

Syllabus

CHEM 101
CHEMISTRY! Better Things for Better Living
Spring Semester 2022

Instructor: Dr. Steven M. Bonser

Office: 323 Caputo Hall

Phone: (717)-871-7415

Email: Steven.Bonser@millersville.edu

Office Hours:

Wed.: 3:00 pm – 5:00 pm

Thurs.: 10:00 am – 12:00 noon

Fri.: 10:00 am – 11:00 am

(or, by appointment)

Course Description:

Chemistry 101 is an introductory short course in chemistry designed for students not majoring in the sciences (except Math or Computer Sciences). 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 several topics that will use chemistry to explain observations and phenomena associated with biology, personal care products, and current topics in the news.

Required Materials:

- “*Chemistry in Context, Applying Chemistry to Society*” 10th Ed., by American Chemical Society, McGraw-Hill Education, 2 Penn Plaza, New York, NY 10121, 2021. ISBN: 978-1-260-24084-9 (bound edition); MHID: 1-260-24084-3 (bound edition); ISBN: 978-1-260-49706-9 (loose-leaf edition); MHID: 1-260-49706-2 (loose-leaf edition).
- You may wish to have a calculator, capable of doing square roots, logarithms (log, ln), and exponentials (10^x , e^x , y^x).

Course Objectives:

At the conclusion of Chemistry 101, students should be able 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.

To accomplish these objectives:

Do not try to memorize everything for the course – it doesn't work. Try to focus on the major concepts and develop some flexibility into the application of those concepts. This doesn't mean, however, that you won't have to memorize anything. There are some fundamental principles and vocabulary that you will have to remember to successfully complete this course. Approach this class like a math class. In math, you learn the material by working through many problems. One of the most important ways to become proficient in chemistry is to practice, practice, practice

Chemistry! Better Things for Better Living, Chem 101.01 – continued:

with little memorization. The more problems you do, the better you will do. Recall Confucius who probably said it best; *“I hear, and I forget. I see, and I remember. I do, and I understand.”*

How to Succeed: DO NOT LET YOURSELF GET BEHIND!!!

- Be present and prepared for class.
- Do all the assigned reading before class. *You are responsible for material in assigned reading even if we do not cover it in class.*
- 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.
- Work the problems at the end of the Chapters!!!
- Do all the assigned homework and then some; it will increase your understanding of chemistry and aid in preparing you for the exams and quizzes. **NOTE:** *You will definitely see some of them again on quizzes and exams.* The best way to learn and reinforce the principles learned in any chemistry course is to work through the problems.
- Devote time to this class! You cannot realistically expect to learn even the basics of a subject by spending the typical 1-2 hours a week that many students report putting into a course. *A minimum rule-of-thumb in study time for each course you are taking should be about 2 hours for each 1 hour spent in class per week. That is, 6 hours of study time outside of class for a typical 3 hour per week lecture course.*
- Ask questions. There is no such thing as a “dumb” question.
- 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!
- **Chemistry Peer Learning** is provided by the Department of Chemistry to assist you in your preparation for your chemistry courses. The hours this semester will be In-Person in Roddy 256 from 2 – 4 and 5 – 7 pm on Tuesdays, Wednesdays, and Thursdays. The one exception...no 2 – 4 session on Tuesdays! Students can attend any of these sessions at any time with no need to sign-up. Peer learning is a place to work on chemistry where support is immediately available. Please do not wait until you feel behind in the course to begin using this resource.
- Get help as soon as it is needed – *don't put it off!*
- Put in the time and work hard. **Above all, have fun with it!**

Lectures:

All lectures are Monday, Wednesday, and Friday, from 2:00 to 2:50 pm, in Roddy 149.

Tentative CHEM 101 Course Calendar

Spring 2022

MWF, 2:00 – 2:50 pm, Roddy 149

Textbook Chapter

“Tentative” Topics

Chapter 01	Portable Electronics: The Periodic Table in the Palm of Your Hand
Chapter 02	The Air We Breathe
Chapter 03	Radiation from the Sun
Chapter 04	Climate Change
Chapter 05	Water Everywhere: A Most Precious Resource
Chapter 06	Energy from Combustion
Chapter 07	Energy from Alternative Sources

Chemistry! Better Things for Better Living, Chem 101.01 – continued:

Chapter 08	Energy Storage
Chapter 09	The World of Polymers and Plastics
Chapter 10	Brewing and Chewing
Chapter 11	Nutrition
Chapter 12	Health & Medicine

Attendance Policy / Exam Make-up Policy:

Students are responsible for all notes, discussions, assignments and handouts presented in each class (whether you are present or absent). Also, students are expected to be present when any evaluation (i.e., quiz, exam, etc.) is given, as well as all laboratory sessions. If you miss an Exam for a legitimate **documented** reason (i.e., personal illness, as verified by a **valid medical excuse**, or personal emergency, as a death, or critical illness in the **immediate** family, or participation in a university sponsored activity, or jury duty, or military duty, or observed religious function), as described in the Class Attendance Policy of the Millersville University *Governance Manual, Section 3*, a make-up Exam will be given at a time mutually agreed upon by the instructor and the student. **You have 24 hours prior to the exam to notify me of your absence in order to qualify for a make-up. No excuses will be accepted if presented to me after a missed Exam.** If there is a true emergency, I will accept notification **up to and only 24 hours after the Exam.** I can be contacted by phone, or email. If I am not available, leave a message with the Department secretary. In this regard, there is no excuse for not contacting me. It is **YOUR** responsibility to verify that your message reached me! It is important to realize that Make-up exams may differ in style/questions from the original exam.

*Failure to comply with any of the above will result in a grade of **zero**.*

Special Need Students:

Please see the Office of Learning Services (Lyle Hall) ASAP if you have special needs for this class. If you have a condition that may affect your ability to perform laboratory exercises, to exit safely from the premises in an emergency, or which may cause an emergency during class, or lab, please discuss this in confidence with your instructor and someone at the Office of Student Support Services.

Problems from the textbook:

Work the problems at the end of the chapters. They will not necessarily be collected; however, it is to your advantage that you work as many as possible until a concept is mastered. There is a strong, direct correlation between the number of problems worked and understood and exam grades and an inverse correlation to the perceived difficulty and length of exams. Besides, they have a tendency to appear on quizzes and exams.

Course Evaluation:

4 hourly exams (4 x 100 pts = 400 pts)	50%
Final comprehensive exam (100 pts)	25%
4 quizzes (4 x 20 pts)	25%

	100%

- **Tentative Exam dates:** W: 02/09/22; F: 03/04/22; M: 04/04/22; W: 04/27/22
- **Tentative Quiz dates:** F: 01/28/22; M: 02/21/22; W: 03/23/22; F: 04/15/22
- **Final Exam:** Thursday, 05/05/22, 10:15 am – 12:15 pm

Last day to withdraw from the course: Friday, 04/01/21, online by 4:30 pm.

Chemistry! Better Things for Better Living, Chem 101.01 – continued:

Grade Distribution:

A	90 – 100%	B⁻	78 – 79%	D⁺	65 – 67%
A⁻	88 – 89%	C⁺	75 – 77%	D	62 – 64%
B⁺	85 – 87%	C	70 – 74%	D⁻	60 – 62%
B	80 – 84%	C⁻	68 – 69%	F	< 60%

Do not tell me what grade you want or need, especially during the last week of the semester. You will get the grade you earn...plain and simple! You know the grade you want to achieve &/or need to pass; thus, I suggest you start working towards that goal on DAY 1!

Out of Class Assistance:

If you do not understand a problem or concept, please do not hesitate to ask in class, schedule an appointment to meet with me *via* Zoom, or, seek tutorial assistance.

Academic Honesty and Dishonesty:

Plagiarism is the deliberate, or even accidental representation of another's work as your own without proper reference. Although you will work together on some material and experiments, this does not mean that lab reports and assignments should be identical. Each participant uses the collective data and discussion to prepare his or her own individual report. You should be familiar with the University policy on academic honesty and dishonesty as outlined in the Student Handbook and Academic Honesty and Dishonesty brochure; the content applies to this course. If you are caught, you will be removed from the course and assigned an F for the course, and the filing of a report with the Associate Provost for Academic Programs and Services!

TITLE IX RESPONSIBILITIES FOR FACULTY:

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 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 available 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).

Chemistry! Better Things for Better Living, Chem 101.01 – continued:

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.

Resource contacts available for students during these trying times for the Spring 2022 semester:

- Help Desk hours: Monday - Thursday 7 a.m. – 7 p.m., Friday 7 a.m. – 5 p.m.
How to contact the Help Desk:
 - *via* email help.desk@millersville.edu
 - *via* the web <https://millersvilleuniversity.sysaidit.com>
 - For Immediate needs only - *via* phone 717-871-7777
- IT web site URL: <https://wiki.millersville.edu/display/ittac>
- D2L support number:
24x7 365days/year 1-877-325-7778 or <https://community.brightspace.com/millersville/s/>