General Chemistry I

CHEM1210 003

Instructor Information

Full Name
Phone: 999-999-9999
Email: email@slcc.edu
Office Location: Bld Room #
Office Hours
see below

Course Description

Fundamentals of inorganic chemistry. Atomic structure chemical bonding, chemical reactions, solution chemistry, stoichiometry, periodic table, thermochemistry, kinetics, gases, and kinetic molecular theory will be covered. It is recommended that students take CHEM 1215 in the same semester as this course.

Pre-Requisite(s): MATH 1050 w/C grade or higher, or appropriate placement.
Semester: All

Course Learning Outcomes

- Distinguish between chemical reactions and physical changes.
- Classify matter as solids, liquids, or gases based on their characteristics and demonstrate how intermolecular forces influence their properties.
- Define and describe chemical terms and use them appropriately to communicate and solve problems in the sphere of chemistry.
- Describe the roles of protons, neutrons, and electrons in atoms.

- Use the periodic table to predict various physical and chemical properties, including bond types, metallic character, relative atomic size, electron affinity, ionization energy, and electronegativity.
- Write names from formulas or structures or deduce formulas or structures from names of compounds using IUPAC nomenclature rules for a variety of ionic and binary covalent molecules and acids.
- Represent atomic and molecular structures and substructures using appropriate models, including atomic structure, electronic structure, Lewis structures, VSEPR shapes, and molecular hybridization.
- Apply scientific notation, metric prefixes, and measurement units appropriately to a given mathematical value.
- Perform multistep conversions using dimensional analysis, including metric conversions and stoichiometric calculations with limiting reagents.
- Solve mathematical problems representing chemical properties using appropriate formulas, including atomic weight, elemental analysis and empirical formulas, gas laws, concentration units, enthalpy changes, specific heat, and colligative properties.
- Interpret scientific data in tables and graphs appropriately, including energy changes and phase diagrams.
- Classify and balance a variety of chemical equations.
- Explain the first law of thermodynamics as it relates to heat and work and explain the enthalpy changes that occur in chemical reactions.
- Predict relative physical properties of simple compounds based on molecular structure, including melting point, boiling point, and solubility.
- Predict the properties of chemical reactions, including thermodynamic properties, equilibrium disturbances, precipitation, and gas-forming reactions.

Communication Plan

Purpose of the Communications Plan

This Communications Plan establishes clear guidelines for effective communication between students and instructors throughout the semester. Effective communication and engagement are essential for fostering a conducive learning environment. Below are the minimum expectations for students and instructors in both online and face-to-face classes.

Importance of Substantive Communications

Substantive communications are defined as exchanges that are specific, detailed, and directly relevant to distinct course content or individual student concerns or performance. These communications should aim to clarify, explore, or expand upon specific chemistry problems, assignments and topics covered in the course or issues and concerns regarding the implementation or expectation of the course.

Student Expectations

To ensure a smooth and successful semester, students need to stay actively involved in the course and communicate effectively.

- Always contact your course instructor using the Canvas Inbox to maintain a reliable record of communications.
    - For emergencies or if internet access is unavailable, contact the instructor via SLCC email at [redacted] then follow up using Canvas.
    - Instructors will generally respond within 12 to 24 hours on weekdays, with longer response times on holidays and weekends.
- Read all Canvas Announcements and keep up to date with important information about upcoming assignments, tests, exams and due dates.
    - Review announcements weekly by visiting the Home page.
    - To set up email and push notifications: How do I set my Canvas notification preferences as a student?
- Regularly check the Canvas Calendar to stay up to date with assignments, tests, and exams, ensuring you keep pace with the course schedule. This practice empowers you to be proactive rather than reactive and promotes ongoing engagement with the course content and instructor.

- Actively participate in graded Discussions by posting Feynman notes and summaries. Follow up to review responses and acknowledge replies to foster a collaborative learning environment.
- Regularly review your grades to monitor your progress and maintain alignment with course expectations and reach out to the instructor for advice on necessary course corrections to ensure your success.

Instructor Expectations

Instructors will foster a supportive and interactive learning environment through substantive engagement by promptly responding to communications, providing timely updates, and actively participating in Discussions in both online and face-to-face classes.

- Respond to all Canvas InBox emails within 12 hours on weekdays, with adjusted response times on weekends and holidays.
- Send weekly Announcements detailing learning outcomes, key dates, and other crucial course-related information to keep students well-informed and prepared or make these announcements in class with face-to-face sections.
- Ensure the Canvas Calendar reflects the current status of the course and make any necessary adjustments or changes. Promptly announce updates to keep students informed and prepared.
- Engage in the Discussion board at least twice weekly; grading Feynman Notes and providing feedback, monitoring student interactions, providing supplemental information, answering questions, and fostering a supportive learning environment.
- Proactively reach out to students not engaging with course material as expected, offering support and resources to assist their progress.
- Reconcile the Canvas Gradebook by zeroing out incomplete assignments after each Unit Test to ensure student grades are accurate and up to date.

Add a Profile Picture or Avatar

You will engage in many online interactions within Canvas during this class. Creating a distinctive online identity with a profile picture or avatar will help set you apart and create a distinctive virtual presence for your Canvas interactions. Follow these instructions to add your profile picture to your user account.

[How do I add a profile picture in my user account as a student?]

Class Mode and Meeting Times

Class Mode

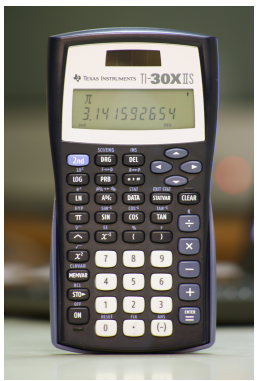
- This class meets in person - Attendance is taken and counts toward your Participation score.

