CHEM 1100
Chemistry and Society
(Section 001, Spring 2021)

University of Toledo, Department of Chemistry and Biochemistry
College of Natural Sciences and Mathematics

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Lecture: Memory Field House, Rm 2100, MW 2:30 PM to 3:50 PM
Office Hours: MW 1:00 to 2:00 PM or by appointment
Textbooks: Middlecamp et al, *Chemistry in Context: Applying Chemistry to Society*, **9th Ed**, published by McGraw-Hill Higher Education, ISBN-13: 978-1260222029

Blackboard Page: **http://www.dl.utoledo.edu/**

SPECIAL UNIVERSITY COURSE EXPECTATIONS DURING COVID-19

ATTENDANCE
The University of Toledo has a missed class policy. Students must perform a daily health assessment, based on **CDC guidelines,** before coming to campus each day, which includes taking their temperature. Students who are symptomatic/sick should not come to class and should contact the Main Campus Health Center at 419-530-3451. Absences due to COVID-19 quarantine or isolation requirements are considered excused absences. Students should notify me as soon as possible. These absences may not require written notice.

FACE COVERINGS
All students must wear face coverings while on campus, except while eating, alone in an enclosed space, or outdoors practicing social distancing. No students will 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 an accommodation through the Student Disability Services Office (SDS) by completing the online application. Students will need to provide documentation that verifies their health condition or disability and supports the need for accommodations. If a student is already affiliated with SDS and would like to request additional accommodations due to the impact of COVID-19, they should contact their accessibility specialist to discuss their specific needs.

SOCIAL DISTANCING
Students should practice social distancing inside and outside the classroom. Please follow signage and pay attention to the seating arrangements. Do not remove stickers or tape from seats and/or tables; these items are there to provide guidance on the appropriate classroom capacity based on the recommended six (6) feet of social distancing between individuals. Please be conscious of your personal space and respectful of others. Also be cognizant of how you enter and exit the room; always try to maintain at least six (6) feet of distance between yourself and others.

DESKS AND WORK SPACES
Students will need to sanitize their desks and/or work space before class with the University provided sanitizing spray and paper towels their desks.

SPECIAL NOTES
It is important to note that based on the unpredictability of the COVID-19 virus things can change at any time so please be patient and understanding as we move through the semester. Please keep me informed of concerns you may have about class, completing course work/assignments timely and/or health concerns related to COVID.

COURSE SPECIFIC INFORMATION

Course Overview

In this course, students will be acquainted with the fundamental concepts of chemistry and learn to relate these concepts to chemical issues that affect students' own daily lives. "Chemistry in Context" reveals the chemistry behind our fuels, foods, plastics, cosmetics, medicines, and a host of other substances and products we use in our everyday lives. By examining the materials of our everyday lives using the science of chemistry as a foundation, students will learn how the science of chemistry operates and gain useful insights into what these common substances are and how they work. This is a class for any non-science major – *so not for those whose major is science, medicine or engineering.*

Course Topics

We will consider several aspects of chemistry in your life. Our text has 12 chapters, but not all can be covered in a single semester. After considering the subjects most likely to be of interest to a general audience, our plan is to cover these 9 chapters.

Chapter	Topic
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
8	Water Everywhere: A Most Precious Resource
9	The World of Polymers and Plastics
11	Nutrition

Course Objectives

Upon completion of this course, you will be able to:

- Explain the connection between your health and what you breathe.
- Apply what you know about air pollution to ways of living that result in cleaner air.
- Describe and characterize the ozone layer.
- Discuss the interaction of radiation with matter.
- Evaluate articles on green chemistry alternatives to ozone-depleting compounds.
- Understand the different processes that take part in Earth's energy balance.
- Evaluate how human activities contribute to global climate change.
- Analyze, interpret, evaluate, and critique news stories on global climate change including graphical data.
- Assess how fossil fuels, biofuels, and gasoline additives affect fuel economy, tailpipe emissions, human health, the environment, and sustainability issues.
- Evaluate how human activities contribute to the formation of acid rain.
- Connect global climate change with the supply and demand of water.
- Describe how green chemistry and its applications can contribute to clean water.
- Summarize possible solutions to our global water challenges.
- Compare and contrast chemical and nuclear reactions.
- Assess the risks and benefits in regard to the use of nuclear power.
- Describe polymers and their applications in your everyday life
- Describe ways in which food production connects to land use, water use, energy use, and issues of global climate change.
- Describe ways to decrease the carbon footprint of food you eat.

Course Components

Lectures – Two 80 minute lectures will be given each week. At the start of each class period reading will be assigned for the following period. You will be expected to have read the chapter prior to coming to class. You should review the lecture notes as soon as possible after class and also before the next lecture. You are encouraged to ask questions during the lecture. Only a questioning mind can learn.

