

# CHEM 101: Chemistry! Better Things for Better Living

Semester: Spring, Year: 2023

Lecture Times and Room: Asynchronous videos through D2L

## 1. Instructor Information

### Instructor Contact Information

Instructor name: Dr. Nicholas Leed

Email address: [nicholas.leed@millersville.edu](mailto:nicholas.leed@millersville.edu)

Office location: Caputo 317

Office hours: In-person: Mon 11:00-1:00; Wed 9:30-10:30; Thurs 1:00-3:00; by appointment

Via Zoom: by appointment

Preferred contact instructions: Please contact me via email with any questions or to setup a meeting outside of office hours. No email necessary to show up to office hours.

## 2. Course Description

### Description

Chemistry 101 provides a descriptive and conceptual foundation of non-mathematical scientific and chemistry vocabulary and ideas invaluable in understanding the molecular world. The course surveys some impacts that chemicals have on the world around us; this includes examples of specific chemical benefits or risks and examples of how chemical science helps to elucidate phenomena. This course has two additional broad goals: first, to develop an appreciation for the molecular world and the fundamental role it plays in daily life; second, to better understand some of the major scientific and technological issues relevant to society.

This course satisfies part of MU's GenEd core (G2-Science/Math, <http://bit.ly/38PB1rW>): courses in the sciences and mathematics (G2 Category) develop students' understanding and knowledge of scientific and mathematical reasoning and of strategies for logical problem-solving. Students are challenged to recognize that scientific explanations offer falsifiable predictions, that claims must be supported by evidence and logical reasoning, and that the nature of scientific discovery and knowledge is fluid. Courses emphasize that the scientific meaning of fact, theory, and law are not a hierarchy, and give students an appreciation of essential creative aspects of scientific process and discovery. It does not satisfy MU's G2 laboratory science requirements.

## 3. Learning Outcomes

### Learning Objectives

Upon the successful completion of Chemistry 101, you will be able to...

1. Know, identify, interpret, and analyze some of the verbal and symbolic language of chemistry
2. Explain how selected atoms of elements combine and rearrange to form stable compounds
3. Describe how some of the elements may behave differently or similarly based on periodic trends
4. Identify and describe the major organic chemistry classes of molecules and functional groups
5. Define acids and bases; and, describe acid-base reactions
6. Predict the products of common chemical reactions relevant to modern society
7. Describe some of the chemicals relevant to modern society, including benefits and risks
8. Describe some of the chemical reactions relevant to modern society, including systems thinking
9. Describe how selected chemicals are significant to biological or environmental systems
10. Describe how selected chemicals are used or misused by consumers or industry

### Tips for success in Chem 101

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 tutoring 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.

## 4. Learning Resources

### Required Learning Materials

Scientific, non-graphing calculator: Your calculator for this course must be able to handle logarithms and exponents. This type of calculator can be found for around \$10. *Mobile communication devices and calculator programs/internal memory are not acceptable for use on exam*

Regular access to D2L (<https://millersville.desire2learn.com/>) and university email

### Additional Learning Resources

Stop in and Work on Chemistry!

No need to make an appointment simply come work on chemistry with your peers and get help from experienced tutors. Starting August 27th and continuing through the Fall Semester.

Contact Dr. Albert ([dalbert@millersville.edu](mailto:dalbert@millersville.edu)) with any questions/concerns.

## 5. Learning Assessment

### Final Grade Breakdown

The final course grade will be calculated using the following components:

Course Component	Percentage of Total
5 Unit Exam	40%
Cumulative Final Exam	20%
Quizzes (drop lowest 2)	20%
Homework	10%
In-Class Participation	10%
Total Grade	100%

### Exams

5 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.

Exams are scheduled for:

**Tues, 1/31**

**Tues, 2/21**

**Tues, 3/21**

**Tues, 4/11**

**Tues, 4/25**

The Comprehensive Final Exam is scheduled for: Tues, **5/02 asynchronous**

### Quizzes

There will be approximately 6 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 24-hour window provided. Quizzes can only be attempted once and should not be completed with assistance from your text, notes, or any other student. Using any assistance is a violation of the University Honor Code and is subject to disciplinary action. There are no make-up quizzes available, even if your absence for a class that day is approved. Instead, your lowest quiz score will be dropped automatically.

### D2L Homework

There will be D2L homework 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. D2L homework may be repeated until mastery of material is gained.

### 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.

## Grading Scale

Grade	Interval
A	92.0 and over
A-	90.0 to 91.9
B+	88.0 to 89.9
B	82.0 to 87.9
B-	80.0 to 81.9
C+	78.0 to 79.9

Grade	Interval
C	70.0 to 77.9
C-	69.0 to 69.9
D+	67.0 to 68.9
D	62.0 to 66.9
D-	60.0 to 61.9
F	Below 60.0

## 6. Course Policy Document

### 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>.

### 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: [http://www.millersville.edu/registrar/faculty/attendance\\_policy.php](http://www.millersville.edu/registrar/faculty/attendance_policy.php)

### Academic Honesty Policy

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

## Title IX Statement

*Millersville University and its faculty are committed to assuring a safe and productive educational environment for all students. In order to meet this commitment, comply with Title IX of the Education Amendments of 1972, 20 U.S.C. §1681, et seq., and act in accordance with guidance from the Office for Civil Rights, 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 incidents of sexual violence or any 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 available at [www.millersville.edu/titleix](http://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.**