Course Syllabus

Introduction to General Chemistry

CHM 1025 / 85118 / Fall 2026

3 credit hours / 3 contact hours

Pre-requisites: MAC 1033 or MAC 1105

Contact Information

Instructor

Name: Jessica Edwards, Ph.D.
Title: Professor
Email: jedwards8@gulfcoast.edu
Phone Number: 850.769.1551 ext. 6020

Office Location: NS 305
Office Hours: TBD
Response Time: 1 business day
Canvas message is the best way to contact me.

Division Chair

Name: Dana Hutchinson, DPT
Title: Division Chair
Email: dhutchin1@gulfcoast.edu
Phone Number: 850.872.3848

Division Administrative Assistant

Name: Kathy Bleday
Title: Sr. Administrative Assistant
Email: kbleday@gulfcoast.edu
Phone Number: 850.872.3851

Course Information

Catalog Description:

Prerequisite: Math placement test or minimum grade of "C" in a college-level math course. An introduction to the elementary principles of modern chemistry. This course is designed for students whose preparation in secondary school chemistry and mathematics is such that they require a prerequisite course for general chemistry. (This course does not meet the chemistry requirement for science majors.)

Section information text: Online classes may require proctored exams which can be taken for free at any GCSC campus or with the use of testing software for online exams. Please see testing services for all available options.

Student Learning Outcomes:

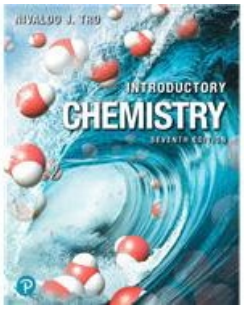
The course is designed for the non–science major as well as the science major and covers the broad field of general chemistry. The objective of the course is to enable the student to understand the fundamental principles of the major fields of chemistry and to develop a foundation of basic chemistry concepts so that students will be qualified to enter the college chemistry courses. The topics to be covered are located at the end of the Syllabus.

Upon successful completion of this course, students will be able to:

- Solve quantitative problems using scientific notation, significant figures, dimensional analysis, unit conversions, algebraic methods, and stoichiometric principles.
- Describe the classification, and behavior of matter and energy, including physical and chemical properties and changes, energy transfer, and heat calculations.
- Identify, name, and write formulas for chemical compounds using appropriate chemical symbols and accepted chemical nomenclature.
- Explain the structure of neutral atoms, isotopes, and ions, and relate electron arrangement to the organization and trends of the periodic table.
- Apply the mole concept and chemical composition relationships to determine molar quantities, chemical formulas, and percent composition of substances.
- Analyze and classify chemical reactions by writing and balancing chemical equations, predicting reaction products, and identifying precipitation, acid-base, oxidation-reduction, combustion, and gas-evolution reactions.
- Explain how electron configurations relate to chemical bonding, and use Lewis structures to predict molecular geometry.
- Apply gas laws and solution concentration relationships to solve quantitative chemistry problems and explain gas and solution behavior.

Course Materials & Resources:

Book and Homework Platform:
Introductory Chemistry by Nivaldo Tro, *7th edition*, 2023.
Publisher: Pearson
ISBN-13: 9780137901364 (eText *with* Mastering Access)



- Note: If you have ordered a book/book code, but are waiting for it to arrive, you can still access the eText and assignments through *free 2-week temporary* Mastering Chemistry Access offered by Pearson. Class work starts on day 1. Do not fall behind.

Other required items:
Scientific Calculator (The TI-30XS Multiview or TI-36XPro are good, user-friendly scientific calculators.)

You must have **reliable** internet access to take this course. A web-cam on a computer or lap-top (not a chrome book or tablet) is required to take exams at home. If you do not have the appropriate materials to test at home, exams can be taken in the testing center on campus.

Delivery Method:

This is a web-based course. All online courses at GCSC utilize the Canvas Learning System. Students should read all information presented in the Canvas course site and should frequently check for updates—at minimum every 48 hours.

Remember: This course is *not* one in which students may work at their own pace. Each week there are announcements, online lectures, assignments, learning modules, online discussions, and/or online exams with due dates. Refer to the schedule within this syllabus and within Canvas for more information.

