appropriate clothing and securing long hair, loose clothing, or accessories
- Refraining from eating or drinking in the laboratory
- Disposing of chemicals and materials according to instructor guidance
- Cleaning the assigned workstation before leaving the laboratory
- Following all instructor safety instructions and posted laboratory guidelines

Failure to follow laboratory safety requirements may result in removal from the laboratory session and additional academic consequences.

Health and Pregnancy Notification

Students who are pregnant or believe they may be pregnant are encouraged to consult with their healthcare provider prior to participating in laboratory activities.

Students may request information regarding laboratory chemicals and materials used during the course to assist in making informed decisions about participation. Questions or concerns regarding laboratory participation should be discussed with the instructor as early as possible.

Course Learning Activities

Course learning activities are designed to support student understanding and mastery of course content. Depending on the course, activities may include one or more of the following:

Class Sessions and Content Review:
Instructional time and learning activities focus on topics identified in the course schedule. Students are responsible for reviewing assigned materials prior to scheduled sessions or deadlines. Active participation through questions, discussion, and engagement with course materials is encouraged.

Discussions:
Courses may include structured discussion activities designed to promote engagement with course concepts and collaboration among students. Discussion activities may occur in live sessions or through online discussion boards. Students are expected to participate thoughtfully and respond to instructor prompts and peer contributions as required.

Assignments and Practice Activities:
Courses may include homework assignments, applied exercises, problem-solving tasks, or other practice activities designed to reinforce learning objectives and promote critical thinking.

Quizzes and Knowledge Checks:
Courses may include quizzes or other formative assessments intended to evaluate comprehension of assigned readings and instructional materials.

Applied Activities or Case-Based Learning:
Some courses may include applied learning experiences such as case studies, scenario-based exercises, or real-world problem-solving activities designed to integrate and apply course concepts.

Examination Preparation: An Exam Preparation Quiz is included as a required course component and must be completed prior to taking the first exam. This quiz verifies that students can successfully use the exam proctoring system and demonstrate required testing conditions. If the quiz is not completed correctly on the first attempt, instructors will provide feedback and allow one additional attempt to correct any issues. Students will not be permanently blocked from examinations solely due to incomplete preparation activities; however, failure to complete the Exam Preparation Quiz will result in loss of the associated points assigned to this category.

Examinations:
Courses include a minimum of two examinations designed to evaluate student understanding of course material. Exams may cover content from assigned readings, instructional materials, and learning activities. Examinations collectively account for 40% of the final course grade, regardless of the total number of exams administered. Study materials or preparation guidance may be provided at the instructor's discretion.

> **Calculation Sheets:** If applicable, calculation sheets/work must also be uploaded to exams in order to receive full credit. These are required to be uploaded within 15 minutes of exam completion; however, if there is an issue with the upload, you must contact the Respondus helpdesk immediately and provide your instructor with the ticket number within 24 hours of exam completion.
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> **Technology Failure:** If you experience a technological outage or failure during your exam, you must reach out to the Respondus helpdesk and/or your instructor immediately. Failure to document said failure within 24 hours of the exam attempt could result in a zero for that exam with no opportunity for a retake.
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> **Final Examination Policy:** Due to institutional grading timelines, retakes are not permitted for final examinations. If a protocol violation occurs during a final examination, a documented penalty up to 10% may be applied at the instructor's discretion based on the severity of the violation. If an academic integrity violation occurs during a final examination, a grade of zero will be assigned for the exam, and the case will be handled in accordance with the University Academic Integrity Code.

All examination irregularities, technical failures, and protocol violations are subject to review by the instructor, Academic Affairs, and the Department Director to ensure consistent application of examination policies.

Assignments

All assignments in our courses have weekly deadlines. The most up-to-date deadlines and instructions

will always be posted on the Canvas course page.

You must regularly check Canvas announcements, Canvas messages, and your SCU email for updates or changes. The instructor may update deadlines or assignment instructions as needed.

Failure to complete assignments by the deadline will result in a penalty. Penalties vary depending on the assignment.

Accelerated Sciences Course Recommendations

Students are expected and encouraged to:

- Complete readings before module starts. Skim the chapter before it is covered to become comfortable with some of the terms associated with each topic. Review each chapter after the end of the module to enhance understanding of the material.
- Not wait until the night before homework is due to start the assignment. Understanding concepts will be enhanced if the time is taken to learn them beforehand and later review the material without being rushed.
- Submit all written assignments by the due dates for feedback which will help you to improve your work throughout the course.
- Stay focused by finding an environment to study with few distractions.
- Take consistent notes on all assignments and review them regularly to gain mastery.
- Remember that procrastination in an accelerated course can quickly prove disastrous! Failure to learn foundational principles can make all future material seem nearly incomprehensible, so make sure to budget time wisely over the next five weeks to ensure your success.