Elementary Chemistry for Health Sciences

The University of Toledo
College of Natural Sciences and Mathematics
Department of Chemistry and Biochemistry
CHEM1110–901, CRN 18282

Instructor: Dr. Kristi Mock
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Student Drop-in Hours: MW 11:30- 1, TR 1-2, and by appointment
Drop-in Hours Location: Bowman-Oddy (BO)2086F
Instructor Phone: 419-530-4080

Offered: Spring 2022
Course Website: Blackboard Learn
Class Location: Distance Learning
Class Day/Time: N/A
Recitation Day/Time: N/A
Credit Hours: 3

COURSE/CATALOG DESCRIPTION

The study of chemistry for students that are studying nursing or other allied health related fields who have not had a previous course in chemistry or whose preparation in chemistry is not sufficient to begin Chemistry for Health Sciences (CHEM 1120).

COURSE OVERVIEW

CHEM 1110 is the introductory chemistry course to prepare students for CHEM 1120 – Chemistry for Health Sciences. As a prerequisite to CHEM 1120 – Chemistry for Health Sciences, it is offered for students that did not meet the criteria for direct entrance into CHEM 1120. The grade of C or higher is required in CHEM 1110 to continue on to CHEM 1120. It provides a basic foundation in math and the principles of general chemistry needed to continue on to CHEM 1120. This course is typically taken by nursing students, elementary education students, sports management students, and some science majors who do not want or need the more rigorous chemistry background that is provided by two or three years of chemistry courses. It is not appropriate for chemistry majors and may be too rigorous for non-science majors who are only interested in fulfilling their general education science core requirement. If you have any questions about course placement, please see me as soon as possible.

STUDENT LEARNING OUTCOMES

Upon completion of this course, the student will be able to:

1. Explain how chemical processes work in the body.
2. Use chemical concepts to explain how chemistry is used in health care.
3. Demonstrate the ability to think critically and employ critical thinking skills.
4. Read and interpret graphs and data.
5. Demonstrate an understanding of the impact of science on society.

PREREQUISITES AND COREQUISITES

One of the following: ACT math score of 20 or higher, College Algebra Test score of 10 or higher, ALEKS math score of 46 or higher, completion of MATH 1200 with a grade of C or higher, or placement into any higher level math course (1320, 1340, 1750, 1830, 1850).

TEXTS AND ANCILLARY MATERIALS

Required Materials:

- Because this course is part of the inclusive access program you have already paid for access to the following items which can be accessed directly through Blackboard:
  - An electronic copy of the textbook, *General, Organic, and Biological Chemistry: The Structures of Life,*

6th edition by Timberlake
  - — Mastering Chemistry
  - — Learning Catalytics
- Regular access to a properly functioning computer with internet access to login to Blackboard (https://blackboard.utdl.edu/webapps/login/).
- A webcam. This course requires the use of a webcam for the online exams. The webcam can be the type that's built into your computer or one that plugs in with a USB cable. There are webcams available on computers in Carlson Library that you may use. If you have difficulty with the Webcam requirement, please contact me as soon as possible to arrange for alternate live proctoring arrangements for the exams.
- LockDown Browser.
  - Watch this brief video to get a basic understanding of LockDown Browser and the webcam feature https://www.respondus.com/products/lockdown-browser/student-movie.shtml
  - Download and install LockDown Browser from this link: https://download.respondus.com/lockdown/download.php?id=213815819
- A non-programmable calculator for use during exams. Only non-programmable calculators are allowed when you take exams. Examples of non-programmable calculators include: TI-30XIIS, TI-30Xa, TI-30XS Multiview, TI-32, TI-34 II, TI-34 Multiview, TI-36, TI-36X Solar, Casio FX-77, Casio FX-260, Casio FX-65. Many of these can be purchased for about $10. A calculator that has any of the following functions is not permitted for use on our exams: solver, integration, differentiation, unit conversions, or a calculator that allows you to type an equation. If you are unsure do not hesitate to reach out and ask!

Optional Materials:

- A hard copy of *General, Organic, and Biological Chemistry: The Structures of Life,* 6th ed, 2019, Timberlake, Prentice Hall

TECHNOLOGY REQUIREMENTS

Please view the technology considerations for this course, including technical skills needed, general technology requirements, and technology privacy policies.