Class Meetings - Days, Times, and Locations if Applicable

- Section 003: [redacted]

Required Text or Materials

Title: REAL Chemistry
Subtitle: Required Online Courseware - Counts 20% of grade. Cost is ~$40 with a two week free trial. Register by clicking on the REAL CHEM Registration link in the Welcome Module. Use Chrome, Edge, or Firefox on a laptop or desktop computer. Tablets and phones are not supported.
Publisher: ASU and Carnegie Mellon University



Title: Calculator - with exponential functions
Subtitle: Required for Tests and Exams. $20 or less through various online retailers. Phones or tablets are not allowed on Tests and Exams. Practice in class and with assignments to ensure familiarity.

For more information on textbook accessibility, contact Accessibility & Disability Services at ads@slcc.edu.

Office Hours

In-Person Drop-In Office Hours

- Monday, Wednesday; [redacted]
- Thursday; [redacted]

Virtual Office Hours by Appointment using Zoom

- Monday and Wednesday: 10:30 AM - 11:30 AM; Zoom by Appointment
    - Using MySuccess to Make Office Hour Appointments
    - Or use the Canvas InBox to make arrangements with your instructor
        - You must make your appointment at least 12 hours in advance
        - You will receive an email confirmation of your appointment and a Zoom link

Using MySuccess to Make Online Office Hour Appointments via Zoom

- From Canvas, select the MySuccess tab.
- Find your Instructor in the list of Your Connections under the "How can we help" banner.
- Alternatively, use the search field to find your instructor by name.
- Click on the link for your instructor to see their Office Hours for the week.
- Choose one of the available Office Hours.
    - You must make your appointment at least 12 hours in advance.
    - Note: Your appointment will indicate Zoom as the meeting platform.
    - Add details regarding the specific questions, problems, concepts or issues you wish to discuss.
    - Once your appointment is confirmed, you will receive a Zoom link.

Both you and your instructor will receive confirmation of your appointment. If you need to cancel, you must do so within 12 hours of your appointment.

Keys for Success (how to succeed in the course)

Make a Time Commitment

As this is a 4-credit-hour course, you should expect to spend, on average, *12 hours per week outside of class studying*.

If taking as an Online class, you should allow at least 3 additional hours of independent study time for a total of *15 hours per week*. Do not assume this class will require less engagement than an in-person class. If anything, taking this class online will require more dedication and engagement from the very start.

- Expect to spend five to six hours a week taking the Study Guide & Concept Quizzes and engaging with the online courseware, REAL CHEM.
- Spend another hour or so per week composing a set of "Feynman Notes" to be posted on the Discussion Boards.
- Schedule at least one to two hour-long focused study sessions per week.
- Schedule several extra hours for additional review in preparation for Unit Tests and Exams.

You are expected to create a consistent weekly study schedule to support these activities.

Free Tutoring and Workshops at SLCC

Free Tutoring

- SLCC On Campus and Online tutoring as a drop-in service.
- For information on subjects, hours, and how to get the most out of tutoring visit STEM Learning Tutoring.

Additional Online Tutoring

- Eight hours of free tutoring each month from Tutor.com.
- Click on the Online Tutoring link in the Canvas Navigation Menu to schedule a tutoring session.

Brief Description of Assignments/Exams

Study Guide & Concept Quizzes

- Counts toward Participation which is 10% of your grade
- Due dates are "Do" dates and are posted on the Calendar
- There are no penalties for late submissions but assignments may close after the corresponding Unit Test closes
- Contains valuable learning resources and includes specified reading assignments, activities, and curated videos

Participation

- Grade Weight: 10% of your overall score
- Attendance, Pre-Reading Quizzes, and In-Class Activities (depending on class mode)
- Practice Tests - The highest of two Practice test scores prior to each Unit Test
- Online Canvas Discussion Boards - All Discussions are graded

Required REAL CHEM Reading Assignments and Activities

- Registration through the REAL CHEM page in the Canvas Modules
  - Grade Weight: 20% of your overall score
  - Cost: ~$40 (FA 2024)
- Use Chrome, Edge, or Firefox on a laptop or desktop computer
- Tablets and smart phones are not supported and will provide an inferior experience with anomalous results

Unit Tests

- Four Unit Tests: 30% of your overall score
- Each Unit Test covers two to three Units
- Taken online in Canvas with proctoring by Respondus Monitor and LockDown Browser

- Taken at home or the SLCC Library
- May be taken twice to optimize score
- Allowed Materials:
    - Unit Tests are *open notes* - print out a periodic table and any other handwritten or printed material in hand before beginning the test
    - A Calculator with exponential functions

Midterm and Final Exams

- Midterm and Final Exam: 40% of your overall score
- Taken as an *in-person proctored exam at an SLCC Testing Center (Online and In-Class Sections)*
    - Must be taken on the date(s) specified on the Calendar
    - Distance Learners living *outside the Salt Lake County*:
        - Taken at a remote proctoring service with *prior approval* from Testing Center
        - Must submit a Remote Proctor Request at least two weeks in advance of the exam.
- Allowed Materials:
    - One full page of handwritten notes (front and back) is allowed
    - A Periodic Table with Symbols and no Names will be provided - know the names of elements through Row 6
    - A Calculator with exponential functions - no other electronic devices are allowed
- Exams are cumulative

