Course Title/Number	**Principles of Chemistry I / CHM 211, Section 105**
Semester/Year	Fall 2017
Days/Time/Location	MWF 1:00-1:50 PM, Science Hall 473
Instructor	Derrick R. J. Kolling
Office	2217 AWFAEC; Research lab: 2208 AWFAEC
Phone	(304) 696-2307
E-Mail	kolling@marshall.edu
Office Hours	Tuesday 1:30–3:30 P.M. (L.A. Session room), Wednesday 2–4 P.M (office). If you cannot attend the scheduled times, email or call me to set up an appointment. Expect to wait at least 24 hours before responses to emails.
University Policies	By enrolling in this course, you agree to the University Policies listed below. Please read the full text of each policy by going to www.marshall.edu/academic-affairs and clicking on "Marshall University Policies." Or, you can access the policies directly by going to www.marshall.edu/academic-affairs/policies/. Academic Dishonesty/Excused Absence Policy for Undergraduates/Computing Services Acceptable Use/Inclement Weather/Dead Week/Students with Disabilities/Academic Forgiveness/Academic Probation and Suspension/Academic Rights and Responsibilities of Students/Affirmative Action/Sexual Harassment

Course Description

A study of the properties of materials and their interactions with each other. Development of theories and applications of the principles of energetics, dynamics and structure. Intended primarily for science majors and pre-professional students. 3 credit hours. (PR or CR: CHM 217; PR: Math ACT of 23 or better, or C or better in CHM 111, or pass placement exam)

Required Texts, Additional Reading, and Other Materials

1. ***OpenStax Chemistry,*** https://openstax.org/details/books/chemistry (This is a free resource)
2. Sapling Learning Online Homework
3. MUOnline BlackBoard access
4. Turning Point Personal Response Device (must be registered on MUOnline)
5. Non-programmable scientific calculator for tests and exams (must not have text storage or alphanumeric data input capabilities—in general, this means no function keys or keypads with the complete alphabet)
6. #2 pencil and black or blue ink pen for tests

Course student learning outcomes	How students will practice each outcome in this course	How student achievement of each outcome will be assessed in this course
Students will classify matter and chemical reactions.	• in-class exercises • ALEKS exercises • L.A. sessions	• exams • 'clicker' questions
Students will apply principles of atomic structure and bonding theories to describe how matter is composed.	• in-class exercises • ALEKS exercises • L.A. sessions	• exams • 'clicker' questions
Students will apply mathematical techniques to describe reactions, physical properties, and energies of matter.	• in-class exercises • ALEKS exercises • L.A. sessions	• exams • 'clicker' questions
Students will identify and explain trends in physical and chemical properties.	• in-class exercises • ALEKS exercises • L.A. sessions	• exams • 'clicker' questions

Grading Policy

Sapling Learning (Online homework)	150	points
tests (4 during the semester)	600	points
final exam	250	points
	1000	**TOTAL POINTS**[#*]

[#]**Clicker Problems:** Clicker problems are worth up to 20 points extra credit.

[*]**Learning Assistance Sessions:** L.A. Sessions are worth up to 20 points extra credit.

Grading Scale:

900-1000 points	A
800-899 points	B
700-799 points	C
600-699 points	D
000-599 points	F

Attendance Policy

Attendance is mandatory for tests and exams. Make-up tests and exams will be granted only in cases that are recognized by the University through an excused absence (via the Dean of Student Affairs). Students should contact the instructor as soon as they are able to return to classes. If class is cancelled unexpectedly, scheduled tests will be given during the next class meeting. Attendance is highly suggested for lectures; 'clicker' questions that are worth extra credit will be given.

Tentative Course Schedule

Week of:	Chapter	Topic
8/20	1	Properties & Measurements
8/27	2	Atoms, Molecules, Ions
9/3	No class on 9/3; 3	Moles, Formulas, Molarity
9/10	TEST 1 on 9/10; 3	Moles, Formulas, Molarity
9/17	4	Stoichiometry
9/24	5	Thermochemistry
10/1	TEST 2 on 10/1; 5	Thermochemistry
10/8	6	Electronic Structure
10/15	6	Periodic Properties
10/22	TEST 3 on 10/22; 7	Bonding, Lewis Structures
	10/26 is last day to withdraw from full-semester courses	
10/29	7	Bonding, Polarity
11/5	8	Valence Bond Theory
11/12	TEST 4 on 11/12; 8	MO Theory
11/19	No class (Fall Break)	
11/26	9	Gases
12/3	9; review	Gases
12/8 SATURDAY 10:00 AM FINAL EXAM (location TBA)		