CHEM 1406.102CL / CHEM 1406.602CL
Introduction to Chemistry – Fall 2025
Tuesday & Thursday – 9:30 to 12:20 in STEM 346

Instructor Information:

Dr. Britt E. Price, PhD
Office: STEM 325-30
Email: bprice4@com.edu
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Student hours and location:

Monday & Wednesday from 11:30 to 1:45 in STEM 325-30
Tuesday & Thursday from 8:00 to 9:30 in STEM 325-30
By appointment, in person, or virtual (Microsoft Teams)

Required Textbook/Materials:

The textbook and homework system are part of the inclusive access and are available immediately upon access to Brightspace D2L at the start of the semester.

Textbook: Chemistry for Changing Times (Hill and McCreary)

The textbook for this class is immediately available for free online! The entire textbook and individual chapters are posted in the course shell on D2L. Alternatively, follow the link above to access the textbook.

Homework System: Macmillan Learning Achieve homework system is an Internet based homework and testing system. This system is included in the course and does not require a student to purchase anything or create their own account.

Additional Materials:

- An inexpensive scientific calculator (e.g., TI-30) or app for your mobile devices.
- An e-mail account (COM provides free email for students)

- Microsoft Office, Microsoft OneNote, and Microsoft Teams (COM offers free Office 365 access for students)
- Vernier software used for experiments
- File conversion software for converting image files to PDF files (Microsoft Office Lens and Genius Scan are free for both Android and iOS)
- A PDF reader like Adobe Reader

Course Description: Survey course introducing chemistry. Designed for allied health students and for students who are not science majors. Topics include measurements and conversion, basic atomic structure and periodic trends, basic molecular structure, inorganic and organic nomenclature, and organic functional groups. The states of matter, behavior of solids, liquids and gases, and the properties of solutions and solubility are addressed, especially as they relate to organic functional groups and molecular structure.

Course requirements: (including description of any special projects or assignments)
Students are expected to meet the following course requirements.
Stay Current: You will use the Course Outline, the online calendar, the discussion forums,
communication with your instructor, and communication with your classmates to stay abreast of course scheduling.
Meet Learning Objectives: You will cover the course material listed in the Student Learning Objectives by accessing information from the textbook, from Sapling Learning, from the Internet, from the Library, and from other resources, as needed.
Stay in Communication: You will maintain communication with your classmates and instructor, as needed. Typical methods for communicating include interpersonal communication, email, text messaging, instant messaging, and discussion forum postings.
Complete Assessments: Your knowledge of the material covered in the Student Learner Outcomes is assessed using Now You Try It, online homework, exams, and laboratory experiments.

Determination of Course Grade: A student's overall grade will be determined by a weighted average of a variety of categories.

- Bad" Science Critique – 5.0 %
- Now You Try It [NYTI] – 15.0 %
- Chapter Homework Assignments – 15.0 %
- Semester Exams – 30.0 %
- Final Exam – 15.0 %
- Laboratory Grade – 20.0 %

Detailed Grading Formula: Your grade for the course is determined by the scores that you earn on the assignments and assessments. Your final grade is then calculated as a weighted average of the points earned in each category. (The determination of final grades may be altered for an entire class section upon the discretion of the instructor.) As of the posting date of this document, the grade assigned will be calculated in the following manner: Any modifications to the determination of grades will be announced and will be at the sole discretion of the instructor.

<u>"Bad" Science Critique:</u> Throughout the semester, students will be tasked with assessing the validity of either media reports or claims in advertisements which involve "bad science".

- The critiques will involve D2L Discussion Boards.
- Two requirements for each critique:

1. Post an original argument to the "Bad" Science Topic.
2. Respond to a minimum of two arguments.

- Each critique is worth a maximum of 20 points.
- The lowest critique score will be dropped.
- The percentage of the remaining scores will be calculated.

$$[(\text{Total points earned}) / (\text{Total points possible})] \times 100$$

- The percentage is then scaled to 50 points. (5.0 % of overall grade)

<u>Now You Try It (NYTI):</u> During class, relevant questions about either previous or current information will be presented. These questions may involve writing some type of explanation, categorization, or mathematical problem. These assignments will be due by the end of that day's class period.

- Students must attend class to complete the assignment for a score.
- Each NYTI is worth a maximum of 20 points.

- The lowest NYTI score will be dropped.
- The percentage of the remaining scores will be calculated.