Blackboard (https://blackboard.utdl.edu) and Modified Mastering Chemistry (available through the Blackboard course) will be used on a regular basis in this course. Students need to have access to a properly functioning computer throughout the semester. Student computers need to be capable of running the latest versions of plug-ins, recent software and have the necessary tools to be kept free of viruses and spyware. Updated software is available from the Online Learning Download Center. Other resources from UToledo Online can be found at http://www.utoledo.edu/dl/students/required-info-online-learners.html

For exams, students may use an approved calculator. Any calculator that is programmable, whether graphing or non-graphing, and any calculator based on a phone or other device that can receive or transmit data, are prohibited.

ACCESSIBILITY OF COURSE TECHNOLOGIES

Please view Accessibility of Course Technologies for information regarding the accessibility of Blackboard and other technologies used in this course.

WORK WEEK

All assigned work is to be completed by 11:59 PM on the date specified in the Weekly Module on Blackboard. You are encouraged to work ahead so that if you have any difficulties with the material or your personal schedule you have enough time to meet the deadlines.

COURSE EXPECTATIONS

1. Check Blackboard and your UT email every day.
2. See Teaching Methodology below for suggestions on how to work through the course.
3. Finish assignments in a timely manner.
4. At a minimum, answer the assigned HW and quiz questions. There are many problems found throughout the book that should be worked if you are having difficulty with a certain concept.
5. If you need extra help, make an appointment with your professor or reach out through email. You will not be graded or judged based on the questions that you ask! Additional resources are listed on page 6.

TEACHING METHODOLOGY

Students entering chemistry are often nervous and unsure about whether they can do well. Being successful *will* require time and effort. However, you have met the pre-requisites for this course, you belong here and *are* in the position to learn, grow and meet the challenge: you *can* learn chemistry.

Because research has shown that learning occurs when the learner is actively involved in "doing" rather than just listening or watching, asking questions and solving lots of problems will be key elements in your success. With these ideas in mind, the following are used to facilitate learning in this course**.**

Readings: Even before watching the lectures, I recommend reading the textbook. Repetition is one key to learning! While doing this, it is beneficial if you write down definitions, equations, and small notes as you go along. I will post partial outlines of my lectures that include space for this. As you read attempt to work the problems through the chapter. Don't get discouraged if you can't do them. After watching the lecture and practicing there, come back and try again. If you are still struggling, there are tutors on campus and of course me!

Lectures**:** Lectures will be posted for you to watch at your own pace. Now lecture will truly be at a pace appropriate for YOU. Feel free to **pause the recording** to write down definitions or answer questions, and then continue when you are ready to see the solutions. Keep in mind that since this is a recording, I cannot gauge how well you are understanding the material. Please **be sure to contact me with questions**. I can always make supplemental videos over topics if a lot of you are struggling, meet with you in virtual office hours, or answer questions through email.

Class Participation Points*:* Throughout the lectures I ask polling questions through Learning Catalytics (LC). LC is packaged with your online HW system, Mastering Chemistry (MC) (information below). Each of these questions is worth 0.5 points if correct and 0.1 point if answered incorrectly. The LC questions are there to help you learn. You don't learn a sport by watching others play. You go on the field, fall, and pick yourself back up to learn it. Use the LC questions as a safe place to fall. Don't worry about getting some of them wrong. I offer more points in this category than you can add to your final grade so you can miss a few and still get full credit for your Participation Points, and we learn a lot by making mistakes.

Homework**:** We will be using the Modified Mastering Chemistry Homework System (MC). It is an online, web-based learning system that is packaged with your textbook. It is part of the inclusive access package for this course. **You do NOT need to purchase an access code** unless you opted out on your bill.

Problem sets will be posted in advance, feel free to work ahead. However, you must complete the assignments by the posted deadlines because **I will not re-open the online homework assignment once the deadline passes!!** For each problem in MC, you have 6 attempts to answer correctly. You will not have points taken away during these 6

attempts unless it is a multiple-choice question; a small deduction is made for each wrong answer to a multiple-choice question. If you do not exhaust your options or hit give up, MC may not assign points for that section; be sure to double-check for this before the submission deadline.

