Instrumental Analytical Methods  
Fall 2007

Course Id: CHEM 412 (3 cr.)
Lecture: MWF 1-2 (Reichardt 165)
Instructor: Tom Trainor  
Rm 176 Reichardt  
474-5628  
fftpt@uaf.edu
Office Hours: TR 1:00-3:00
Grading:
<table>
<thead>
<tr>
<th>Assignment</th>
<th>Percentage</th>
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<tr>
<td>Problem Sets</td>
<td>40%</td>
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<td>Exams (2)</td>
<td>40%</td>
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<td>Final exam</td>
<td>20%</td>
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<td><strong>Total</strong></td>
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Course description and goals:
The course material is focused on the theory, capabilities and limitations of instruments and instrumental methods used for chemical analysis. We will focus on instruments and methods commonly found in the research laboratories, such as: atomic and molecular spectroscopy (including mass spectrometry and x-ray spectroscopy/diffraction), chromatography methods, and electroanalytical methods. Our goal is to understand the fundamental principles upon which modern instrumentation is based, and develop the capability to use instruments effectively for solving problems.

Reading and homework assignments will be assigned weekly. Class periods will be used for lectures to supplement the reading, and discuss the assigned material. Please come prepared and ready to ask questions.

Text

Additional Sources:
- Skoog, West, Holler and Crouch, “Fundamentals of Analytical Chemistry”
- Harrison, “Quantitative Chemical Analysis”

Important Dates:
- Sept 14: Last day to add; last day for 100% refund tuition & fees
- Sept 21: Last day student-initiated and faculty-initiated drops
- Nov 2: Last day for student-initiated and faculty-initiated withdrawals “W”
- Nov 22-25: Thanksgiving Break
- Dec 14: Last day of classes
- Dec 17-20: Final Exams
Computer Lab:
Your enrollment in Chem 605 gives you user privileges in the department's computer lab. Information and policies are available at:
http://www.uaf.edu/chem/NewNetwork.html

Student with Documented Disabilities:
Student with a physical or learning disability who may need academic accommodations, should contact the Disability Services office (203 WHIT, 474-7043). Disability Services will then notify the instructor of special arrangements for course work.

Ethical Considerations:
The Chemistry Department Policy on Cheating is: “Any student caught cheating will be assigned a course grade of F. The student will not be allowed to drop the course.”
The UAF Honor Code states: “Student will not collaborate on any quizzes, in-class exams, or take-home exams that will contribute to their grade in a course, unless permission is granted by the instructor of the course. Only those materials permitted by the instructor may be used to assist in quizzes and examinations. Student will not represent the work of others as their own. A student will attribute the source of information not original with himself or herself (direct quotes or paraphrase) in compositions, these and other reports. No work submitted for one course may be submitted for credit in another course without the explicit approval of both instructors. Violations of the Honor Code will result in a failing grade for the assignment and, ordinarily, for the course in which the violation occurred. Moreover, violation of the Honor Code may result in suspension or expulsion”

In Chem 412 students may (and are encouraged to) collaborate on homework assignments, however, each individual should submit their own copy showing all their work. Exams are to be completed independently.