

CH-254L Survey of Organic and Bioorganic Chemistry

Instructor: Angelique Showman
Section: -01 Th 15:30 – 18:20 Henry Hall L4
-02 F 11:30 – 14:20 Henry Hall L4
-03 Th 18:30 – 21:20 Henry Hall L4
-04 W 18:30 – 21:20 Henry Hall L4

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Office Hours: Mon: 0900-1000
Wed: 1630-1730
Fri: 0830-0930

Lab Manual: Information Available on eCollege

Course Description:

Concurrent registration in CH254 lecture is required; if you are not registered for lecture, please come see me. The lab section is designed to enhance your understanding of scientific methods and concepts by bringing a practical understanding of chemistry through hands-on experience in different techniques.

Safety Requirements:

Students are **required** to practice safety precautions to include wearing safety glasses; closed toed, covered shoes; and lab coats while performing experiments. Long pants are recommended. Closed toed shoes must be on before entering lab. If you have long hair, it is recommended to tie it back away from the face. Working in a lab can be messy, so consider wearing very casual attire in case it gets soiled during laboratory work. Only registered students will be allowed in the laboratory. For your safety, food and drink including chewing on gum or candy is not permissible in the lab; food and drink containers cannot be visible at any time. Avoid applying cosmetics or touching your hands to your face anytime you are in lab.

Course Requirements:

A scientific hand-held calculator with log function.
Access to Word/Excel or other word processing and spreadsheet program.
Bound Lab Notebook (no 3-ring binders or spiral notebooks)
eCollege
Twitter

Prerequisites:

CH 201/201L (recommended with grade of C or better)

Student Conduct:

Please refer to the Student Handbook for the CUH policies on Classroom Behavior and Academic Dishonesty.

Music Devices and Cell Phones:

The use of music devices, cell phones, smart phones, PDAs (personal digital assistant), pagers or any other electronic device with the potential to make noise is prohibited during lab. **The use of these devices during lab is a safety issue!** These devices must be turned off or placed on silent (not vibrate) during the entire lab time. During the final exam, these devices need to be turned off; if during an exam, your electronic device makes noise (this includes vibrating), you may be asked to turn in your exam for a grade of zero and leave the room while the rest of the class finishes. The use of any other electronic device other than an approved scientific calculator during the exam or will be considered a form of academic dishonesty and will result in a failing grade for that assignment. Students who cannot comply with this rule will be asked to leave class. Please refer any questions to the Dean of Natural Sciences and Mathematics.

ADA Accommodations:

Students with special needs who meet criteria for the Americans with Disabilities Act (ADA) provisions must provide written documentation of the need for accommodations from the CUH Counseling Center (Dr. June Yasuhara; phone 735-4845) by the end of week three of the class, in order for the instructor to plan accordingly. Failure to provide written documentation will prevent your instructor from making the necessary accommodations. Please refer any questions to the Dean of Students and review the procedures at http://www.chaminade.edu/student_life/sss/counseling_services.php.

Title IX:

Chaminade University of Honolulu recognizes the inherent dignity of all individuals and promotes respect for all people. Sexual misconduct will NOT be tolerated at Chaminade University of Honolulu. If you have been the victim of sexual misconduct, we encourage you to report this matter promptly. As a faculty member, I am interested in promoting a safe and healthy environment, and should I learn of any sexual misconduct, I must report the matter to the Title IX Coordinator. Should you want to report to a confidential source you may contact the following:

Counseling Center | 808-735-4845 |

Any priest serving as a sacramental confessor or any ordained religious leader serving in the sacred confidence role. | 808-735-4774 |

Course Expectations:

Students are expected to set up and perform chemistry-based experiments, while adhering to laboratory safety precautions set forth. Most experiments include a lab handout with pre-lab questions, which will be written in the lab notebook. Lab notebooks will be graded throughout the semester. In addition, to be prepared for lab, a written procedure will need to be written before lab. Both of these will be checked at the beginning of the lab. In addition, to the lab notebook check, a pre-lab quiz will be given. Failure of the pre-lab quiz indicates that the student is not prepared for lab and may not be allowed to proceed with the experiment; pre-lab quizzes are not reflected in the final grade for the course. There will also be two lab quizzes and a lab final. Additionally, students will be required to complete a lab summary and two lab reports.

eCollege:

I will be utilizing eCollege mainly as a document depository. I will be uploading experiment information and worksheets for lab usually by the Monday before lab. Worksheets can be printed and written directly on as they are turned in for a separate grade. Submission of lab reports will also be through this platform.

