

CH-102L-01 Chemistry for the Concerned World Citizen Lab

Instructor:	Angelique Showman
Email:	angelique.showman@chaminade.edu
Time:	Mondays 14:30 – 17:20
Office:	Henry Hall 123B
Office Hours:	TBA
Location:	Henry Hall Lab 7
Lab Manual:	Handouts

Course Description

The lab section is designed to enhance your understanding of complex environmental issues from a chemistry prospective as while bringing a practical understanding of chemistry through hands-on experience.

Course Requirements

- You will need an iClicker remote - available for sale in WSC, Room 115 (See Heidi).
- You will need a scientific calculator with log function
- You will need a lab coat and safety glasses/goggles.

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. If you have long hair, you must 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. Also, avoid applying cosmetics or touching your hands to your face anytime you are in lab. Students are allowed to work in the lab only in the presence of the instructor.

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.

Course Expectations

Students are expected to participate and perform chemistry-based experiments, while adhering to laboratory safety precautions set forth. Lab is a hands-on experience, so you will not get anything out of the lab if you do not participate.

Attendance and Grading

Chemistry is, by its nature, a participatory science – *you need to participate in the lab work!* Thus being excessively absent is not a lab experience and this will result in a non-passing grade for the course. Lab experiences cannot be made up; however, for the first excused absence, you will be allowed to write a two-paged cited paper on any environmental topic as it pertains to chemistry. Make-up work is only worth 85% of missed lab points. Although you missed the lab, 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.

You are expected to read the lab handout prior to coming to class in order to be prepared to perform the experiment. A pre-lab iClicker quiz may be given at the beginning of each lab to assess your preparedness for lab.

Service Learning: Plastics - Addressing Pollution in our Community

We will be participating in a Service Learning project to further your understanding of chemistry and the environment. This project will be on Plastics: Addressing Pollution in our Community. The first part of this project will involve journaling your day-to-day interaction with plastics and what changes you can make. The second part of this project will involve a field trip where we will see and collect plastic waste found in Hawaii's waterways. The third part will involve writing a short three to four page reflection paper discussing linking your daily life experience with plastics and what you saw during the field trip and will include what you learned and how you could relate the class/lab chemistry to the outside world. Finally, we will be taking some of this plastic waste and running a variety of tests to look at the differences in properties between the seven common plastic categories as well as discussing in class what you learned from this project.

Part 1 – An Average Day with Plastics:

Pick an average day and journal all the plastic items that you used; I want you to include all plastic that you come in contact with as all plastic will eventually end up in a landfill, but I also want you to list those items that fall under the “stupid” plastic category. (“stupid” plastic is any plastic that is designed as single use or disposable, i.e.: water/soda bottles, to-go containers/cups, straws, plastic bags, utensils, etc.) Regardless if the item can be recycled, I want you to write it down.

Based on what you wrote in your journal above, I want you to identify some changes that you can make to reduce the amount of plastic in your life and ultimately in the life of our planet. Remember that recycling does not count as very few items marked with the recycling label can actually be recycled and these items can still end up in our waterways. Then Pick an average day and implement the changes you came up with in and journal what plastic items you still come in contact with.

Part 2 – Field Trip

Date and time to be confirmed in lab, as it is subject to change based on weather conditions. At the site, we will be collecting plastic waste found in a harbor. We will not be getting into the water and gloves and other collecting equipment will be provided. It is advised that you dress appropriately for the activity, and just like lab, closed-toed shoes are required; comfortable walking shoes are a good idea and bring sunscreen and a hat!

Part 3 – Reflection Paper

Write a three to four page or more if needed (double spaced, 12 point Times New Roman Font, all Margins 1 inch and a separate cover page with your information) on your experience and what changes you will continue to do and what changes you will not continue to do and why. Also discuss your experiences during the field trip, what you saw, how it made you feel, etc. and link this to what you can do differently to reduce and eliminate the waste encountered. The paper is due Monday, April 18 by 1700 to my mailbox located in Wesselkamper Science Center.

The course grade will be based on the following:

- 30% = Lab Handouts/Experiments/Worksheets
- 15% = Attendance and Attitude (following safety precautions, participation, etc.)
- 15% = Lab Final
- 15% = iClicker Quizzes
- 25% = Service Learning: Plastics - Addressing Pollution in our Community

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.)