Canvas Bonus Point Quizzes

- Canvas Bonus Point Quizzes - Due dates posted on the Calendar
    - Availability window is limited for each Bonus Point Quiz
    - Closed and unavailable after the window closes as specified
    - Bonus points added to Unit Test Grading Group

Due Dates

Graded Assignments - Begin on Due Date as posted on the Calendar

- Due Dates on the Calendar specify when you should *begin* Assignments
- There are *no penalties for late submissions* of Assignments within the Unit timeframe
- Must be completed before the corresponding Unit Test closes
- Adhering to these dates will help you keep pace with the course

Unit Tests, Midterm and Final Exams - Take as scheduled on the Calendar

- Unit Tests and Exams must be taken on the dates specified on the Calendar
- Exceptions require advance notice and arrangements with your instructor

Special and Makeup Test and Exam Scheduling (Test Exceptions)

Advance Scheduling

If you expect to miss a Unit Test, Midterm or Final Exam date, you must submit a written request to your instructor *in advance* using the Canvas Inbox .

Exceptions will not be given without advance notice and Tests and Exams must be completed within four days of the regularly scheduled date.

Makeup Scheduling

If you miss a Test or Exam due to significant circumstances beyond your control, you must provide your instructor with written documentation detailing the reasons for missing the test before you will be allowed to take a makeup test or exam. In addition, you must contact your instructor within *four days* of the test or exam you missed in order to reschedule a makeup Test or Exam.

How to Navigate to Canvas

Grading Scale

GradeRange

A	100%			to 92.5%
A-	< 92.5%			to 89.5%
B+	< 89.5%			to 86.5%
B	< 86.5%			to 82.5%
B-	< 82.5%			to 79.5%
C+	< 79.5%			to 76.5%
C	< 76.5%			to 72.5%
C-	< 72.5%			to 70%
D+	< 70%			to 66.5%
D	< 66.5%			to 62.5%
D-	< 62.5%			to 59.5%
E	< 59.5%			to 0%

Additional Policies

Web Cam Equipped Computer Required

While some features of Canvas can be accessed using a mobile device, you will need a sufficiently capable desktop or laptop machine to fully access all the components of REAL CHEM.

You will also need a laptop or desktop computer with a webcam to take the Unit Tests which are proctored with Respondus LockDown Browser and Monitor.

- Alternately, computers with webcams are available in the Redwood Markosian Library
    - You may need to plan ahead to take your Unit Tests on one of these computers.

    - You may also check out a laptop for the semester from the Library on a first-come-first-serve basis.
- REAL CHEM lessons may also be completed using computers at the Library or an SLCC STEM Learning Centers
- Virtual Office hours are through Zoom which also requires access to a webcam and microphone-enabled computer or phone.

Electronic Devices in the Classroom and Study Spaces

Recording Devices

Video or audio recording in the classroom by any means is not allowed without written authorization from the instructor or the Office of Accessibility & Disability Services.

Cell Phone Use

Cell phone use during lectures and study sessions has been shown to negatively impact academic performance, leading to lower-quality notes, less retained information, and poorer test results. Multitasking distracts both the user and surrounding students, particularly when the content is unrelated to the class. Therefore, the following rules apply:

- Cell phones are not to be out and available or accessed *at any time* during class.
- In case of an emergency, students should exit the classroom before they e-mail, text, or use their cell phones.
- Students who text, talk, or use their cell phones may be asked to leave the classroom and *will lose participation points*.

Computer Use

Studies have shown that handwritten notes are more effective learning tools than typewritten notes, as they aid in better retention and understanding of material. Additionally, many concepts in chemistry necessitate the use of handwritten drawings, schemes, and diagrams, which cannot be adequately captured through typewritten notes.

- Therefore, laptop computers are not allowed without the express consent of the instructor.
- Tablet computers are allowed provided they are used for note taking purposes.

Administrative Drops for Non-Attendance

Face-to-Face Sections

Students who fail to attend the initial class meeting(s) as required and who fail to contact the instructor in advance of the absence may be dropped from the course by the instructor.

Online Sections

Students are required to log into online classes within the first five days of the term

Students should not assume classes are automatically dropped for non-attendance or nonpayment and are responsible for dropping or withdrawing from classes they are not attending or do not intend to complete in the current semester.

Students who stop attending a course without completing the formal drop or withdrawal procedures by the published deadlines may be held responsible for all SLCC tuition and fees associated with the course.

Technical Support for REAL CHEM, Canvas and Testing Services

REAL CHEM

Note: Canvas and REAL CHEM require the use of Chrome, Edge, or Firefox on a desktop or laptop computer. Use of mobile devices is not supported.

For support and technical assistance with REAL CHEM:

- Follow the REAL CHEM link from the Canvas page in the Welcome Module
- Click on the Tech Support link in REAL CHEM
- Complete the Tech Support form and Send Request

Be prepared to provide the following details:

1. The name of the Lesson and Page including the URL
2. Details of the issue you are experiencing
3. Submit a screenshot of the page that shows the complete browser window including the URL
4. Your bruinmail email address

Some issues with REAL CHEM may be resolved by refreshing the browser page or by using the arrows at the bottom of the Lesson screen to go Back, and then Forward again. Do not use the browser's Back button.

Clear Your Browser Cache

Standard troubleshooting methods such as quitting and restarting your browser and/or computer may also help.

Another possible solution is to use a different browser or clearing your browser's "cache".

If your issue remains unresolved, provide your instructor with the same details from above and they will submit a support request on your behalf.

