



## **CHEM 1406-221HY-SP2022**

### **Introductory Chemistry 1**

**Spring 2022**

**Mondays from 6:00 PM to 9:00pm**

**Online through Blackboard and Achieve**

#### **Instructor Information**

**Name:** Paul Clemens, PhD

**Email:** pclemens@com.edu

**Student Hours:** Online via zoom by appointment.

**Course Communication:** The best way to reach me is by email. Please use your @com.edu email address. Emails from other sources may be delayed or filtered from my inbox. This may delay or prevent my reply to your email. If you prefer to meet with me in person or virtually, please make an appointment. I will strive to reply to emails and forum posts, which are made on weekdays, within twenty-four hours. Expect that I will be unavailable on weekends.

**Required Textbook:** Map: Chemistry for Changing Times (Hill and McCreary)  
<https://chem.libretexts.org/@go/page/152132>

This link is to the general chemistry Libretexts Textmap which is organized around the textbook Chemistry for Changing Times by Hill and McCreary. This OER resource is free to view online and to download in the PDF file format.

Inclusive Access to courseware is available through VitalSource digitally. This course uses the Macmillan Learning Achieve platform which provides online resources such as interactive learning modules, homework (self-assessments), and formative assessments. Cost of the course materials for this section is included in the fees for the course. The course materials are available on the first day of class and you will be given the opportunity to opt-out of the course materials prior to the census day of the class. If you choose not to use the course materials, you will be reimbursed after census day of the class and lose access to those materials. The materials are not refundable after the census day.

**Required Software:**

- [Microsoft Office and Microsoft Teams](#) (COM offers free Office 365 access for students)
- [Vernier Graphical Analysis](#) (Vernier offers free software for students) or Vernier Logger Pro

*COM Chemistry*

- File conversion software for converting image files to PDF files ([Microsoft Office Lens](#), [Adobe Scan](#), and [Genius Scan](#) are free for both Android and iOS)
- A PDF reader, such as Adobe Reader, which is freely available to students from the Adobe website: <https://get.adobe.com/reader/>.

**Required Materials:** An inexpensive scientific calculator (e.g., TI-30). You most likely have one on your cellphone. For the semester exams and the final exam, each student will be provided with either a TI-30XIIS or a similar TI-30 scientific calculator.

**Computer Requirements:** You will need to have access to a computer with the following resources.

- Internet access through a wired Ethernet connection is recommended
- A contemporary web browser, preferably Chrome or Firefox
- Java installed and updated
- An [e-mail account](#) (COM provides free email for students)

You are responsible for maintaining your own hardware and software. If you are incapable of maintaining your own system, please use the computers available on campus. (NB, Access to college computers is limited by the hours of operation for the computer labs and library. You are responsible for keeping abreast of these times.)

**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.

**Course Description**

Survey course introducing chemistry. Topics may include inorganic, organic, biochemistry, food/physiological chemistry, and environmental/consumer chemistry. Designed for allied health students and for students who are not science majors.

**Prerequisites:** Math 950+ or Diagnostic Level 6 or [MATH 0308](#) or [MATH 0320](#) with a grade of "C" or better. TSIA2 945-990 ELAR/CRC test AND 5 or higher on Essay OR 910-944 on CRC with 5-6 on Diagnostic Test + 5 or higher on Essay, or [IRW 0320](#) with a grade of "C" or better.

**Course requirements**

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 Macmillan Achieve, 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 online discussions, online homework, a presentation, exams, and laboratory experiments.
- **Discussion Forums**

There will be two graded discussion topics posted during the semester. Each topic will be available for a limited time during the semester. The forums are meant to be an open discussion based on the intersection between chemistry and your interests and opinions.

Your response to the topic should address the topic and not contain gratuitous, tangential, or spurious comments. Replies in response to posts by other students should address the content and position of that post. Responses containing gratuitous, tangential, or spurious comments are unwelcome. Postings that are composed of complete sentences, that clearly address the topic, and that contain proper citation(s) when needed are graded more favorably than jotted noted, incomplete thoughts, and undocumented claims.

1. The first discussion topic is designed to introduce you to the Discussion Forums and to determine your motivation for taking the course.
2. The second discussion topic attempts to determine what parts of the course that you found most valuable.

The grading rubric for each forum describe how points are earned for that forum. The first forum is worth a maximum of 40 points and the second forum is worth a maximum of 60 points. Your Discussion Postings Grade is the sum of the two Discussion Forum grades; it is worth a maximum of 100%.

- **Presentation**

There is one Online Presentation for this semester. It consists of three parts.

1. Selection and assignment of your presentation topic.
2. Researching your presentation topic
3. Creating and submitting your presentation.

