

Survey of Physical Chemistry

(The behavior of matter and why does it matter!)

CHEM-3510

Fall 2019

Purpose: The course explores the basis of fundamental thermodynamic, kinetic, and quantum mechanical models that are used for interpreting and predicting the behavior of matter. The thermodynamic and kinetic models deal with bulk matter while the quantum mechanical models deal with the behavior (both physical and chemical) observed at the atomic and molecular level.

Learning Outcomes: Each student will acquire a basic understanding of thermodynamic and kinetic behavior of matter. The student will be able to distinguish which model to use based on the experimental conditions (*ideal versus non-ideal*).

Instructor:	Dr. Slattery
Phone:	(678)839-6016
E-mail:	sslatt@westga.edu (You must use your MyUWG address)
Office Hours:	MW (1:00 – 5:00 pm); F (10:00 – noon); Room (2128)
Class Meetings:	Tues. & Thurs. (2:00 - 3:15 p.m.)
Location:	TLC Building (Room 2105)
Text:	“Physical Chemistry for the Chemical and Biological Sciences” (Author: Raymond Chang; Publisher – University Science Books)
Note:	General Chemistry, Organic and other Physical Chemistry texts may be helpful for understanding the topics in this course.

Evaluation: The course grade is calculated by the % breakdown shown below:

A (90.0 - 100%); B (80.0 – 89.9%); C (70.0 – 79.9%); D (60.0 – 69.9%)	Percent of Total
Homework	12%
*Exam #1	22%
*Exam #2	22%
*Exam #3	22%
*Exam #4	22%
Total	100%

*The date of each test will be announced at least one week in advance. **Cheating will not be tolerated. Any infraction will be taken before the disciplinary committee and played out to the fullest extent.**

CORRESPONDENCE

Please use your “myUWG” or “CourseDen” e-mail account for all written communication. E-mails from other service providers (aol, gmail, hotmail, yahoo) will be ignored.

CHEATING

Cheating and plagiarism are prohibited. Any student who cheats or plagiarizes material will receive a grade of "F" for the course. THERE ARE NO SECOND CHANCES!!

University Policies

Please refer to the following for academic support, the honor code, email policy, credit hour policy and HB 280 (Campus Carry Policy):

<https://www.westga.edu/administration/vpaa/common-language-course-syllabi.php>

List of Topics to be covered:

Assigned problems will be announced in class at the start of each chapter. The assigned problems will be turned in (on an announced day).

Chapter 1: Introduction (To what?)

Chapter 2: The Gas Laws (The subject matter is a bit scattered.)

Chapter 3: Kinetic Theory of Gases (Why are the little things so fidgety?)

Chapter 4: 0th & 1st Law of Thermodynamics (Do not break the Law!)

Chapter 5: 2nd & 3rd Law of Thermodynamics (Oh no, this cannot be true!)

Chapter 6: Gibbs Free Energy (Is it Free?)

Chapter 9: Chemical Equilibrium (Can equilibrium be reached? Hmm!)

Chapter 12: Chemical Kinetics (How fast can it go?)

Chapter 13: Enzyme Kinetics (In zyme, you will begin to understand!)