Canvas Technical Support

24/7 Canvas Support : 801-957-5125 or 1-844-334-0397 (toll-free student support)

SLCC Technical Help Desk: 801-957-5555

Testing Services and Testing Support

SLCC Testing Services: email TestingServices@slcc.edu or call 801-957-4500

Note: You must resolve technical and testing issues in a timely manner so that you can meet the expectations of this class.

Reproduction of Course Materials

Students may not publish or redistribute any information from this class in any form without written authorization from the instructor. This includes all content in Canvas and Critical Chemistry. Unauthorized distribution is a violation of Privacy and Intellectual Property Rights and the Code of Student Rights and Responsibilities.

If any content from this course is found on study materials sharing sites such as Chegg.com, an investigation may be conducted to determine the identity of the student and may result in disciplinary action. Chegg allows for the release of identifying student information in the context of an academic dishonesty investigation.

Institutional Policies

As members of our academic community, we would like to invite you to review the Institutional Syllabus which covers important policies and procedures. This document contains important links for students on the code of student rights and responsibilities, academic integrity, and grading policies, Title IX and other important acknowledgements. By familiarizing yourself with this information, you can help us create a safe and respectful environment for everyone.

You can access the document by clicking on the following link: https://slcc.instructure.com/courses/530981/pages/institutional-syllabus

Learning Support and Tutoring Services

We are pleased to offer a range of tutoring and learning support services to help you achieve your academic goals. Whether you need assistance with a specific subject or want to improve your study skills, you have many options for tutoring or other support.

To learn more about the services we offer and how to access them, please visit the Institutional Syllabus under the Tutoring and Learning Support tab: https://slcc.instructure.com/courses/530981/pages/institutional-syllabus. We encourage you to take advantage of these resources to help you succeed in your studies. If you have any questions or would like to schedule a tutoring session, please don't hesitate to reach out to us. We are here to support you in any way we can.

Advising and Counseling Support Services

At our institution, we are committed to supporting your academic and personal growth. That's why we offer a range of advising and counseling services to help you navigate the challenges of college life. To learn more about the resources available to you and how to access them, please visit the Institutional Syllabus under the Advising and Counseling Support Services tab: https://slcc.instructure.com/courses/530981/pages/institutional-syllabus. Our advising team and the support centers across campus are here to support you in achieving your goals and overcoming any obstacles you may face.

Student Academic Calendar

As students you should be aware of all important dates in the semester, such as the day that courses begin and end, as well as the drop date and the last day to withdraw. To learn more about those dates, navigate to the Student Academic Calendar below:

SLCC Student Academic Calendar

Course Student Learning Outcomes

- Fundamentals of inorganic chemistry. Atomic structure chemical bonding, chemical reactions, solution chemistry, stoichiometry, periodic table, thermochemistry, kinetics, gases, and kinetic molecular theory will be covered.

"Netiquette" for Discussion Boards

"Netiquette" is a term describing how to interact with others in an online environment, such as on a discussion board or in emails. These guidelines are to be followed by everyone in this course.

Participate: This is a shared learning environment. So for discussions, there is no lurking in the cyberspace background. It is not enough to log in and read the discussion thread of others. For the maximum benefit to all, everyone must contribute.

Avoid Repetition: For discussions, read everything in the discussion thread before replying. This will help you avoid repeating something someone else has already contributed. Acknowledge the points made with which you agree and suggest alternatives for those with which you don’t.

Use Proper Writing Style: The academic environment expects higher-order language. Write in emails, assignments, and discussions as if you were writing a term paper. Correct spelling, grammatical construction and sentence structure are expected in every other writing activity associated with scholarship and academic engagement. Avoid profanity.

No YELLING! Using bold upper-case letters is bad form, like stomping around and yelling at somebody (NOT TO MENTION BEING HARD ON THE EYE).

Cite Your Sources: Another big must! If your assignments and discussions include the intellectual property (authored material) of others, e.g., books, newspaper, magazine, or journal articles—online or in print—they must be given proper attribution.

Have Opinions: Everyone is entitled to have an opinion. In discussion forums, everyone is encouraged to share them.

Respect Disagreement: People have the right to disagree with you. However, disagreement should never be personal. Online discussions are a means to share ideas and practice the skill of persuasion. Persuasive speech cannot be achieved with hurtful, hateful or inappropriate language. Review your posts before you publish and reread them for unintended meanings.

Respect Diversity: We live in an ethnically rich and diverse, multi-cultural world. Use no language that is—or that could be construed to be—offensive toward others. Racist, sexist, and heterosexist comments and jokes are unacceptable, as are derogatory and/or sarcastic comments and jokes directed at religious beliefs, disabilities, and age. We all come with different perspectives, so please be respectful and resist the urge to tell anyone they are wrong. Understand they have had different life experiences and all of our world views are simply different.

Remember, You Can't Un-Ring the Bell: Language is your only tool in an online environment. Be mindful. How others perceive you will be largely—as always—up to you. Once you've hit the send or post button, you've rung the bell. Review your written communication to ensure that you've conveyed exactly what you intended. This is an excellent opportunity to practice your proofreading, revision, and rewriting skills—valuable assets in the professional world for which you are now preparing. Read your emails, posts, and assignments out loud before hitting the send button. This will tell you a

lot about whether your grammar and sentence structure are correct, your tone is appropriate, and your writing clear or not.

Upload a Profile Picture of Avatar: Creating a distinctive online identify with a profile picture or avatar will help set you apart and allow you to create a distinctive virtual presence for your Canvas interactions. Follow these instructions to add your profile picture to your user account:

How do I add a profile picture in my user account as a student?

