



## CHEM 1412.101H3/CHEM 1412.601H3

### General Chemistry 2

Spring 2025

Wednesdays from 11:00 AM – 1:50 PM in STEAM 403

Online through D2L Brightspace

**Instructor Information:** Luke Turner | [lturner16@com.edu](mailto:lturner16@com.edu) | 409-933-8433

#### Student hours and location:

Monday	09:00 – 10:00	Virtual (Microsoft Teams)
Tuesday	09:45 – 12:30	STEAM 325-23 & Virtual
Wednesday	09:30 – 10:30	STEAM 325-23 & Virtual
Thursday	09:45 – 12:30	STEAM 325-23 & Virtual
Friday   Saturday   Sunday	**Virtual Office Hours by Appointment**	

**Required Textbook/Materials:** Links to the free online textbooks and other open educational resources will be provided in the course materials folder located in D2L Brightspace. This course consists completely of **OER** (Open Educational Resources) and will NOT *require* a subscription to a homework service, a license to inclusive access, or any bookstore related ancillary materials. I will use a variety of free online resources, including my own Quizlet study sets and homemade worksheets, and these materials will be made available at **ZERO** cost to you.

**Optional Resources:** I recommend creating a free account with an AI resource such as ChatGPT. The ubiquitous role of AI in smart phones, computers and other devices continues to evolve and we will explore how to use this technology in the context of chemistry and more general scientific concepts.

**Required Textbook:** Averill, B.; Eldredge, P. [\*General Chemistry: Principles, Patterns and Applications\*](#) [Online]; Saylor Foundation, 2011. [ISBN-13 9781453322307]

**Course Description:** Catalog course description: <http://tinyurl.com/mr3ckcb6>

**Course Requirements:** Apart from completing the five (5) scheduled semester exams, other forms of assessment are completely optional, unless otherwise indicated. If you miss an exam, you will be required to take a make-up exam at the end of the semester. Two missed exams will require completion of a comprehensive final exam.

Assessment	Approximate Point Value	Overall Average	Grade
5 Exams	~500 pts	≥89.5%	A
Class Activities*	} ~50 pts	79.5-89.4%	B
Quizzes*		69.5-79.4%	C
Homework*		59.5-69.4%	D
Laboratory Reports*	~100 pts	≤59.5%	F

\*Optional components unless otherwise indicated.

**Other grade assignments:**

- **FN** —assigned at the discretion of the instructor in accordance with college policy.
- **I** — “*incomplete*” assigned at the discretion of the instructor in accordance with college policy.
- **W** — “*withdrawal*” assigned in accordance with college policy.

**Late Work, Make-Up, and Extra-Credit Policy:** Since this course is designed with a significant portion of content that is optional and penalty-free with flexible deadlines, no make-up or extra credit assignments will be offered.

**Attendance Policy:** Generally, the attendance policies prescribed in the current College Catalog (<http://tinyurl.com/43vjb8sx>) will be applied as far as Census Day reporting is concerned.

**Communicating with your instructor:** If you need to reach me, I am available by email ([lturner16@com.edu](mailto:lturner16@com.edu)) and phone (call or text me at 832.352.6222). ALL electronic communication with the instructor must be through your COM email. Due to FERPA restrictions, faculty cannot share any information about performance in the class through other electronic means.

<b>Student Learner Outcome</b>	<b>Maps to Core Objective</b>	<b>Assessment(s)</b>
1. State the characteristics of liquids and solids.	Critical Thinking	Selected Exam Questions
2. Articulate the importance of intermolecular interactions and predict trends in physical properties.	Critical Thinking Communication Skills	Selected Exam Questions Presentation
3. Identify the characteristics of acids, bases, and salts, and solve problems based on their quantitative relationships.	Critical Thinking	Selected Exam Questions
4. Identify and balance oxidation-reduction equations and solve redox titration problems.	Critical Thinking	Selected Exam Questions
5. Determine the rate of a reaction and its dependence on concentration, time, and temperature.	Critical Thinking	Selected Exam Questions
6. Apply the principles of equilibrium to aqueous systems using Le Chatelier's Principle to predict the effects of concentration, pressure, and temperature changes on equilibrium mixtures.	Empirical and Quantitative Skills	Selected Exam Questions
7. Analyze and perform calculations with the thermodynamic functions, enthalpy, entropy, and free energy.	Critical Thinking	Selected Exam Questions
8. Discuss the construction and operation of galvanic and electrolytic electrochemical cells and determine standard and non-standard cell potentials.	Critical Thinking	Selected Exam Questions
9. Define nuclear decay processes.	Critical Thinking	Selected Exam Questions
10. Describe basic principles of descriptive inorganic chemistry.	Critical Thinking	Selected Exam Questions
11. Use basic apparatus and apply experimental methodologies used in the chemistry laboratory.	Empirical and Quantitative Skills	Selected Exam Questions
12. Demonstrate safe handling of equipment and chemicals.	Critical Thinking	Selected Exam Questions
13. Conduct basic laboratory experiments with proper laboratory techniques.	Empirical and Quantitative Skills	Selected Exam Questions
14. Make careful and accurate experimental observations.	Team Work	Selected Experiment Grades
15. Relate observations and measurements to theoretical principles.	Critical Thinking	Selected Experiment Grades
16. Interpret laboratory results and experimental data and reach logical conclusions.	Team Work	Selected Experiment Grades
17. Record experimental work completely and accurately.	Empirical and Quantitative Skills	Selected Experiment Grades
18. Design fundamental experiments involving principles of chemistry.	Empirical and Quantitative Skills	Selected Experiment Grades
19. Identify appropriate sources of information for conducting laboratory experiments involving principles of chemistry.	Critical Thinking	Selected Experiment Grades
20. Demonstrate the ability to work effectively with others.	Communication Skills	Laboratory Report Grade

**Academic Dishonesty:** Any incident of academic dishonesty will be dealt with in accordance with college policy and the Student Handbook (<http://tinyurl.com/v8yeztjp>).

