

**Chemistry! Better Things for Better Living**  
**CHEM 101**

Welcome to CHEM 101. This course syllabus outlines the agreement between instructor and student for the duration of the semester. The schedule is subject to change (i.e. due to inclement weather), but the course policies are NOT. Please note that this content is also available on Desire2Learn and students should refer to the course website often for class updates and announcements.

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D2L Course Website:

<https://millersville.desire2learn.com>

Office Hours:

M: 9-11 am, W: 9-11 am, Th: 9-10 am

Meetings also available by appointment, please feel free to email me or approach me with questions about course content. I am here to help you!

Lecture: T/Th 11 – 12:15 Roddy 149

**Course Objectives**

1. To learn some of the simple concepts of chemistry.
2. To identify chemistry in the world around us.
3. To think critically about the role of chemistry in the world around you so you can make an informed opinion about that science.
4. To connect the basics of chemistry to the world around you.

**Course Evaluation**

Four Mid-Term Exams		40%	
Final Exam		20%	
In-Class Participation Cards		20%	
In-Class Quizzes		20%	
Total Class %		100%	
<b>Letter Grade</b>	<b>Percent</b>	<b>Letter Grade</b>	<b>Percent</b>
A	≥94.0%	C	74.0-77.9%
A-	90.0-93.9%	C-	70.0-73.9%
B+	88.0-89.9%	D+	68.0-69.9%
B	84.0-87.9%	D	64.0-67.9%
B-	80.0-83.9%	D-	60.0-63.9%
C+	78.0-79.9%	F	Below 60.0%

**Dates to Note:**

August 24 - First day of Classes

Sep. 1 – Drop/Add end

Sep. 7 – NO CLASS

Oct. 16 – Oct. 20 – NO CLASS

Oct. 30 – Last day to Withdraw

Nov. 25 – Nov. 29-NO CLASS

Dec. 8-12 – Finals

Dec. 13 – Fall Term Ends

### Course Materials

1. **Lecture Text:** *Chemistry in Focus*, 6th ed., TRO, CENGAGE LEARNING, 2016, ISBN 9781305084476  
**NOTE: the textbook version doesn't particularly matter for this course.**

#### Tentative Lecture Schedule

Approximate Textbook Content*	Content to be Covered – A representative sampling	Exam Schedule
Chapter 8/external sources	Ethics of science – From the FDA to Politics to the Environment	
Chapter 3/4	The Periodic Table – atoms, ions, and periodicity	
Chapter 14	Ions – How does a battery work – the Tesla – How do fireworks work?	<b>Exam 1</b> – Sept. 10 <sup>th</sup>
Chapter 5/15	Polarity – How does soap work? – What is hard water? – What is detergent? – Why is water so cool?	
Chapter 11/12/13	Acids and Bases – What is the difference? – Some common acids and bases – Alka Seltzer – Cleaners – What is acid rain? – The Clean Air Act Amendments – What is pH? – What is the difference between crack and cocaine?	<b>Exam 2</b> – Oct 1 <sup>st</sup>
Chapter 1/2/9/11	Density – How do you make beer? – Why does ice float – why should/shouldn't we worry about the polar ice caps melting?	
Chapter 7	Light – How does sunscreen work? – What makes a rainbow – Why is the sky blue? – How can an MRI help a Dr. diagnose you?	<b>Exam 3</b> – Oct. 22 <sup>nd</sup>
Chapter 16/17	Biochemistry – How does caffeine work? – How do anti-depressants work?	
Chapter 10/19	Nanotechnology – How do solar cells work? – Why are fossil fuels something we can/can't rely on?	<b>Exam 4</b> – Nov. 12 <sup>th</sup>
Chapter 11/18	Environmental Chemistry – What is a gas? – What is the atmosphere? – The Montreal Protocol – What is the hole in the ozone layer and what causes it?	
<b>CUMULATIVE FINAL EXAM</b> – Finals Week		

**\*Please see D2L for exact reading assignments**

#### General Course Policies

- **Make-up Policy:** All students must take examinations as scheduled. Other than health problems (that require a written, signed excuse from a doctor), excused absences will only be considered if the excuse is submitted **before** the scheduled exam. A make-up exam will be scheduled at a mutually agreed upon time within **two** days of the scheduled exam. It is the student's responsibility to schedule the make-up within the time-frame; otherwise it will result in a grade of zero. Participation cards and in-class quizzes cannot be made up. See the **Drop Policy** for details on Participation Cards and in-class quizzes. See Millersville course policies for exceptions.
- **Drop Policy:** You may drop two participation card grades and the lowest quiz grade may be dropped. No Mid-Term exams may be dropped.

- **Participation:** Class participation is contingent upon completion of in-class 3x5 index cards, to be given out during lecture at the instructor's discretion. These are open notes and can be completed in collaboration with fellow students.
- **Safe and Productive Environment:** 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 <http://www.millersville.edu/social/eq/title-ix-sexual-misconduct/index.php>.
- **Academic Honesty Policy:** If you break the academic honesty policy of Millersville University, there are severe penalties. A failing grade will be assigned and you may be prosecuted by an Academic Review board. Actions that Violate the Academic Honesty Policy are:
  - **Plagiarism** – Plagiarism is the inclusion of someone else's words, ideas, or data as one's own work.
  - **Fabrication** – Fabrication is the falsification of research or other findings.
  - **Cheating** – Cheating is the act or attempted act of deception by which an individual tries to misrepresent that he/she has mastered subject matter in an academic project or the attempt to gain an advantage by the use of illegal or illegitimate means.
  - **Academic Misconduct** – Academic misconduct is the violation of University policies by tampering with grades or participating in the distribution of any part of a test before its administration.
- **Attendance: Class attendance is required.** It should be recognized that missing more than one to two days of a chemistry course is most unwise due to the pace of the course and the amount of material covered. It is the student's responsibility to learn the material covered in class.
- **Cell phone use:** The use of a cell phone during exams results in an immediate zero.
- **Regrades:** Any regrade requests must be submitted within one week of receiving the material back from the instructor.
- **Academic Accommodations:** The students who meet the eligibility requirements to receive academic accommodations through learning services should give the instructor a Testing Accommodation Request form ("green sheet") as soon as possible and should take quiz/exams on the same day and time at the office of learning services.
- **Extra Credit:** Extra credit is provided for each exam as follows: You have one week to read a single post from one of these blogs and write a short summary *in your own words* on the significance and relevance of this chemistry.

Guidelines for Extra Credit:

Sites that are worth extra credit:

1. <http://www.forbes.com/sites/carmendrah/>
2. <https://www.greenbiz.com/blogs/featured/right-chemistry>
3. <http://www.smithsonianmag.com/tag/new-research/>

Questions to help you write

- What makes this chemistry interesting to me?
- What significance does this chemistry have for society?
- Why do scientists pursue this project?/What is the motivation for this science?
- Do not submit the same summary/post twice.
- Must be at least five sentences long.
- Cannot copy from another student or the extra credit does not count. (**academic honesty applies**)
- Pick a post that focuses on CHEMISTRY, regardless of what is posted on the blog.