Assignment Schedule

Due Date	Assignment Name	Assignment Type	Points
	Advanced Theories of Covalent Bonding Module Checkpoint	Assignment	32
	Aqueous Solutions Module Checkpoint	Assignment	10
	Atomic Theory and The Periodic Table Module Checkpoint	Assignment	9
	Atoms Molecules and Ions Unit Checkpoint	Assignment	6
	Basic Concepts of Matter and Energy Module Checkpoint	Assignment	12
	Calorimetry Module Checkpoint	Assignment	8
	Chemical Bonding and Molecular Geometry Unit Checkpoint	Assignment	9

Due Date	Assignment Name	Assignment Type	Points
	Chemical Reactions and Equations Module Checkpoint	Assignment	10
	Composition of Substances and Solutions Unit Checkpoint	Assignment	9
	Compounds and Chemical Formulas Module Checkpoint	Assignment	4
	Electromagnetic Energy and the Bohr Model of the Atom Module Checkpoint	Assignment	7
	Electronic Structure and Periodic Properties Unit Checkpoint	Assignment	11
	Enthalpy Module Checkpoint	Assignment	10
	Exploration: Decoding the Mystery of Greenhouse Molecules	Assignment	100
	Exploration: Do You Really Want to Drink That? The Elements of Water	Assignment	100

Due Date	Assignment Name	Assignment Type	Points
	Exploration: Do You Really Want to Drink That? The Elements of Water	Assignment	100
	Exploration: Driving Down Greenhouse Emissions	Assignment	100
	Exploration: Is the Town Toxic? Quantifying Concentrations of Lead	Assignment	100
	Exploration: Modeling Uncertainty in a Changing Climate	Assignment	100
	Exploration: What's Our Next Big Energy Source?	Assignment	100
	Exploration: What's the World Made Of? Unlocking Secrets with Spectroscopy	Assignment	100
	Foundations of Chemistry Unit Checkpoint	Assignment	7
	Gas Laws Module Checkpoint	Assignment	8
	Gases Unit Checkpoint	Assignment	12
	Intermolecular Forces Module Checkpoint	Assignment	8

Due Date	Assignment Name	Assignment Type	Points
	Introduction to Energy Module Checkpoint	Assignment	6
	Ionic and Covalent Bonding Module Checkpoint	Assignment	7
	Lewis Structures Module Checkpoint	Assignment	7
	Measurements Module Checkpoint	Assignment	10
	Molecular Structure and Polarity Module Checkpoint	Assignment	6
	Periodic Properties Module Checkpoint	Assignment	7
	Phase Changes Module Checkpoint	Assignment	7
	Prior Knowledge Check: Aqueous Solutions Module	Assignment	10
	Quantum Theory Module Checkpoint	Assignment	11
	Reaction Stoichiometry Module Checkpoint	Assignment	8
	Reactions and Stoichiometry Unit Checkpoint	Assignment	10

Due Date	Assignment Name	Assignment Type	Points
	Solids and Liquids Unit Checkpoint	Assignment	11
	Solubility Module Checkpoint	Assignment	8
	Solutions Unit Checkpoint	Assignment	9
	Stoichiometry of Gases Module Checkpoint	Assignment	8
	The Kinetic-Molecular Theory Module Checkpoint	Assignment	8
	The Mole Module Checkpoint	Assignment	10
	The Solid State of Matter Module Checkpoint	Assignment	2
	Thermochemistry Unit Checkpoint	Assignment	11
8/20	Section 0.1: About the Syllabus - Readings and Quiz - Requires Respondus LockDown Browser + Webcam	Quiz	13
8/20	Section 0.2: Adopting a Proper Mindset – Readings and Quiz	Quiz	10

Due Date	Assignment Name	Assignment Type	Points
8/20	Section 0.2: Using Effective Study Strategies – Readings and Quiz	Quiz	10
8/20	Unit 0: Begin Unit 0 - Introduction to the Course and Tips on How to Study Chemistry	Assignment	
8/20	Unit 0: Graded Discussion - Design Your Study Strategy – Handwritten and Uploaded Notes	Discussion	10
8/20	Welcome to REAL CHEM - Register Now!	Assignment	
8/21	Section 1.0: A Roadmap for Success – Readings and Quiz	Quiz	8
8/21	Section 1.1: Matter vs. Nonmatter and The Same and Not the Same: Study Guide & Concept Quiz	Quiz	18
8/21	Section 1.1: Physical and Chemical Differences, Building Blocks of Matter, Change Requires Energy: Study Guide & Concept Quiz	Quiz	17

Due Date	Assignment Name	Assignment Type	Points
8/22	Section 1.1: Application: Is it Gold?	Assignment	
8/26	Section 1.2: International System of Units and Derived Quantities: Study Guide & Concept Quiz	Quiz	21
8/26	Section 1.2: Significant Figures, Significant Figures in Calculations and Accuracy and Precision: Study Guide & Concept Quiz	Quiz	24
8/28	Section 1.2: Dimensional Analysis: Single and Multi Step Conversions, and Derived Units: Study Guide & Concept Quiz	Quiz	15
8/28	Section 1.2: Temperature Conversions: Study Guide & Concept Quiz	Quiz	8
8/29	Section 1.2: Measurements - Module Summary and Learning Checkpoint	Assignment	

Due Date	Assignment Name	Assignment Type	Points
8/30	Unit 1: Foundations of Chemistry – Graded Discussion - Feynman Notes and Q&A	Discussion	10
9/4	Section 2.3: Chemical Symbols, and Atomic Mass: Study Guide & Concept Quiz	Quiz	13
9/4	Section 2.3: Early Atomic Theory and the Laws of Definite and Multiple Proportions: Study Guide & Concept Quiz	Quiz	8
9/4	Section 2.3: Introduction to the Periodic Table: Study Guide & Concept Quiz	Quiz	10
9/4	Section 2.3: Ions: Study Guide & Concept Quiz	Quiz	8
9/4	Section 2.3: The Discovery of the Electron, The Nuclear Atom, and Modern Atomic Theory: Study Guide & Concept Quiz	Quiz	18

