Course Syllabus
Chaminade University Honolulu
3140 Waialae Avenue - Honolulu, HI 96816
www.chaminade.edu

Course Number: CH 204L (*Cross-listed with BC 204L*)
Course Title: General Chemistry Laboratory II
Department Name: Natural Sciences and Mathematics
College/School/Division Name: NSM, Division of Chemistry and Biochemistry
Term: Spring 2023
Course Credits: 1
Class Meeting Days/Location/Time for each section:

Section 03	Thursday	Henry Lab 8	2:30–5:20 PM

Instructor Name: Duk Hwan Kim
Email: duk.kim@chaminade.edu
Office Location: Henry lab 7/8
Office Hours:

Tuesday and Wednesday	1:30 – 2:30 PM
OR by appointment	

1. University Course Catalog Description

One three-hour laboratory period per week to accompany CH 204. *Offered annually*. *Concurrent registration in CH 204 required. Cross-listed with BC 204L.*

2. Course Overview

CH 204L is a one-credit laboratory course that accompanies the CH 204 lecture courseStudents will perform experiments in the lab with class discussion of the techniques used and the expected results. The purpose of CH 204L is to continue the development of the laboratory skills learned in CH 203L, and to utilize these methods in the analysis of unknown samples. Copies of the experimental procedures will be handed out prior to the scheduled lab meeting. It is important that you read this material before starting the experiment.

3. Safety Requirements

Students are required to practice safety precautions while performing experiments: wearing safety glasses, closed-toe, full-coverage shoes, and lab coats. Long pants are recommended. If you have long hair, it is recommended you tie it back away from your face. This is required when we are using Bunsen burners. Working in a lab can be messy, so consider wearing very casual attire during laboratory work. Only registered students will be allowed in the laboratory. For your safety, food and drink including chewing gum or candy is not permissible in the lab. Avoid applying cosmetics or touching your hands to your face anytime you are in lab.

4. Assessment

The course grade will be based on the points earned from laboratory reports, worksheets, quizzes and class participation. The approximate breakdown is as follows:

40% = Laboratory Report Sheets
30% = Lab Notebook
20% = Quizzes
10% = Attendance and Attitude
(following safety precautions, participation, preparedness and notebook checks)

Students can expect timely and regular feedback on lab reports, worksheets, and quizzes.

Grading Scale

GRADE	Percentage	
A	90 – 100%	Outstanding scholarship and an unusual degree of intellectual initiative
B	80 – 89%	Superior work done in a consistent and intellectual manner
C	65 – 79%	Average grade indicating a competent grasp of subject matter
D	45 – 64%	Inferior work of the lowest passing grade, not satisfactory for fulfillment of prerequisite course work
F	Below 45%	Failed to grasp the minimum subject matter; no credit given

Lab Notebooks

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. Lab notebooks must be bound, written in blue or black ink, and have pages numbered. 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/white out should be used. Lab notebooks should not be rewritten to make it look prettier. Notebooks will be checked at the beginning and end of each lab meeting to assess completion and accuracy.

The first page of your lab notebook should be a table of contents that include the following information:
[date(s) of experiment, experiment title, page number]
Each entry for a LAB experiment should include:

- Title
- Purpose
- Introduction (some key points/equations)
- Procedure Notes / Data Collected (actual data recorded from instruments)
- Calculations (show your work for any calculations here)
- Results/Conclusion

Lab Report Sheets

The lab report sheets will be evaluated for completion and accuracy of the information required. They should be brief and concise, and contain the following:

- Any relevant chemical equations
- Sample calculations
- Sources of error and statistical treatment of data

Quizzes

Quiz will be administered at the start of the lab period. It will be a closed-book, 10-minute quiz which encompass the previous week's experiment.

5. Program Learning Outcomes

Chemistry Mission Statement

Chemistry has justifiably been labeled 'The Central Science'. Training in this discipline is therefore beneficial for all citizens of the modern world. All materials in the universe are made up of chemicals; a knowledge of chemistry is indeed a knowledge of ourselves.

