

**Chemistry 113  
Spring 2008  
Sections 1 and 2**

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**Download** the experiments or assignment, as **pdf** files, **the week before doing the lab.**

**COURSE OUTLINE:**

<b>Week of</b>	<b>Experiment</b>	<b>Download</b>	<b>Pts.</b>
January 14	Download <b><u>Check-in, Laboratory Safety</u></b> and <b><u>laboratory report</u></b>		
January 21	<b><u>Check-in, Laboratory Safety</u></b>	<b><u>TOC</u></b>	
January 28	<b><u>Excel Tutorial</u></b> (Computer Center) - <b><u>Excel and Prelab data</u></b>	<b><u>assignment</u></b>	15
February 4	Periodic Properties - Periodic Table and <b><u>Simulation</u></b>	<b><u>1</u></b>	30
February 11	Periodic Properties (Continued - Unknown)		
February 18	Introduction to <b><u>Beer's Law</u></b> (Part I and II) <b><u>Spectronic 20 Movie</u></b>	<b><u>2</u></b>	
February 25	Introduction to Beer's Law (Part III)		30
March 3	<b><u>Chemical Kinetics</u></b>	<b><u>3</u></b>	30
March 10	No Lab (Spring Break)		
March 17	Using Spectrophotometry to Determine Equilibrium Constants	<b><u>4</u></b>	30
March 24	The Effect of Added Acid and Base on the <b><u>pH</u></b> of <b><u>Buffer</u></b> Solutions	<b><u>5</u></b>	30
March 31	<b><u>Neutralization Curves</u></b>	<b><u>6</u></b>	
April 7	Neutralization Curves (Continued)		30
April 14	Determining a <b><u>Solubility Product Constant</u></b>	<b><u>7</u></b>	30
April 21	Oxidation-Reduction Reactions	<b><u>8</u></b>	30
April 28	Introduction to <b><u>Electrochemistry</u></b> and Effects of Concentration on <b><u>Electrode Potentials (Nernst Equation)</u></b>	<b><u>9</u></b>	30

Data for each laboratory experiment is recorded in special laboratory notebooks which automatically makes copies. All data is collected in ink. Do not erase any errors made in data collection; just line through once and rewrite. **Each page must** include the following:

1. Experiment number.
2. Full title of experiment.
3. Date on which page was written on.
4. Student name.
5. Any partner(s) names (just on data pages).
6. "Chem 113, Section #" in the space provided.

Charts and graphs **must** have your name, date and experiment number printed (by the program) in the upper, righthand corner.

### **LAB REPORTS:**

All of the **laboratory report** (except for charts and graphs) will be handwritten, **legibly**, in your laboratory notebook. The **preparation** for lab comprises approximately one-third of your laboratory report grade. This section consists of:

**Purpose**

**Introduction**

**Questions** (found at the **end** of each experiment)

Each section will be clearly labeled **with that heading**. The **orginal** copy of this part of the notebook will be submitted at the **beginning** of each lab period.

During the lab, describe what you do (especially any deviations from the procedure in the handout), make observations and record data (well organized) in:

### **Data and Observations**

These pages will be **initialed** by the instructor (after bin inspection) and **turned in** before you leave. Failure to have your bin inspected and your data pages initialed before leaving will result in a 5-point deduction from the laboratory report.

The final part of the report consists of:

**Data Treatment and Discussion**

**Conclusion**

This will be turned in **at the start** of the next laboratory period after completing the entire lab.

Lab reports will be graded on neatness, **organization of material**, proper calculations (including significant figures and sample calculations), **proper graphing**, and quality of results.

## LAB COURTESY:

Fifteen (15) points of your total grade is based on lab courtesy; considering such things as safety awareness, lab technique, behavior in the laboratory, **showing up to lab on time** and handing in labs on time.

## CHEM 15 POLICIES:

1. Students must wear goggles in the laboratory at **all times**. Each time the instructor must remind a student to keep their goggles on, 5 points will be deducted from the lab courtesy total. When courtesy points have been used up, 5 points will be deducted from the lab report grade.
2. Be on time for lab. Constant tardiness will not be tolerated and will result in points deducted from the lab courtesy grade.
3. Check your glassware **bin** before the laboratory lecture and have any missing items replaced. At the end of the day, the bin will be returned to the same condition it was at the start of the laboratory. The bin will be checked by the instructor before returning it to the cabinet.
4. If you work with a partner on a particular experiment, you must still write up your own report (not a photocopy). Failure to do so will result in a grade of zero for that lab report.
5. Each day your lab report is late, 3 points will be deducted.
6. If you miss a laboratory class, you must have a University approved excuse. You are also required to show documentation to your instructor supporting your excuse. Failure to do either one of these will result in your not being able to make up the missed laboratory experiment.
7. Chem 111 is a prerequisite for this course. You **cannot** take this course unless you have credit for successfully completing Chem 111. You will be administratively dropped from this course if you have not completed these prerequisites unless you can demonstrate that you have taken a suitable substitute for the official prerequisites.
8. Instructors are asked (Senate rule 49-20) to provide a statement at the beginning of a course to "clarify the application of academic integrity to that course." The Senate Rule includes the following:

*Academic dishonesty includes, but is not limited to, cheating, plagiarizing, fabrication of information or citation, facilitating acts of academic dishonesty by others, having unauthorized possession of examinations, submitting work of another person or work previously used without informing the instructor, or tampering with the work of other students.*

Read Senate rule 49-20: [www.psu.edu/ufs/policies/47-00.html#49-20](http://www.psu.edu/ufs/policies/47-00.html#49-20) and Behrend academic integrity guidelines: [www.pserie.psu.edu/faculty/academics/integrity.htm](http://www.pserie.psu.edu/faculty/academics/integrity.htm). Any violation of academic integrity will receive academic and possibly disciplinary sanctions, including the possible awarding of an XF grade which is recorded on the transcript and states that failure of the course was due to an act of academic dishonesty. All acts of academic dishonesty are recorded so repeat offenders can be sanctioned accordingly.

### GRADES:

Excel Assignment	15
Pre-Lab	90
Post-Lab	180
Lab Courtesy	<u>15</u>
Total	300

A	100 - 93%	C+	77 - 79%
A-	90 - 92%	C	70 - 76%
B+	87 - 89%	D	60 - 69%
B	83 - 86%	F	0 - 59%
B-	80 - 82%		