Due Date	Assignment Name	Assignment Type	Points
9/4	Unit 2: Introduction to Atoms, Molecules, and Ions: Study Guide & Concept Quiz	Quiz	15
9/6	Section 2.3: Atomic Theory and the Periodic Table - Module Summary and Learning Checkpoint	Assignment	
9/8	Unit 1-2: Prepare Your Study Guide for the Unit Test	Assignment	
9/9	Section 2.4: Chemical Formulas: Study Guide & Concept Quiz	Quiz	10
9/9	Section 2.4: Ion Formation and Ionic Compounds: Study Guide & Concept Quiz	Quiz	12
9/11	Section 2.4: Formula Mass and The Mole: Study Guide & Concept Quiz	Quiz	21
9/11	Section 2.4: Molecular Compounds and Nomenclature for Acids: Study Guide & Concept Quiz	Quiz	19

Due Date	Assignment Name	Assignment Type	Points
9/11	Section 2.4: Nomenclature for Binary Ionic Compounds and Nomenclature for Ionic Compounds with Polyatomic Ions: Study Guide & Concept Quiz	Quiz	20
9/12	Section 2.4: Compounds and Chemical Formulas - Module Summary and Learning Checkpoint	Assignment	
9/12	Section 2.4: Extra Practice: Compounds and Chemical Formulas	Assignment	
9/12	Section 2.4: Nomenclature Mixed Practice: Study Guide	Assignment	
9/13	Unit 2: Atoms Molecules and Ions Unit Checkpoint	Assignment	
9/13	Unit 2: Atoms, Molecules and Ions - Graded Discussion - Feynman Notes and Q&A	Discussion	10
9/13	Unit 1-2 Unit Test Opens	Assignment	

Due Date	Assignment Name	Assignment Type	Points
9/16	Section 3.5: The Bohr Model of the Atom: Study Guide & Concept Quiz	Quiz	10
9/16	Section 3.5: The Particle Nature of Light and Line Spectra: Study Guide & Concept Quiz	Quiz	15
9/16	Section 3.5: The Wave Nature of Light : Study Guide & Concept Quiz	Quiz	10
9/16	Unit 3: Introduction to Electronic Structure and Periodic Properties - Study Guide & Concept Quiz	Quiz	20
9/17	Section 3.5: Electromagnetic Energy and the Bohr Model of the Atom - Module Summary and Learning Checkpoint	Assignment	
9/18	Section 3.6: Quantum Numbers: Study Guide & Concept Quiz	Quiz	10

Due Date	Assignment Name	Assignment Type	Points
9/18	Section 3.6: Wave-Particle Duality of Matter and Quantum Mechanics: Study Guide & Concept Quiz	Quiz	10
9/23	Section 3.6: Electron Configurations II and Electron Configurations and the Periodic Table: Study Guide & Concept Quiz	Quiz	10
9/23	Section 3.6: Electron Configurations: Study Guide & Concept Quiz	Quiz	20
9/24	Section 3.6: Quantum Theory - Module Summary and Learning Checkpoint	Assignment	
9/24	Section 3.6: Deliberate Practice: Quantum Theory	Assignment	
9/25	Section 3.7: Periodic Variations in Element Properties: Study Guide & Concept Quiz	Quiz	7

Due Date	Assignment Name	Assignment Type	Points
9/25	Section 3.7: Variations in Radii, Ionization Energies and Electron Affinities: Study Guide & Concept Quiz	Quiz	10
9/26	Section 3.7: Periodic Properties - Module Summary and Learning Checkpoint	Assignment	
9/27	Unit 3: Electronic Structure and Periodic Properties - Graded Discussion - Feynman Notes and Q&A	Discussion	10
9/27	Unit 3: Electronic Structure and Periodic Properties Unit Checkpoint	Assignment	
9/29	Unit 3-5: Prepare Your Study Guide for the Unit Test	Assignment	
9/30	Section 4.8: Covalent Bond Formation, Polarity, and Electronegativity: Study Guide & Concept Quiz	Quiz	10
9/30	Section 4.8: Extra Practice: Ionic and Covalent Bonding	Assignment	

Due Date	Assignment Name	Assignment Type	Points
9/30	Section 4.8: Ionic Bond Formation and Electronic Structure of Ions: Study Guide & Concept Quiz	Quiz	10
9/30	Unit 4: Introduction to Chemical Bonding and Molecular Geometry: Study Guide & Concept Quiz	Quiz	10
10/1	Section 4.8: Ionic and Covalent Bonding - Module Summary and Learning Checkpoint	Assignment	
10/2	Section 4.10: Exploring Electron and Molecular Geometry, Lone Pairs of Electrons and Bond Angles, and Predicting Electron Pair Geometry and Molecular Structure: Study Guide & Concept Quiz	Quiz	10
10/2	Section 4.10: Molecular Polarity and Dipole Moment: Study Guide & Concept Quiz	Quiz	10

