

CHEM101: Chemistry! Better Things for Better Living
Fall 2024
Roddy 149, TR 9:25 – 10:40 am

Instructor: Melissa A. Mullen Davis, Ph.D.
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Office Hours: Tues 1-3 pm, Thurs 1-2 pm, Fri 9:30 – 11:30 am, or by appointment.
Course website: <https://millersville.desire2learn.com>

Credit: 3 class hours per week. No credit towards Chemistry major.

Required Materials:

1. iClicker cloud software (see D2L/instructor for join information)
2. Scientific, non-graphing calculator

Course Overview:

This course serves as an introduction to Chemistry and its relationship to the modern world! Some of the goals of this course are to enable you to converse using appropriate chemical terminology and to identify chemistry in the world around you. We will cover a number of topics that will use chemistry to explain observations and phenomena associated with biology, personal care products, and current topics in the news.

Course Objectives:

The goals of this course are to enable you to:

- Identify and interpret chemical terminology.
- Describe how different elements behave and how atoms combine and rearrange to form compounds.
- Describe chemical reactions relevant to modern society and predict the products of common chemical reactions.
- Describe how selected chemicals and reactions are significant to the world around you.
- Think critically about information presented in the media about chemistry.
- Nurture an appreciation (or enthusiasm!) for thinking, speaking, and acting like a scientist.

Course Organization:

We will address the goals of the course by exploring a series of topics organized into modules. Within each module, topics will be organized to address an overarching question or problem. Examples of some of our modules are shown below. Please see D2L and course module schedules for up-to-date information about readings and assessments.

The Modules we will discuss might include:

- Should the US use nuclear power as an energy source?
- How can a person survive without a functioning kidney?
- How do cleaning products work?
- Chemistry of Baking
- Why don't electric cars need gasoline?

I also want to hear what *you* would like to learn! There is a question in the About Me Survey on D2L where you can select options and you are welcome to write any other topics that you would be interested in.

Succeeding in Chemistry Class!

To do well in this class, it is important to:

- 1) Be present and prepared for class.
- 2) Participate and be an active learner. I promise to provide you with the resources you need to help you succeed – class materials, examples, readings, practice problems, office hours, etc – but *you are ultimately responsible* for the knowledge you are gaining.
- 3) Review your notes after each class.
- 4) Complete practice problems.
- 5) Seek help from available resources. This includes studying with friends, other chemistry students, or the peer learning center. You should also come see me if you have questions! I am available during my office hours or by appointment. If you visit with me during office hours, please bring a list of questions that you have with you to make our time together more beneficial and efficient!
- 6) Remain engaged and upbeat throughout the semester.

Evaluation of Learning:

| | |
|-------------------------|-------------|
| Engagement and Homework | 25 % |
| Quizzes | 10 % |
| 4 Mid-Term Exams | 40 % |
| Book Project | 10 % |
| <u>Final Exam</u> | <u>15 %</u> |
| Total | 100 % |

Final letter grades will be assigned on a standard plus/minus scale:

- A: 90-100% (A: 93-100; A-: 90-93)
- B: 80-90% (B+: 87-90; B: 83-87; B-: 80-83)
- C: 70-80% (C+: 77-80; C: 73-77; C-: 70-73)
- D: 60-70%
- F: less than 60%

Engagement and Homework (25%)

Class attendance and engagement is required! You are expected to take responsibility for learning course material, participating in class, and completing homework. The best way to learn the material is to attend class, work with fellow students, and engage in the material!

iClicker Cloud

To facilitate attendance and engagement, we will be using the iClicker cloud response system. The questions will help me to understand what you think or know and gives everyone a chance to participate in class. Your answers will count towards the engagement component in the course and you should note that specific answers will not be graded for being correct, only for participating. You should purchase access to iclicker cloud software (~\$15) and/or download the app. For a guide on class registration, please refer to information on D2L.

Class Activities and Surveys

We will also use in-class group activities with some hand-written components that will count towards in-class participation. Occasional online surveys or forms could also be used to count as engagement.

D2L Homework

There will be D2L homework assigned throughout the semester to help you gain mastery in material discussed in class. Occasionally, a D2L homework will include material we will cover in an upcoming class to prepare for the upcoming material. D2L homework will have unlimited attempts and may be repeated until mastery of material is gained.

Quizzes, 10%

There will be approximately 7 quizzes throughout the semester that cover material from the previous classes. These will be used to test your understanding of course material, help focus your studies, and assist in preparation for exams. Quizzes will be administered on D2L and must be taken within the 36 hour window provided. Quizzes will be open-resource but can only be attempted once. *There are no make-up quizzes available.* Instead, your lowest quiz score will be dropped automatically.