Lab Notebook:

The lab notebook is where all notes, raw data and calculations for experiments will be documented as well as who participated in the experiment and when the experiment occurred. Pre-lab and Post-lab questions will also be answered in the lab notebook. Lab notebooks must be bound and pages numbered, must include a title page [Date(s) of Experiment, Description of Experiment, Page Number(s)] and written in blue or black permanent ink (absolutely NO pencil). Pages cannot be removed from the notebook but can be added permanently such as graphs, pictures, graded worksheets, etc. but no pre-filled out lab handouts. Portions of the lab handouts such as tables can be cut out and pasted in your lab notebook prior to the lab to help you organize your data; if they are not permanently in your lab notebook at the beginning of lab, they cannot be used. Anything added to the lab notebook needs to include your initials on the addition and on the page that it is attached to in order to ascertain if something is missing or has fallen out of place. Mistakes happen and are expected; however, they still need to be readable, thus mistakes are only to be crossed out with a single line and no correction tape can be used. Lab notebooks **CANNOT** be rewritten; this is a legal document that shows what occurred in lab, when it occurred, much like a patient chart – it cannot be edited to make it look prettier. Lab notebooks will be checked at the beginning of lab and again at the end of lab.

Lab Summary/Reports:

Lab reports have the following format:

Abstract – brief summary of the experiment including results

Introduction – an introduction into the experiment, the theory behind it and state the hypothesis

Methods and Materials – briefly what you did and used to conduct the experiment

Results – tables and figures of the result and a short paragraph stating the results

Discussion/Conclusion – explanation of the results in relation to the hypothesis; discussion of anything that occurred outside of what was expected

The Lab Summary will contain only the Results and Discussion/Conclusion sections listed above.

As this is a college course, you are required to use a computer equipped with Word, Excel or other word processing/spreadsheet software. Lab reports are to be typed and include tables and figures as appropriate; hand written lab reports will not be accepted. There will be **NO** re-writes this semester, so be sure to turn in a well-written final document. More details about the lab reports and lab summary will be covered in lab.

Attendance:

Attendance during all labs is **REQUIRED**. An excess of more than one (1) absence is unacceptable and will result in a non-passing grade in the course; there is no make-up assignment for lab experiments; however, you are still responsible for understanding the lab experiment you missed, as you will be tested on it. Under exceptional circumstances, alternative assignments in addition to the lab write-up may be available with a written request accompanied by a written verification for the reason of the absences. Experimental results may be provided by the instructor and consists of the raw data only, which can be used to complete the results, questions, and discussion portions of your lab-write up. The objectives, materials, hazards, and procedure can be completed with the information found in the laboratory handouts.

Grading:

The course grade will be based on the following:

20% = Lab Notebook

20% = Laboratory Summaries and Reports

15% = In Lab/Take-home Worksheets

15% = Lab Quizzes

15% = Lab Final

15% = Attendance and Attitude (following safety precautions, participation, etc.)

Grading Scale:

Letter grade: A = 90 - 100%
B = 80 - 89%
C = 70 - 79%
D = 60 - 69%
F = 59% and below

Tentative Lab Schedule and Important Dates
(Subject to change; announcements will be made in lecture or on eCollege.)

Week	Dates	Description
1	1/14 - 1/16	Lab Check-in, Lab Safety Pre-Assessment Start Worksheet 1: Structure in Organic Compounds/Functional Groups
2	1/21 1/21 - 1/23	Add-Drop Last Day Finish Worksheet 1: Structure in Organic Compounds/Functional Groups (<i>Due at end of lab</i>) Start Worksheet 2: Stereochemistry
3	1/28- 1/30	Hydrocarbons/Biofuels – Bring Used Oil
4	2/3 - 2/5	Spectrophotometry & Extraction of Pigments
5	2/11 - 2/13	Lab Quiz 1 Graded Lab Notebook Check Acid/Base Titrations
6	2/18 - 2/20	Aspirin Synthesis (Lab Summary 1)
7	2/26 - 2/28	Aspirin Determination (Lab Summary 1) <i>Time will be available to work on Lab Summary (Bring Laptop)</i>
8	3/4 - 3/6	Finish Worksheet 2: Stereochemistry (<i>Due at end of lab</i>)
9	3/11 - 3/13	Amino Acids (Lab Report 1) Lab Summary 1: Aspirin Synthesis and Determination (eCollege)

10	3/18 - 3/20	Lab Quiz 2 Graded Lab Notebook Check <i>Time will be available to work on Lab Summary (Bring Laptop)</i>
11	3/25 - 3/27	SPRING BREAK
12	4/1 - 4/3	Good Friday – No Class Lab Report 1: Amino Acids Due (eCollege)
13	4/6 4/8 - 4/10	<i>Last Day to Withdraw</i> Enzymes (Lab Report 2)
14	4/15 - 4/17	Preparation and Properties of Soaps/Hand Creams
15	4/22 - 4/24	Determining Vitamin B2 Concentration Lab Report 2: Enzymes Lab Due (eCollege)
16	4/29 - 5/1	Lab Final Lab Notebook Due