Each student will select a pre-approved topic, plus two alternates, from a description or list of topics posted to the Presentation Selection Discussion Forum. By posting to the forum, you will time stamp the selection of your topic. Only one student per topic is permitted. After the deadline for the topic selection has past, your Instructor will confirm your topic by posting a list of topic assignment on the course web site. Topics are assigned based on the chronology of the posts. Any student that fails to submit a selection post to the forum by the deadline will be assigned a topic by your Instructor. Selecting a topic, selecting two alternate topics, and making a post of your selection with those two alternates by the deadline for submission is worth a maximum of 5 points.

Once you have verified your assigned topic, you should review the grading rubric that will be used to provide direction in researching and creating your presentation and to determine the scoring for the components of your presentation. Then, for the second step, each student will research their topic based on content required for the presentation that is found in the rubric for the presentation. Since this section of Introductory Chemistry has an emphasis for allied health majors and nonscience majors, the APA style or MLA style are used to cite references.

Next, the presentation is developed by creating a presentation using Microsoft PowerPoint. The completed presentation should adhere to the directions and rubric. Finally, the completed presentation will be uploaded as an attachment to the assignment before the deadline. Be certain to verify your attachment before submitting your assignment. The presentation is worth a maximum of 95 points. Students that submit their outline or presentation as an attachment to an email, or in printed form will receive a maximum of half credit for that part of the project.

The Presentation Grade, the sum of the Presentation Selection Discussion Forum, the Presentation Topic Outline, and the Presentation, is worth a maximum of 100%.

- Homework (Self-Assessment)

The Homework Sets are provided online through the Macmillan Achieve system. These Homework Sets are designed and administered to promote mastery of course objectives addressed in each chapter from your textbook. Once started, you will have until the deadline to complete and submit your attempt. The system 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 in 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 topics for the Homework Sets correspond to the material from the textbook.

These are self-assessment that are not directly factored into your grade calculation.

- Chapter Tests

The Chapter Tests are given online through Macmillan Achieve. These tests are designed and administered to promote mastery of the selected Student Learner Outcomes and Learning

Objectives. They are open book tests that allow you to reference your course materials and Internet resources during the assessment. The tests are composed of calculation, matching, multiple choice, and true/false questions.

Each Chapter Test is worth a maximum of 100 points. The average for the ten highest Chapter Tests is the Chapter Tests Average. It has a maximum value of 100%.

- Semester Exams

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

The Semester Exams are scheduled for 80 minutes. Each exam is worth a maximum of 100%.

- Final Exam

There will be one cumulative exam given at the end of the semester. It covers content from all of the content from the semester. This Final Exam is composed of multiple choice, matching, and true or false questions.

The Final Exam is designed and administered to evaluate your knowledge of the Student Learner Objectives for this course. The topics for the Final Exam correspond to the following Student Learner Objectives:

SLO 1. Identify and express the terminology used in chemistry, the nomenclature of inorganic and selected organic substances, and the physical and chemical properties of inorganic and selected organic substances.

SLO 2. Recognize the fundamental facts, principles, theories, laws, and concepts necessary for further studies in science and related subjects.

SLO 3. Categorize the structure, states, and physical and chemical properties of matter. SLO

4. Solve basic chemistry problems, conversions, and calculations.

The Final Exam is an individual exam scheduled during Final's week at the end of the semester. It is worth a maximum of 100%.

- Laboratory Average

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. You must attend the laboratory sessions and demonstrate your ability to safely perform the experiment, physically manipulate the equipment, make experimental observations, and work cooperatively with your lab group. Rules of conduct for the laboratory must be followed to reduce the risk of injury. Failure to follow the safety rules will result in your dismissal from the course. To help ensure that each student is familiar with laboratory safety, all students are required to complete Experiment 1: Chemistry Laboratory Safety

before performing subsequent labs. If a student misses their scheduled lab time for Experiment 1, there will be one opportunity to perform the lab at the end of the first week of classes.

Students are required to read the appropriate laboratory experiment and be prepared before the start of each laboratory session. Any special instructions, techniques or changes to the procedure will be discussed prior to the start of or during the experiment. Failure to be prepared for the laboratory session may delay or prevent you from performing the experiment.

The Lab Score for each lab is determined taking the sum of the scores from the Pre-lab Assignment, the Lab Procedure, and the Post-lab Assignment. Pre-lab Assignments are submitted individually. Lab procedures are completed and submitted as a lab group. Depending on the Post-lab Assignment, it may be either submitted individually or as a lab group.

The Pre-lab Assignments require that students work both individually and cooperatively, in lab groups (i.e., teams), to achieve the following outcomes.

- Read the lab background information or introduction
- Read the lab procedure.
- Answer questions concerning concepts and procedures from the lab experiment.
- Submit the completed assignment by the deadline and before starting the experiment.

The grade for each pre-lab assignment is based on a maximum of 100% and is 10-20% of the lab score.

The Lab Procedures require that students work cooperatively, in lab groups (i.e., teams), to achieve the following outcomes.