Due Date	Assignment Name	Assignment Type	Points
10/2	Section 4.9: Calculating Formal Charge, Formal Charge and Molecular Structure, and Resonance: Study Guide & Concept Quiz	Quiz	10
10/2	Section 4.9: Exceptions to the Octet Rule: Study Guide & Concept Quiz	Quiz	10
10/2	Section 4.9: Extra Practice: Lewis Structures	Assignment	
10/2	Section 4.9: Lewis Symbols, Lewis Structures, and Writing Lewis Structures: Study Guide & Concept Quiz	Quiz	10
10/3	Section 4.10: Molecular Structure and Polarity - Module Summary and Learning Checkpoint	Assignment	
10/3	Section 4.9: Lewis Structures - Module Summary and Learning Checkpoint	Assignment	

Due Date	Assignment Name	Assignment Type	Points
10/6	Unit 1-5: Prepare Your Study Guide for the Midterm Exam	Assignment	
10/7	Section 4.11: Hybrid Atomic Orbitals and Sigma and Pi Bonds: Study Guide & Concept Quiz	Quiz	10
10/7	Section 4.11: Introduction to Advanced Theories and Valence Bond Theory: Study Guide & Concept Quiz	Quiz	6
10/7	Section 4.11: Types of Hybridization and Multiple Bonds: Study Guide & Concept Quiz	Quiz	10
10/8	Section 4.11: Advanced Theories of Covalent Bonding - Module Summary and Learning Checkpoint	Assignment	
10/8	Unit 4: Chemical Bonding and Molecular Geometry - Graded Discussion – Feynman Notes and Q&A	Discussion	10

Due Date	Assignment Name	Assignment Type	Points
10/8	Unit 4: Chemical Bonding and Molecular Structure Unit Learning Checkpoint	Assignment	
10/9	Section 5.12: Mole Conversions: Single Step and Multi-step: Study Guide & Concept Quiz	Quiz	10
10/9	Section 5.12: Percent Composition, and Determination of Empirical and Molecular Formulas: Study Guide & Concept Quiz	Quiz	10
10/9	Unit 5: Introduction to Composition of Substances and Solutions: Study Guide & Concept Quiz	Quiz	10
10/10	Section 5.12: Deliberate Practice: The Mole	Assignment	
10/10	Section 5.12: Mole Calculations - Module Summary and Learning Checkpoint	Assignment	
10/14	Section 5.13: Application: Aqueous Solutions	Assignment	

Due Date	Assignment Name	Assignment Type	Points
10/14	Section 5.13: Introduction to Aqueous Solutions, Solutions Overview, and Electrolytes: Study Guide & Concept Quiz	Quiz	10
10/14	Section 5.13: Molarity and Dilution of Solution: Study Guide & Concept Quiz	Quiz	10
10/14	Section 5.13: Units of Solution Concentration: Mass and Volume Percentage, and Parts per Million and Parts per Billion: Study Guide & Concept Quiz	Quiz	7
10/15	Section 5.13: Aqueous Solutions - Module Summary and Learning Checkpoint	Assignment	
10/16	Unit 5: Composition of Substances and Solutions - Graded Discussion – Feynman Notes and Q&A	Discussion	10
10/16	Unit 5: Composition of Substances and Solutions Unit Checkpoint	Assignment	

Due Date	Assignment Name	Assignment Type	Points
10/18	Unit 3-5 Unit Test Opens	Assignment	
10/21	Section 6.14: Acid-Base Reactions: Study Guide & Concept Quiz	Quiz	10
10/21	Section 6.14: Chemical Equations and Balancing Chemical Equations: Study Guide & Concept Quiz	Quiz	10
10/21	Section 6.14: Chemical Reactions and Equations - Module Summary and Learning Checkpoint	Assignment	
10/21	Section 6.14: Equations for Ionic Reactions: Study Guide & Concept Quiz	Quiz	10
10/21	Section 6.14: Oxidation-Reduction: Oxidation States: Study Guide & Concept Quiz	Quiz	10
10/21	Section 6.14: Oxidation-Reduction: Reactions: Study Guide & Concept Quiz	Quiz	8

Due Date	Assignment Name	Assignment Type	Points
10/21	Section 6.14: Precipitation Reactions and Solubility Rules: Study Guide & Concept Quiz	Quiz	10
10/21	Unit 6: Introduction to Chemical Reactions and Stoichiometry – Study Guide & Concept Quiz	Quiz	15
10/22	Midterm Exam Unit 1-5 Opens	Assignment	
10/23	Section 6.15: Chemical Reactions: Moles and Particles and Mass and Volume of Solution: Study Guide & Concept Quiz	Quiz	9
10/23	Section 6.15: Combustion Analysis: Study Guide & Concept Quiz	Quiz	10
10/23	Section 6.15: Gravimetric Analysis: Study Guide & Concept Quiz	Quiz	10
10/23	Section 6.15: Limiting Reactants and Percent Yield: Study Guide & Concept Quiz	Quiz	10

Due Date	Assignment Name	Assignment Type	Points
10/23	Section 6.15: Titration: Study Guide & Concept Quiz	Quiz	10
10/24	Section 6.15: Chemical Reactions Stoichiometry - Module Summary and Learning Checkpoint	Assignment	
10/24	Unit 6: Reactions and Stoichiometry - Graded Discussion – Feynman Notes and Q&A	Discussion	10
10/24	Unit 6: Reactions and Stoichiometry Unit Checkpoint	Assignment	
10/28	Section 7.16: Gas Laws: Moles of Gas and Volume and The Ideal Gas Law: Study Guide & Concept Quiz	Quiz	10
10/28	Section 7.16: Gas Laws: Pressure and Temperature: Study Guide & Concept Quiz	Quiz	10
10/28	Section 7.16: Gas Laws: Volume and Pressure: Study Guide & Concept Quiz	Quiz	8