Additionally, I **strongly** encourage you to attempt the problems from the end of each chapter in your textbook until you are very familiar with that topic. If you are having difficulties working either the Mastering Chemistry assignments or the questions from the end of each chapter, you should either work with your classmates (a post on the discussion board of our class website on Blackboard is appropriate) or contact me.

***Quizzes*:** Once you feel you have mastered the material for the week you can attempt the quiz. Weekly quizzes will open on Bb each week at midnight on Thursday and close midnight Sunday. You will have unlimited attempts to earn the grade you want, but each attempt will have a time limit. Unlimited quizzing allows you to practice with the material in timed environment without the stress of getting everything right the first time. I allow unlimited attempts so you can relax and make sure you LEARN the material.

Examinations: On two mid-term exams and a cumulative final you will demonstrate what you have learned. See course schedule for dates and times

The midterm and final examinations will require proctoring. For most of you this will require installing LockDown Browser and the use of a webcam. If for any reason you cannot get these to work contact me as soon as possible to discuss options. There will be an opportunity to practice with the webcam monitor and LockDown Browser a few weeks before your first exam.

To take each exam you must show photo identification. You are not allowed to use any outside sources for the exams. That is, you are not allowed to consult other people, the internet, your textbook, or any notes. You will, however, be given a periodic table and the values of constants. Also, you may use a non-programmable calculator, NOT a programmable calculator or phone.

If you cannot take an exam at the scheduled time due to an irresolvable conflict, you must provide **written documentation** to verify the conflict before the exam date and obtain my **approval before the exam**. If the documentation is approved, you will be given an opportunity to take the exam at an arranged time before the scheduled test date.

Because of the large number of students that take this course, and in fairness to *all* students, make-up exams will not be given. If you unexpectedly miss a midterm exam due to illness, car accident or similar extreme circumstance please inform me of your difficulty by email as soon as possible. If you do not have access to email, leave a message on my office phone (see contact info above). If your excuse is acceptable and verified, your final course grade will be computed with the score on the missed exam equal to the average of the other midterm exam and final. In all other circumstances, a missed exam will result in a grade of 0.

Final Exam: The final exam cannot be excused.

COMMUNICATION GUIDELINES

Communication: This class is being taught for you so if you are having trouble understanding any of it, let me know. **I am here to help!** The best way to contact me is through email and I will do my best to respond to you within 48 hours (often more quickly). I have specific drop-in hours listed at the very beginning of this syllabus. I will be ready to meet with students at those times, but you are always welcome to just come by BO2086F and see if I am around. You can also email me to make an appointment outside drop-in hours, including virtual appointments.

Netiquette: It is important to be courteous and civil when communicating with others. Students taking online courses are subject to the Student Code of Conduct. To ensure your success when communicating online, take time to familiarize yourself with the “dos" and "dont’s" of Internet etiquette.

Email: Students are expected to check their UT email account frequently for important course information. This information will also be posted on Blackboard.

Real-Time Communication: A link to Blackboard Collaborate Ultra, a real-time communication tool has been added to the course menu in Blackboard. We will not be meeting there for class. However, the tool is available for you to use if and when you need it. I would be happy to arrange a time to meet with you virtually if you feel that you have questions that would best be answered in real-time. Conversely, you could also use the tool to meet with fellow students online in order to enhance your understanding of course concepts.

OVERVIEW OF COURSE GRADE ASSIGNMENT

It is a very high priority to your instructor to ensure fairness and equity in all grading aspects of the course. There is nothing about this class that requires a certain number of students to get a certain grade. We don’t use a curve, so every one of you can achieve the grade that you are willing to earn!

To meet state and federal laws regarding financial aid disbursement, attendance is also recorded during the 8th week. Please note, if you are not attending class and completing assignments it could affect your financial aid (scholarships, grants, loans, or Federal Work Study). If you decide you are not going to attend this class (or any other class you have registered for), you must formally withdraw (drop) from the course. You can do this by logging onto the myUT portal, clicking on the “Student” tab, and then under “My Toolkit” click on Register/Drop/Withdraw.

Midterm Grading: Midterm grades are assigned the 8th week of class to assist students in determining their academic standing. Your midterm grade will be based on your quiz average up through Week 6, and your first exam score. Letter ranges corresponding to percentages of points earned, are given under Final Grading.