- Successfully complete the lab within the duration of the lab period.
- Clearly and concisely record data and observations on the data sheets for the lab experiment.
- Perform the necessary calculations and interpretations.
- Submit the completed data sheet by the end of the last lab session that the lab experiment has been performed.

The grade for each Lab Procedure is based on a maximum of 100% and is 45-75% of the lab score.

The Post-lab Assignment requires that students work cooperatively, in lab groups (i.e., teams), to achieve the following outcomes.

- Perform calculations using data obtained during the experiment.
- Interpret the data from the experiment.
- Interpret the results of the any calculation using that data or data provided for that purpose.
- Answer questions concerning concepts, theories, and laws illustrated in the experiment.
- Submit the completed assignment by the schedule due date.

The grade for each Post-lab Assignment is based on a maximum of 100% and is 10-30% of the lab score.

The Lab Average is the simple average of the score from the Safety Lab and the remaining highest nine scores.

- Syllabus Quiz

At the start of the semester there is a syllabus quiz. The role of this quiz is to help you become familiar with the contents of the course syllabus at the start of the semester. Student can work collaboratively on the quiz. The Syllabus Quiz Grade is worth a maximum of 100%.

- Surveys

There are four surveys this semester. Three of the surveys are provided as links to online surveys in Blackboard. The surveys are to help your Instructor improve the design of the course and to address navigation problems. The fourth survey is the COM Course Evaluation which is administered by the College through CoursEval. Each survey is anonymous and worth a maximum of 25 points. The Survey Grade is the sum of the points for the four surveys. It is worth a maximum of 100%.

**Determination of Course Grade/Detailed Grading Formula:** Your grade for the course is determined by the scores that you earn on the assignments and assessments. The points you earn for this course are the weighted sum of the grading categories.

#### Discussion Forums Grade

- The first forum is worth a maximum of 40 points, the second forum is worth a maximum of 60 points. A grading rubric is provided for each forum. The grade earned for each forum is the rating assigned to the posts and replies in accordance with the grading rubric.
- The Discussion Forums Grade is the sum for the two forum scores. It is worth a maximum of 100% and 2% of the course average. Presentation Grade
- Presentation Topic Selection Forum
- The Presentation Topic Selection Forum is worth a maximum of 5 points.
- Presentation
- The Presentation Assignment is worth a maximum of 95 points.
- The Presentation Grade is the sum of the points from the Presentation Topic Selection Forum and the Presentation. It is worth a maximum of 100% and 8% of your course grade.

#### Semester Exams and Chapter Test Average Grade

- Chapter Tests Average

- The Chapter Tests Average is the simple average for the highest ten Chapter Test scores. This average is worth a maximum of 100%.
- Semester Exams
- There are three Semester Exams. Each exam is worth a maximum of 100%.
- The Semester Exams and Chapter Tests Average Grade is the simple average for the highest three of the four scores (the Chapter Tests Average and the three Semester Exams). This average is worth a maximum of 100% and 45% of your course average

#### Final Exam Grade

- The Final Exam is worth a maximum of 100% and 20% of your course average.

#### Lab Grade

- Each lab score is the sum of the pre-lab score, the lab procedure score, and the post-lab score. The sum for each lab is worth a maximum of 100%.
- The Lab Grade is the simple average for the score from the Safety Lab and the remaining highest ten lab scores. It is worth a maximum of 100% and 25% of your course average.

#### Syllabus Quiz Grade

- The maximum points that can be earned for the Syllabus Quiz is 100 points and is a bonus worth 0.5% added to your course average. Survey Grade
- Course Surveys
- Submitting a completed Course Survey in accordance with the due date is worth a maximum of 25 points.
- Course Evaluation
- Completing and submitting the Course Evaluation through CoursEval is worth a maximum of 50 points.
- The Survey Grade is the sum of the points for completing and submitting the Course Surveys by the due date plus the points for completing and submitting the Course Evaluation by the deadline. It is worth a maximum of 100% and is a bonus worth 0.5% of your course average.



You can keep track of your earned points in Blackboard and in Achieve through the Grades link. The above categories will be listed in the online grade book as listed above. Homework grades will be immediately released. Other grades will be released as they become available. If you have any questions concerning your grade, please contact me. To save us both time when contacting me, clearly state the question, the assessment, other orienting information, and the nature of your concern. The maximum total points that can be earned for the course is calculated by summing the weighed percentages of the grading categories.

Category	Percentage
Discussion Forums Grade	2.0%
Presentation	8.0%
Semester Exams and Chapter Tests Average Grade	45.0%
Final Exam Grade	20.0%
Lab Grade $\geq$ 70% (Lab Science Policy)	25.0%
Total Points	100.0%
Survey Grade (Bonus)	0.5%
Syllabus Quiz Grade (Bonus)	0.5%
Total Points with Bonus	101.0%

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

Letter Grade	Final Average in Percent
A	89.5 – 101.0
B	79.5 – 89.4
C	69.5 – 79.4
D	59.5 – 69.4
F	< 59.5

I – An incomplete may be assigned at the discretion of the instructor in accordance with college policy.