**Student Concerns:** If you have any questions or concerns about any aspect of this course, please contact me using the contact information previously provided. If, after discussing your concern with me, you continue to have questions, please contact Ms. Sheena Abernathy, Science Department Chair, at 409-933-8330/[sabernathy@com.edu](mailto:sabernathy@com.edu).

**Tentative Course outline:** The course schedule will be updated weekly in D2L and should be your primary resource for accessing learning materials and class scheduling. A *tentative* outline is tabulated below:

Weeks	Topics	Exam Date
1-2	Intermolecular Forces, State of Matter & Phase Diagrams	01.29.25
3-5	Solutions, Concentration & Molarity	02.19.25
5-7	Equilibrium, Le Chatelier's Principle & Expressions	02.19.25
8-10	Solubility Product Constant, Complex Ions & Formation Constant	03.12.25
10-12	Acids, Bases, Buffers & Henderson-Hasselbalch Equation	03.12.25
12-14	Electrochemistry, Electrochemical Cells & Galvanic Cells	04.09.25
14-15	Nuclear Chemistry and Special Topics	04.09.25
16	Biochemistry, Organic Chemistry & Special Topics	04.30.25

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### Institutional Policies and Guidelines

**Grade Appeal Process:** Concerns about the accuracy of grades should first be discussed with the instructor. A request for a change of grade is a formal request and must be made within six months of the grade assignment. Directions for filing an appeal can be found in the student handbook [https://www.com.edu/student-services/docs/Student Handbook 2024-2025 v2.pdf](https://www.com.edu/student-services/docs/Student_Handbook_2024-2025_v2.pdf). *An appeal will not be considered because of general dissatisfaction with a grade, penalty, or outcome of a course. Disagreement with the instructor's professional judgment of the quality of the student's work and performance is also not an admissible basis for a grade appeal.*

**Academic Success & Support Services:** College of the Mainland is committed to providing students the necessary support and tools for success in their college careers. Support is offered through our Tutoring Services, Library, Counseling, and through Student Services. Please discuss any concerns with your faculty or an advisor.

**ADA Statement:** Any student with a documented disability needing academic accommodations is requested to contact:

Kimberly Lachney, Student Accessibility Services Coordinator

Phone: 409-933-8919

Email: [AccessibilityServices@com.edu](mailto:AccessibilityServices@com.edu)

Location: COM Doyle Family Administration Building, Student Success Center

**Textbook Purchasing Statement:** A student attending College of the Mainland is not under any obligation to purchase a textbook from the college-affiliated bookstore. The same textbook may also be available from an independent retailer, including an online retailer.

**Withdrawal Policy:** Students may withdraw from this course for any reason prior to the last eligible day for a “W” grade. Before withdrawing students should speak with the instructor and consult an advisor. Students are permitted to withdraw only six times during their college career by state law. The last date to withdraw from the 1<sup>st</sup> 8-week session is February 26. The last date to withdraw from the 16-week session is April 21. The last date to withdraw for the 2<sup>nd</sup> 8-week session is April 30.

**FN Grading:** The FN grade is issued in cases of *failure due to a lack of attendance*, as determined by the instructor. The FN grade may be issued for cases in which the student ceases or fails to attend class, submit assignments, or participate in required capacities, and for which the student has failed to withdraw. The issuing of the FN grade is at the discretion of the instructor. The last date of attendance should be documented for submission of an FN grade.

**Early Alert Program:** The Student Success Center at College of the Mainland has implemented an Early Alert Program because student success and retention are very important to us. I have been asked to refer students to the program throughout the semester if they are having difficulty completing assignments or have poor attendance. If you are referred to the Early Alert Program you will be contacted by someone in the Student Success Center who will schedule a meeting with you to see what assistance they can offer in order for you to meet your academic goals.

**Resources to Help with Stress:**

If you are experiencing stress or anxiety about your daily living needs including food, housing or just feel you could benefit from free resources to help you through a difficult time, please click here <https://www.com.edu/community-resource-center/>. College of the Mainland has partnered with free community resources to help you stay on track with your schoolwork, by addressing life issues that get in the way of doing your best in school. All services are private and confidential. You may also contact the Dean of Students office at [deanofstudents@com.edu](mailto:deanofstudents@com.edu) or [communityresources@com.edu](mailto:communityresources@com.edu).

**Nondiscrimination Statement:**

The College District prohibits discrimination, including harassment, against any individual on the basis of race, color, religion, national origin, age, veteran status, disability, sex, sexual orientation, gender (including gender identity and gender expression), or any other basis prohibited by law. Retaliation against anyone involved in the complaint process is a violation of College District policy.