Learn Smart assignments on CONNECT: CONNECT Chemistry (CONNECT) hosts course instruction materials, LearnSmart and online homework assignments. LearnSmart is an interactive study tool that adaptively assesses students' skill and knowledge levels to track which topics students have mastered and which require further instruction and practice. Based upon student progress, it then adjusts the learning content based on their knowledge strengths and weaknesses, as well as their confidence level around that knowledge. LearnSmart's adaptive technology also understands and accounts for memory degradation. It identifies the concepts that students are most likely to forget over the course of the semester—by considering those that they had been weakest on or least confident with—and encourages periodic review by the student to ensure that concepts are truly learned and retained. In this way, it goes beyond systems that simply help students study for a test or exam, and helps students with true concept retention and learning.

Online homework assignments on CONNECT: These assignments, test your knowledge and are primarily based on the end-of-chapter questions. CONNECT Homework is designed to help you develop basic skills and to understand and apply concepts presented in class and in the textbook readings. Doing all assigned problems is essential to success in this course.. Complete this after attending lecture and finishing Learn Smart assignments. You will have 3 chances over several days to provide the correct answers. There is no grade penalty for using all 3 attempts. For full credit you must complete it correctly by the deadline. Each is worth 15 points.

Exams: There will be three midterm exams and a final exam. THERE WILL BE NO MAKE-UP EXAMS. You may drop your lowest midterm exam grade. A missed exam will be counted as your grade to be dropped. A second missed exam will be counted as a zero. Each exam will cover the material that is presented during the lectures in that portion of the course. The final exam will be comprehensive and cover all of the material presented during the semester.

Course project: A course project on a socially relevant chemistry topics covered in the first seven chapters of the textbooks will be assigned. Your will have the option to choose a topics according to your own interest among several provided topics. nA detailed guideline on the course project will be provided late.

Course Grades

Grades will be based on problem sets, exams, and quizzes weighted as follows:

Item	Points
Connect Learn Smart	110
Connect HW	135
Exam 1	100
Exam 2	100
Exam 3	100
Final	200
Course Project	100
Attendance	25
Total points*	**770**

Note *: Students are allowed to drop one of the four exams. Thus, the total points from exams are 400.

Tentative Grading Scale

A	Above 89%	Above 685
B	75 to 89%	577 to 684
C	60 to 75%	462 to 576
D	50 to 60%	385 to 461
F	Below 50%	Below 384

The grading scale is tentative. It is possible, at instructor's discretion, to lower the minimum number of points required for a given grade. "+" and "-" grades will be assigned to adequately reflect border- line scores.

Amount of Work Expected of Students

The Ohio Board of Regents (OBOR) specifies that students will be expected to work at out-of-class assignments on a regular basis which, over the length of the course, would normally average two hours of out-of-class study for each hour of formal class activity. This out-of-class study shall not be counted as part of the classroom hour for credit purposes. This means that students should expect to spend at least *six* hours of reading/studying/preparing assignments outside of class each week for a three credit course.

Professional Behavior

All of us must conduct ourselves in a manner that is conducive to learning for everyone (i.e., professional). When teaching or working with others, we expect them to listen to us. When we ask questions or engage in class discussion, we expect others to listen to us. Others expect the same from us.

The following are examples of responsible professional behavior and irresponsible professional behavior. They are presented as examples and *not* as complete, exhaustive lists.

Responsible

- Attending class

  If a class is missed, for any reason, students are responsible for all material covered and announcements made in their absence. Class interaction is considered if there is a question regarding lowering or raising the final grade from the numerically calculated final grade. Obviously, not attending class prevents observable, positive class interaction.

- Being on time and remaining for the entire class
- Demonstrating an understanding of assignments by using appropriate psychological concepts to explain or justify comments
- Thoughtful and effortful completion of assignments
- Active, enthusiastic participation in class discussion and activities, including asking thoughtful questions
- Responding to other students' comments in a reasonable and constructive manner

Irresponsible

- Physical presence, but cognitive absence (e.g., surfing the web, text messaging, tweeting, blogging, "off in space," sleeping, dozing off, etc.)

Unless there is an appropriate reason (e.g., medical issue, someone is traveling) for them to be on, pagers, mobile phones, iPods, etc., are to be turned off. If there is an appropriate reason for them to be on, then they are to be in *vibrate only* mode. PDA's, electronic tablets, smartphones, and laptops may be used to take notes. They are not to be used for surfing the web, text messaging, tweeting, blogging, etc.

- Arriving late or leaving early
- You may record the class. However, please notify the other students and me that you are recording the class. Everyone has a right to know they are being recorded.
- Non-constructive responses to the comments of others
- Physical, intellectual, and/or emotional bullying

There are differences between an intellectual disagreement and behaviors that denigrate, humiliate, etc. (i.e., bully), the individual(s) with whom one has a disagreement. Such behaviors are usually intentional, persistent, and hostile. They include snide comments (e.g., name calling, insults), "rolling the eyes," hand gestures, turning the body, "looking down one's nose" at someone, mimicking/mocking a classmate, ostracizing or attempting to get others to consistently ignore a classmate, etc. These behaviors will not be tolerated, and will negatively affect a final grade, or, in severe cases, result in a student being removed from the class, and possibly the course.

