

Chemistry 107 - Fall 2019

Instructor: Dr. Joanna Goodey-Pellois

E-mail: jpellois@tamu.edu

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| Lectures: | Section 503 | Tu,Th 11:10 am - 12:25 pm | Rm. 100 Heldenfels Hall |
| | Section 504 | Tu,Th 2:20 pm - 3:35 pm | Rm. 100 Heldenfels Hall |

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| Office Hrs: | M | 3:30 pm – 4:30 pm | Rm. 104A Heldenfels Hall |
| | Tu,Th | 12:30 pm - 2:00 pm | Rm. 104A Heldenfels Hall |
| | Tu,Th | 3:40 pm - 5:00 pm | Rm. 104A Heldenfels Hall |

SI Leader: Alec Uselton

Chemistry 107 Course Description

Chemistry is the study of the properties and behavior of matter. Chemistry is related, via atoms and molecules, to all areas of science and engineering. Chemistry 107 will provide you with a background in concepts and principles of chemistry that will serve as important building blocks as you continue your studies at Texas A&M. More importantly, an understanding of chemistry will help you to better understand the matter that makes up the world that you live in.

Strategies for Success in Chemistry 107

Regardless of your background in chemistry, you can succeed in Chemistry 107 if you adopt the best practices listed below. I have carefully designed the course assignments and materials to encourage you to adopt these practices. It is my hope that the study habits that you adopt in chemistry will also help you be successful in other classes.

- **Read** the textbook before coming to class. Write down any questions that you have before class.
- **Participate** in class. Focus on the topic (turn off devices), take notes, ask questions and answer questions.
- **Be aware** of the learning objectives (see list below) at all times.
- **Practice** problems frequently. The more problems you practice, the easier chemistry will seem.
- **Seek help** when you need it. There are many resources, including me, that are available to you.

Chemistry 107 Learning Objectives

Many of the learning objectives for this course are related to specific topics that will be introduced in each chapter. However, the learning objectives below are more general in nature and will be stressed throughout the entire semester.

- **Acquiring Factual Knowledge** Achieving basic chemical literacy requires familiarity with chemical terms, structures and symbols.
- **Developing a Conceptual Understanding** Learning to visualize, explain and predict the behavior and properties of matter on the molecular scale is the basis of a conceptual understanding of chemistry.
- **Applying Knowledge to Solving Problems** Developing problem solving skills in chemistry typically involves employing quantitative calculations within the context of a particular concept.
- **Analyzing Results** Learning to compare and contrast one set of results to another is the first step in being able to evaluate the results.

Required Materials

The required materials for Chemistry 107 are listed below. Each of these materials has been carefully selected to help you be successful in Chemistry 107. When registering for electronic materials please use your **Texas A&M e-mail address** and your **Texas A&M 9-digit UIN number**. Links to electronic materials can be found in the text below and within the eCampus course site. Please make sure that you register for all materials prior to the first day of class.

Textbook and Online Homework The Chemistry 107 textbook, *Chemistry for Engineering Students*, Lawrence Brown and Thomas Holme, 4th Ed. is combined with the Cengage Online Web Learning (OWL) software. When purchasing the OWL software for \$75 (6 month access) from <http://www.owlv2.com/107.html> you will receive a free e-book and a loose leaf copy of the textbook. If you already have purchased access to **Cengage Unlimited (\$120 for 6 months or \$180 for 12 months)** for another class, you will automatically be able to access the Chemistry 107 e-book. If you choose to purchase the textbook from another source, please be aware that may still have to purchase the OWL online homework package. Textbooks purchased at the university bookstore should include an OWL code within the textbook bundle, but will likely be more expensive than at the website listed above. **When registering for access to the e-book and OWL software, please use your 9-digit UIN number as your ID number.**

Course Notes will be used daily in class. Please plan to bring either an electronic or paper copy of the course notes with you to class every day. The notes have space for student annotations and are designed to be a helpful study guide. Course notes will be available at eCampus.tamu.edu in advance of the beginning of class.

Scientific Calculators will be used daily in class and on exams. Calculators may be either programmable or non-programmable. Calculators that are part of internet enabled devices will not be allowed during exam periods.

iClicker/REEF Polling Subscription Polling enhances the large class classroom experience by encouraging participation and allowing for instantaneous assessment. To participate in daily graded polling sessions you will need to purchase, rent or borrow an iClicker device (see Option 1 below) or purchase an iClicker Reef Education subscription (see Option 2 below). If you already have an iClicker/Reef account you will simply need to add my course, **Chemistry 107 Sections 503 and 504 Fall 2019** to your course list. You will need to bring your iClicker Reef enabled device or iClicker remote to each class period.

Polling Device Purchasing Options and Registration Instructions

1. You can purchase or rent your iClicker remote at the bookstore or online at Amazon.com. Any iClicker device, including iClicker, iClicker 2, and iClicker + remotes will work. Once you have your clicker, you will need to create a Reef Education profile (at no cost) at <https://app.reef-education.com/#/account/create>. In order for your points to be reported to my gradebook you will need to enter your **9-digit UIN** as the student ID and your remote number within your profile. Finally, you will need to add my course by searching for **Chemistry 107 Sections 503 and 504 Fall 2019**.