W – A withdrawal may be assigned in accordance with college policy.

$F_N$  – The  $F_N$  grade is issued in cases of *failure due to a lack of attendance*, as determined by the instructor. The  $F_N$  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  $F_N$  grade is at the discretion of the instructor. The last date of attendance should be documented for submission of an  $F_N$  grade.

**Lab Science Policy:** This course consists of both a lecture and laboratory grade component. 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. Deviations from this policy will be at the sole discretion of the instructor.

**Late Work, Make-Up & Extra Credit Policy:** The course is designed to accommodate some of life's mishaps, difficulties, or tragedies by providing extended deadlines for selected assessments and assignments. The course evaluation through CoursEval, the pre-lab assignments, and the exams are exceptions. After the due date, there may be an extended deadline to submit your assessment or assignment. After the extended deadline, the assignment or assessment is closed, and the link may be inaccessible or removed. Expect that no additional time will be provided.

The syllabus quiz, course surveys conducted by your instructor (not the CourseEval course evaluation), all graded forums, and the presentation have a seven-day extension beyond the due date with no point deduction. The lab and post-lab assignments have a 24-hour extension beyond the due date. After the extended deadline has passed, the course surveys, graded forums, lab assignments and post-lab assignments are closed, and the points are forfeited. After the extended deadline for the presentation has passed, it can be turned in late, for a maximum of half-credit, until the Sunday preceding the final exam.

The Chapter Tests have up to an extension with a loss of 5% per day until either the extended deadline the available points expire or the Sunday preceding the final exam. After the extended deadline has passed or the points have expired, the Chapter Tests are closed, and the points are forfeited.

If this provides insufficient accommodation, then the severity of life's mishap, difficulty, or tragedy is beyond the capacity of this course. Anyone experiencing such difficulty should consider withdrawing from the course and taking it in a future semester after the difficulty has passed.

If an exam is missed, a score of zero is recorded.

Students that seek additional learning opportunities and are maintaining an average for the course of 95% or better are welcome to request extra credit work. The extra credit work serves to enrich the learning opportunities of students beyond the course requirements. Since this work is beyond the requirements of the course, any extra credit work will have no bearing on the grade in the course. Honors credit is unavailable in this course.

**Attendance Policy:** All students registered in this class are expected to attend all face-to-face sessions, to log in to this course at least twice each week, to participate in the class during those online sessions, and to follow the same attendance policy as the traditional classes offered on campus. This policy follows the attendance policies prescribed in the current College Catalog (<http://coursecatalog.com.edu/>).

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 a failing grade for the course.

Failing to attend class, log into Blackboard and Macmillan Achieve, or to complete your work as scheduled demonstrates poor progress towards obtaining the course goals (objectives) and is detrimental to learning course material. If you fail to attend class or fail to log into Blackboard or Macmillan Achieve and are demonstrating poor progress towards obtaining the course goals (objectives), the instructor may administratively withdraw you from the course. Examples of insufficient progress include, but are not

limited to, failure to log into Blackboard for a one-week period, failure to submit four or more assignments by the deadlines for those assignments, failure to attend and complete the scheduled safety lab, failure to attend/complete 70% or more of the labs, failure to maintain a passing average for the class, or demonstrating poor progress towards obtaining the course goals (objectives). Let's say a student may log into the course multiple times a week but fails to complete or attempt the course evaluations. Since they have failed to demonstrate knowledge of the material through evaluation, this student has demonstrated poor progress towards obtaining the course objectives. Other scenarios include a student that has missed the safety lab or that is attending (completing) less than 70% of the lab sessions. Since they have failed to learn lab safety protocols or has failed to attempt lab procedures evaluated through the performance lab procedure, this student has demonstrated poor progress towards obtaining the course objectives. In both cases, the student may be administratively withdrawn from the course. An administrative withdrawal for insufficient progress is solely at the discretion of your Instructor.

**Tardiness Policy:** Tardiness applies to the classroom meeting and not to logging into the content management system for online learning. Students that arrive after the start of class are responsible for the material that they missed during their absence. Upon arriving to class, tardy students are expected to discretely join the class in progress. Students that repeatedly arrive late and disrupt the class upon their arrival will be held accountable according to college policy. The very point of the online access is to allow students to access course materials and selected evaluations at their convenience within the time frame scheduled for completing the course work as set by the instructor. If you are late for using on-campus computers, you only penalize yourself by possibly having insufficient time to complete or being unable to start the assignment before the Testing Center, the Innovations Computer Lab, or the Library closes for the day.