Exams (60%)

Four mid-semester examinations and **one** final exam will be administered in class on the dates indicated below. These will be opportunities for you to demonstrate your individual understanding and ability to apply, analyze and synthesize the material discussed in the course and in assigned readings.

In-class exams are scheduled for:

Tuesday, February 1st

Thursday, February 29th

Thursday, March 28th

Thursday, April 23rd

The Comprehensive Final Exam is scheduled for: Wed 5/1, 2:45 – 4:45 am

Children's Book Project (10%)

This semester you (by yourself or with a partner) will choose a chemistry concept we discussed in class and prepare a children's book about this content. You will be able to choose your topic, target age range, and book format. As a part of this project, you will submit a short book proposal before preparation of the final book. Lots more information and a specific prompt will be provided on D2L.

Make-Up Exam/Quiz Policy

If you know ahead of time that you will miss an exam because of a College-sanctioned activity (e.g. an intercollegiate athletic event), you must tell me, in person, at least one full week before the exam date. You will be expected to take the quiz or exam before the scheduled exam period unless illness or a family emergency causes a late make-up exam to be necessary. The make-up exam will not necessarily be the same as the exam administered to the rest of the class. Any request for a make-up exam may require documentation. Missing a quiz or an exam without prior permission will result in a score of zero and cannot be made up.

Learning Accommodations

Any student who meets the eligibility requirements to receive academic accommodations through learning services should speak with the Office of Learning Services in Lyle Hall as early in the semester as possible. You should give me a Testing Accommodation Request form ("green sheet") as soon as possible and plan to take quiz/exams on the same day and time at the Office of Learning Services. For more information: <http://www.millersville.edu/learningservices>.

Illness Policy

So far this winter we have seen a rise in respiratory illnesses including COVID, flu, and RSV in addition to other illnesses. If you have any signs of illness, please stay home and prioritize your recovery. You are welcome to wear masks in the classroom or laboratory space if you feel more comfortable doing so.

- I highly recommend that students come to class to maximize learning of Biochemistry. However, if you feel unwell please stay home.
- If you are unable to attend class, please contact a classmate to obtain notes. Any materials used will be posted on D2L.
- If you are unable to attend lab, please contact me for a suitable alternative assignment.
- I am able to schedule in-person or virtual office hours/meetings to discuss course content.

- If you are experiencing a prolonged illness (more than two (2) weeks), please contact me.
- It is possible that you or I might have frequent and unexpected childcare or school closures. If you are a primary caregiver of a child (e.g. parent or guardian), please contact me and we can set up a custom plan for how to manage attendance and assignments if there are closures. Likewise, I will share plans if I am unable to attend in person.
- If there are other situations that will impact a student's ability to participate in this course, please contact me as soon as possible.

Diversity, Inclusion, and Anti-Racism Policy

This course is a judgement free and anti-racist learning environment. Our class includes students from a wide variety of social identities and life circumstances. Everyone will treat one another with respect and consideration at all times or be asked to leave the classroom.

As your instructor I will:

- Learn and correctly pronounce everyone's name
- Use correct pronouns for those who wish to indicate this to me/the class
- Work to accommodate/prevent English language related challenges

If you tell me that you are having trouble, I will not judge you or think less of you. You do not owe me an explanation of your health (physical or mental) or the health of your loved ones; but you are welcome to tell me and I will listen. If I can not help you, I will find someone who can. If you need help or more information, please ask and I will work with you.

If we have any virtual sessions children and pets are welcome to attend live sessions as long as you are considerate of other learners. In general, I suggest keeping your microphone muted when not speaking to avoid outside noise for the rest of the class.

University Inclusion Statement: <https://www.millersville.edu/dsj/inclusionstatement/>

Preferred Name FAQs: <https://www.millersville.edu/dsj/inclusionstatement/preferred-name-faqs.php>

Privacy Rights under FERPA: <https://www.millersville.edu/registrar/ferpaforstudents.php>

Academic Honesty

Students are expected to abide by the policy outlined by Millersville University shown below. Students will collaborate on collecting, interpreting, and reporting data. Students are expected to contribute equally on collaborative work. Fabrication of data or plagiarism in preparing reports will NOT be tolerated in this course. Students should not post course material on online study sites such as Chegg. Anyone caught cheating in these ways will be assigned a score of zero on the work.

I am also aware of the recent emergence of AI software such as ChatGPT as a means of completing assignments (essays, papers, etc). Use of this software to complete assignments is plagiarism, as defined in the Millersville University Student Handbook. If someone uses AI

assignments their grade will be lowered or given a score of 0. Continued use of this software will result in harsher academic measures.