Student Expectations

In this course, communication and feedback will occur through various channels, including Canvas Inbox, Canvas Announcements, Canvas Discussions, Zoom, Assignment Feedback, and Instructor Office Hours. Review the statements below so that you understand the expectations for communication.

As a student at Gulf Coast State College, you are expected to:

- **Adhere to Course Guidelines:** Follow the guidelines detailed in the course syllabus, along with any additional instructions provided by the instructor. This includes understanding and complying with the course objectives, grading criteria, and academic policies.
- **Maintain Regular Contact:** Keep in touch with your instructor and classmates via the Canvas course or other designated communication channels. Regular contact helps clarify doubts, share ideas, and foster a collaborative learning environment.
- **Active Participation:** Engage actively in class discussions and submit assignments on time. Your active participation is crucial for your academic success and contributes to a vibrant learning community.

As your instructor, my commitment to you is to:

- **Provide Timely Feedback:** I will review and provide feedback on your assignments and submissions promptly. Immediate feedback is available through the online homework platform. Course exams are usually graded within a week. My goal is to help you understand your strengths and areas for improvement, which is crucial for your academic growth.
- **Respond Via Canvas Inbox:** I will respond to your messages within 24-48 hours (excluding weekends), unless otherwise noted. I understand the importance of clear and timely communication in addressing your questions and concerns.
- **Post Regular Announcements:** To keep you updated and help you manage your time effectively, I will post weekly schedules and reminders via Canvas announcements. These reminders will include important dates, upcoming assignments, and any changes to the course schedule.
- **Maintain Weekly Office Hours:** I will maintain regular weekly office hours, but I can also be available by appointment. This is to ensure I'm available for any questions or concerns that may come up during the week.

Course Schedule

Exam Date	Module	Description*
Mid-September	1	Chapter 1: The Chemical World Chapter 2: Measurement and Problem Solving Chapter 3: Matter and Energy Chapter 4: Atoms and Elements
Early October	2	Chapter 5: Molecules and Compounds Chapter 6: Chemical Composition
Late October	3	Chapter 7: Chemical Reactions Chapter 8: Quantities in Chemical Reactions
November	4	Chapter 9: Electrons in Atoms and the Periodic Table Chapter 10: Chemical Bonding
Early December	5	Chapter 11: Gases Chapter 13: Solutions

***Specific topics for each chapter are provided at the end of this syllabus.**

Timing: It is extremely important that you stay on schedule. Falling behind in an online course can be very hard to recover from. Be disciplined. Be self-aware.

Grading

GCSC Grading Scale

All grades will be posted in the student grade book in Canvas and will be assigned according to the following scale:

A 90%-100%
B 80%-89%
C 70%-79%
D 60%-69%
F 59% and below

Calculation of Grades

The lowest regular test score will be dropped before computing the test average. NONE of the homework chapter sections or quizzes will be dropped.

The average of the five test grades will count for 62% of the course grade, and the **final exam is worth 22%**. The **homework average will count for 10%** of the course grade and the **quiz average is worth 6%.**

Homework

The homework will count for **10%** of the overall grade. Tutorials and some of the homework problems will count as extra credit. Homework due dates will not be extended, except under extenuating circumstances. Each homework part will count equally. The homework takes A LOT of time if you're doing it right. Expect put in a minimum of 1 to 2 hours per homework part. Of course, some assignments will take less time and others will take more. Please do NOT wait until the last minute to work on the homework. Leave yourself time to ask me questions and get a response before the due date.

You have unlimited attempts on each question, however, a small deduction in points is accrued for each attempt. If you are having difficulty with a problem or with how Mastering Chemistry wants an answer input, contact me. I can look at the problem and see where the glitch is without you continuing to lose points.

Problems with the Mastering Chemistry site itself must be addressed by their support team.

Quizzes

There will be a quiz for each chapter located in Mastering Chemistry. The quizzes are not timed, and you have unlimited attempts. However, a small deduction is accrued for each attempt. The quizzes will count **6%** of your grade. Quiz due dates will not be extended except under extenuating circumstances. Documentation may be required.