**Classroom Conduct Policy:** College of the Mainland requires that students enrolled at COM be familiar with the Standards of Student Conduct, which can be found in the on-line Student Handbook. <https://www.com.edu/student-services/student-handbook>. Students are expected to be familiar with and abide by the Student Code of Conduct. During lab sessions, students are required to follow the COM Chemistry Lab Safety Guidelines as agreed upon completion of the Safety Lab. Any violations of the Code of Conduct will result in a referral to the Dean of Students and may result in dismissal from this class.

**Technology Outage:** Students are responsible for maintaining their hardware, software, and Internet connection to the course. If you are incapable of maintaining your own system, please use the computers available on campus or take the CL section of the course. (NB, Access to college computers is limited by the hours of operation for the computer labs and library. You are responsible for staying abreast of these times.). No additional time will be provided for hardware, software, or Internet connection problems that interfere with your ability to access the course and complete your assignments and assessments.

If a verifiable interruption in the access to the Course Management System that lasts for fifteen minutes or longer and occurs within twenty-four hours of an assignment or assessment, the deadline for the assignment or assessment may be extended at the discretion of your instructor.

**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.

The best way to reach your instructor outside of class is by email. Please use your @com.edu email address. Expect that mails from other sources will be filtered from my inbox and you will receive no reply. If you prefer to meet with me in-person or virtually outside my office hours, please make an appointment.

I will strive to reply to emails from @com.edu addresses and questions from forum posts, which are made on weekdays, within twenty-four hours. Expect that I will be unavailable on weekends. Replies to voice messages left on my office telephone will take longer for me to reply than an email. Also, I will most likely reply to a voice message by email. So, if you don't mind waiting an extended time for my reply, leaving a voice message is another option.

Student Learner Outcome	Maps to Core Objective	Assessed via this Assignment
1. Identify and express the terminology used in chemistry, the nomenclature of inorganic and selected organic substances, and the physical and chemical properties of inorganic and selected organic substances.	Communication Skills Critical Thinking	Presentation Selected Test or Exam Questions
2. Recognize the fundamental facts, principles, theories, laws, and concepts necessary for further studies in science and related subjects.	Critical Thinking	Selected Test or Exam Questions
3. Categorize the structure, states, and physical and chemical properties of matter.	Critical Thinking	Selected Test or Exam Questions
4. Solve basic chemistry problems, conversions, and calculations	Empirical and Quantitative Skills	Selected Test or Exam Questions
5. Demonstrate proper safety techniques and locate needed safety information.	Critical Thinking Skills	Experiment 1 Grade Lab Average
6. Perform laboratory procedures by working cooperatively with classmates in a lab group to properly manipulate the laboratory equipment, to properly handle chemicals, to clearly record data, to perform needed calculations, and to submit completed work by the assigned deadline.	Teamwork	Lab Average

**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. Additionally, administrative withdrawal from the course prior to the withdrawal deadline for the semester or being assigned a grade of F after the withdrawal deadline are possible and solely at the discretion of your Instructor.

**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 409-9338330/[sabernathy@com.edu](mailto:sabernathy@com.edu).

**Course outline:** Use this course outline and tentative class schedule to schedule your course activities for the semester. The following designations are used to indicate time periods and deadlines:

(B) – Blackboard: for activities, assignments and assessments that are completed through Blackboard.

(L) – Lab room (STEAM 346): for activities, assignments and assessments that are completed during the lecture or lab period.

(M) – Macmillan Achieve: for activities, assignments and assessments that are completed online through Macmillan Achieve. The standard deadline for activities, assignments, and assessments through Macmillan Achieve is 23:59 (11:59 PM) on Sunday night.

(N)

Week	Topic(s)	Reading Assignments	Weekly Due Dates
1 Mon-17-Jan-2022 through Sun-23-Jan-2022	<ul style="list-style-type: none"> <li>• Forum 1</li> <li>• Chapter 1: Chemistry</li> </ul>	<ul style="list-style-type: none"> <li>• Chapter 1</li> <li>• Forum 1</li> <li>• Read Me First</li> <li>• Syllabus</li> </ul>	<ul style="list-style-type: none"> <li>• Course Survey 1 (B)</li> <li>• Forum 1 (B)</li> <li>• Syllabus Quiz (B)</li> <li>• Orientation Assignment (M)</li> <li>• Practice Assignment (M)</li> </ul>
2 Mon-24-Jan-2022 through Sun-30-Jan-2022	<ul style="list-style-type: none"> <li>• Course Introduction</li> <li>• Safety Discussion</li> <li>• Exp. 1: Safety in the Chemistry Lab</li> <li>• Chapter 1: Chemistry</li> </ul>	<ul style="list-style-type: none"> <li>• Chapters 1 &amp; 2</li> <li>• Exp. 1 Procedure</li> </ul>	<ul style="list-style-type: none"> <li>• Lab Introduction and Safety Discussion (L)</li> <li>• Exp. 1 Pre-lab (B)</li> <li>• Exp. 1 Procedure (L)</li> <li>• Exp. 1 Post-lab (B)</li> </ul>

