

**CHEMISTRY 211**  
**Principles of Chemistry I**  
**Sections 110/111/112, Fall 2015**

Class Information

**Lecture:** Mon, Weds, Fri, 12:00pm – 12:50pm  
**Location:** 473 Science Building (lecture)  
460 Science Building (recitation; office hours)  
**LA Sessions:** Sect. 110: 3:00pm – 3:50pm  
Sect. 111: 5:00pm – 5:50pm  
Sect. 112: 6:00pm – 6:50pm

Instructor Information

**Instructor:** John Rakus, Ph.D. **Email:** [rakus@marshall.edu](mailto:rakus@marshall.edu) **Phone:** 304-696-6627  
**Office:** 478 Science Building **Websites:** <http://muonline.marshall.edu>; [www.aleks.com](http://www.aleks.com)  
**Office Hours:** Mon, Weds, Thurs, Fri, 9:00am – 11:00am (460 Science Building)

Required Items

**Text:** Silberberg, Principles of General Chemistry, 3<sup>rd</sup> Ed. McGraw Hill.  
**Additional:** Scientific calculator, Turning Technologies clicker. Aleks account.

Catalog Listing

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.

Course Description

The purpose of this course is to provide a foundational understanding of chemical principles that will allow students to better understand such topics as atomic structure, energetics and bonding in the broader context of how our world works. This understanding can be applied in other chemistry and science courses. Prior knowledge of chemistry is recommended but not required. This course has a strong algebra component and proficiency in algebra must be demonstrated.

**Prerequisites:** 1.) 23 or higher on Math ACT or 2.) CHM 111 (C or above) or 3.) passed placement exam.

Grade Policy

You will have four in-class hour-long exams on **September 11, October 5, October 28** and **November 18** and a comprehensive final examination on **December 5**. In addition, you will be required to complete 14 online homeworks through Aleks. The lowest Aleks two grades will be dropped (the dates below refer to the due date of each assignment) and the average of the remaining is worth 100 points towards your overall grade. Additionally, completion of the entire Aleks assignment for the semester is worth 50 points towards your grade. You are also required to participate in class through clicker response questions that will be presented during lecture. Clickers are graded based on percent of responses throughout the semester. Answering 90% or more of the questions will result in full credit. Answering

between 80 and 89% of the questions will result in a ten percent deduction for this category. 70-79% of responses will result in a 20% deduction. *Etc.*

### Letter Grade Assignments

895+ points	A
795-894 points	B
695-794 points	C
595-694 points	D
000-594 points	F

### Grade Breakdown

Assignment	Value
Exam #1: September 11, 2015	100 points
Exam #2: October 5, 2015	150 points
Exam #3: October 28, 2015	150 points
Exam #4: November 18, 2015	150 points
Final Exam: December 5, 2015	200 points
Average of 12 best Aleks Homeworks	100 points
Percentage of total topics mastered in Aleks	50 points
Clicker Questions	50 points
Learning Assistant Section Attendance	50 points
<b>Total:</b>	<b>1000 points</b>

Learning objectives	Objective will be taught through...	Objective will be assessed by...
Become familiar with the atomic structure of matter.	-Lecture -Online assignments -Classroom response questions -In-class example problems	-Exams -Online assignments
Develop analytical skills to solve problems presented in a chemical context.	-Lecture -Online assignments -Classroom response questions -In-class example problems	-Exams -Online assignments
Understand how energy is utilized in natural systems.	-Lecture -Online assignments -Classroom response questions -In-class example problems	-Exams -Online assignments
Describe and predict the basic chemical bonding patterns that explain the physical and chemical properties of matter.	-Lecture -Online assignments -Classroom response questions -In-class example problems	-Exams -Online assignments

### Student Conduct

I hold my students to the same expectations about conduct and behavior while in class that I have for myself. It is my responsibility to you to provide the best learning environment of which I am capable and, in return, I believe everyone in this classroom deserves the right to be treated with dignity and respect. I encourage questions, interaction and curiosity but I also implore you to consider your classmates' interests in class. I will not demand your unwavering attention if you do not wish to provide it, but I simply ask that you do not disrupt the learning environment in which I am trying to provide.

### Technology Policy

Cell phones, tablets and other digital devices are allowed during lecture time provided that they are kept silent and are not used in a disruptive manner. Should I feel that someone is using a device disruptively, I reserve the right to confiscate the device for the remainder of class and/or ask the student to leave. Devices are expressly forbidden during examinations and will be considered a violation of the Academic Integrity Policy.

### Attendance Policy

Attendance is strongly encouraged. I will not keep attendance (beyond registration requirements) and attendance is not graded, though missed clicker responses will count against you. Any excused absence approved by the Student Affairs office will be accepted but must be turned in immediately. Attendance for your Learning Assistant (LA) section is required, though I will accept one unexcused absence for LA sections. Points awarded in the LA category are all-or-nothing. If you do not meet attendance requirements you will not receive any points for this category.

### 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](http://www.marshall.edu/academic-affairs) and clicking on "Marshall University Policies." Or, you can access the policies directly by going to [http://www.marshall.edu/academic-affairs/?page\\_id=802](http://www.marshall.edu/academic-affairs/?page_id=802)

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

### Loose Schedule of Course Topics

Week	Dates	Class Topics	Assignment	Notes
1	Aug 24 – Aug 28	Introduction, Chapter 1	Aleks 1: Aug 30 (11:59pm)	
2	Aug 31 – Sept 4	Chapter 2	Aleks 2: Sept 6 (11:59pm)	Aug 31: W period begins
3	Sept 7 – Sept 11	Chapter 2 cont.	Aleks 3: Sept 10 (11:59pm) <b>Exam 1: Sept 11</b>	Sept 7: No class
4	Sept 14 – Sept 18	Chapter 3	Aleks 4: Sept 20 (11:59pm)	
5	Sept 21 – Sept 25	Ch. 3 - Ch. 4	Aleks 5: Sept 27 (11:59pm)	
6	Sept 28 – Oct 2	Chapter 4 cont.	Aleks 6: Oct 4 (11:59pm)	
7	Oct 5 – Oct 9	Chapter 5	<b>Exam 2: Oct 5</b> Aleks 7: Oct 11 (11:59pm)	
8	Oct 12 – Oct 16	Ch. 5 - Ch. 6	Aleks 8: Oct 18 (11:59pm)	
9	Oct 19 – Oct 23	Chapter 6 cont.	Aleks 9: Oct 25 (11:59pm)	
10	Oct 26 – Oct 30	Chapter 7	<b>Exam 3: Oct 28</b> Aleks 10: Nov 1 (11:59pm)	Oct 30: W period ends
11	Nov 2 – Nov 6	Chapter 8	Aleks 11: Nov 8 (11:59pm)	
12	Nov 9 – Nov 13	Chapter 9	Aleks 12: Nov 15 (11:59pm)	
13	Nov 16 – Nov 20	Chapter 10	<b>Exam 4: Nov 18</b> Aleks 13: Nov 22 (11:59pm)	
14	Nov 23 – Nov 27	Thanksgiving Break: No Class		
15	Nov 30 – Dec 4	Chapter 11	Aleks 14: Dec 4 (11:59pm), <b>Final Exam: Dec 5 (10am-12pm)</b>	