

Chemistry 131 (Section DYE01)

Introduction to Chemistry

Fall 2016

Instructor: Jennifer Tabor

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Office Hours

Mon 1:00 pm - 2:00 pm in Room NB214

Other times by appointment only

Class Hours per week

Lecture: 3

Lab: 3

Semester Credit Hours: 4

Contact Instructions: Please place "CHM131 DYE01" in Subject Line or use Blackboard Email tool. All emails will be returned within 48 hours, excluding weekends.

Course Description: This course introduces the fundamental concepts of inorganic chemistry. Topics include measurement, matter and energy, atomic and molecular structure, nuclear chemistry, stoichiometry, chemical formulas and reactions, chemical bonding, gas laws, solutions, and acids and bases. Upon completion, students should be able to demonstrate a basic understanding of chemistry as it applies to other fields. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.*

This course emphasizes the following general education competency:

Scientific Reasoning: Students engage in scientific reasoning when they use fundamental scientific concepts and theories to analyze problems, observations, and/or experiments in the life and physical sciences. Students demonstrate scientific reasoning when they:

- Apply appropriate scientific concepts, theories, and language to problems, observations, or experiments
- Utilize scientific data to analyze problems, observations, or experiments
- Apply scientific observations, calculations, and/or measurements to problems or experiments
- Articulate conclusions about problems, observations, or experiments using appropriate scientific concepts and data

This course emphasizes the following general education competency:

Critical Thinking: Critical thinking is the deliberate process of questioning, evaluating, and responding to problems, scenarios, and arguments in order to reach sound solutions, decisions, and positions. Students demonstrate critical thinking when they:

- Ask pertinent questions that clarify and focus a problem, scenario, or argument
- Evaluate the quantity, quality, and usefulness of information
- Articulate a sound solution, decision, or position based on appropriate standards of reasoning
- Monitor and reflect upon the quality and fairness of their reasoning

Required Materials

Required Text

Lecture: **General, Organic, and Biological Chemistry: Structures of Life (5th Edition)** (with Mastering Access) by Karen C. Timberlake

Lab: **CHM131 Introduction to Chemistry Laboratory, CFCC**

Required Technology Skills:

- **Blackboard Course Site:** Students are required to use the Blackboard course site on a regular basis to receive course instruction, submit course assignments, and communicate with the instructor. Students cannot participate in this course without using the Blackboard course site. Students can access the Blackboard course site by going through the <http://my.cfcc.edu> web portal or by going to <http://online.cfcc.edu>
- **Computer with Microsoft Word, Excel, PowerPoint, Adobe Acrobat**
- **Reliable internet access**
- **Computer skills like typing, emailing, attaching files, and navigating file structures**
- **Calculator**

Student Expectations

Attendance Policy

Lecture: Because this is an internet course, attendance cannot be taken daily. The following guidelines apply for this course:

To establish attendance, students must complete the Enrollment Verification assignment by the due date. Failure to complete this assignment will result in being marked as a No Show (NS) and withdrawn from the class.

Missing 3 weeks of consecutive modules will result in a course grade of “F”.

Lab: You must attend your scheduled lab each week. There are no make-up labs. If you miss a lab, you will receive a score of zero for that day. You must be punctual, If you arrive more than 5 minutes late you will receive a zero on your prelab assignment. If you arrive more than 15 minutes late, you will be counted absent for that day.

Homework

Homework will be assigned through the Mastering Chemistry program. Pay close attention to homework due dates. No late homework will be accepted for credit.

The assigned homework problems are intended to help you make a connection between the lectures and the material in the textbook. Do not limit yourself to the assigned homework problems. Work as many problems as possible. The more you practice setting up problems, the easier it will become allowing you to fully understand the material.

Exams

This class will have 3 exams throughout the semester. The exams will be a mixture of multiple choice and short answer. **There are no make up exams.** If you miss an exam, a score of zero will be recorded for that exam, and is not eligible for replacement. At the end of the semester, your final exam score can replace your lowest (non-zero) exam score, if the final exam score is greater. Cell phones must be turned off and not visible when taking an exam.