2. You can purchase a one-semester iClicker Reef subscription and download the accompanying app from <https://www.iClicker.com/students>. When creating your iClicker Reef profile (<https://app.reef-education.com/#/account/create>), you will need to enter your **9-digit UIN** as the student ID within your profile. Finally, you will need to add my course by searching for **Chemistry 107 Sections 503 and 504 Fall 2019**.

Course Grading

A total of 1000 points can be earned in this course. All grades for Chemistry 107 will be posted in the course eCampus gradebook. The graded components of this course, along with their respective point totals, are listed in the table below.

| Course Component | Points | Percentage of Overall Grade |
|----------------------|-------------|-----------------------------|
| Reinforcement Module | 50 | 5% |
| Clicker Polls | 38 | 3.8% |
| OWL Homework | 112 | 11.2% |
| Quiz | 100 | 10% |
| Exam 1 | 150 | 15% |
| Exam 2 | 150 | 15% |
| Exam 3 | 150 | 15% |
| Final Exam | 250 | 25% |
| Total | 1000 | 100% |

Course letter grades will be assigned according to the scale in the table below. These cutoffs may be lowered, but will not be raised under any circumstances.

| Course Letter Grade | Point Range | Percentage Range |
|---------------------|-------------|------------------|
| A | 900-1000 | 90%-100% |
| B | 800-899 | 80%-89.9% |
| C | 700-799 | 70%-79.9% |
| D | 600-699 | 60%-69.9% |
| F | 0-599 | 0%-59.9% |

Course Assignments

Reinforcement Module: The First Year Chemistry Program Office has contacted you regarding the pre-class reinforcement module. The purpose of this module is to prepare all incoming students for Chemistry 107. Students are highly encouraged to complete this module before the first day of class, but will have until **11:55 pm on Friday, September 6th** to complete the module.

Polling Assignments: Polling assignments will be given during each class period. Polling questions are designed to give you instantaneous feedback about your factual knowledge, conceptual understanding or problem solving ability. You may earn a maximum of 2 polling points in each of the 23 graded class sessions this semester. One of each session's points is based on participation; the other is based on response accuracy. The maximum number of polling points that can be earned for credit this semester is 38. As you are only required to earn 35 out of 46 possible polling points, there are no make-up opportunities for missed polling assignments.

OWL Homework: Weekly homework assignments will be assigned in the Cengage Online Web Learning (OWL) portal. Homework assignments are designed to help you gauge your understanding of Chemistry 107 material. Homework assignments will typically be due on Monday nights at 11:00 pm. Each of the 14 weekly homework assignments will be worth a total of 9 points. The maximum number of homework points that can be earned for credit this semester is 112. As you are only required to earn 112 out of 126 possible homework points, missing a single homework assignment will not adversely affect your grade.

Exams: Exams in Chemistry 107 are designed to test factual knowledge, conceptual understanding and problem-solving ability. Four midterm exams and a final exam will be given during the semester. The exam dates are listed on the schedule included in this package. If your percentage score on the final exam is higher than the percentage score on your lowest midterm exam, the score on the lowest semester exam will be replaced with the average of the final exam percentage (based on point score) and the lowest exam percentage (based on point score).

Communication

Course Website: The class schedule, syllabus, course notes, grades and other helpful information can be found on the eCampus course website (ecampus.tamu.edu). Please check this website frequently for updates.

Communication: I will be happy to answer any questions before class, after class, in office hours (Rm. 104A Heldenfels) or via e-mail (jpellois@tamu.edu). Please allow up to 24 hours for a response via e-mail.

Course Policies

Absences: You are responsible for learning all material presented in class, even if you should happen to be absent. Make-up examinations will be given only for University-excused absences provided the appropriate documentation is provided within the time frame specified in the 2019-20 TAMU Student Rules and Regulations (<http://student-rules.tamu.edu/rule07>). When possible, you should discuss upcoming excused absences on exam days, with me in advance of the exam.

Honor Code: The Aggie honor code states that “An Aggie does not lie, cheat, or steal or tolerate those who do.” Upon accepting admission to Texas A&M University, you immediately assumed a commitment to uphold the Honor Code, to accept responsibility for learning, and to follow the philosophy and rules of the Honor System. You will be required to state your commitment on examinations, research papers, and other academic work. Ignorance of the rules does not exclude you or any other member of the TAMU community from the requirements or the processes of the Honor System. For additional information please visit: <https://aggiehonor.tamu.edu/Rules-and-Procedures/Rules/Honor-System-Rules>.

Disabilities: The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact Disability Services (disability.tamu.edu). The Disability Services office is very busy, so please make an appointment with them immediately if you feel you require assistance. I would be happy to meet with you to discuss any individual accommodations required to help you succeed in this course.

