



CHEM 1406.102CL

Introduction to Chemistry – Fall 2023 **Tuesday & Thursday– 9:30 to 12:20 in STEAM 346**

Instructor Information:

Name: Dr. Britt E. Price, PhD

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Phone: 409-933-8825

Student hours and location:

Monday & Wednesday from 11:30 to 1:30 in STEAM 325-30

Tuesday & Thursday from 8:00 to 9:30 in STEAM 325-30

By appointment in person and on 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.

Required 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.

Required Homework System: Macmillan Learning Achieve homework system is an Internet based homework, testing, and content management system. Instructions for creating a Macmillan Learning Achieve homework system account and registering for the course are provided in the Course Information page located in Brightspace D2L.

Once you have registered and enrolled, you can log in at any time to complete or review your homework assignments. During sign up or throughout the term, if you have any technical problems or grading issues, go to [Achieve Support](#) to look at support articles or chat with a member of the support team at [Achieve Chat](#). The Macmillan Learning Achieve support team is almost always faster and better able to resolve issues than your instructor.

Additional Materials:

- An inexpensive scientific calculator (e.g., TI-30). There are free apps for your mobile devices. A calculator will be provided to each student for the purpose of taking exams.
- 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 Graphical Analysis](#) (Vernier offers free software for students)
- 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 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: 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:**
Throughout the semester, students will be required to assess the validity of either media reports or claims in advertisements which involve "bad science".
- **Now You Try It [NYTI]**
Following each lecture an assignment in which you are asked about some aspect of the lecture will be posted. These assignments may involve writing some type of explanation, categorization, or mathematical problem.

- Chapter Homework

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

- 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. The exact material covered for each exam will be announced at least one week prior to the exam.

- Final Exam

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.

- Laboratory 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.

Special note regarding Lab #1: Rules of conduct for the laboratory must be followed to reduce the risk of injury. Failure to follow the safety rules may 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, they will be complete the activity during the second scheduled laboratory session. The student will then earn a 0 for Experiment 2.

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. Additionally, excessive tardiness may also prevent you from performing the experiment.

The laboratory component will allow students to practice skills and make observations of concepts, theories, and laws. All lab components should be discussed with classmates to foster collaboration and develop teamwork.

Successful completion of a laboratory assignment typically involves the completion and submission of three portions: the Pre-lab Assignment, the Lab Data, and the Post-lab Assignment.

Pre-lab Assignments require students to work either individually or cooperatively, in lab groups (i.e., teams), to achieve the following outcomes.

- Read the lab background information, introduction, and read the lab procedure.
- Answer questions concerning concepts and procedures from the lab experiment.
- Submit the completed assignment *before* starting the experiment.

Lab Data require that students work either individually or cooperatively, in lab Groups (i.e., teams), to achieve the following expected 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.
- Submit the completed assignment as scheduled.

In the unlikely event that labs are delivered in an online format, students will work either individually or in lab Groups (i.e., teams), to achieve the following outcomes.

- Clearly and concisely record data and observations.
- Create the necessary graphs from the observed data.
- Perform the necessary calculations.
- Interpret recorded data and observations, generated graphs, and calculated values.
- Report conclusions from interpreted data and observations, graphs, and calculations.
- Submit the completed assignment as scheduled.

Post-lab Assignments require that students work independently or cooperatively, in lab Groups (i.e., teams), to achieve the following outcomes.

- Perform calculations based on the experiment.
- Interpret the data based on the experiment.
- Interpret the results of the any calculation using that data or data provided for that purpose.
- Perform the necessary calculations and interpretations.
- 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 as scheduled.

Each Lab Assignment will be worth a maximum of 100 points as determined from the sum of the points for the pre-lab assignment, the lab procedure, and the post-lab assignment. The Laboratory Score is calculated as the simple average of the lab report scores that remain after dropping the lowest score scaled to 200 points.

Extra Practice

- Self-assessments

There will be self-assessments, one or more for each Chapter, available during the semester. These will be provided online through the Achieve Macmillan Learning system. These self-assessments are designed and administered to promote mastery of course objectives addressed in each Chapter from your textbook. These are *self-assessments that are not directly factored into your grade calculation.*

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.

“Bad” Science Critique

- Each critique will be 1 – 2 written pages
- Each critique is worth a maximum of 25 points.
- The lowest critique 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 50 points. (5.0 % of overall grade)

Now You Try It (NYTI)

- 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

- 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

- 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

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

Lab Grade

- Each lab assignment is worth a maximum of 100 points.
- Lab assignment score is the sum of the pre-lab assignment and the lab report.
- 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)

The grade for this course consists of both a lecture and laboratory component. 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

Incomplete Policy: An incomplete may be assigned at the discretion of the instructor in accordance with college policy.

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 11. The last date to withdraw from the 16-week session is November 28. The last date to withdraw for the 2nd 8-week session is December 7.

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.

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, the link may be removed, and no additional time will likely be provided.

If these policies provide 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 after the difficulty has passed.

	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.
Grading Category	
“Bad” Science Critique	
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 students registered in this class are expected to attend all face-to-face sessions especially the laboratory session. 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 successfully attend and complete 70% or more of all laboratory assignments to successfully pass the course.