There will also be quizzes given for each module throughout the semester.

Final Exam

The Final Exam is cumulative and mandatory; not taking the Final Exam will result in a failing grade for the course. The final exam will be taken in person, during the last scheduled lab class.

Lab Experiments

Arriving on time for lab is very important. The beginning of each lab period is when the experiment will be discussed, including any safety concerns. You need to be present to get this information. If you arrive more than 5 minutes late, you will receive a zero on your prelab assignment. If you are more than 15 minutes late, you will be counted as absent and a score of zero will be recorded for that lab. There are no make-up labs. Your lowest lab grade will be dropped at the end of the semester.

Closed toed shoes are required in ALL laboratories. If you do not wear proper foot attire, you will not be allowed to participate.

All lab safety rules must be followed at all times. **NO EXCEPTIONS**

Grading Policy

Exams	30%
Quizzes	10%
Homework	10%
Labs	30%
Final Exam	20%

You can expect coursework to be graded within 1-3 weeks of the submission date

Grading Scale

100-92	A
91-84	B
83-76	C
75-68	D
67 or below	F

Late Assignments/Late Work Policy

All required coursework is due on the date and time announced on the course calendar as outlined above, unless specified otherwise by the instructor. Work submitted after the announced due date and time will not be accepted after the due date. The instructor will consider special circumstances with prior notification only.

Student Expectations

1. Be present and on time to class. You are responsible for any handouts or missed materials.
2. Spend time with your textbook and notes outside of class. Read the material prior to class
Read for more detail after class discussions. Work through problems
3. Do the homework
4. Participate in class. Ask and answer questions
5. Show respect for other students and for the instructor
6. Use the available resources
 - Instructor
 - Other students
 - Science Learning Lab (N-407)
7. Never Give Up!

If you adhere to these expectations, you will succeed in this class. It will take time and effort on your part, but you can do it. Please do not hesitate to come see me if you are struggling. The earlier you get help the better.

Other Important Information

Laptops and other Electronic Devices

Laptops or tablets may be used for taking notes in class as long as their use does not become distracting to other students. However, they must not be used for non-class related activities (web surfing, email, games, Facebook, etc.) while the class is in session. Cell phone use and texting are NOT permitted during class or lab sessions. Turn your cell phone off before class starts. Failure to adhere to these guidelines will affect your attendance/class participation grade and can result in removal from that classes session.

Academic Misconduct

Cheating will be taken VERY seriously and will not be tolerated. Examples of academic misconduct include but are not limited to:

- ★ copying another's work on quizzes, exams, labs or homework
- ★ using a "cheat sheet" (notes of any kind) during a quiz or exam
- ★ falsifying data in lab
- ★ working with another person when instructed to work alone

The first incident of academic misconduct will result in an automatic zero for the assignment for all parties involved. This zero grade will not be dropped or replaced. Any further incident may result in an 'F' for the course.

Withdrawals

You are responsible for noting the deadline for withdrawal from the course. I will not turn in any withdrawal forms to the registration office. This is your responsibility. Withdrawals will not be given once the 18 hours of absences has been exceeded. Please familiarize yourself with the criteria and withdrawal deadline dates in the CFCC Catalog and Student Handbook.

Accommodation of Special Needs Based on Disability

Any student requesting classroom accommodations because of disability must present documentation to verify his/her disability. Documentation must be furnished to the Disabilities Service Coordinator, and this should be done prior to requesting accommodation by an instructor. On a confidential basis, the student, disabilities services and the instructor will determine the appropriate accommodations which will be provided in a manner that is consistent with the objectives, outcomes and academic standards of the course. Absences may not exceed any class attendance policy.

Academic Honesty/Plagiarism

Please see Student Catalog for CFCC policy.

Reminder, plagiarism is using as your own the words or ideas of another, whether written or oral. When you use material from a source, you must quote or paraphrase accurately and properly cite the copying without correctly indication that you are quoting, inaccurate quoting and paraphrasing, and incomplete or missing documentation. Purchasing a paper or copying someone else's work and submitting it as your own are also plagiarism. Any misrepresentation of the source in your writing or speaking would constitute a form of plagiarism.