  [(Total points earned) / (Total points possible)] x 100
- The percentage is then scaled to 150 points. (15.0 % of overall grade)

Chapter Homework Assignments: There will be Chapter Homework Assignments given during the semester. The Chapter Homework Assignments, designed and administered to promote mastery of the selected Student Learner Outcomes, are given online through Achieve Macmillan Learning. These open book assignments allow you to reference your course materials and Internet resources during the assessment.

Once started, you will have until the deadline to complete and submit your attempt. The system is an adaptive learning module that allows for multiple attempts and is designed to help you master the concepts and calculations of the material. The purpose of allowing the additional attempts while answering the questions is to promote mastery of the material. By learning from mistakes made during the initial attempt you will have an opportunity to correct misconceptions and demonstrate mastery of the material. This will also help prepare you for the exams.

The assignments are composed of calculation, matching, multiple choice, and true/false questions. The topics for the assignments correspond to the Chapter topics:

Chapter 1 Essential Ideas
Chapter 2 Atoms
Chapter 3 Atomic Structure
Chapter 4 Chemical Bonds
Chapter 5 Chemical Accounting
Chapter 6 Gases, Liquids, Solids, and Intermolecular Forces Chapter 7 Acids and Bases
Chapter 9 Organic Chemistry
Chapter 11 Nuclear Chemistry

- Each assignment is worth a maximum of 25 points.
- The lowest homework assignment will be dropped.
- The percentage of the remaining scores will be calculated.

  [(Total points earned) / (Total points possible)] x 100
- The percentage is then scaled to 150 points. (15.0 % of overall grade)

Semester Exams: There will be three Semester Exams given during the semester. The questions on these exams may be composed of calculation, explanation, matching, multiple choice, short answer, free response and true/false formats.

- Each exam is worth a maximum of 100 points.
- IF the percentage on the Final Exam is higher than the lowest semester exam, the lowest semester exam grade will be replaced with the percentage earned on the final exam.

	Exam #1	Exam #2	Exam #3	Final Exam %	Total (300)
Case I – Final exam is lowest.	82	80	91	***75***	= 82 + 80 + 91 = 253
Case II – Regular exam is lowest.	89	76	**45**	78	= 89 + 76 + 78 = 243
Case III – One exam is missed.	67	**0**	72	79	= 67 + 72 + 79 = 218

- The semester exam portion is worth a possible total of 300 points. (30.0 % of overall grade)

Final Exam Grade: There will be one cumulative exam given at the end of the semester. The format of Final Exam will be much the same as the semester exams. The questions on these exams may be composed of calculation, matching, multiple choice, short answer, free response and true/false formats. The Final Exam is designed and administered to evaluate your knowledge of the Student Learner Objectives for this course.

- The Final Exam is required.
- The Final Exam is worth a maximum of 150 points. (15.0 % of overall grade)

Lab Grade: Chemistry is primarily a "wet" science. The laboratory sessions are a necessary component of learning chemistry. Laboratory experiments will allow students to practice skills and make observations of concepts, theories, and laws. Given the hands-on nature of the laboratory, participation in this portion of the course is crucial. The face-to-face laboratory sessions provide an opportunity to demonstrate your ability to safely perform the experiment, physically manipulate the equipment, make experimental observations, and work cooperatively with your lab Group.

- Each lab assignment is worth a maximum of 100 points.
- Lab assignment score is the sum of the pre-lab, in-lab and the post-lab portions of the lab.
- The lowest lab assignment score will be dropped. The percentage of the

remaining scores will be calculated.
[(Total points earned) / (Total points possible)] x 100

- The percentage is then scaled to 200 points. (20.0 % of overall grade)

Students must meet two criteria in the laboratory component to successfully pass the course.

1. Students must earn a 70% or better in the laboratory component to successfully pass the course. Earning less than 70% in the laboratory component will result in an F for the course regardless of the lecture grade. Passing the laboratory component and failing the lecture component will not guarantee a passing grade for the course.
2. Each student must successfully attend and complete 70% or more of all laboratory assignments to pass the laboratory portion. Failure to attend and complete 70% or more of the laboratory assignments will result in a failing laboratory grade and in an F for the course regardless of the lecture grade.

Deviations from these policies will be at the sole discretion of the instructor.

