CHEM431 Analytical Chemistry II

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Winter Term 2005
Office Hours: Mon 10-11 am, Wed noon-1:00 pm
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Lecture Meetings: Mon/Wed 11:00-11:50 am
Lecture Room: Stratton 219
Lab Meeting: Thu 9:00 am -1:00 pm (sec 061)
Fri 2:30 pm -6:30 pm (sec 062)
Laboratory: Disque 406/409

Textbooks:

Lab Schedule (section 061):

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<tr>
<th>Jan</th>
<th>6</th>
<th>Lab tour/practical</th>
<th>Feb 17</th>
<th>Lab</th>
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<td>13</td>
<td>Lab</td>
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<td>Feb</td>
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<td>Lab</td>
<td>17</td>
<td>Make-up week (finals week)</td>
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Lab Schedule (section 062):

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<th>Lab tour/practical</th>
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<td>Feb</td>
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<td>18</td>
<td>Make-up week (finals week)</td>
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Lecture Topic Coverage:
Lab Lecture (LL): Data treatment
LL: Spectroscopy (UV/visible/AA)
LL: Spectroscopy (fluorescence/FT-IR)
LL: Chromatography
LL: Electronics fundamentals
LL: Electronics/Electrochemistry
Introduction to Chromatography chapter 25*
Gas Chromatography chapter 26*
High Performance Liquid Chromatography chapter 27*
Planar Chromatography (paper, TLC) chapter 28*
New Chromatographic Methods

* The chapters listed here are in the textbook by Skoog, Holler and Nieman.
Course Grading:

- 1 final exam, one or more problem sets, in-class quizzes (total 25%)
- 8 laboratory reports (each worth 100 points), lab practical (25 points) (total 75%)
- Extra credit project up to 10%

Results for the digital pipet calibration section of the lab practical must be turned in electronically via WebCT by 1/10/05, or you will lose one letter grade for the course for each week it is late. The other sections of the lab practical must be turned in by 1/13/05 (sec 061) or 1/14/05 (sec 062).

All experimental work must be finished prior to the end of the quarter. An incomplete in the course will only be given for writing up the lab reports. Exceptions to this rule will generally not be granted without significant extenuating circumstances; these exceptions must be requested in writing.

CHEM431 is now officially specified as a Writing Intensive Course. While the course has always required comprehensive written laboratory reports, we must now include several written draft/critique/rewrite cycles for at least one of the writing assignments. A writing intensive tutor (WIT) has been assigned to the course; their contact information will be provided separately on WebCT. For each of you the first laboratory experiment (conducted during the second week of the term) will be required to be written up as a Full Report. Your first draft must be submitted to the WIT electronically via WebCT by Monday 1/24/05 (this gives you two weekends to work on the report). You must meet with the WIT to discuss your draft sometime during the week of 1/24/05. Your second draft is then due (electronically through WebCT) by Monday, 1/31/05. After a second critique the final draft is due for grading by Monday 2/7/05. You should submit each of your other reports at weekly intervals (roughly 2-1/2 weeks after you perform the lab). All lab reports are due by the day of the final examination.

All Results/Questions Only lab reports must be turned in by the day of the final. If you wish to take an incomplete in the course and have not handed in the Results/Questions Only lab reports by this date, all reports not handed in must be submitted in a Full Report format.

Extra Credit Project:

CHEM431 will likely take a good deal of your time, both in lab and outside. However, if you desire to earn extra credit we have a number of projects that you may work on. In many cases these are either modifications to existing labs or new labs that we wish to “try out” but have not found time ourselves. The amount of effort required is approximately that of performing a single lab experiment. It will include approximately 4 hours of laboratory work and a write-up of the results that you obtain in the Full Report lab report format. All extra credit laboratory work must be done before the end of the term.

You should see me as early as possible in the term to set up the project if you are interested.

Additional Reading:


H.H. Willard, L.L. Merritt, Jr., J.A. Dean, F.A. Settle, Jr., Instrumental Methods of Analysis, 7th ed.,


In addition to the general texts listed above there are a number of suggested readings for each experiment, as described in the accompanying *Reserved Reading List*. You may wish to peruse a copy of the instruction/operation manual for the instrument you will be using prior to the lab period—you can read the copy located in the lab or you may borrow a copy from me to take home. You are responsible for having read this material PRIOR to entering the laboratory.

**WebCT:**

We will be using WebCT (Drexel’s on-line course tools package) to enhance communication in CHEM431. Note that the laboratory schedule (a list of what labs you will be doing what days) will only be distributed using the WebCT calendar. The instructions below tell you how to log on and begin using WebCT.

1) Enter the Drexel WebCT web site at [http://webct.drexel.edu](http://webct.drexel.edu) or through DrexelOne.
2) Enter your university UserID and password on the UserName/Password dialog screen (note that they are both case sensitive).
3) If you enter these correctly you will now be at your MyWebCT Home Page in the WebCT area.
4) Select **CHEM430** from the list of courses on the left side of the screen.
5) You will now be in the **CHEM430** course area. Select the **Bulletins** icon to read posted messages, the **Calendar** icon for the course schedule, etc.

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