<p>3 Mon-31-Feb-2022 through Sun-6-Feb-2022</p>	<ul style="list-style-type: none"> <li>• Chapter 1: Chemistry</li> <li>• Chapter 2: Atoms • Exp. 2: Making Measurements in the Chemistry Lab</li> <li>• Select Presentation Topic</li> </ul>	<ul style="list-style-type: none"> <li>• Chapters 1 &amp; 2</li> <li>• Exp. 2 Procedure</li> <li>• Presentation Topics</li> </ul>	<ul style="list-style-type: none"> <li>• Exp. 2 Pre-lab (L)</li> <li>• Exp. 2 Procedure (L)</li> <li>• Exp. 2 Post-lab (L)</li> <li>• Chapter 1 Homework (M)</li> <li>• Interactive – Physical and Chemical Properties (M)</li> <li>• Presentation Topic Selection (B)</li> </ul>
---	--	---	---

Week	Topic(s)	Reading Assignments	Weekly Due Dates
<p>4 Mon-7-Feb-2022 through Sun-13-Sep-2022</p>	<ul style="list-style-type: none"> <li>• Chapter 2: Atoms</li> <li>• Chapter 3: Atomic Structure</li> <li>• Exp. 3: Density Determinations</li> <li>• Presentation Research</li> </ul>	<ul style="list-style-type: none"> <li>• Chapters 2 &amp; 3</li> <li>• Exp. 3 Procedure</li> <li>• Presentation Research</li> </ul>	<ul style="list-style-type: none"> <li>• Chapters 1 &amp; 2 (L)</li> <li>• Interactive – Density by Displacement (M)</li> <li>• Exp. 3 Pre-lab (L)</li> <li>• Exp. 3 Procedure (L)</li> <li>• Exp. 3 Post-lab (L)</li> <li>• Interactive – Specific Heat (M)</li> <li>• Chapter 1 Test (M)</li> <li>• Chapter 2 Homework (M)</li> <li>• Chapter 2 Test (M)</li> </ul>
<p>5 Mon-14-Feb-2022 through Sun-20-Feb-2022</p>	<ul style="list-style-type: none"> <li>• Chapter 3: Atomic Structure</li> <li>• Exp. 4: Electron Configurations &amp; the Periodic Table</li> <li>• Presentation Research</li> </ul>	<ul style="list-style-type: none"> <li>• Chapter 3</li> <li>• Exp. 4 Procedure</li> <li>• Presentation Research</li> </ul>	<ul style="list-style-type: none"> <li>• Chapter 3 (L)</li> <li>• Interactive – Build an Atom (M)</li> <li>• Exp. 4 Pre-lab (L)</li> <li>• Exp. 4 Procedure (L)</li> <li>• Exp. 4 Post-lab (L)</li> <li>• Interactive – Electron Arrangement</li> <li>• Chapter 3 Homework (M)</li> <li>• Chapter 3 Test (M)</li> </ul>

6 Mon-21-Feb-2022 through Sun-27-Feb-2022	<ul style="list-style-type: none"> <li>Chapter 4: Chemical Bonds</li> <li>Exam 1 (Chapters 1-3)</li> <li>Exp. 5: Lewis Structures and The Shapes of Molecules</li> <li>Presentation Research</li> </ul>	<ul style="list-style-type: none"> <li>Chapter 4</li> <li>Exp. 5 Procedure</li> <li>Presentation Research</li> </ul>	<ul style="list-style-type: none"> <li>Chapter 4 (L) <b>Wed-29-Sep-2021</b></li> <li>Exam 1 (L) – 11:00 AM - 12:20 PM</li> <li>Exp. 5 Pre-lab (L)</li> <li>Exp. 5 Procedure (L)</li> <li>Chapter 4 Homework (M)</li> </ul>
7 Mon-28-Feb-2022 through Sun-6-Mar-2022	<ul style="list-style-type: none"> <li>Chapter 4: Chemical Bonds</li> <li>Chapter 5: Chemical Accounting</li> <li>Exp. 6: Determining the</li> <li>Presentation</li> </ul>	<ul style="list-style-type: none"> <li>Chapters 4 &amp; 5</li> <li>Exp. 6 Procedure</li> </ul>	<ul style="list-style-type: none"> <li>Chapters 4 &amp; 5 (L)</li> <li>Exp. 5 Procedure (L)</li> <li>Exp. 5 Post-lab (L)</li> <li>Exp. 6 Pre-lab (L)</li> <li>Exp. 6 Procedure (L)</li> <li>Exp. 6 Post-lab (L)</li> <li>Chapter 4 Test (M)</li> <li>Presentation (B)</li> </ul>
8 Mon-7-Mar-2022 through Sun-13-Mar-2022	<ul style="list-style-type: none"> <li>Chapter 5: Chemical Accounting</li> <li>Chapter 6: Gases, Liquids, Solids, ...Intermolecular Forces</li> <li>Exp. 7: Evaluating the Behavior of Gases</li> </ul>	<ul style="list-style-type: none"> <li>Chapter 7</li> <li>Exp. 7 Procedure</li> </ul>	<ul style="list-style-type: none"> <li>Chapters 5 &amp; 6 (L)</li> <li>Exp. 7 Pre-lab (L)</li> <li>Exp. 7 Procedure (L)</li> <li>Exp. 7 Post-lab (L)</li> <li>Chapter 5 Homework (M)</li> <li>Chapter 5 Test (M)</li> <li>Course Survey 2 (B)</li> </ul>
9 Mon-14-Mar-2022 through Sun-20-Mar-2022	Spring Break		

