CHEMISTRY 110, FUNDAMENTALS OF CHEMISTRY

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COURSE MATERIALS
Text: your textbook for this class is available for free online! If you prefer, you can also get a print version at a very low cost. Your book is available in web view and PDF for free. You can also choose to purchase on iBooks or get a print version from OpenStax on Amazon.com.

You can use whichever formats you want. However the Web view is recommended because of links to simulations and additional material.

Your text can be located at https://openstax.org/details/books/chemistry-2e
Chemistry from OpenStax, Print ISBN 194717262X, Digital ISBN 1947172611,

COURSE DESCRIPITION
Fundamentals of Chemistry An intensive review of the fundamentals of chemistry, with particular emphasis placed on solving chemistry problems. Topics include measurements, formulas and nomenclature, equations, stoichiometry, atomic and molecular structure, solution concentrations, acids and bases. This course is designed to prepare students majoring in the sciences for their general chemistry sequence, CHEM 111 and CHEM 112. This course may be counted only as an elective beyond normal graduation requirements. Three hours lecture/problem solving each week. Prerequisite or Corequisite: MATH 101 or math placement test for Math 160 or higher.

CHEMISTRY PEER LEARNING
Chemistry Peer Learning is provided by the department of chemistry to assist you in your preparation for your chemistry courses. 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. . Students can attend any of these sessions at any time with no need to sign-up. All sessions will be in Roddy 256. Times are: Wednesday & Thursday 2:00-4:00 and Tuesday, Wednesday and Thursday 5:00-7:00.

TENTATIVE EXAM SCHEDULE
Exam 1	February 11
Exam 2	March 18
Exam 3	April 8
Exam 4	April 29
Final	

GRADING SYSTEM
		Letter Grade	Percentage
Exams (4)	400 pts	A-	90 - 92
Quizzes\Worksheets	100 pts	B+	88 - 90
Final Exam	100 pts	B	82 - 88
Total	600 pts	B-	80 - 82
		C+	77 - 80
		C	68 - 77
		C-	65 - 68
		D+	64 - 65
		D	61 - 64
		D-	60 - 61
		F	< 60

OFFICE HOURS
Monday, Wednesday & Friday 9:00-10:30; Thursday 1:00-2:00
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.

ATTENDANCE
Regular attendance is expected for all lectures. If an absence results in a missed exam or quiz a Request For Excused Absence Form (attached to the end of the syllabus) must be submitted to the instructor. Absences are excused for illness, family emergencies or university activities. Absences due to university activities must be discussed with the instructor in advance and arrangements made for making up the missed work. All missed work must be made up within one week of the student's return to class. If an exam or quiz is missed and the absence is excused, a makeup exam or quiz will be given or the final exam grade will be substituted for the missed work.

STUDENT RESPONSIBILITIES
You are responsible for all assigned work and material covered in class. The average student will need to spend approximately 1 hour preparation time for the course every day (including weekends) in order to receive an average grade. A higher grade will normally require additional study time. Two days of 3.5 hours each are not equivalent to an hour each day. You should diligently prepare all assignments. When you encounter material which you cannot master alone you should seek help immediately. The primary source of help should be the course instructor and the Peer Learning Center. You will find my office hours listed in the syllabus and posted on my office door. If you are having difficulty in the course I expect you to come see me.

PROBLEM ASSIGNMENTS/QUIZZES
Frequent problem assignments will be made from the text. The problem assignments will not be collected and graded. Instead, there will be frequent pop quizzes in lecture or recitation taken from the assigned problems. You are expected to read each chapter as it is being covered in lecture. Study the chapter in detail to increase your understanding of the material. Study all assigned homework problems until you understand them (not just until you obtain an answer). Plan to work only a few new problems each day. When you work a problem for the first time use your notes, textbook, and additional information. Then review the problems from the previous night without using outside sources. You should be confident of the homework assignment. The homework problems assigned are the minimum number of problems you are expected to work. They represent a broad overview of the types of problems you are expected to understand. You are expected to work additional problems and to spend additional time on those problems that give you difficulty.

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, presenting another student's work as one's own in a laboratory report or notebook, fabricating data in a laboratory experiment. Students are encouraged to work together on homework assignments and preparation for exams.

CLASSROOM ETIQUETTE
Arrive for class on time. Turn off all cell phones while in class. Cell phones may *not* be used as a calculator during quizzes or tests. Talking during lecture is a distraction to others who are trying to listen.

COURSE OUTLINE
Chemistry in Context
Phases and Classification of Matter
Physical and Chemical Properties
Measurements
Measurement Uncertainty, Accuracy, and Precision
Mathematical Treatment of Measurement Results
Early Ideas in Atomic Theory
Evolution of Atomic Theory
Atomic Structure and Symbolism
Chemical Formulas
The Periodic Table

Ionic and Molecular Compounds
Chemical Nomenclature
Formula Mass and the Mole Concept
Determining Empirical and Molecular Formulas
Molarity
Other Units for Solution Concentrations
Writing and Balancing Chemical Equations
Classifying Chemical Reactions
Reaction Stoichiometry
Reaction Yields
Quantitative Chemical Analysis
Energy Basics
Electronic Structure of the Atom
Bohr Model of the Atom
Ionic Bonding
Covalent Bonding
Lewis Structures

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/socialeq/title-ix-sexual-misconduct/index.php.

Request for Excused Absence To be completed within one week of returning to class.

Student Name:

Dates of Absence:

Reason for Absence (circle one): Illness, Family Emergency, University Activity

I request this absence be excused and that: (check all that apply)

_____ I be allowed to make-up the missed lecture quiz.

_____ I be allowed to make-up the missed test.

Attach documentation to support the request for an excused absence.