Numerical Breakdown of Category Points:

Category	**Possible Points**	**Percentage**
"Bad" Science Critique	50	5 %
Now You Try It	150	15 %
Chapter Homework	150	15 %
Semester Exams	300	30 %
Final Exam Grade	150	15 %
Lab Grade (See the Lab Science Policy)	200	20 %
Total Points with Bonus	1000	100 %

Grading Scale: This table contains the grading scale applied to the points calculation previously described.

Letter Grade	Final Average
A	89.5 – 100
B	79.5 – 89.4
C	69.5 – 79.4
D	59.5 – 69.4
F	< 59.5

Late Work, Make-Up, and Extra-Credit Policy:

Late Work: This course is designed to accommodate some of life's mishaps, difficulties, or tragedies by providing extended deadlines for various assignments. After the initial due date, there may be an extended deadline to submit your assessment or assignment. After the extended deadline, the assignment or assessment is closed to submission and no additional time will likely be provided.

"Bad" Science Critique	48-hour extension beyond the due date with a loss of 10% per day. After the extended deadline has passed, those assignments and assessments are closed, and the points are forfeited.
NYTI	48-hour extension beyond the due date with a loss of 10% per day. After the extended deadline has passed, those assignments and assessments are closed, and the points are forfeited.
Achieve	7-day extension beyond the due date with a loss of 5% per day. After the extended deadline has passed, the assignment will be closed, and the points are forfeited.
Prelab Assignment	No extensions provided.
Lab Data Assignment	No extensions provided.
Post Lab Assignment	48-hour extension beyond the due date with a loss of 10% per day. After the extended deadline has passed, those assignments and assessments are closed, and the points are forfeited.

**Assignments at the end of the semester might not have any extended deadline. Any assignments that do NOT have an extended deadline will be identified as such.

Make-up: Generally, no make-ups of missed assignments, labs, or tests are provided. Exceptions might be allowed upon the discretion of the instructor.

Extra-Credit: A few opportunities will be provided during the semester. Extra credit points are added to the overall total of points.

Attendance Policy:

All registered students are expected to attend all scheduled class meetings, especially the laboratory meetings. This policy follows the attendance policies prescribed in the current College Catalog (http://coursecatalog.com.edu/).

Students must earn 70% or better in the laboratory component to successfully pass the course. Additionally, students must attend and complete 70% or more of all laboratory assignments to successfully pass the course.

Classroom / Lab Room Expectations:

Students are expected to be on time for class. Being tardy to a laboratory session may result in you not being able to complete that day's lab assignment. Students are expected to bring all tools necessary for success to class every day. These tools typically include writing implements, notebook/note paper, materials needed for completion of a lab assignment. In addition, headsets/wireless earbuds, cell phones, etc. are to be put away before class starts unless directed by the instructor.

Laboratory Rooms (STEAM 346, 401 & 403): No food and drinks, including bottled water, are allowed in any laboratory room. All other items (backpacks, purses, bags, laptops, etc.) must be placed in the appropriate cubbies. Please do not store items on the floor in any of the laboratory room.

Communicating with your instructor: 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 Outcomes	Maps to Core Objectives	Assessed via this Assignment
1. Define the fundamental properties of matter.	CT	Selected Exam Questions
2. Classify matter, compounds, and chemical reactions.	CT CS	Selected Exam Questions Presentation
3. Determine the basic nuclear and electronic structure of atoms.	CT	Selected Exam Questions
4. Identify trends in chemical and physical properties of the elements using the Periodic Table.	CT	Selected Exam Questions
5. Describe the bonding in and the shape of simple molecules and ions.	CT	Selected Exam Questions
6. Solve stoichiometric problems.	EQS	Selected Exam Questions
7. Write chemical formulas.	CT	Selected Exam Questions
8. Write and balance equations.	CT	Selected Exam Questions
9. Use the rules of nomenclature to name chemical compounds.	CT	Selected Exam Questions
10. Define the types and characteristics of chemical reactions.	CT	Selected Exam Questions
11. Use the gas laws and basics of the Kinetic Molecular Theory to solve gas problems.	EQS	Selected Exam Questions
12. Determine the role of energy in physical changes and chemical reactions.	CT	Selected Exam Questions
13. Convert units of measure and demonstrate dimensional analysis skills.	EQS	Selected Exam Questions
14. Use basic apparatus and apply experimental methodologies used in the chemistry laboratory.	TW	Selected Experiment Grades
15. Demonstrate safe and proper handling of laboratory equipment and chemicals.	CT	Selected Experiment Grades
16. Conduct basic laboratory experiments with proper laboratory techniques.	TW	Selected Experiment Grades
17. Make careful and accurate experimental observations.	EQS	Selected Experiment Grades
18. Relate physical observations and measurements to theoretical principles.	EQS	Selected Experiment Grades
19. Interpret laboratory results and experimental data, and reach logical conclusions.	CT	Selected Experiment Grades
20. Record experimental work completely and accurately in laboratory notebooks and communicate experimental results clearly in written reports.	CS	Laboratory Report Grade
21. Design fundamental experiments involving principles of chemistry.	CT	Selected Experiment Grades
22. Identify appropriate sources of information for conducting laboratory experiments involving principles of chemistry.	CT	Selected Experiment Grades

