

**CHEMISTRY 331**  
**CHEMICAL METHODS OF ANALYSIS**

Fall 2007, TR 8:00 – 9:15 AM, W 1:00 – 5:00 PM

Professor: Whitney King  
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Office Hours: By appointment

Textbook: Daniel C. Harris, "Quantitative Chemical Analysis", 7th ed.

Grading

Homework	10 %
Semester Exams and Quizzes	40 %
Final Exam	25 %
Lab	25 %

Lecture Topics and Approximate Exam Schedule

Treatment of Analytical Data	Read chapters 1-5
Chemical Equilibria and Solubility	Read chapter 6

**Quiz --September 20, 2006**

Volumetric Analysis	Read chapter 7
Activity and Systematic Equilibrium Calculations	Read chapters 8 & 9
Acid-Base Equilibria	Read chapter 10 & 11
Spectrophotometric Analysis	Read chapter 18, 19

**1st Exam -- October 18, 2006**

Titration and Distribution Functions	Read chapters 12
Complex Formation	Read chapter 13
Fundamentals of Electrochemistry	Read chapter 14

**2nd Exam -- November 20, 2006**

Potentiometry and Redox Methods	Read chapters 15 & 16
Electrogravimetric, Coulometric and Voltammetric Analysis	Read chapter 17

**Final Exam**

**Homework**

The Homework is a very important component of the course. Homework will be assigned at the end of most lectures. All homework assignments should be completed for the next class period. Answers to the homework are provided in the back of the book. Your job is to work out the solutions that yield the answers. All homework will be graded and should reflect your own knowledge of the problem.

Many problems will be best solved using a computer program/spreadsheet. Include a hard copy of the results in your homework assignment and also place the program/spreadsheet used

to solve the problem into your folder on the file server. **You should have your own backup copy of your homework!!!** You will be allowed to use some of your computer programs to solve problems during hour exams.

### **Prelab assignments**

Prelab exercises are an important component of the laboratory. The prelabs familiarize you with the current week's experiment making you more efficient in the laboratory and often improving your results. Prelab assignments are due in class on the Tuesday before the Wednesday lab. You can not start the lab until you have correctly completed the prelab assignment.

### **Academic Honesty**

All students are expected to do their own work. In some cases I will ask you to work on experiments in small groups. I expect and encourage you to discuss the procedures and results of these experiments with your fellow classmates. It is also acceptable to work together on difficult homework assignments. However, the final lab reports and completed homework assignments should be your own work. This means that you should be able to explain in detail all of the steps and procedures used to solve a particular homework problem or lab assignment. All spreadsheets should be your own work, including the equations! If you work with other students on homework or lab assignments you should acknowledge this collaboration by listing their names on the top of you assignment.

### **Attendance Policy**

The attendance and exam policy for the Department of Chemistry is posted on our WEB page ([www.colby.edu/chemistry](http://www.colby.edu/chemistry)).