

CHEM 101: Chemistry! Better Things for Better Living

Dr. Dan Albert

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Contact Information

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The best way to reach me is via university email.

Student Consultation/Office Hours

I have an open door policy for meeting with you outside of class. If you ever walk by my door and it is open please feel free to stop to talk about any questions, comments, or concerns you have. The following times you can be guaranteed to find me in my office:

- Mondays from 12 - 1 pm in Caputo 214
- Tuesdays from 11 am - noon in Caputo 214
- Wednesdays from 2 - 3:30 pm in Caputo 214
- Fridays from 12 - 1:30 pm in Caputo 214

If you cannot make it to office hours please feel free to set-up an alternative time to meet with me by corresponding via email.

Course Description

A brief introduction to chemistry and its uses in modern society: consumer, environmental, and industrial application. Presented in a mostly descriptive fashion. No credit toward chemistry major. G2 Course. 3 Credit Hours

Course Purpose

An understanding of chemical principles is crucial to understand modern society as we are made-up of and constantly interact with chemicals. We will work to understand natural phenomenon through the use of chemical principles. In a broader sense, students in this class will benefit from knowledge of chemistry in their everyday lives. Things we encounter everyday such as cleaning products, pharmaceuticals, art supplies, and energy sources are chemistry in action! Our goal is to understand the chemical concepts involved in our every day experiences and decision making.

The problem solving techniques and approaches we use in this class are broadly applicable to thinking about many questions you will encounter in your life!

Course Learning Objectives

- Identify and interpret chemical terminology.
- Use proportional thinking to interpret chemical information.
- Describe how different elements behave and how atoms form compounds.
- Describe chemical reactions relevant to modern society.
- Analyze chemical information in popular media.
- Apply chemical principles to analyze potential solutions to societal issues.

Meeting Times

Tuesdays and Thursdays from 9:25 - 10:40 am in Roddy 149.

Required Materials

- Textbook: This course will use freely available Open Educational Resources that will be distributed through D2L. The main textbook for the course is Chemistry and Global Awareness by Elizabeth Gordon
- Calculator capable of using exponents.
- Regular access to D2L (<https://millersville.desire2learn.com/>) and university email

Class Environment

I value a learning environment that is engaging, respectful, and helpful. I ask that you help maintain a learning environment that meets these goals for everyone in the class. Anyone whose behavior is disruptive of the learning environment for others in the class will be asked to leave.

My goal is for you to feel comfortable, appreciated, fairly treated, and encouraged to challenge yourself and obtain success. *Please come talk to me if there is anything I can do to help support you in achieving success.*

Title IX

Millersville University and its faculty are committed to assuring a safe and productive educational environment for all students. In order to meet this commitment and to comply with Title IX of the Education Amendments of 1972 and guidance from the Office for Civil Rights, Title IX requires University faculty members to report incidents of sexual discrimination, including sexual violence, shared by students to the University's Title IX Coordinator. Accordingly, if a student shares information about any incidents of sexual discrimination or sexual violence during a classroom discussion, in a writing assignment for a class, or in other contexts, faculty must report that information to the Title IX Coordinator. This information will only be shared with the Title IX Coordinator, who is the individual on campus designated to respond to reports of discrimination or sexual violence. While the Title IX Coordinator is not a confidential source of support, they will address matters reported to them with sensitivity and will keep your information as private as possible.

Additionally, faculty members are obligated to report sexual violence or any other abuse of a student who was, or is a child (a person under 18 years of age) when the abuse allegedly occurred, to the person designated in the University's Protection of Minors policy.

Information regarding the reporting of sexual violence and the resources that are available to victims of sexual violence is set forth at: www.millersville.edu/titleix

Grading

All grades in this course are assigned by the instructor of record. Your grade in this course will be calculated using the following components and weighting.

Category	% of Total
In-Class Activities	10
Online Quizzes	25
Regular Exams	40
Infographic Project	10
Final Exam	15
Total	100

Your final grade will be determined by your overall percentage grade in the course using the grading scheme described above.

Grade Cut-off (%)	Letter Grade
93	A
90	A-
87	B+
83	B
80	B-
77	C+
73	C
70	C-
67	D+
63	D
60	D-
0	F

In-Class Activities

We will utilize a variety of small group work and informal quizzes during class sessions. This portion of your grade is earned by actively participating in class sessions and handing in classwork. Your two lowest scores in this category will be dropped.

Online Quizzes

We will have two different types of weekly quizzes: material comprehension quizzes and skill check quizzes. Material comprehension quizzes will consist of five questions each week whose answers can be found in the assigned readings and videos for the week. One attempt per week is provided for the material comprehension quizzes. Skill check quizzes will consist of five questions each week with the main focus to work on chemistry specific skills. You will receive unlimited attempts on the skill check quizzes each week. Your lowest material comprehension quiz and your lowest skill check quiz will be dropped from your grade calculation.

Regular Exams

Four regular exams will be given during our regular lecture meeting times. Each exam will contain one or more of the following types of questions: multiple choice, short answer, and worked problems. All exams in this course are considered cumulative, but will focus on the material covered since the last exam. Each regular exam is equally weighted in the regular exam category. Exam dates are February 11th, March 6th, April 3rd, and April 29th.