According to Millersville University's Academic Honesty Policy: *"Students of the University are expected to be honest and forthright in their academic endeavors."* If you break the academic honesty policy, there are severe penalties. A failing grade will be assigned and you may be prosecuted by an Academic Review board. Actions that violate the Academic Honesty Policy are:

1. Plagiarism: inclusion of someone else's words, ideas, or data as one's own work.
2. Fabrication: falsification of research or other findings.
3. Cheating: the act or attempted act of deception by which an individual tries to misrepresent that the individual has mastered subject matter in an academic project or the attempt to gain an advantage by the use of illegal or illegitimate means. Submitting in-class participation cards for another student is considered cheating.
4. Academic Misconduct: violation of University policies by tampering with grades or participating in the distribution of any part of a test before its administration.

For more information see:

- <https://www.millersville.edu/cae/teaching-and-learning/academic-integrity.php>
- <https://www.millersville.edu/about/administration/policies/pdf/academics/academic-policy-academic-honesty-and-dishonesty.pdf>

Student Conduct and Community Standards:

<https://www.millersville.edu/studentconduct/files/studentcodeofconduct.pdf>

Official Attendance Policy

1. Students are expected to attend all classes. It is the student's responsibility to complete all course requirements even if a class is missed. If a student misses class for an officially excused reason, then the student is entitled to make up the missed work but only at the convenience of the faculty member. Responsibility for materials presented in, assignments made for, and tests/quizzes given in regularly scheduled classes lies solely with the student.
2. The Millersville University policy states that faculty will excuse absence for the following reasons:
 - a. personal illness
 - b. death or critical illness in the family
 - c. participation in a university-sponsored activity
 - d. jury duty
 - e. military duties
 - f. religious holidays
3. Faculty judge the validity of student absences from class within the University's approved guidelines and may require documentation for excuse absences. Faculty will evaluate any reason, other than those listed above, for a student missing class and determine whether the absence is justified. In these circumstances, a student may make up missed work at the discretion of the instructor.
4. In the case of foreseeable absences, students are encouraged to notify the faculty member in advance. A student who will miss class due to participation in an official University

activity must notify the instructor well in advance of the activity to assure that the absence is excused.

5. For more information: www.millersville.edu/registrar/faculty/attendance_policy.php

Delay and Cancellation Delay Policy: <https://www.millersville.edu/delays.php>

Land Acknowledgement:

We would like to recognize the Native peoples of the lower Susquehanna River basin, those known and those unknown to us, who have stewarded the land, upon which Millersville University sits, for thousands of years. We acknowledge that the land on which we gather, study, and work is the ancestral land of the Conestogas, Susquehannocks, Shawnee, and others. One group, the Shenks Ferry people, had a village adjacent to the campus. We pay our respects to the traditional occupants and caretakers of this land.

Title IX Statement

Millersville University and its faculty are committed to assuring a safe and productive educational environment for all students. In order to comply with the requirements of Title IX of the Education Amendments of 1972 and the University's commitment to offering supportive measures in accordance with the new regulations issued under Title IX, the University requires faculty members to report to the University's Title IX Coordinator incidents of sexual violence shared by students. The only exceptions to the faculty member's reporting obligation are when incidents of sexual violence are communicated by a student during a classroom discussion, in a writing assignment for a class, or as part of a University-approved research project. **Faculty members are obligated to report to the person designated in the University [Protection of Minors policy](#) 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.**

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

Counseling Reminder

Students sometimes face mental health or drug/alcohol challenges in their academic careers that interfere with their academic performance and goals. Millersville University is a caring community and resources are available to assist students who are dealing with problems. The Counseling Center (717-871-7821) is an important resource for both mental health and substance abuse issues. Additional resources include: Health Services (717-871-5250), Center for Health Education and Promotion (717-871-4141), Campus Ministries, and Learning Services (717-871-5554).

Americans with Disabilities Act

Millersville University is committed to equality of opportunity and freedom from discrimination for all students, employees, applicants for admission or employment, and all participants in public University-sponsored activities. In keeping with this commitment, and in accordance with the Americans with Disabilities Act (ADA) the University will make every effort to provide equality of opportunity and freedom from discrimination for all members of the University community and visitors to the University, regardless of any disability an individual may have.

Accordingly, the University has taken positive steps to make University facilities accessible to individuals with disabilities and has established procedures to provide reasonable accommodations to allow individuals with disabilities to participate in University programs. The University administration and management are obligated to report any allegation of discrimination to the appropriate office as defined in this policy.

Please let me know how I may make accommodations in the classroom setting that will enhance and support your learning.