Campus Resources

Extra Help for Chemistry 107: There are many sources of extra help available to you on campus. Office hours, SI sessions, Academic Success Center tutoring (tutor.tamu.edu), and the Chemistry Help Desk (Rm 406 Heldenfels 8:00 am – 5:00 pm M-F) are all good sources extra help for this course. Please see the Extra Help folder on the eCampus course site for more information about the resources.

Student Counseling Services: As a student, you may experience a range of issues that challenge your academic commitment, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to reduced classroom performance or decrease your ability to perform daily activities. Texas A&M University is committed to advancing the mental health and well-being of its students. If you or someone you know is feeling overwhelmed, depressed, and/or in need of support, services are available. You can learn more about the broad range of confidential mental health services available on campus via <https://scs.tamu.edu/services>.

Schedule for Chemistry 107 Sections 503 - 504 Fall 2019

| Monday: Homework due 10:00 pm | Tuesday: Lecture | Thursday: Lecture/Exams |
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| <u>Aug. 26th</u> <i>Clicker Registration Due</i> <i>Textbook Registration Due</i> | <u>Aug. 27th</u> Matter, Atoms and Molecules Chp. 1.2, 2 | <u>Aug. 29th</u> Atoms and Molecules Chp. 2 |
| <u>Sep. 2nd</u> <i>Homework: Intro. to OWL, 2.1</i> <i>Last day to add/drop classes</i> | <u>Sep. 3rd</u> Molecules, Moles and Chemical Equations Chp. 3 | <u>Sep. 5th</u> Molecules, Moles and Chemical Equations Chp. 3 Quiz: Chapters 1.2, 2, 3.4 (25 min) <i>Reinforc. Mod. Due Friday 11:55 pm</i> |
| <u>Sep. 9th</u> <i>Homework: 3.1</i> | <u>Sep. 10th</u> Molecules, Moles and Chemical Equations Chp. 3 | <u>Sep. 12th</u> Stoichiometry Chp. 4 |
| <u>Sep. 16th</u> <i>Homework: 3.2, 4.1</i> | <u>Sep. 17th</u> Stoichiometry Chp. 4 | <u>Sep. 19th</u> Gases Chp. 5 |
| <u>Sep. 23rd</u> <i>Homework: 4.2</i> | <u>Sep. 24th</u> Gases Chp. 5 | <u>Sep. 26th</u> Exam 1: Chapters 1-4 (70 min) |
| <u>Sep. 30th</u> <i>Homework: 5.1</i> | <u>Oct. 1st</u> The Periodic Table and Atomic Structure Chp. 6 | <u>Oct. 3rd</u> The Periodic Table and Atomic Structure Chp. 6 |
| <u>Oct. 7th</u> <i>Homework: 5.2, 6.1</i> | <u>Oct. 8th</u> The Periodic Table and Atomic Structure/Molecular Structure Chp. 6, 7 | <u>Oct. 10th</u> Molecular Structure and Chemical Bonding Chp. 7 |
| <u>Oct. 14th</u> <i>Homework: 6.2, 7.1</i> | <u>Oct. 15th</u> Molecular Structure and Chemical Bonding Chp. 7 | <u>Oct. 17th</u> Molecules and Materials Chp. 8 |

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| <u>Oct. 21st</u> Homework: 7.2, 8.1 | <u>Oct. 22nd</u> Molecules and Materials Chp. 8 | <u>Oct. 24th</u> Exam 2: Chapters 5-7 (70 min) |
| <u>Oct. 28th</u> Homework: 8.2 | <u>Oct. 29th</u> Energy and Chemistry Chp. 9 | <u>Oct. 31st</u> Energy and Chemistry Chp. 9 |
| <u>Nov. 4th</u> Homework: 9.1 | <u>Nov. 5th</u> Energy and Chemistry/Entropy and the Second Law of Thermodynamics Chp. 9, 10 | <u>Nov. 7th</u> Entropy and the Second Law of Thermodynamics Chp. 10 |
| <u>Nov. 11th</u> Homework: 9.2, 10.1 | <u>Nov. 12th</u> Entropy and the Second Law of Thermodynamics Chp. 10 | <u>Nov. 14th</u> Kinetics Chp. 11 <i>**Friday Nov. 15th Q-drop deadline</i> |
| <u>Nov. 18th</u> Homework: 10.2 | <u>Nov. 19th</u> Kinetics Chp. 11 | <u>Nov. 21st</u> Exam 3: Chapters 8-10 (70 min) |
| <u>Nov. 25th</u> Homework: Chp. 11 | <u>Nov. 26th</u> Equilibrium Chp. 12 | <u>Nov. 28th</u> Thanksgiving Holiday |
| <u>Dec. 2nd</u> <i>**Homework: Chp. 12 due Tuesday, Dec. 3rd at 10:00 pm</i> | <u>Dec. 3rd</u> Equilibrium Chp. 12 | <u>Dec. 5th</u> Reading Day |
| Final Exams | | |
| Section 503 (meets TTh 11:10) – 3:00 pm – 5:00 pm, Friday, December 6th, Room 100 Heldenfels | | |
| Section 504 (meets TTh 2:20) – 1:00 pm – 3:00 pm, Wednesday, December 11th, Room 100 Heldenfels | | |