Final Grading

The following is the distribution of possible points in the course:

Participation points*	50 pts	8 %
Mastering Chemistry (online HW)*	100 pts	15 %
Quizzes (includes PT assignment)	100 pts	15 %
Midterm Exams – 2 @100 points each	200 pts	31 %
Final Exam	200 pts	31 %
Total:	**650 pts**	

*These categories will have extra points available to allow students a chance to reach the total points. However, points added to the total grade will not exceed total points for a category.

The grading scale for this class is:

		A	93%	A-	90%
B+	87%	B	83%	B-	80%
C+	77%	C	73%	C-	70%
D+	67%	D	63%	D-	60%

Drop, Withdrawal and Incomplete Grades: Dropped courses do not appear on your transcript. The deadline for dropping is **February 1st** . You may withdraw from the course and receive a grade of W. The deadline for withdrawal is **March 25th** . W's do not affect your GPA but do appear on your transcript. A course grade of Incomplete is given only to those who have completed all but a small percentage of course requirements for an acceptable reason. You will retain all of your previously determined grades.

UNIVERSITY POLICIES

Policy Statement on Non-Discrimination on the Basis of Disability (ADA)

The University is an equal opportunity educational institution. Please read The University's Policy Statement on Nondiscrimination on the Basis of Disability Americans with Disability Act Compliance.

Academic Accommodations

The University of Toledo embraces the inclusion of students with disabilities. We are committed to ensuring equal opportunity and seamless access for full participation in all courses. For students who have an accommodations memo from Student Disability Services, I invite you to correspond with me as soon as possible so that we can communicate confidentially about implementing accommodations in this course. For students who have not established affiliation with Student Disability Services and are experiencing disability access barriers or are interested in a referral to healthcare resources for a potential disability or would like information regarding eligibility for academic accommodations, please contact the Student Disability Services Office (http://www.utoledo.edu/offices/student-disability-services/) by calling 419.530.4981 or sending an email to StudentDisability@utoledo.edu.

Academic Policies

The University of Toledo has a number of academic policies intended to promote fairness and equity among students. These are wide ranging and include policies on adding and dropping a course, duel degree requirements, graduation with honors, academic dishonesty, confidentiality of student records and veteran assistance to name just a few. Please use the following URL to read a comprehensive list of academic policies that may pertain to you in this class and throughout your academic journey: Undergraduate Academic Policies. If you have any questions after reading through the policies, please let me know.

Refer to the university's policy on Academic Dishonesty in the university catalogue. Violation of this policy can result in a course grade of **F** with additional university sanctions possible. You will be required to formally acknowledge the terms of our **Academic Honesty Statement**, by providing a statement through our Blackboard course page.

Additional Policy Statements

Students can find other university policies listed by audience on the University Policy webpage (http://www.utoledo.edu/policies/audience.html/#students).

ACADEMIC AND SUPPORT SERVICES

Please view the Learner Support page for links and descriptions of the technical, academic, and student support services available to UT students. The university provides a variety of academic and support services on campus to help you succeed and reach your fullest potential. Whether you need to ask a question, get help with an assignment, seek advice from a counselor, find a job or join a club, UToledo is there for you! Just use the following URLs to find the academic support or service you need:

Chemistry Help from Teaching Assistants: Virtual/online help will be available. The link for the Help Center is https://us.bbcollab.com/guest/ce2a41f345ed4e9d939dd6e7b0ef0c63 No appointment is necessary!

Tutoring through the Learning Enhancement Center: http://www.utoledo.edu/success/lec/

Supplemental Instruction (SI) is a FREE service that provides regularly scheduled, out-of-class study sessions. The SI sessions are led by trained students who have previously taken the course and attend every lecture with you. They are well-informed about what's happening in the course and maintain a strong understanding of the course content. SI Sessions—open to all students in the class—review important course concepts, practice test items, develop test prep strategies, and discuss readings. No credit is offered for attending SI sessions
Library: http://www.utoledo.edu/library/

Success Coaching: https://www.utoledo.edu/successcoach/

Student Affairs: http://www.utoledo.edu/studentaffairs/

Career Services: http://www.utoledo.edu/success/career/

Course scheduling assistance*:* Chemistry Department Secretary, Ms. Samples. You can find her in Room BO 2022, ; email: pamela.samples@utoledo.edu, or telephone 419-530-2698. Ms. Samples takes care of all scheduling changes.

