

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

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**Instructor:** Ms. Showman  
**Email:** angelique.showman@chaminade.edu  
**Time:** Mondays 14:30 – 17:20  
**Office:** WSC 108  
**Office Hours:** Mon: 0900-1000  
Wed: 1630-1730  
Fri: 0830-0930  
**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 perspective as while bringing a practical understanding of chemistry through hands-on experience.

## Course Requirements

- You will need an iClicker remote (these are available for purchase in the division office).
- You will need a calculator.
- 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.

### **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](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 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**

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. Lab experiences cannot be made up; however, for the first absence, you will be allowed to write a two-paged cited paper on any environmental topic as it pertains to chemistry. Although you missed the lab, you are still responsible for understanding the lab experiment you missed, as you will be tested on it. Make-up

work is only worth 85% of missed lab points. 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 will 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 Wednesday, April 22 (Earth Day) by 1700 to my mailbox located in Wesselkamper Science Center.

The course grade will be based on the following:

30% = Lab Handouts/Experiments/Worksheets  
20% = Attendance and Attitude (following safety precautions, participation, etc.)  
15% = Lab Final  
15% = iClicker Quizzes  
20% = 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 (01/12)	Introduction, Orientation and Lab Safety Worksheet 1
Week 2 (01/19)	<b>Fr. Chaminade/Martin Luther King Observed – No Class</b>
Week 3 (01/26)	Graphing: Determining Mass and Cooling Water
Week 4 (02/02)	Atmospheric Gases: O <sub>2</sub> and CO <sub>2</sub>
Week 5 (02/09)	Spectrophotometry, Worksheet 2

Week 6 (02/16)	<b>President's Day – No Class</b>
Week 7 (02/23)	Solution Dilution: Answer to Pollution?
Week 8 (03/02)	<i>Bag It</i> and Service Learning Check In: Plastics - Addressing Pollution in our Community
Week 9 (03/09)	Field Trip 1: Plastic Collection
Week 10 (03/16)	The Classification and Identification of Common Plastics
Week 11 (03/23)	<b>Spring Break</b>
Week 12 (03/30)	<b>Deadline to Withdraw</b> Green Fuels – <i>Bring Used Oil Sample</i>
Week 13 (04/06)	Green Fuels: Part II
Week 14 (04/13)	Service Learning: Plastics - Addressing Pollution in our Community (Share your experiences with the class.)
Week 15 (04/20)	Fat and Sugar Content of Foods
Week 16 (04/27)	Lab Final – <i>Bring All Handouts/Worksheets!</i>