

CHEM101: Chemistry in Society

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Course Materials

Text: **Chemistry in Context, 2024 Release**, by the American Chemical Society, McGraw Hill Publishing 2024. Print copy: **ISBN10:** 1264923988 | **ISBN13:** 978126492398; ebook: **ISBN10:** 1264154577 | **ISBN13:** 9781264154579. You may use either the print copy or the ebook.

Lecture: MWF at 2:00-2:50 in Roddy 149

Office Hours

Monday, Wednesday, Thursday and Friday 10:00 – 11:00; Wednesday 3:00 - 4:00. Feel free to come by any time that I am in my office. If you have difficulty finding a time to meet with me, make an appointment to see me.

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:

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
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

Course Organization:

- 1 Portable Electronics: The Periodic Table in the Palm of Your Hand
- 2 The Air We Breathe
- 3 Radiation from the Sun
- 4 Climate Change
- 5 Energy from Combustion
- 6 Energy from Alternative Sources
- 7 Energy Storage
- 8 Water Everywhere: A Most Precious Resource
- 9 The World of Polymers and Plastics

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
- 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.
- 6) Remain engaged and upbeat throughout the semester.

Resources:

1. The course instructor
2. The textbook: Answers to many homework problems in Appendix 5
3. D2L: Short videos covering chemical concepts; Note Forms to guide your reading of each chapter
4. Chemistry Peer Learning: Caputo 211 Chemistry Peer Learning Hours are dedicated times available for students to come together and work on chemistry! No need to sign-up. Stop-by at any or all of the Peer Learning Hours. Peer Learning Hours are in Caputo 211 and are staffed by a chemistry tutor to assist you.
Peer Learning Hours Tuesday, Wednesday, Thursday 4:00 – 6:00 pm.

Evaluation of Learning:

Engagement and Quizzes	25 %
4 Mid-Term Exams	60 %
<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: 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 (35%)

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!

Homework : The homework is for your benefit to learn the material. You **will not** be turning in the homework to be graded. Instead there will be frequent quizzes covering the homework and the Note Forms for each chapter.

Chapter 1: 1, 2, 4, 5, 6, 7, 8, 9, 11, 12, 13, 14, 16, 17, 20, 21, 22, 23, 27, 35, 47

Chapter 2: 2, 3, 4, 5, 7, 8, 9, 10, 11, 12, 15, 16, 17, 18, 19, 20, 22, 24, 27, 28, 31, 33, 48

Chapter 3 : 1, 3, 7, 8, 9, 10, 11, 12, 13, 14, 16, 17, 18, 20, 21, 22, 23, 24, 27, 29, 30, 32, 35, 38, 41, 47, 56

Chapter 4: 1, 2, 4, 5, 7, 11, 12, 13, 14, 16, 17, 18, 22, 24, 25, 26, 31, 32, 33, 39, 34, 35, 36, 38, 45, 50, 52, 58

Chapter 5: 1, 2, 3, 4, 5, 6, 8, 10a, 11, 12, 14, 16, 18, 19, 20, 21, 22, 23, 26, 27, 29, 30, 31, 32, 34, 37, 47, 48, 50, 58

Chapter 6: 1, 2, 3, 4, 6, 7, 8, 10, 12, 13, 14, 15, 16, 20, 21, 22, 23, 24, 29, 30, 31, 33, 34, 36, 41, 43, 51, 59

Chapter 7: 1, 3, 4, 5, 6, 7, 8, 10, 11, 12, 13, 15, 16, 17, 18, 20, 21, 23, 26, 27, 30, 41, 42, 46, 50.

Chapter 8: 1, 2, 3, 5, 6, 7, 8, 10, 11, 12, 13, 15, 16, 19, 20, 21, 23, 24, 25, 29, 31, 33, 36, 37, 39, 43, 46, 49

Chapter 9 : 1, 3, 4, 5, 9, 12, 13, 14, 15, 17, 18, 21, 22, 26, 30, 38, 40, 43, 48

Academic Honesty

Students are expected to be familiar with the University's policy on academic honesty and dishonesty found in the *Student Handbook* and the *Academic Honesty and Dishonesty* brochure. Academic dishonesty includes cheating on an exam or quiz, or presenting another student's work as one's own. Students are encouraged to work together on homework assignments and preparation for exams.

University Policies

*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