Whether intentional or unintentional, plagiarism is not acceptable and will result in the student being assigned a grade of zero for the assignment and/or the course, at the instructor's discretion.

Expectations for Interaction

Students will be held to the highest standards of language and content in all interaction, whether online or in person. Abusive and derogatory language, actions or content will not be tolerated. This non-discrimination policy includes face-to-face interactions, email, online discussions and all course related content and materials.

myCFCC is your student web portal - there you can access your class website, email and WebAdvisor (official academic info such as grades, transcripts, schedules, etc). Your official CFCC-provided email account is to be used for all email correspondence with your instructors

and CFCC staff. Some information from CFCC will only be emailed to this address, and not sent through postal mail, so it is very important that you check this account.

IT Student Help Desk

The IT Services Student Help Desk provides first-level technical support to all students of CFCC. They are available to assist students with basic computer and technical needs, including logging into Blackboard, myCFCC and WebAdvisor.

More information, including hours, location and contact information is available at <http://www2.cfcc.edu/studenthelpdesk/>

Blackboard Help

Answers to common Blackboard questions can be found at <http://www2.cfcc.edu/online/bb-faq>

Science Learning Lab N-407

The Science Learning Lab is located in N-407. Tutors are available for all Biology, Chemistry, Geology and Physics courses. You must have your instructor sign a form to verify that you are enrolled in a Science course. The form is available in N-407

Learning Resource Center (LRC)

The LRC is located in the CFCC library and can be found online at <http://cfcc.edu/learninglab>
The LRC provides writing assistance, computer competency skills and tutoring.

Library

The library provides students with the following resources:
Books/Materials, Course Reserves, Computer/Internet Access, Online Databases/Journals, Group Study Space and a quiet study space.

The library is located in the 2nd floor of the L-Building (downtown) or on the 1st floor of the McKeithan Center (North Campus) and can be found online at <http://cfcc.edu/lrc>

Additional Student Support and Academic Services

For a list of CFCC Student Support and Academic Services, please visit <http://www2.cfcc.edu/online/student-support/>

Tobacco use is prohibited on all CFCC property.

The instructor reserves the right, acting within the policies and procedures of CFCC, to make changes, adjustments, additions and deletions in course content, syllabus or instructional technique, without notice or obligation.

Units of Study

Module One: Introduction

This module will allow students to become familiar with the course and the My Lab/Mastering site.

Module Two: Measurements

This module deals with different systems of measurement, significant figures, the use of scientific notation, and calculations involving density and specific heat. Unit conversions are also discussed.

Module Three: Energy and States of Matter

This module introduces the different states of matter and energy differences between the different states.

Module Four: Atoms and Elements

This module describes atomic structure and discusses its relationship to the periodic table.

Module Five: Compounds and Their Bonds

This module covers basic concepts of chemical bonding.

Module Six: Compounds and Their Shapes.

Ionic and covalent bonding are described using the Lewis model. Nomenclature rules for simple inorganic compounds are developed.

Module Seven: Chemical Reactions

This module introduces different types of chemical reactions and the concept of the mole.

Module Eight: Chemical Quantities

This module introduces the concepts of formulas, composition, moles and stoichiometry.

Module Nine: Gases

This module introduces Gases and the concepts of the Ideal Gas and the laws which help to define and explain the properties of gases.

Module Ten: Solutions

This module deals with solutions: homogeneous mixtures of chemical compounds on a molecular level. Other types of mixtures, colloids, and suspensions are also discussed in this module.

Module Eleven: Reaction Rates

This module discusses the rate of a reaction and introduces the concept of chemical equilibrium

Module Twelve: Chemical Equilibrium

This module covers chemical equilibrium in more detail and covers Le Chatelier's Principle

Module Thirteen: Acids and Bases

This module introduces the theories of acids and bases, the concept of pH, acid-base reactions, the ionization of water, buffers, and titration.

Module Fourteen: Nuclear Radiation

This module introduces the structure of the nucleus, the concept of radioactivity including natural and artificial types, detection and measurement of radiation, fission and fusion.