

Instructor: Dr. Johnny W. Pang (2070A Young Hall)

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Office Hours: Tuesday 1-2pm; Thursday 2-3pm &amp; Friday 10-11am 2070A Young Hall

Lecture: Monday 4 – 4:50pm in CS50

Labs: 1336, 1337 &amp; 1340 Young Hall

Enforced Requisites: courses 14B and 14BL (all C- or better) and 14C (co-requisite OR if completed C- or better)

**Required Texts:**

- (1) Chemistry Experiments for Life Science Majors (2<sup>nd</sup> Edition) by A.A. Russell, Burgess Publishing (same as 14BL) (ISBN #: 0808725173)
- (2) Techniques in Organic Chemistry (1<sup>st</sup> Edition) by Mohrig, Hammond, Schatz and Morrill, W.H. Freeman And Company 2003 (ISBN #: 0-7167-6638-8) (same as 14BL)
- (3) Laboratory Notebook with duplicate pages (same as 14BL)

**Recommended Texts:**

- (1) Organic Chemistry W.H. Brown and C.S. Foote OR ANY other organic textbook
- (2) Chemical Principles, 2nd Ed. Atkins and Jones OR ANY other general chemistry textbook

Virtual Office Hours: Chemistry 14CL will use the Department of Chemistry's Virtual Office Hours (VOH) function on the Internet for posting guidelines and announcements. VOH URL: <http://voh.chem.ucla.edu>

Class Web Site: Follow the Web link on Chem 14CL VOH.

**Grading:** To receive a passing grade (C-), you must complete ALL the experiments and reports and receive at least 50% of the points in the exams and writing assignments categories.**NOTE:** The instructor reserves the right to modify the 50% rule in the exam category at the end of the quarter after all the scores are tabulated.

Preparation for lab – Pre-lab assignments	110	18.3%
Lab technique, accuracy of work and lab clean up	60	10%
Documentation of lab work - Lab reports	220	36.7%
Conceptual Understanding of Lab – (i) On-Line Writing Assignments (2 @ 20 EACH)	40	6.6%
(ii) Midterm	85	14.2%
(iii) Final	85	14.2%
<b>TOTAL</b>	<b>600</b>	<b>100%</b>

**Lecture Schedule:**

Oct. 3	Polyprotic acids/Amino Acids Titrations
Oct. 10	Polyprotic acids/Amino Acids Titrations (continue)
Oct. 17	Theory in Extraction & UV Spectroscopy
Oct. 24	Infrared Spectroscopy
<b>Oct. 31</b>	<b>Midterm Exam (NO MAKE UP EXAM)</b>
Nov. 7	Theory in Distillation
Nov. 14	Chromatography (GC & TLC)
Nov. 21	Mass Spectroscopy
Nov. 28	<sup>13</sup> C NMR and DEPT Spectroscopy & Hints on the Vitamin C Experiment
Dec. 5	Mass Spectroscopy, Chromatography & Forensic Science
<b>Dec. 13</b>	<b>FINAL EXAM 11:30 – 1:30pm (Cover ALL Topics in 14CL) (NO MAKE UP EXAM)</b>

Exams must be taken during the lecture section in which you are officially enrolled. Any missing exam will count as ZERO.

**Lab Preparation:** You must be prepared for the experiment before you come to lab if you wish to complete the experiment in the time allotted. *The course is impacted; therefore, there is neither make-up time in the course nor space for you to work in other sections. If you miss a lab, you MUST discuss the issue with the course instructor to see what other options you may have to complete the experiment.* You must do your lab work in your scheduled period. In preparation for the lab, you should first study the pertinent sections in the text, review the lecture notes pertaining to the experiment, then view (and possibly review) the appropriate videos (refer to lab schedule for on-line access of the videos) for any new techniques to be used in the experiment. If a pre-lab report is required for the experiment, you MUST turn in the pre-lab report to your TA at the *beginning* of the lab period. Refer to the VOH for the specific report guidelines. **In addition, you may be required to obtain physical properties as well as safety information for different chemicals for your pre-lab reports from the MSDS (Material Safety Data Sheets) database.** MSDS is available on-line (refer to the MSDS handout). **During the lab period, you will also complete the data tables and record any other observations about the experiment.** A copy of the in-lab data is to be turned in to the T.A. at the end of the lab period. Late pre-lab work will count as ZERO.

**NOTE:** *Techniques videos can also be viewed on the Internet (refer to the lab schedule for Web address).*

**Post-lab Reports:** The remainder of the lab report, - the data analysis, error analysis, and conclusions - are to be completed in the lab notebook after the experiment is completed (check VOH for guidelines). The post-lab report must be turned in to the T.A. at the start of the lab period listed under "Due Date" on your lab schedule. Unexcused late post-lab reports will accrue a penalty of FIVE percent of the grade PER DAY. No reports will be accepted after 5:00 p.m. on the last day of instruction.

**Laboratory Notebooks:** Laboratory notebooks designed for **duplicate records** are available from the Undergraduate Chemistry Fraternity - AXE - Young Hall 1275 and the student store. All experimental data and complete reports will be recorded in this laboratory notebook.

#### **Safety Goggles and Protective Clothing:**

Eye protection **must** be worn in all laboratories whenever any laboratory work is in progress. Recommended safety goggles may be purchased from the Undergraduate Chemistry Fraternity - AXE - Room 1275 Young Hall. A heavy vinyl or rubberized apron or full-length lab coat, closed-toe shoes, and long pants must be worn when doing experimental work. Lab coat can be purchased from AXE. If you wear an apron, your shirt must cover your shoulders and upper arms. Shorts and sandals are NOT allowed in the laboratory. You will be barred from the laboratory if you are not wearing appropriate protective clothing. Latex gloves will be provided for those experiments using chemicals that are hazardous to skin.

**Note: AXE only accepts personal check when purchasing lab equipment. AXE DOES NOT accept cash or credit card!**

*Chemistry 14CL is graded on a mastery basis.* Letter grades are based on the course point *total*. (Please note these grades are assigned only at the end of the quarter when all items have been graded; the percentage on a portion of the course is not a meaningful measure of your total performance.) Plus and minus grades are frequently assigned, but final decisions to award these grades are not made until the end of the quarter when all the student data have been evaluated. As a rule of thumb, the course grades are assigned as follows:

**90 - 100% = A ; 80 - 90% = B ; 65 - 80% = C ; 50 - 65% = D ; 0 - 50% = F**

#### **Cheating, Plagiarism, Dishonesty:**

All cases of cheating, plagiarism, or dishonesty will be reported to the Dean of Students. All work that you submit for grading must be your own work. Group reports must acknowledge the individual contributions of each person, if the work has been shared.