Due Date	Assignment Name	Assignment Type	Points
10/28	Section 7.16: Gas Laws: Volume and Temperature: Study Guide & Concept Quiz	Quiz	9
10/28	Section 7.16: Gas Pressure and Measuring Gas Pressure: Study Guide & Concept Quiz	Quiz	10
10/28	Unit 7: Introduction to Gases: Study Guide & Concept Quiz	Quiz	27
10/29	Section 7.16: Gas Laws - Module Summary and Learning Checkpoint	Assignment	
10/30	Section 7.17: Gas Density and Molar Mass and Partial Pressure of Gases and Gas Over Water: Study Guide & Concept Quiz	Quiz	10
10/30	Section 7.17: Standard Temperature and Pressure (STP) and Chemical Stoichiometry and Gases: Study Guide & Concept Quiz	Quiz	7

Due Date	Assignment Name	Assignment Type	Points
10/31	Section 7.17: Stoichiometry of Gases - Module Summary and Learning Checkpoint	Assignment	
11/4	Section 7.18: Diffusion and Effusion of Gases and Non-Ideal Gas Behavior and The van der Waals Equation: Study Guide & Concept Quiz	Quiz	10
11/4	Section 7.18: The Kinetic-Molecular Theory and Molecular Velocities and Kinetic Energy: Study Guide & Concept Quiz	Quiz	10
11/5	Unit 7: Gases Unit Checkpoint	Assignment	
11/5	Unit 7: Gases - Graded Discussion – Feynman Notes and Q&A	Discussion	10
11/6	Section 8.19: Energy and Internal Energy: Study Guide & Concept Quiz	Quiz	10

Due Date	Assignment Name	Assignment Type	Points
11/6	Section 8.19: Pressure-Volume Work: Study Guide & Concept and Quiz	Quiz	10
11/6	Unit 8 Introduction to Thermochemistry: Study Guide & Concept Quiz	Quiz	20
11/10	Unit 6-8: Prepare Your Study Guide for the Unit Test	Assignment	
11/11	Section 8.20: Calorimetry: Physical Processes and Chemical Reactions: Study Guide & Concept Quiz	Quiz	10
11/11	Section 8.20: Heat Capacity and Specific Heat and Heat Gained or Lost: Study Guide & Concept Quiz	Quiz	10
11/11	Section 8.20: Thermal Energy, Temperature, and Heat: Study Guide & Concept Quiz	Quiz	10
11/13	Section 8.21: Changes in Enthalpy: Study Guide & Concept Quiz	Quiz	10

Due Date	Assignment Name	Assignment Type	Points
11/13	Section 8.21: Energy of Covalent Bonds: Study Guide & Concept Quiz	Quiz	10
11/13	Section 8.21: Enthalpy of Combustion: Study Guide & Concept Quiz	Quiz	10
11/13	Section 8.21: Hess's Law and Hess's Law and Enthalpies of Formation: Study Guide & Concept Quiz	Quiz	10
11/13	Section 8.21: Lattice Energy: Study Guide & Concept Quiz	Quiz	9
11/13	Section 8.21: Standard Enthalpy of Formation: Study Guide & Concepte Quiz	Quiz	10
11/14	Unit 8: Thermochemistry - Graded Discussion – Feynman Notes and Q&A	Discussion	10
11/14	Unit 8: Thermochemistry Unit Checkpoint	Assignment	
11/15	Unit 6-8: Unit Test Opens	Assignment	

Due Date	Assignment Name	Assignment Type	Points
11/18	Section 9.22: Attractive Forces and Attractive Forces of Ionic Compounds: Study Guide & Concept Quiz	Quiz	10
11/18	Section 9.22: Intermolecular Forces Introduction: Dispersion Forces, Dipole-Dipole Attractions, and Hydrogen Bonding: Study Guide & Concept Quiz	Quiz	10
11/18	Unit 9: Introduction to Solids and Liquids: Study Guide & Concept Quiz	Quiz	20
11/20	Section 9.22: IMFs and Properties of Liquids: Study Guide & Concept Quiz	Quiz	10
11/24	Unit 9-10: Prepare Your Study Guide for the Unit Test	Assignment	
11/25	Section 9.23: Heating and Cooling Curves: Study Guide & Concept Quiz	Quiz	10

Due Date	Assignment Name	Assignment Type	Points
11/25	Section 9.23: Phase Changes and Energy and Phase Changes: Study Guide & Concept Quiz	Quiz	10
11/25	Section 9.23: Phase Diagrams: Study Guide & Concept Quiz	Quiz	10
11/25	Section 9.23: Vapor Pressure and the Clausius-Clapeyron Equation: Study Guide & Concept Quiz	Quiz	10
11/26	Section 9.42: Liquids and Solids Unit Checkpoint	Assignment	
11/26	Unit 9: Solids and Liquids - Graded Discussion – Feynman Notes and Q&A	Discussion	10
12/1	Unit 1-10: Prepare Your Study Guide for the Final Exam	Assignment	
12/2	Unit 10: Introduction to Solutions: Study Guide & Concept Quiz	Quiz	17

Due Date	Assignment Name	Assignment Type	Points
12/6	Unit 10: Solutions - Graded Discussion – Feynman Notes and Q&A	Discussion	10
12/6	Unit 10: Solutions Unit Checkpoint	Assignment	
12/6	Unit 9-10: Unit Test Opens	Assignment	
12/9	Unit 1-10: Final Exam Opens	Assignment	
12/16	Complete the Course Evaluation	Assignment	
12/16	Roll Call In Class Attendance Exceptions - Add 3 out of 0 to allow for several excused absences	Assignment	0