

LECTURE SCHEDULE

Date	Topic	Chapter
Jan	3 M Introduction	1
	5 W Data Analysis, Signal and Noise	5
	10 M Lab Rotation, Exp. 2-4	
	12 W Data Analysis, Calibration	5
	17 M Martin Luther King Day, NO CLASS	
	19 W UV-Vis Absorbance Principles	6, 7, 13
	24 M UV-Vis Absorbance Principles	6, 7, 13
	28 F Absorbance Instruments	13, 14
	31 M Fluorescence	15
Feb	2 W FT-IR	16
	4 F NO CLASS	
	11 F Atomic absorbance/emission spectrometry	8, 9
	14 M REVIEW	
	16 W EXAM ONE	
	21 M Presidents' Day, NO CLASS	
	23 W Mass Spectrometry	20
	25 F ICP-MS	11
March	2 W GC and GC-MS	26, 27
	4 F LC	28
	7 M Flow Injection Analysis	33
	9 W REVIEW	
	16 W FINAL (8:30-10:20 AM)	

Note that four lectures will be given on a Friday (Jan 28, Feb 11 & 25, and March 4).

Description of Laboratory Experiments

Group 1 January 3 – January 6

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| 1. | MATLAB | Learn MATLAB as data analysis tool
Choose Lab Partner
BAG 48 |
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Group 2: January 10 – January 31

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| 2. | FT-IR | Vibrational Spectroscopy, Regression Analysis
BAG 83 |
| 3. | UV-Vis Absorption | Electronic Spectrophotometry, Multicomponent Analysis
BAG 83 |
| 4. | HPLC | High Performance Liquid Chromatography
BAG 83 |
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Group 3: February 1 – February 28 & March 7

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| 5. | Capillary Gas Chromatography
- Mass Spectrometry | Separation of a Mixture, Library Searching
BAG 83 |
| 6. | Fluorescence | Excitation/emission & plate reader
BAG 83 |
| 7. | ICP-MS or -emission | Metals Analysis
BAG 133A through BAG 191 |
| 8. | Flow Injection
Analysis | Metals Analysis, Automated Sample Preparation
BAG 83 |
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Lab Work**General Information**

1. You will not be assigned a desk for this laboratory. Lab work is done at various locations, as listed above. Computers are available for data analysis and report writing.
2. Most of you will be working in pairs (labeled A, B, C and D in Laboratory Schedule). It is desirable that each partner obtains her/his own data. In rare cases, this will be impossible. *However, each person must submit a separate, independent lab report.* Copying or paraphrasing of a partner's report will result in a mark of zero on that lab for both partners.
3. Before leaving the laboratory, you must submit your data to the TA or the instructor for preliminary evaluation and initialization. Make sure that you have properly restored the instrument to its stand-by condition.
4. Please come to the laboratory prepared. Read the manual carefully before performing the experiments. The TA will be happy to answer any questions at the beginning of the lab period. Note that there are references at the beginning of some of the experiments. These are on reserve in the chemistry library, Chem 426 Answer Key. Please read them before embarking on the experiments.

LABORATORY SCHEDULE

Week/Pair	A	B	C	D
1/3 - 1/6	MATLAB Experiment			
1/10 - 1/13	Expt. 4	Expt. 3 (2:30)	Expt. 2	Expt. 2
1/18 - 1/24	Expt. 2	Expt. 2	Expt. 4	Expt. 3 (2:30)
1/25 - 1/31	Expt. 3 (1:30)	Expt. 4	Expt. 3 (3:30)	Expt. 4
2/1 - 2/7	Expt. 5	Expt. 6	Expt. 7	Expt. 8
2/8 - 2/14	Expt. 6	Expt. 7	Expt. 8	Expt. 5
2/15 - 2/17 & 2/28	Expt. 7	Expt. 8	Expt. 5	Expt. 6
2/22 - 2/24 & 3/7	Expt. 8	Expt. 5	Expt. 6	Expt. 7
3/1 - 3/3 & 3/8 - 3/10	OPEN, reserved for special situations			