Failing to attend class, log into Brightspace D2L, 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 Brightspace D2L or Achieve Macmillan Learning 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 Brightspace D2L for a one-week period, failure to submit four or more assignments by the deadlines for those assignments, failure to attend and 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. Another scenario is a student that is attending (completing) less than 70% of the lab sessions. Since they have 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.

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 340 & 346): 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. (Faculty may add additional statement requiring monitoring and communication expectations via Brightspace D2L or other LMS)

The best way to reach your instructor is by email. Please use your @com.edu email address. Expected that mails from other sources will be filtered from my inbox and you will receive no reply. I will strive to reply to emails from @com.edu addresses, which are made on weekdays, within twenty-four hours. Expect that I will be unavailable on weekends. For extra credit on the syllabus quiz, email a picture of your pet or your favorite animal as a .jpg format to me. The email must be in the correct format. Please *include your course and section number in the subject line.* 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.

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 409-933-8330/sabernathy@com.edu.

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_2023-2024_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 at 409-933-8919 or klachney@com.edu. The Office of Services for Students with Disabilities is located in the 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.

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.

Table of Student Learner Outcomes

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

Tentative Course Outline: Use this course outline and tentative class schedule to schedule your course activities for the semester.

Week	Topics	Reading Assignments
1	<ul style="list-style-type: none"> • Course Intro • Achieve Macmillan Learning • CH 1 	<ul style="list-style-type: none"> • Syllabus • Achieve Access Directions • CH 1
2	<ul style="list-style-type: none"> • CH 1 Chemistry • CH 2 Atoms • <i>Lab 1: Safety in the Chemistry Lab</i> 	<ul style="list-style-type: none"> • CH 1 & 2 • Experiment 1
3	<ul style="list-style-type: none"> • CH 2 Atoms • CH 3 Atomic Structure • <i>Lab 2: Weight and Volume</i> 	<ul style="list-style-type: none"> • CH 2 • Experiment 2
4	<ul style="list-style-type: none"> • CH 3 Atomic Structure • <i>Lab 3: Density and Graphing</i> 	<ul style="list-style-type: none"> • CH 3 • Experiment 3
5	<ul style="list-style-type: none"> • CH 3 Atomic Structure • CH 4 Chemical Bonds • <i>Lab 4: Identifying White Solids</i> 	<ul style="list-style-type: none"> • CH 3 & 4 • Experiment 4
6	<ul style="list-style-type: none"> • Exam 1 – on lab day (CH 1-3) • CH 4 Chemical Bonds • CH 6 (6.1 – 6.4) Gases, Liquids, Solids, and Intermolecular Forces • <i>Lab 5: Periodic Table (on-line)</i> 	<ul style="list-style-type: none"> • CH 4 & CH 6 (6.1 – 6.4) • Experiment 5
7	<ul style="list-style-type: none"> • CH 6 (6.1 – 6.4) Gases, Liquids, Solids, and Intermolecular Forces • <i>Lab 6: Spectroscopy / Spectral Lines</i> 	<ul style="list-style-type: none"> • CH 6 (6.1 – 6.4) • Experiment 6
8	<ul style="list-style-type: none"> • CH 5 Chemical Accounting • <i>Lab 7: Lewis Structures and The Shapes of Molecules</i> 	<ul style="list-style-type: none"> • CH 5 • Experiment 7
9	<ul style="list-style-type: none"> • CH 5 Chemical Accounting • CH 6 (6.5 – 6.7) Gases, Liquids, Solids, and Intermolecular Forces • <i>Lab 8: Investigation of Intermolecular Forces</i> 	<ul style="list-style-type: none"> • CH 5 & CH 6 (6.5 – 6.7) • Experiment 8
10	<ul style="list-style-type: none"> • Exam 2 – on lab day (CH 4, CH 6 (6.1 – 6.4), CH 5) • CH 6 (6.5 – 6.7) Gases, Liquids, Solids, and Intermolecular Forces • <i>Lab 9: Types of Chemical Reactions (on-line)</i> 	<ul style="list-style-type: none"> • CH 6 (6.5 – 6.7) & CH 7 • Experiment 9
11	<ul style="list-style-type: none"> • CH 7 Acids and Bases • <i>Lab 10: Stoichiometry</i> 	<ul style="list-style-type: none"> • CH 7 • Experiment 10
12	<ul style="list-style-type: none"> • CH 7 Acid and Base • <i>Lab 11: Gas Laws</i> 	<ul style="list-style-type: none"> • CH 7 & 8 • Experiment 11
13	<ul style="list-style-type: none"> • CH 11 Nuclear Chemistry • <i>Lab 12: Concepts of Strength and Concentration (on-line)</i> • <i>Lab 13: Acidity and Alkalinity of Household Chemicals</i> 	<ul style="list-style-type: none"> • CH 8 & 9 • Experiment 12 & 13
14	<ul style="list-style-type: none"> • CH 9 Organic Chemistry • <i>Lab 14: Synthesis and Identification of Esters</i> 	<ul style="list-style-type: none"> • CH 9 & 10 • Experiment 14
15	<ul style="list-style-type: none"> • Exam 3 – on lecture day (CH 6 (6.5 – 6.7), 7, 9 & 10) • Review for Final Exam 	
16	<ul style="list-style-type: none"> • FINAL EXAM – on scheduled lecture day 	