Statement of Inclusion and Civility

In concert with the University of Toledo's values and expectations, the faculty within the Judith Herb College of Education, Health Science and Human Service upholds the tenets pledged by the University to respect and value personal uniqueness and differences. Specifically, we will actively participate in the initiatives of the University to attract and retain diverse faculty, staff, and students; to challenge stereotypes; and to promote sensitivity toward diversity and foster an environment of inclusion in all curricular and extra-curricular activities.

Hence, all students enrolled in this course will be expected to:

- Promote a collaborative and supportive educational environment in a diverse community
- Treat every individual with kindness, consideration, dignity, and respect regardless of:
  - Gender,
  - Race/ethnicity,
  - Religion,
  - Sexual orientation,
  - Impairment(s)/Disability(ies),
  - Social economic status,
  - Political views, and
  - Other element(s) of diversity

Anti-Bullying Policy

<u>*Every*</u> University of Toledo student deserves to enjoy our school equally, and feel safe, secure and accepted. It is my goal to promote an inclusive, accepting environment in this course. Consequently, any form of bullying will not be tolerated. Bullying is defined as *intentionally persistent, hostile behavior that is aimed at harming another individual.* Bullying can take many forms including verbal (e.g., name-calling, insults), physical (e.g., pushing, shoving), and relational (e.g., eye rolling when a classmate enters the room, mimicking a classmate, ostracizing or attempting to get others to consistently ignore a classmate). Bullying

can also be cyber in nature; specifically, repetitively rude text messages or comments on Facebook statuses or photos.

Please be it known that any form of bullying will not be tolerated. If you experience bullying, or are a witness to a bullying incident in this classroom or anywhere on campus, please feel free to approach me and I will take appropriate action. If you are uncomfortable reporting it to me, please visit The University of Toledo's Anti-Bullying Task Force link at www.utoledo.edu/tlc/bully and complete The Anonymous Reporting Tool.

Academic Accommodations/Accessibility

"The University of Toledo abides by the Americans with Disabilities Act (equal and timely access) and Section 504 of the Rehabilitation Act of 1973 (non-discrimination on the basis of disability). If you have a disability and are in need of academic accommodations but have not yet registered with the Office of Accessibility (OA) (Rocket Hall 1820; 419.530.4981; officeofaccessibility@utoledo.edu) please contact the office as soon as possible for more information and/or to initiate the process for accessing academic accommodations. I also encourage students with disabilities receiving accommodations through OA to discuss these with me, after class or during my office hours, so that I may be better informed on how to assist you during the semester" (Faculty resources, 2012, "Academic accommodations," para. 4).

Absence Policy

The University supports basic protections and reasonable accommodations for students who miss class with excused absences. Students are expected to attend every class meeting of courses in which they are registered. Only in specific, unavoidable situations does the University excuse absences from class: (1) personal emergencies, including, but not limited to, illness of the student or of a dependent of the student [as defined by the Policy on Family and Medical Leave], or death in the family; (2) religious observances that prevent the student from attending class; (3) participation in University-sponsored activities, approved by the appropriate University authority, such as intercollegiate athletic competitions, activities approved by academic units, including artistic performances, R.O.T.C. functions, academic field trips, and special events connected with coursework; (4) government-required activities, such as military assignments, jury duty, or court appearances; and (5) any other absence that the professor approves. Students are responsible for all material covered in classes they miss, even when their absences are excused as defined above. Students must make arrangements with instructors to complete missed assignments, labs, examinations or other course requirements. In turn, instructors are not to penalize students with excused absences.

Cell Phone Policy

The University of Toledo notifies its students of all emergencies via the UT Alert System. In the event of an on campus emergency, students are notified via text message. As a result, it is my policy to allow cell phones in my class. Please put your phone on vibrate upon entering the classroom and make every attempt to leave your phone untouched unless there is an emergency. If you must take a call, I ask that you exit the room to do so.

Winter Weather Policy/Class Suspension Procedures

In the rare event the University delays or suspends classes or campus events for any reason, the University will announce this information through several sources:

- UT Alert text message and email: Sign up for UT Alert
- Web: utoledo.edu and myut.utoledo.edu
- Social media: UT on Facebook and Twitter
- Local media

In the rare event that I must cancel class, I will send an e-mail to your Rocket e-mail account as soon as possible.

Tentative Schedule
for Lectures and Exams

Week	Ch	Title
Jan. 18 Jan. 25 Feb. 1 Feb. 8 Feb. 15	1	Portable Electronics: The Periodic Table in the Palm of Your Hand
	2	The Air We Breathe
	3	Radiation from the Sun
	Feb. 17: Instructional Break Day for Exam #1	
Feb. 22 March 1 March 8 March 15 March 22	4	Climate Change
	5	Energy from combustion
	6	Energy from Alternative Sources
	March 24: Instructional Break Day for Exam #2	
March 29 April 5 April 12 April 19	8	Water Everywhere: A Most Precious Resource
	9	The World of Polymers and Plastics
	11	Nutrition
	April 21: Instructional Break Day for Exam #3	
April 26	April 26, Course project working day April 28, Review for the final exam and Final Project report due	
	May 3 (2:45-4:45), **Final Exam**: Cumulative	