SAFETY AND HEALTH SERVICES FOR UTOLEDO STUDENTS

Please use the following link to view a comprehensive list Campus Health and Safety Services available to you as a student.

INCLUSIVE CLASSROOM STATEMENT

In this class, we will work together to develop a learning community that is inclusive and respectful. Our diversity may be reflected by differences in race, culture, age, religion, sexual orientation, gender identity/expression, socioeconomic background, and a myriad of other social identities and life experiences. I will encourage expression and appreciation of different ideas, opinions, and beliefs so that conversations and interactions that could potentially be divisive turn, instead, into opportunities for intellectual and personal development. If I ever miss the mark please don't hesitate to come and talk to me. We are all learning together.

SPECIAL UNIVERSITY WIDE COURSE EXPECTATIONS DURING COVID-19

This is an unprecedented time for our Rockets community at the University of Toledo. In times of challenge, such as this, we come together to support each other and help keep the more vulnerable members of our community safe during the COVID-19 pandemic. If we all do our part, we will help to minimize the spread of infection and maintain engaging face to face class environments this fall. That is why we are asking all faculty, staff and students to adhere to the special course expectations described below. Please review these policies described below.

Course Attendance

In order to ensure that we self-quarantine if symptomatic, students, faculty and staff must perform a daily health assessment, based on based on CDC guidelines, before coming to campus each day, which includes taking your temperature. Students who are symptomatic/sick should not come to class and should contact the Main Campus Health Center at 419-530-3451. The University of Toledo has a missed class policy. It is important that you understand the attendance requirements for this course. Please engage with me if you have any questions about these requirements. *Absences due to COVID-19 quarantine or isolation requirements **are** considered excused*

absences. You should notify me if you are in quarantine or isolation and these absences may not require written notice.

Face Coverings

To help keep each other safe, everyone must wear face coverings while on campus, except while eating, alone in an enclosed space, or outdoors practicing social distancing. Students will not be permitted in class without a face covering. If you have a medical reason that prevents you from wearing a face covering due to a health condition deemed high-risk for COVID-19 by the Centers for Disease Control and Prevention (CDC), you should submit a request for accommodation through the Student Disability Services Office (SDS) by completing this online application. You will need to provide documentation that verifies your health condition or disability and supports the need for accommodations. If you are already affiliated with SDS and would like to request additional accommodations due to the impact of COVID-19, please contact their accessibility specialist to discuss your specific needs.

Social Distancing

As further efforts to keep everyone safe, students should practice social distancing inside and outside the classroom, including when you enter and exit. Please maintain at least 6 feet of distance between yourself and others, follow posted signage, and pay attention to the seating arrangements in the classroom. It's important that you do not remove stickers or tape from seats and/or tables, as they are there to provide guidance on the appropriate classroom capacity based on recommended social distancing between individuals. Please be conscious of your personal space and respectful of the space of others in the class.

Desks and Work Spaces

An important part of keeping our classroom spaces safe involves keeping them sanitized. We ask all students to sanitize their desk and/or work space before class begins, with the sanitizing spray and paper towels provided in the classroom.

Special Note

Although we have developed a rigorous and evidence-based plan for keeping each other safe during COVID-19, it's important to note that, based on the unpredictability of the virus, things can change at any time. So please be patient and understanding as we move through the semester. If at any point you have any concerns about class, completing course work/assignments, and/or health concerns related to COVID, please let me know.

Please also know that we recognize the COVID-19 situation has placed additional burdens on many of our students. If, at any point in the semester, you experience difficulties meeting your basic needs, managing your different responsibilities, or maintaining your physical or mental health, we have a variety of resources that can help. Please review and utilize our Student Success resources and let me know if you have any questions.

Copyright Notice

A summary of the weekly assignments and anticipated course schedule are provided on the following pages. Note the Exam date. As instructor, I reserve the right to modify the schedule of topics if I believe it to be in the best interest of the class, however, the Exam dates will NOT change.

Be Sure That Your Travel & Employment Plans Do Not Conflict with the Exam Schedule.