Course Policies

Accessibility Statement

Gulf Coast State College supports an inclusive learning environment for all students. If there are aspects of the instruction or design of this course that hinder your full participation, reasonable accommodations can be arranged. Prior to receiving accommodations, you must register with Student Accessibility Resources. Appropriate academic accommodations will be determined based on the documented needs of the student. Please visit GCSC's Student Accessibility Resource (SAR) webpage to learn more. For information regarding the registration process, email sar@gulfcoast.edu or call 850-747-3243.

Attendance Policy

Students must log in and participate in an academic activity (Check-Up Quiz) by August 22nd, 2026 in order to remain in the course. Regardless of other assignments completed (e.g. MC homework), if the Check-Up quiz is NOT completed by this day, the student will be reported as No Show and will be dropped from the course.

Students that wish to be reinstated into the course will need to submit a written request for reinstatement to the Division Chair of Natural Sciences. The request must include the date, the student name, the course and CRN number, and why the student would like to be reinstated.

The Division Chair may wish to have a meeting to discuss this matter. Even complying with these requirements, the Chair may decide that the No Show will remain. Reinstatement is contingent on the instructor's approval.

Regular class attendance and participation are significant factors that help to promote success in college. Students are expected to attend all class meetings of all courses for which they are registered. Assignments are expected to be submitted on time. Extensions and make-up work are offered solely at the discretion of your professor. Documentation will be required for any issues when an exam needs to be taken outside of the regular exam window.

If lack of class participation becomes excessive, your professor may contact you, indicating that further absence may result in your withdrawal from the course. **Your professor can withdraw you from a course for excessive absence without your permission.**

Instructors will monitor attendance at the beginning of each semester. If you are not in attendance during this period, you may be withdrawn from the course. You will still be financially responsible for the course and a "W or NS" will appear on your transcript. Withdrawal from a course may also have implications for financial aid.

Withdrawal Policy

Students wishing to withdraw from a course must complete a withdrawal form and submit the form to the Office of Enrollment Services before the scheduled withdrawal date as published on the college calendar. Student withdrawals initiated prior to the scheduled withdrawal deadline will be recorded as a grade of "W".

Two withdrawals are permitted per credit course. After that, a grade will be assigned. Please be concerned about withdrawals. When admitting students into certain programs, universities may calculate withdrawals as grades. It is your responsibility to verify the effects of enrollment and/or withdrawal upon your financial assistance (financial aid, scholarships, grants, etc.). There are two kinds of withdrawals---student and administrative.

- *Student Withdrawal (W1)* - Students wishing to withdraw must complete the online Student Withdrawal Form before the scheduled withdrawal deadline as published in the College catalog. Student withdrawals initiated prior to the scheduled withdrawal deadline will be recorded as a grade of "W." The withdrawal deadline for an off-term or condensed term is one week after midterm.
- *Administrative Withdrawal (W2)* – A faculty member may withdraw a student up to the published withdrawal deadline for violation of the class attendance policy in which case the student will receive a grade of "W." The withdrawal deadline for an off-term or condensed term is one week after midterm.

Students cannot withdraw from developmental studies courses (college-preparatory classes) after the drop/add period without written permission from their instructor and/or their academic advisor.

Academic Integrity

Honest participation in academic endeavors fosters an environment in which optimal learning can take place and is consistent with the college's mission. Academic misconduct, including cheating or plagiarism, is destructive to the spirit of an educational environment. GCSC professors report every instance of student academic misconduct to the college for inclusion on the student's records.

Most course syllabi include an academic honesty policy and the consequences for violating this policy. Familiarize yourself with course policies regarding authorized or unauthorized use of AI to avoid the pitfalls of academic dishonesty.

The following definitions will apply:

"Cheating"
includes but is not limited to use of any unauthorized assistance in taking quizzes, tests, or examinations; dependence upon the aid of sources beyond those authorized by the instructor in writing papers, preparing reports, solving problems, or carrying out other assignments; the acquisition without permission of tests or other academic materials belonging to a member of the College's faculty.

"Plagiarism"
includes, but is not limited to, the use by paraphrase or direct quotation of the published or unpublished work of another person without full and clear acknowledgment as well as the purchase of papers or projects. It can also include overuse of an editing program like Grammarly or submitting work written by an Artificial Intelligence (AI) generator like ChatGPT. Make certain to consult your course syllabi for your instructor's guidelines of AI material.

