CHEM 1406.151H0
Introductory Chemistry 1
Fall 2025
Saturdays from 9:00 AM – 12:20 PM in STEAM 346
Online through D2L Brightspace

Instructor Information: Luke Turner | lturner16@com.edu | **409•933•8433**

Student hours and location:

Monday	**Virtual Office Hours by Appointment**	
Tuesday	09:45 – 12:30	STEAM 325-23 & Virtual
Wednesday	14:00 – 15:00	STEAM 325-23 & Virtual
Thursday	09:45 – 12:30	STEAM 325-23 & Virtual
Friday	11:00 – 12:00	STEAM 325-23 & Virtual
Saturday	**Virtual Office Hours by Appointment**	
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 pdf worksheets, and these materials will be made available at ***ZERO*** cost to you.

Required Textbook: Ball, D. W.; Hill, J. W.; Scott, R. J. The Basics of General, Organic, and Biological Chemistry [Online]; Saylor Foundation, 2011. [ISBN-13 9781453311097]

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

Course Requirements: Apart from completing semester exams (bi-weekly), 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
Semester Exams	~600 – 800 pts	≥89.5%	A
Class Activities*		79.5-89.4%	B
Quizzes*	~50 pts	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) and phone (**409.933.8433**). 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.

Student Learner Outcome	Maps to Core Objective	Assessment(s)
1. Understand the different states of matter and the difference among elements, compounds and mixtures.	Critical Thinking	Selected Exam Questions
2. Understand SI units and use dimensional analysis to perform calculations correctly with proper attention to units.	Critical Thinking Communication Skills	Selected Exam Questions
3. Understand the basic model of the atom.	Critical Thinking	Selected Exam Questions
4. Understand types of chemical bonds and know theories of chemical bonding and the forces that influence molecular shapes.	Critical Thinking	Selected Exam Questions
5. Determine name and formulas of binary molecular compounds, ionic compounds, and acids.	Critical Thinking	Selected Exam Questions
6. Balance chemical equations, identify basic types of chemical reactions and write molecular, total and net-ionic equations.	Empirical and Quantitative Skills	Selected Exam Questions
7. Use the concept of the mole in quantitative chemical calculations and identify the limiting reactants.	Critical Thinking	Selected Exam Questions
8. Understand stoichiometric relationships involved in reactions.	Critical Thinking	Selected Exam Questions
9. Calculate and utilize solution concentration units such as molarity.	Critical Thinking	Selected Exam Questions
10. Understand the gas laws and its application in quantitative problems.	Critical Thinking	Selected Exam Questions
11. Understand the acid/base and pH concept.	Empirical and Quantitative Skills	Selected Exam Questions

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.

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:

Week	Topics	Reading Assignments
1	• Course Intro • Aktiv Learning • CH 1 Essential Ideas	• Syllabus • Aktiv Access Directions • CH 1
2	• CH 1 Essential Ideas • CH 2 Atoms, Molecules, and Ions • *Experiment 1: Safety in the Chemistry Lab*	• CH 1 & 2 • Experiment
3	• CH 2 Atoms, Molecules, and Ions	• CH 2 & 3

	• CH 3 Electronic Structure and Periodic Properties of Elements • *Experiment 2: Weight and Volume*	• Experiment
4	• CH 3 Electronic Structure and Periodic Properties of Elements • *Experiment 3: Density and Graphing*	• CH 3 • Experiment
5	• CH 4 Chemical Bonding and Molecular Geometry • *Experiment 4: Separating the Components of a Ternary Mixture*	• CH 4 • Experiment
6	• CH 4 Chemical Bonding and Molecular Geometry • CH 5 Advanced Theories of Bonding • *Experiment 5: The Periodic Table*	• CH 1 – 3 • CH 4 & 5 • Experiment
7	• CH 4 Chemical Bonding and Molecular Geometry • CH 5 Advanced Theories of Bonding • *Experiment 6: Spectroscopy*	• CH 4 & 5 • Experiment
8	• CH 5 Advanced Theories of Bonding • CH 6 Composition of Substances and Solutions • *Lab 7: Lewis Structures and The Shapes of Molecules*	• CH 5 & 6 • Experiment
9	• CH 6 Composition of Substances and Solutions • CH 7 Stoichiometry of Chemical Reactions • *Experiment 8: Chemical Composition and Solutions* • *Experiment 9: Decomposition of a Hydrate*	• CH 6 • Experiment
10	• CH 7 Stoichiometry and Chemical Reactions • *Experiment 10: Types of Chemical Reactions*	• CH 4 - 6 • CH 7 • Experiment
11	• CH 7 Stoichiometry and Chemical Reactions • CH 9 Thermochemistry • *Experiment 11: Stoichiometry Lab*	• CH 7 & 8 • Experiment 11
12	• CH 9 Thermochemistry • *Experiment 12: Calorimetry*	• CH 8 • Experiment 12
13	• CH 9 Thermochemistry • CH 8 Gases • *Experiment 13: Hess' Law*	• CH 8 & 9 • Experiment 13
14	• CH 8 Gases • *Experiment 14: Behavior of Gases*	• CH 9 • Experiment 14

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/student-handbook.html**.** *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 accommodation is requested to contact:
Kimberly Lachney, Student Accessibility Services Coordinator
Phone: 409-933-8919
Email: 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 1st 8-week session is October 1. The last date to withdraw from the 16-week session is November 14. The last date to withdraw for the 2nd 8-week session is November 25.

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 or 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.