Week	Topic(s)	Reading Assignments	Weekly Due Dates
------	----------	---------------------	------------------

10 Mon-21-Mar-2022 through Sun-27-Mar-2022	<ul style="list-style-type: none"> <li>Chapter 6: Gases, Liquids, Solids, ...Intermolecular Forces</li> <li>Exp. 8: Conductivity of Salt Solutions</li> </ul>	<ul style="list-style-type: none"> <li>Chapters 7 &amp; 8</li> <li>Exp. 8 Procedure</li> </ul>	<ul style="list-style-type: none"> <li>Chapter 6 (L)</li> <li>Exp. 8 Pre-lab (L)</li> <li>Exp. 8 Procedure (L)</li> <li>Exp. 8 Post-lab (L)</li> <li>Chapter 6 Homework (M)</li> <li>Chapter 6 Test (M)</li> </ul>
11 Mon-28-Mar-2022 through Sun-3-Apr-2022	<ul style="list-style-type: none"> <li>Chapter 7: Acids and Bases</li> <li>Exam 2 (Chapters 4-6)</li> <li>Exp. 9: Separating the Components of a Binary Mixture</li> </ul>	<ul style="list-style-type: none"> <li>Chapter 7</li> <li>Exp. 9 Procedure</li> <li>Exp. 10 Procedure</li> </ul>	<ul style="list-style-type: none"> <li>Chapter 7 (L) <b>Wed-27-Oct-2021</b></li> <li>Exam 2 (L) – 11:00 AM - 12:20 PM</li> <li>Exp. 9 Pre-lab (L)</li> <li>Exp. 9 Procedure (L)</li> <li>Exp. 9 Post-lab (L) <b>Sun-31-Oct-</b></li> <li>Chapter 7 Homework (M)</li> </ul>
12 Mon-04-Apr-2022 through Sun-10-Apr-2022	<ul style="list-style-type: none"> <li>Chapter 7: Acids and Bases</li> <li>Chapter 11 Nuclear Chemistry</li> <li>Exp. 10: Measuring the Acidity and Alkalinity of Household Chemicals</li> </ul>	<ul style="list-style-type: none"> <li>Chapters 7 &amp; 11</li> <li>Exp. 10 Procedure</li> </ul>	<ul style="list-style-type: none"> <li>Chapters 7 &amp; 11 (L)</li> <li>Exp. 10 Pre-lab (L)</li> <li>Exp. 10 Procedure (L)</li> <li>Exp. 10 Post-lab (L)</li> <li>Chapter 7 Test (M)</li> <li>Chapter 11 Homework (M)</li> </ul>
<b>Week</b>	<b>Topic(s)</b>	<b>Reading Assignments</b>	<b>Weekly Due Dates</b>
13 Mon-11-Apr-2022 through Sun-17-Apr-2022	<ul style="list-style-type: none"> <li>Chapter 11: Nuclear Chemistry</li> <li>Chapter 9: Organic Chemistry</li> <li>Exp. 11: Structure and Nomenclature of Organic Molecules</li> </ul>	<ul style="list-style-type: none"> <li>Chapters 11 &amp; 9</li> <li>Exp. 11 Procedure</li> </ul>	<ul style="list-style-type: none"> <li>Exp. 13 Pre-lab (L)</li> <li>Exp. 13 Procedure (L)</li> <li>Exp. 13 Procedure (L)</li> <li>Exp. 13 Post-lab (L)</li> <li>Chapter 11 Test (M)</li> <li>Chapter 9 Homework (M)</li> </ul>