"Self-plagiarism"
occurs when a student submits the same or considerably similar document to fulfill requirements in different classes. For example, if a student submits a term paper in Religion they originally wrote for an English class, this is self-plagiarism. Once a paper receives a grade in one class, it cannot be submitted again for another class.

"Generative Artificial Intelligence (AI)"
is technology that uses machine learning to create new content, such as text, images or code, based on user input. These systems are trained on vast amounts of data, including large language models and image or code generators. Common examples include ChatGPT, GitHub, Copilot, Google Gemini, Perplexity, and the Grammarly AI function.

Sanctions for incidences of academic misconduct, depending on the severity of the incidence and/or its repetition, may range from receiving an F grade (or 0) for the test, assignment, or activity, to failure of the course, to suspension or dismissal from the college.

Classroom Recording

In accordance with federal and state privacy laws, students may record class lectures for their own personal educational use, in connection with a complaint to the college, or as evidence in internal or external legal proceedings. Students may not publish or upload the recordings or any components thereof without the knowledge and written permission of the faculty member. Failure to obtain permission to publish could lead to the students' having to pay damages, attorney fees, and court costs. For more information about what can be recorded, please see the guidelines in the GCSC Student Handbook.

Generative Artificial Intelligence (AI) Policy

The use of generative AI tools in academic work requires clear guidelines to maintain academic integrity. Please review the policy selected for this course regarding the use of AI tools such as ChatGPT, Copilot, Grammarly's AI features, and similar platforms for assignments, research, and other coursework.

See the student handbook for further information. Students with questions about acceptable use should consult their instructor.

Limited Assistive Use Only

Students may use basic assistive technologies for spelling, grammar, and formatting (e.g., PaperRater or SpellCheckPLUS); however, the use of AI tools (e.g., ChatGPT, Copilot, Grammarly's AI function, etc.) for generating, rewriting, or enhancing content is not permitted. All work must reflect the student's original ideas and writing. Representing work created by AI as one's own is a violation of academic integrity and may result in penalties, including a zero on the assignment and additional disciplinary actions as outlined in the college's academic integrity policy.

Anti-Discrimination Policy

Gulf Coast State College does not discriminate against any person in its programs, activities, policies or procedures on the basis of race, ethnicity, color, national origin, marital status, religion, age, gender, sex, pregnancy, sexual orientation, gender identity, genetic information, disability, or veteran status. All questions or inquiries regarding compliance with laws relating to non-discrimination and all complaints regarding sexual misconduct or discrimination may be directed to Amanda Reed, Executive Director of Human Resources/Title II/504/Title IX Coordinator and Employment Equity Officer, Gulf Coast State College, 5230 W. US Highway 98, Panama City, FL 32401; 850-769-1551, ext. 3516. Rules, policies, fees, and courses described in this catalog are subject to change without notice.

Syllabus Policy

For any syllabus posted prior to the beginning of the term, the instructor reserves the right to make minor changes prior to or during the term. The instructor will notify students via e-mail or Canvas announcement when changes are made in the requirements and/or grading of the course.

Student Support Resources

Gulf Coast State College is committed to providing you with the resources you need for success as a student and beyond. View all the academic and student support resources provided at GCSC on the Student Services web page.

Course Technology & Support

To successfully participate in this online course, students must have basic computer and digital information literacy skills and meet the following technology requirements:

- **Computer:** Up-to-date web browser that supports the Canvas learning management system; please refer to the system requirements for compatibility and information on using the Canvas app on mobile devices.
- **Internet Speed**: Minimum bandwidth of 8 Mbps upload/download speed to effectively engage in online activities and access multimedia.
- **Office 365 software:** Available for free download through GCSC Information Technology Services (ITS).

If you need technical support, contact the ITS Help Desk, available 24/7 at (850) 913-3303.