23. Demonstrate the ability to work effectively with others to support and accomplish a shared goal, while recognizing and respecting different viewpoints.	TW	Lab Grade

Academic Dishonesty: Any incident of academic dishonesty will be dealt with in accordance with college policy and the Student Handbook. Academic dishonesty, such as cheating on exams, plagiarism, or collusion, is an extremely serious offense and will result in at least a grade of zero on that assignment and the student will be referred to the Office of Student Conduct for the appropriate disciplinary action.

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.

Course outline:

Week	Topics	Reading Assignments
1	• Course Intro • Achieve Macmillan Learning • CH 1	• Syllabus • Achieve Access Directions • CH 1
2	• CH 1 Chemistry • CH 2 Atoms • *Lab 1: Introduction to the Chemistry Lab*	• CH 1 & 2 • Experiment 1
3	• CH 2 Atoms • CH 3 Atomic Structure • *Lab 2: A l c h e m y*	• CH 2 • Experiment 2
4	• CH 3 Atomic Structure • *Lab 3: Identifying White Solids*	• CH 3 • Experiment 3
5	• CH 3 Atomic Structure • CH 4 Chemical Bonds • ***Exam 1– on lab day (CH 1-3)*** • *Lab 4: Periodic Table (on-line)*	• CH 3 & 4 • Experiment 4
6	• CH 4 Chemical Bonds • CH 6 (6.1 – 6.4) Gases, Liquids, Solids, and Intermolecular Forces • *Lab 5: Spectroscopy / Spectral Lines*	• CH 4 & CH 6 (6.1 – 6.4) • Experiment 5
7	• CH 6 (6.1 – 6.4) Gases, Liquids, Solids, and Intermolecular Forces • *Lab 6: Lewis Structures and The Shapes of Molecules*	• CH 6 (6.1 – 6.4) • Experiment 6
8	• CH 5 Chemical Accounting • *Lab 7: Investigation of Intermolecular Forces*	• CH 5 • Experiment 7

9	• CH 5 Chemical Accounting • CH 6 (6.5 – 6.7) Gases, Liquids, Solids, and Intermolecular Forces • ***Exam 2 – on lab day (CH 4, CH 6 (6.1 – 6.4), CH 5)*** • *Lab 8: Types of Chemical Reactions (on-line)*	• CH 5 & CH 6 (6.5 – 6.7) • Experiment 8
10	• CH 6 (6.5 – 6.7) Gases, Liquids, Solids, and Intermolecular Forces • *Lab 9: Stoichiometry*	• CH 6 (6.5 – 6.7) & CH 7 • Experiment 9
11	• CH 7 Acids and Bases • *Lab 10: Gas Laws*	• CH 7 • Experiment 10
12	• CH 7 Acid and Base • CH 11 Nuclear Chemistry • *Lab 11: Concepts of Strength and Concentration (on-line)* • *Lab 12: Acidity and Alkalinity of Household Chemicals*	• CH 7 & 11 • Experiment 11 & 12
13	• CH 11 Nuclear Chemistry • CH 9 Organic Chemistry • *Lab 13: Simulation of Nuclear Decay (on-line)* • *Lab 14: Synthesis and Identification of Esters*	• CH 11 & 9 • Experiment 13 & 14
14	• CH 9 Organic Chemistry • ***Exam 3 – (CH 6 (6.5 – 6.7), 7, 9 & 10)***	• CH 9
15	• ***Review for Final Exam***	
16	• ***FINAL EXAM*** – on scheduled ***lecture*** day	

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.