

# **CHEM 101**

## **Chemistry in Society**

### **Fall 2025**

#### **INSTRUCTOR**

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#### **OFFICE HOURS**

Monday & Friday: 12:00 – 2:00 pm, Wednesday 10:00 – 11:00 am

#### **LECTURES**

MWF: 2:00 – 2:50 pm; Roddy Hall 149

#### **COURSE TEXTBOOK**

*Chemistry and Global Awareness* by Elizabeth Gordon; LibreTexts, 2020  
[https://chem.libretexts.org/Bookshelves/Introductory\\_Chemistry/Chemistry\\_and\\_Global\\_Awareness\\_\(Gordon\)](https://chem.libretexts.org/Bookshelves/Introductory_Chemistry/Chemistry_and_Global_Awareness_(Gordon))

#### **SUPPLEMENTAL MATERIAL**

Photocopied handouts may be provided when appropriate. Calculator with root function, logs, and antilogs will be required for exams and quizzes.

#### **COURSE CONTENT:**

Chemistry has been called the most “central” science since topics discussed in chemistry find relevance in biology, physics, medicine, law, economics, ecology, materials science, astronomy, environmental studies, and geology. Chemistry is the study of matter, and matter is anything that takes up space and has non-zero rest mass. Therefore, chemical understanding is central to scientific wisdom.

#### **COURSE OBJECTIVES**

By the end of the semester, you should be able to:

- Identify and interpret chemical terminology.
- Describe the behavior of different elements.
- Understand the formation of compounds from elements.
- Describe chemical reactions relevant to modern society.
- Analyze chemical information in popular information media.
- Apply chemical principles to analyze potential solutions to societal issues.

#### **GRADING**

Grading will be as follows: A 1000-point scale will be used to determine the final grade. There will be five examinations, each worth 10% of your overall course grade. The essay component, worth 10% of your course grade, will be due one week before the final exam. Details will be posted on D2L. Additionally, there

will be on-line assessments in the D2L environment which will be worth 40% of the overall grade. The on-line assessments will use the quiz feature on D2L but you should think of them as open-note, open-book practice problems similar to homework and you should use them to prepare for in-class examinations.

The maximum possible numbers of points are as follows:

Exam 1	100
Exam 2	100
Exam 3	100
Exam 4	100
Exam 5 (final)	100
Element Essay	100
On-line assessments	400
<b>Total</b>	<b>1000 points</b>

900 guarantees at least an A-  
800 guarantees at least a B-  
700 guarantees at least a C-  
600 guarantees at least a D-

## EXAMINATIONS

All examinations will count toward the course grade and it is expected that students will take all of the examinations at their regularly scheduled times. If you miss an exam without a valid excuse you will receive a score of zero. With a valid excuse, you may be allowed a special make-up exam in some circumstances, but I cannot guarantee that it will be equally difficult as the regular exam.

## ON-LINE COMPONENTS

Approximately ten assessments will be administered using the Desire2Learn software. You can think of them as homework, or practice problems, but I will use the “quiz” feature of D2L to administer them. They will involve short problems and concepts. Be sure to log on at <https://millersville.desire2learn.com/d2l/login> very soon after the first class meeting. Be sure to follow all instructions for submitting assessments. Pay close attention to the due dates. The due dates and times are hard deadlines. I will not re-open the quiz for any student for any reason.

## ATTENDANCE

General chemistry concepts require a mathematical framework for their presentation. Concepts are cumulative in the sense that the student must master introductory concepts and derivations in order to fully understand more advanced topics in general chemistry. We will continue to build upon material mastered earlier, hence poor attendance will affect your class grade.

## **ESSAY COMPONENT**

You will choose an element from the periodic table and write an essay describing the element, its discovery, its uses, and its economic importance. Details of this assignment will be posted on D2L.

## **DISABILITY STATEMENT**

It is the responsibility of students who have professionally diagnosed disabilities to notify the instructor so that appropriate modifications can be made to meet any special learning needs. Specific questions should be directed to the Office of Learning Services, at 717-872-3178.

## **ACADEMIC DISHONESTY**

Academic dishonesty includes unfairly advancing one's own academic performance or the performance of another, as well as intentionally limiting the academic performance of another student. Penalties for academic dishonesty will depend on the situation, ranging from a zero grade for the exam or assignment, to course failure. Your university's accreditation is based, in part, on academic standards of excellence. Academic dishonesty will devalue your degree.

## **CLASSROOM ETIQUETTE**

Arrive on time. If you must be late, please enter quietly to cause minimal disruption. Cell phones must be silenced. No texting during class. If you must eat, please be considerate. Eat quietly and dispose of any trash. The instructor reserves the right to require students who are disruptive to leave the classroom.

## **TUTORING**

Tutoring Chemistry tutoring is primarily available via drop-in Peer Learning Hours. You can just show up to these sessions to work on and get help with chemistry. Peer Learning Hours are listed on the department website at <https://www.millersville.edu/chemistry/tutoring.ph>

## **Fall 2025 *Tentative Examination Schedule (subject to change):***

Day	Date	Topic
Friday	September 12	Chapters 1&2
Friday	October 10	Chapters 3&4
Friday	October 31	Chapters 5&6
Friday	November 14	Chapters 7&8
Wednesday	December 10*	Chapters 9&10

\*Note that the final exam time is 8:00 – 10:00 am

## Tentative Course Schedule

<i>Week</i>	<i>Topic</i>	<i>Reading</i>
Aug. 25	Introduction to Chemistry	Chapter 1
Sep. 1	Mathematics of Chemistry	Chapter 2
Sep. 8	Mathematics of Chemistry	Chapter 2
Sept. 15	Atoms & Periodic Table	Chapter 3
Sept. 22	Atoms & Periodic Table	Chapter 3
Sept. 29	Electrons & Bonding	Chapter 4
Oct. 6	Electrons & Bonding	Chapter 4
Oct. 13	Nuclear Science	Chapter 5
Oct. 20	Nuclear Science	Chapter 5/6
Oct. 27	Nuclear Weapons	Chapter 6
Nov. 3	Energy Sources	Chapter 7
Nov. 10	Water Chemistry	Chapter 8
Nov. 17	Organic Chemistry	Chapter 9
Nov. 24	Organic Chemistry	Chapter 9
Dec. 1	Pharmaceuticals	Chapter 10
Dec. 8	review	

## 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 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 any 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 may be found at [www.millersville.edu/titleix](http://www.millersville.edu/titleix)