CHEM 1110 – Elementary Chemistry for Health Sciences

TENTATIVE Course Schedule – Spring 2022

Week	Dates	Chapter Sections and Topics	Assignments*	SLOs
1	Jan 18-23	**MLK Day, Mon. Jan 17 – no class** Welcome 1. Chemistry in Our Lives	Getting Started Quiz Read Ch 1 Guided Note-Taking LC questions Intro & Ch 1 HW in MC Ch 1 quiz in Bb	3,4,5
2	Jan 24-30	2. Chemistry and Measurements	Read Ch 2 Guided Note-Taking LC questions Ch 2.1-2.4 HW in MC Ch 2.1-2.4 quiz in Bb	3,4,5
3	Jan 31-Feb 6	**Last day to Drop via the web is Feb 1** 2. Chemistry and Measurements (Continued) 3. Matter and Energy	Read Ch 2&3 Guided Note-Taking LC questions Ch 2.5-3.3 HW in MC Ch 2.5-3.3 quiz in Bb	2,3,4,5
4	Feb 7-13	3. Matter and Energy (Continued) 4. Atoms	Read Ch 3&4 Guided Note-Taking LC questions PT assignment Ch 3.4-4.2 HW in MC Ch 3.3-4.2 quiz in Bb	2,3,4,5
5	Feb 14-20	4. Atoms (Continued)	Read Ch 4 Guided Note-Taking LC questions PT assignment Ch 4.3-4.8 HW in MC Ch 4.3-4.8 quiz in Bb	3,4,5
6	Feb 21-27	6. Ionic and Molecular Compounds	**Midterm Exam 1:** **Mon. Feb 21 Ch 1-4** Read Ch 6 Guided Note-Taking PT assignment LC questions Ch 6.1-6.3 HW in MC Ch 6.1-6.3 quiz in Bb	3,4,5
7	Feb 28-Mar 6	6. Ionic and Molecular Compounds (Continued)	Read Ch 6 Guided Note-Taking LC questions PT assignment Ch 6.4-6.6 HW in MC Ch 6.4-6.6 quiz in Bb	3,4,5

	Mar 7-13	**Spring Break**		
8	Mar 14-20	6. Ionic and Molecular Compounds (Continued)	Read Ch 6 Guided Note-Taking LC questions PT assignment Ch 6.7-6.8 HW in MC Ch 6.7-6.8 quiz in Bb	3,4,5
9	Mar 21-27	**Last day to Withdraw: March 25** 7. Chemical Reactions and Quantities	Read Ch 7 Guided Note-Taking LC questions PT assignment due Ch 6.9-7.2 HW in MC Ch 6.9-7.2 quiz in Bb	2,3,4,5
10	Mar 28-Apr 3	7. Chemical Reactions and Quantities (Continued)	Read Ch 7 Guided Note-Taking LC questions Ch 7.4-7.7 HW in MC Ch 7.4-7.7 quiz in Bb	2,3,4,5
11	Apr 4-10	7. Chemical Reactions and Quantities (Continued)	Read Ch 7 Guided Note-Taking LC questions Ch 7.8-7.9 HW in MC Ch 7.8-7.9 quiz in Bb	2,3,4,5
12	Apr 11-17	7. Chemical Reactions and Quantities (Continued) 8. Gases	Read Ch 7&8 Guided Note-Taking LC questions Ch 7.10-8.5 HW in MC Ch .10-8.5 quiz in Bb	2,3,4,5
13	Apr 18-24	8. Gases (Continued)	**Midterm Exam 2: Mon. Apr 18 Ch 1-7** Read Ch 8 Guided Note-Taking LC questions Ch 8.6-8.7 HW in MC Ch 8.6-8.7 quiz in Bb	1,2,3,4,5
14	Apr 25-May 1	8. Gases (Continued) 5. Nuclear Chemistry	Read Ch 8 & 5 Guided Note-Taking LC questions Ch 8.8 & 5 HW in MC Ch 8.8 & 5 quiz in Bb Final Review due in MC	1,2,3,4,5
Finals Week	May 2-6	****** Comprehensive Final Exam ***** **Tuesday, May 3 from 12:30-2:30 PM** **Please let me know right away if you cannot make this time.**		