

Chemistry 333L Fall 2008
Instrumental Analysis Lab Course Syllabus

Instructor: Dr. David Shinn

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Office hours: 12:30-1:30 MWF, or by appointment

Teaching Assistants: Andrew Taylor, Chris Nold, Chester Dabalos

Laboratory Meeting Time/Location:

Section 1: Mondays, 1:30 – 6:20 p.m., Bilger 202

Section 2: Wednesdays, 1:30 – 6:20 p.m., Bilger 202

Text: Handouts from Sawyer, Heineman, and Beebe, Chemistry Experiments for Instrumental Analysis, 1st Edition, J. Wiley & Sons, 1984. Additional hand-outs from Chemistry Department.

Supplies: You are expected to provide yourself with safety glasses or goggles, and a laboratory notebook with a permanent binding and permanent page numbering (in ink if necessary). Laboratory coats/aprons are also encouraged.

Safety is our utmost concern. No one (TAs included) will be permitted to work in lab without their safety glasses and complete foot protection (no slippers or sandals of any type permitted). It is important that you report any accidents, no matter how minor, immediately to your TA.

Rotation Schedule

Dates (M, W)

8/25, 8/27

9/1, 9/3

9/8, 9/10

9/15, 9/17

9/22, 9/24

9/29, 10/1

10/6, 10/8

10/13, 10/15

10/20, 10/22

10/27, 10/29

11/3, 11/5

11/10, 11/12

11/17, 11/19

11/24, 11/26

12/1, 12/3

Description

Introduction, Technical Writing, Excel Stats, Brief
Pre-lab discussions.

Labor Day Holiday

Rotation #1

Rotation #1

Rotation #2

Rotation #3

Rotation #4

Rotation #5

Rotation #6

Rotation #7

Rotation #8

Rotation #9

Rotation #10

Submit Reports / Thanksgiving Break

Clean-up and Check-out

Chemistry 333L Lab Rotations

Rotation	#	ET	GC	HPLC	IR	UV/VIS-I	FE	UV/VIS-II	NMR	GC/MS
9/8-10	1	A/G	B/H	C/I	D/J	E/K	F/L	/M		
9/15-17	1	A/G	B/H	C/I	D/J	E/K	F/L	/M		
9/22-24	2	/M	A/G	B/H	C/I	D/J	E/K	F/L		
9/29-10/1	3	F/L	/M	A/G	B/H	C/I	D/J	E/K		
10/6-8	4	E/K	F/L	/M	A/G	B/H	C/I	D/J		
10/13-15	5	D/J	E/K	F/L	/M	A/G	B/H	C/I		
10/20-22	6	C/I	D/J	E/K	F/L	/M	A/G	B/H		
10/27-29	7	B/H	C/I	D/J	E/K	F/L	/M	A/G		
11/3-5	8								(ABC)/(GHI)	(DEF)/(JKLM)
11/10-12	9								(DEF)/(JKLM)	(ABC)/(GHI)
11/17-19	10	DEMO LAB								

Groups A,B,C,D,E,F– Monday, Section 1 Groups G,H,I,J,K,L,M– Wednesday, Section 2

Chemistry 333L Key:

Abbreviation (Acronyms)	Description
ET	Electronics
GC	Gas Chromatography Revised Exp. 12-3
HPLC	High Performance Liquid Chromatography Rev. Exp. 13-1
IR	Infrared Spectroscopy Exp. 8-2
UV/VIS-I	UV/Visible Spectroscopy Exp. 7-1
FE	Flame Emission Exp. 9-4
UV-VIS-II	Analytical UV/Visible Spectroscopy Exp. 6-1
NMR	Nuclear Magnetic Resonance Demo / Exp. 11-1 (pts 1-2) (Dr. Walter Niemczura, Bil 120)
GC/MS Demo	Gas Chromatography / Mass Spectrometry (Mr. Michael Burger, BilA 103)

Chem 333L Laboratory Grading

Laboratory Notebook/Journal	30%
Formal Laboratory Report #1	10%
Formal Laboratory Report #2	10%
Formal Laboratory Report #3	15%
Formal Laboratory Report #4	15%
Final Revised Laboratory Report	10%
TA Evaluation	10%

Activities Being Assessed: Laboratory notebooks/journals are to be maintained with draft-level laboratory matters (including purpose, brief introduction/pre-lab notes, materials, instrumentation with sketches (some prepared during the course of the experiment), compiled results from the lab with associated in-lab/post-lab calculations, brief discussion of results and error analysis, and answered questions) completed by each student prior/during/after every experiment. Laboratory notebooks will be collected at the end of each laboratory period, briefly evaluated, and returned in a box outside the lab by 5:00 p.m. the following day.

Partners within each group will write and submit complete, formal laboratory reports for alternating experiments. Rough drafts for reports #1 and #2 are due at the beginning of the next laboratory period. Final drafts are due one week after the rough draft is handed back. Final drafts for formal laboratory reports #3 and #4 are due at the beginning of the next laboratory period. Late reports will be penalized 10% for each weekday they are late.

Since this course is designated as writing intensive (W) with improved writing skills expected to be one result, you will revise and resubmit your POOREST formal report for an additional grade at the end of the term. This report must be submitted to your TAs by 5:00 p.m. on December 8, 2008 (Section 1) or December 10, 2008 (Section 2).

Finally, aside from being a good partner for the class, consider your TA your “boss” as it is their responsibility to observe your activities and overall efforts. In doing so they are in the best position to provide for a general assessment at the end of the term. If you are on time, on task, and always striving to gather the most that you can from your efforts in a safe manner, you should approach a 10 in this arena! The more negative your attitude, the more you are late or off-task, and the more you ignore safety rules, the lower your TA assessment will generally be.

Students with Disabilities: Near the beginning of the term, in accordance with the Americans with Disabilities Act, any student requiring assistance with a particular disability should consult with the instructor so such assistance can be provided as effectively as possible. Further information about the KOKUA Program is available at www.hawaii.edu/kokua