

**CHEMISTRY 217**  
**Principles of Chemistry I Laboratory**  
**Sections 103/104, Fall 2015**

Class Information

**Time:** Tues, 8:00am – 10:50am  
**Location:** 465 Science Building (pre-lab)  
474/476 Science Building (lab)  
460 Science Building (office hours)

Instructor Information

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

Required Items

**Text:** Principles of Chemistry I Laboratory Manual, Van-Griner.  
**Additional:** Scientific calculator (non-graphing), lab goggles, bound notebook, pen, combination lock.

Catalog Listing

A laboratory course that demonstrates the application of concepts introduced in Chemistry 211.

Course Description

The purpose of this course is to apply fundamental chemical principles to the analysis of the properties of matter. This course will require the detailed recording and reporting of observations made while conducting experiments, with an emphasis on studying phenomena using the scientific method. Proper laboratory conduct such as safety behavior, use of notebooks and interpersonal interactions are mandatory.

**Prerequisite/Corequisite:** CHM 211

Grade Policy

There will be 12 lab reports due each week. Your lowest lab report grade will be dropped. There will be a pre-lab quiz each week issued promptly at 8:00am and collected at exactly 8:10am. Each quiz will be worth a maximum of 5 points and you can score up to 50 total points for quizzes. At random points twice during the semester your notebook will be collected and the previous week's entry will be evaluated. Each notebook check is worth 25 points. In addition to a midterm (**October 13**) and final (**December 1**) exam, your conduct in lab will be evaluated. Inappropriate laboratory behavior will result in a diminished conduct score.

### Letter Grade Assignments

895-1000 points	A
795-894 points	B
695-794 points	C
595-694 points	D
000-594 points	F

### Grade Breakdown

Assignment	Value
Notebook Checks	50 points
Prelab quizzes	50 points
Lab Reports	550 points
Midterm Exam	150 points
Final Exam	150 points
Lab Conduct	50 points
<b>Total:</b>	1000 points

Learning objectives	Objective will be taught through...	Objective will be assessed by...
Develop proper laboratory safety behavior.	-Lecture -Lab manual -Online safety training	-Quizzes -Exams -Online safety course
Students will learn correct use and maintenance for laboratory equipment.	-Lecture -Lab manual -Laboratory experiments	-Quizzes -Exams -Lab reports
Correctly record and communicate experimental procedures, findings and interpretations.	-Lecture -Lab manual -Laboratory experiments	-Quizzes -Exams -Lab reports -Notebook checks
Application of concepts introduced in CHM 211.	-Lecture -Laboratory experiments	-Quizzes -Exams -Lab reports

### 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 not allowed to be accessed while in the laboratory. They may be used during pre-lab lecture if they are set to silent and not disruptive to the class. Devices are expressly forbidden during examinations and will be considered a violation of the Academic Integrity Policy.

### Attendance Policy

Attendance is mandatory. If you miss a lab for an unexcused reason, you may not make it up in a different section or on a different date. If you miss a lab for a University approved reason, you must make an appointment with me to schedule a makeup. It is departmental policy that missing more than 25% of the assigned labs will result in an F for this course.

### 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

### Experiment Schedule

Week	Date	Lab #	Experiment
1	August 25, 2015	1	Lab Check-in; Methods of Measurement
2	September 1, 2015	1	Determination of Sugar in Soft Drinks and Graphing with Excel
3	September 8, 2015	2	Separating the Components of a Heterogeneous Mixture
4	September 15, 2015	3	Determination of the Percent Oxygen in Air
5	September 22, 2015	4	Determination of an Empirical Formula
6	September 29, 2015	5	Determination of Avogadro's Number
7	October 6, 2015	8	Reactions
8	October 13, 2015	7	<b>Midterm Exam</b> ; Synthesis of an Alum
9	October 20, 2015	6	Heat of Reaction and Heat of Solution
10	October 27, 2015	9	The Titration of Vinegar
11	November 3, 2015	10	Combustion! – Synthesis and Reactions of Oxygen
12	November 10, 2015	12	Energy in a Peanut: Calorimetry
13	November 17, 2015	11	Molecular Architecture
14	Nov 23-27, 2015	Thanksgiving Break: No Class	
15	December 1, 2015		Lab Checkout; <b>Final Exam</b>