If your percentage grade on the final exam is higher than your lowest percentage regular exam score, your percentage grade on the final will replace your lowest regular exam score. For example, if you earn a 60% on Exam 1, a 85% on Exam 2, a 95% on Exam 3, an 80% on Exam 4, and an 80% on the Final Exam, your 60% on Exam 1 will be replaced and become an 80% (your percentage score on the Final Exam).

Infographic Project

You will create an infographic that explains a chemistry concept and connects it to an issue in modern society. You will be able to choose your topic, target age range (preschool, elementary school, middle school, high school, or adult), and format. An infographic proposal is due about one month prior to the completion of your final infographic. More information and assignment specifics will be provided in D2L.

Final Exam

A cumulative final exam will be given at the end of the semester. The final exam will take place on Wednesday May 7th from 2:45 - 4:45 pm.

Attendance, Absences, and Make-Ups

Attendance at every lecture is expected. If you must miss a lecture, please see a fellow classmate for notes. I will post all handouts during the semester to D2L.

Late or Make-Up Quizzes and Exams will not be allowed except under special circumstances. Prior notification is required unless it is an emergency situation. Some examples of special circumstances are below.

- Required religious observation
- Participation in a Millersville University athletic event
- Armed forces related training or drills
- Medical Illness/Emergency
- Death in the family

- If you feel that you have a special circumstance that is of similar importance to the items listed above, please come talk with me as soon as possible and I will work with you to try and find a solution

Academic Honesty

The Millersville University Academic Honesty Policy states that:

Students of the University are expected to be honest and forthright in their academic endeavors. To falsify the results of one's research, to steal the words or ideas of another, to cheat on an examination, to allow another person to commit, or assist another in committing an act of academic dishonesty, corrupts the essential process by which knowledge is advanced.

The entire academic honesty policy can be found at <http://www.millersville.edu/english/for-faculty/academic-integrity/index.php>

All work that is turned in for a grade should be completed individually by the person whose name appears on the work. Students found to have violated the academic honesty policy will receive a score of zero on the assignment. Repeated instances of academic misconduct will be given the harshest punishment.

Millersville Policies

- Academic Honesty Policy Governance Manual ([millersville.edu](http://www.millersville.edu)); for additional information please see the following: What is Academic Integrity?
- Attendance Policy: Class Attendance Policy
- Inclusion Statement: Millersville University Inclusion Statement
- Land Acknowledgement: Land Acknowledgement
- Policy on Delays and Cancellations: Policy on Delays & Cancellations
- Chosen Name FAQs: Preferred Name FAQs
- Privacy Rights under FERPA: Annual Notification of Student Rights Under FERPA
- Student Conduct and Community Standards Handbook: [studentcodeofconduct.pdf](#) ([millersville.edu](http://www.millersville.edu))

Suggestions for Course Success

Building an understanding of chemistry requires consistent effort throughout the semester to get the most out of this course.

- Work on chemistry a little bit every day.
Set aside time each day to work on chemistry outside of class.
- Read the textbook and work example problems before coming to class.
- Attend, participate, and take notes at all lectures.
Ask questions during class. I love to get questions during class.
Take notes to capture key points and ideas.
- Re-Read the textbook after class and fill-in your notes with additional details.
- Complete practice problems.
At a minimum you should be working all of the suggested problems.
The way you work through a problem matters.
Try to work problems by minimally looking at your notes or the textbook.
Starting problems is the most difficult part. Give yourself five minutes.
Solve problems from start to finish by yourself.
- Utilize helpful resources.
Form study groups.
Come to student consultation hours.
Stop by my office and ask questions. We can always find a time to meet.
Use Peer Learning Hours

Important Dates

Date	Event
1/28	Last Day to Add or Drop a Course Online
3/10-3/16	No Classes for Spring Break
4/4	Last Day to Withdraw from Course and Receive a 'W'
5/7	CHEM 101 Final Exam at 2:45 pm

Course Schedule

The instructor reserves the right to change this schedule as needed. Any changes will be communicated via an in-class announcement.

Week	Topics	Reading	Major Assignment Dates
1/20	Introduction to Chemistry	Chapter 1	
1/27	Mathematics of Chemistry	Chapter 2	
2/3	Mathematics of Chemistry	Chapter 2	
2/10	Atoms and Periodic Table	Chapter 3	Exam 1 on 2/11
2/17	Atoms and Periodic Table	Chapter 3	
2/24	Electrons and Bonding	Chapter 4	
3/3	Electrons and Bonding	Chapter 4	Exam 2 on 3/6
3/10	BREAK		
3/17	Nuclear Science	Chapter 5	
3/24	Energy Sources	Chapter 7	Infographic Proposal due 3/28
3/31	Energy Sources		Exam 3 on 4/3
4/7	Water Chemistry	Chapter 8	
4/14	Organic Chemistry and Pharmaceuticals	Chapters 9 & 10	
4/21	Organic Chemistry and Pharmaceuticals	Chapters 9 & 10	
4/28	Class Choice and Review		Exam 4 on 4/29 and Final Infographic Due 5/2
5/5	Final Exam		Final Exam on 5/7 at 2:45 pm