14 Mon-18-Apr-2022 through Sun-24-Apr-2021	<ul style="list-style-type: none"> <li>Chapter 9: Organic Chemistry</li> <li>Exp. 12: Ester Synthesis</li> </ul>	<ul style="list-style-type: none"> <li>Chapter 9</li> <li>Exp. 12 Procedure</li> </ul>	<ul style="list-style-type: none"> <li>Chapter 9 (L)</li> <li>Exp. 12 Pre-lab (L)</li> <li>Exp. 12 Procedure (L)</li> <li>Exp. 12 Post-lab (L)</li> <li>Chapter 9 Test (M)</li> </ul>
15 Mon-25-Apr-2022 through Sun-1-May-2022	<ul style="list-style-type: none"> <li>Chapter 18: Drugs</li> <li>Exam 3 (Chapters 7, 9, &amp; 11)</li> <li>Forum 2</li> </ul>	<ul style="list-style-type: none"> <li>Chapters 7, 9, &amp; 11</li> <li>Forum 2</li> </ul>	<ul style="list-style-type: none"> <li>Chapter 18 (L)</li> <li>Exam 3 (L) – 11:00 AM - 12:20 PM</li> </ul>
16 Mon-2-May-2022 through Sun-8-May-2022	<ul style="list-style-type: none"> <li>Chapter 18: Drugs</li> <li>Exp. 13: Synthesis of Aspirin</li> <li>Forum 2</li> </ul>	<ul style="list-style-type: none"> <li>Chapter 18</li> <li>Forum 2</li> </ul>	<ul style="list-style-type: none"> <li>Chapter 18 (L)</li> <li>Exp. 13 Pre-lab (L)</li> <li>Exp. 13 Procedure (L)</li> <li>Exp 13 Post-lab (L)</li> <li>Chapter 18 Test (M)</li> <li>Course Survey 3 (B)</li> <li>Forum 2 (B)</li> </ul>
17 Mon-09-May-2022			<p><b>Mon-06-Dec-2021</b></p> <ul style="list-style-type: none"> <li>Final Exam (L) – 11:00 AM - 12:20 PM</li> </ul>

---

## 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://build.com.edu/uploads/sitecontent/files/student-services/Student\\_Handbook\\_2019-2020v5.pdf](https://build.com.edu/uploads/sitecontent/files/student-services/Student_Handbook_2019-2020v5.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.*

[https://build.com.edu/uploads/sitecontent/files/student-services/Student\\_Handbook\\_2019-2020v5.pdf](https://build.com.edu/uploads/sitecontent/files/student-services/Student_Handbook_2019-2020v5.pdf)

**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 Holly Bankston at 409-933-8520 or [hbankston@com.edu](mailto:hbankston@com.edu). The Office of Services for Students with Disabilities is located in the Student Success Center.

**Counseling Statement:** Any student needing counseling services is requested to please contact Holly Bankston in the student success center at 409-933-8520 or [hbankston@com.edu](mailto:hbankston@com.edu). Counseling services are available on campus in the student center for free and students can also email [counseling@com.edu](mailto:counseling@com.edu) to set up their appointment. Appointments are strongly encouraged; however, some concerns may be addressed on a walk-in basis.

**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 October 6. The last date to withdraw from the 16-week session is November 19. The last date to withdraw for the 2<sup>nd</sup> 8-week session is December 2.

**F<sub>N</sub> Grading:** The F<sub>N</sub> grade is issued in cases of *failure due to a lack of attendance*, as determined by the instructor. The F<sub>N</sub> 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 F<sub>N</sub> grade is at the discretion of the instructor. The last date of attendance should be documented for submission of an F<sub>N</sub> 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.

**COVID-19 Statement:** All students, faculty, and staff are expected to familiarize themselves with materials and information contained on the College of the Mainland’s Coronavirus Information site at [www.com.edu/coronavirus](http://www.com.edu/coronavirus). In compliance with Governor Abbott's May 18 Executive Order, face coverings/masks will no longer be required on COM campus. Protocols and college signage are being updated. We will no longer enforce any COM protocol that requires face coverings. We continue to

encourage all members of the COM community to distance when possible, use hygiene measures, and get vaccinated to protect against COVID-19. Please visit [com.edu/coronavirus](http://com.edu/coronavirus) for future updates.

---

## Back Matter

**Fair Use Notice:** This document may contain copyrighted material the use of which has not always been specifically authorized by the copyright owner. It is being made available in an effort to advance the understanding of environmental, political, human rights, economic, democracy, scientific, and social justice issues, and so on. It is believed that this constitutes a 'fair use' of any such copyrighted material as provided for in section 107 of the US Copyright Law. In accordance with Title 17 U.S.C. Section 107, the material in this course and on the course site is distributed without profit to those who have expressed a prior interest in receiving the included information for research and educational purposes. If you wish to use copyrighted material from this course or from this site for purposes of your own that go beyond 'fair use', you must obtain permission from the copyright owner. The material in this document is provided for educational and informational purposes only.

**Revisions:** Your instructor reserves the right to revise this syllabus to accommodate changes in the course that may occur during the semester. If any changes to this syllabus occur during the semester, students will be provided with an announcement of those changes and will be given access to a description of those changes.

**Copyright and Licensing:** © 2021 and beyond by Gregory A. Johnson, PhD

This work is licensed under a Creative Commons Attribution-Noncommercial-Share Alike 4.0 United States License.

**Acknowledgements:** This syllabus was developed using a template provided by COM. Other parts of this syllabus were derived from the work of my professors and my colleagues. I thank them for their willingness to share their work.