Week 1 (01/11)	Introduction, Orientation and Lab Safety Take Home Worksheet I
Week 2 (01/18)	Fr. Chaminade/Martin Luther King Observed – No Class
Week 3 (01/25)	Graphing: Determining Mass and Cooling Water
Week 4 (02/01)	Atmospheric Gases: O ₂ and CO ₂
Week 5 (02/08)	Spectrophotometry Green Fuels: Part I Take Home Worksheet II
Week 6 (02/15)	President's Day – No Class
Week 7 (02/22)	Green Fuels: Part II Visuals: Fat, Sugar and Salt in Common Food
Week 8 (02/29)	Purifying Water Solution Dilution: Answer to Pollution?
Week 9 (03/07)	Field Trip 1: Plastic Collection
Week 10 (03/14)	The Classification and Identification of Common Plastics
(03/21- 3/25)	Spring Break
Week 11 (03/28)	Determining the Fat in Potato/Corn Chips Drinking Your Calories: Sugar Content of Soda vs. Juice
Week 12 (04/04)	Deadline to Withdraw Service Learning: Plastics - Addressing Pollution in our Community (Share your experiences with the class.)
Week 13 (04/11)	Organic Synthesis: Soap and Lotions
Week 14 (04/18)	Drug Synthesis: Making Aspirin and Testing It's Purity
Week 15 (04/25)	Lab Final – <i>Bring All Handouts/Worksheets!</i>

Additional Departmental and University Policies

1. Electronic Devices

Use of music devices and cell phones is prohibited during all Natural Science and Mathematics classes at Chaminade, unless specifically permitted by your instructor. Use of cellphones and music devices in laboratories is a safety issue. In addition, use of cellphones and music devices in any class is discourteous and may lead to suspicion of academic misconduct. Students who cannot comply with this rule will be asked to leave class and may be subject to laboratory safety violation fines. You will be asked to leave class and marked absent if you do not comply. This will negatively affect your grade. Please refer any questions to the Dean of Natural Sciences and Mathematics.

2. ADAA Statement

2.1 Pursuant to several federal and state laws, including the Americans with Disabilities Act of 1990, as amended by the ADA Amendments Act of 2008, and Section 504 of the Rehabilitation Act of 1973, all qualified students with disabilities are protected from discrimination on basis of disability and are eligible for reasonable accommodations or modifications in the academic environment to enable them to enjoy equal access to academic programs, services, or activities. If a student would like to determine if they meet the criteria for accommodations, they should contact the Counseling Center at 808-735-4845 for further information.

3. Attendance & Tardiness

3.1 Students are expected to attend regularly all courses for which they are registered. Students should notify their instructors when illness or other extenuating circumstances prevents them from attending class and make arrangements to complete missed assignments. Notification may be done by emailing the instructor's Chaminade email address, calling the instructor's campus extension or by leaving a message with the instructor's division office (Natural Science and Math 1 (808) 440-4204). It is the instructor's prerogative to modify deadlines of course requirements accordingly. Any student who stops attending a course without officially **withdrawing**, may receive a failing grade.

3.2 Unexcused absences equivalent to more than a week of classes may lead to a grade reduction for the course. Any unexcused absence of two consecutive weeks or more may result in being **withdrawn** from the course by the instructor, although the instructor is not required to **withdraw** students in that scenario. Repeated absences put students at risk of failing grades.

3.3. Tardiness – failure to be on time for class may result in loss of participation points and even quiz/exam points as additional time will not be given, nor will makeup quizzes be given for students who are tardy.

4. Policy on Make-Up Tests

See syllabus, under Attendance for Instructor's policy on make-up exams/quizzes.

5. Policy on Communication

5.1 The University provides a Chaminade email address for all students. Official Chaminade communications will be sent to the students' Chaminade email address and instructors will use only this email to communicate with students. It is the responsibility of the student to check their email frequently. Report email-related problems to the Helpdesk at 808-735-4855 or helpdesk@chaminade.edu.

6. Laboratory Safety Information

The following guidelines are established to provide instructions in maintaining safety for students, staff, and faculty while using any of the science laboratories at Chaminade University. The Division of Natural Sciences and Mathematics (NSM), along with the University Environmental Safety Office are responsible for enforcing the regulations set forth in the current Student Handbook. Queries should be addressed to: Dean of Natural Sciences and Mathematics (808) 440-4204; Environmental Safety Officer (808) 739-4811

7. Title IX Declaration

Chaminade University of Honolulu recognizes the inherent dignity of all individuals and promotes respect for all people. Sexual misconduct, physical and/or psychological abuse will NOT be tolerated at CUH. If you have been the victim of sexual misconduct, physical and/or psychological abuse, 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, physical and/or psychological abuse, I must report the matter to the Title IX Coordinator. Should you want to speak to a confidential source you may contact the following:

- Chaminade 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 | http://www.chaminade.edu/student_life/ssc/counseling_services.php

8. Academic Honesty

Students are expected to have read and to abide by the "Student Rules of Conduct" which are available in your copy of Chaminade University's Student Handbook. Cheating in the form of plagiarism, collusion, deception and will not be tolerated and will negatively affect your grade.