Topics Covered

Chapter 1: The Chemical World

Chapter 2: Measurement and Problem Solving

- Scientific Notation
- Significant Figures
- Basic Units of Measurement
- Problem Solving and Unit Conversion
- Solving Multistep Unit Conversion Problems
- Unit Conversion in Both the Numerator and Denominator
- Units Raised to a Power
- Density
- Numerical Problem-Solving Strategies and the Solution Map

Chapter 3: Matter and Energy

- What is Matter?
- Classifying Matter According to Its State: Solid, Liquid, and Gas
- Classifying Matter According to Its Composition: Elements, Compounds, and Mixtures
- Differences in Matter: Physical and Chemical Properties
- Changes in Matter: Physical and Chemical Changes
- Conservation of Mass: There IS No New Matter
- Energy
- Energy and Chemical and Physical Change
- Temperature: Random Motion of Molecules and atoms
- Temperature Changes: Heat Capacity
- Energy and Heat Capacity Calculations

Chapter 4: Atoms and Elements

- Indivisible: The Atomic Theory
- The Nuclear Atom
- The Properties of Protons, Neutrons, and Electrons
- Elements: Defined by Their Numbers of Protons
- Looking for Patterns: The Periodic Law and the Periodic Table
- Ions: Losing and Gaining Electrons
- Isotopes: When the Number of Neutrons Varies
- Atomic Mass: The Average Mass of an Element’s Atoms

Chapter 5: Molecules and Compounds

- Compounds Display Constant Composition
- Chemical Formulas: How to Represent Compounds
- A Molecular View of Elements and Compounds
- Writing Formulas for Ionic Compounds
- Nomenclature: Naming Ionic Compounds
- Nomenclature: Naming and Writing Formulas for Molecular Compounds
- Nomenclature: Naming and Writing Formulas for Acids
- Formula Mass: The Mass of a Molecule or Formula Unit

Chapter 6: Chemical Composition

- Counting Atoms and Molecules by the Gram
- Chemical Formulas as Conversion Factors
- Mass Percent Composition of Compounds
- Mass Percent Composition from a Chemical Formula
- Calculating Empirical Formulas for Compounds
- Calculating Molecular Formulas for Compounds

Chapter 7: Chemical Reactions

- Evidence of a Chemical Reaction
- The Chemical Equation
- How to Write Balanced Chemical Equations
- Aqueous Solutions and Solubility: Compounds Dissolved in Water
- Precipitation Reactions: Reactions in Aqueous Solution That Form a Solid
- Writing Chemical Equations for Reactions in Solution: Molecular, Complete (Total) Ionic, and Net ionic Equations
- Acid-Base and Gas Evolution Reactions
- Oxidation-Reduction Reactions
- Classifying Chemical Reactions

Chapter 8: Quantities in Chemical Reactions

- Making Molecules: Mole-to-Mole Conversions
- Making Molecules: Mass-to-Mass conversions
- Limiting Reactant, Theoretical Yield, and Percent Yield from Initial Masses of Reactants
- Enthalpy: A Measure of the Heat Evolved or Absorbed in a Reaction

Chapter 9: Electrons in Atoms and the Periodic Table

- Light: Electromagnetic Radiation
- The Electromagnetic Spectrum
- The Bohr Model: Atoms with Orbits
- The Quantum-Mechanical Model: Atoms with Orbitals
- Quantum-Mechanical Orbitals and Electron Configurations
- Electron Configurations and the Periodic Table
- The Explanatory Power of the Quantum-Mechanical Model
- Periodic Trends: Atomic Size, Ionization Energy, and Metallic Character

Chapter 10: Chemical Bonding

- Representing Valence Electrons with Dots
- Lewis Structures of Ionic Compounds: Electrons Transferred
- Covalent Lewis Structures: Electrons Shared
- Writing Lewis Structures for Covalent Compounds
- Resonance: Equivalent Lewis Structures for the Same Molecule
- Predicting the Shapes of Molecules
- Electronegativity and Polarity

Chapter 11: Gases

- Kinetic Molecular Theory: A Model for Gases
- Pressure: The Result of Constant Molecular Collisions
- Boyle's Law: Pressure and Volume
- Charles's Law: Volume and Temperature
- The Combined Gas Law: Pressure, Volume, and Temperature
- Avogadro's Law: Volume and Moles
- The Ideal Gas Law: Pressure, Volume, Temperature, and Moles
- Mixtures of Gases
- Gases in Chemical Reactions

Chapter 13: Solutions

- Solutions: Homogeneous Mixtures
- Solutions of Solids Dissolved in Water
- Solutions of Gases in Water
- Specifying Solutions Concentration: Mass Percent
- Specifying Solution Concentration: Molarity
- Solution Dilution
- Solution Stoichiometry