The mission of this program is to:

- Promote molecular literacy (i.e. awareness of the importance of physical, chemical, and biological changes on the atomic and molecular scale)
- Provide hands-on laboratory training using modern chemical techniques and instrumentation
- Engage students in an undergraduate research program
- Enable students to integrate knowledge of the physical world
- Educate about the entry requirements, career pathways, and progression into advanced education in the chemical sciences

Program Learning Outcomes in Chemistry

Upon completion of the undergraduate program in Chemistry, students will be able to:

1. Apply the scientific method as it is used in organic chemistry, inorganic chemistry, analytical chemistry, physical chemistry, and molecular sciences
2. Recognize and explain chemical theory as it applies to the physical world
3. Visualize, evaluate, validate, and interpret results of chemical analyses as part of an integral and quality education (This PLO is a link to our Marianist Values of to provide an integral, quality education)
4. Solve problems using analytical reasoning, professional resources, professional conduct, and ethical behavior
5. Communicate chemical information effectively in oral and written formats

Course Learning Outcomes	**PLO 1**	**PLO 2**	**PLO 3**	**PLO 4**	**PLO 5**
1. Distinguish between qualitative and quantitative chemical analysis.	x		x	x	
2. Interpret experimental results and draw reasonable conclusions. Identify sources of error in chemical experiments.	x	x	x	x	
3.Perform accurate and precise quantitative measurements and keep legible and complete experimental records.	x	x	x	x	x
4. Collaborate with peers in obtaining and interpreting data.			x	x	x

Marianist Values (MVs) and Native Hawaiian Values (NHVs) for CH 204L

The Natural Sciences Division provides an *integral, quality education:* sophisticated integrative course content taught by experienced, dedicated, and well-educated instructors.

- We *educate in family spirit* – every classroom is an *Ohana* and you can expect to be respected yet challenged in an environment that is supportive, inclusively by instructors who take the time to personally get to know and care for you.
- We *educate for service, justice, and peace*, since many of the most pressing global issues (climate change, health inequity, poverty, justice) are those which science and technology investigate, establish ethical parameters for, and offer solutions to.
- We *educate for adaptation and change*. In science and technology, the only constant is change. Data, techniques, technologies, questions, interpretations, and ethical landscapes are constantly evolving, and we teach students to thrive on this dynamic uncertainty.

The study of science and technology can be formative, exploring human creativity and potential in the development of technologies and scientific solutions, the opportunity to engage in the stewardship of the natural world, and the opportunity to promote social justice. We provide opportunities to engage with the problems that face Hawai‘i and the Pacific region through the Natural Sciences curriculum, in particular, those centered around severe challenges in health, poverty, environmental resilience, and erosion of traditional culture. The Marianist Educational Values relate to Native Hawaiian ideas of *mana, na‘auao, ohana*, *aloha* and *aina*. We intend for our Natural Sciences programs to be culturally-sustaining, rooted in our Hawaiian place, and centered on core values of *Maiau,* be neat, prepared, careful in all we do; *Makawalu*, demonstrate foresight and planning; *‘Ai,* sustain mind and body; *Pa‘aNa‘au*, learn deeply

6. Course Policies

Late Work Policy

We recognize that we are living in extraordinary times and that each student’s situation can change rapidly. It is important to communicate with your instructor so that they can help you to meet the learning objectives of the course.

Please be sure to let your instructor know in advance if you cannot attend class for any reason.

- Unexcused absences for two consecutive weeks may result in being withdrawn from the course by the instructor.
- A planned, excused absence must be communicated to the instructor at least one week prior to the class. Necessary arrangements will be made to meet student learning objectives.
- An unplanned, excused absence must be communicated to the instructor within one week of the missed class. Necessary arrangements will be made to meet student learning objectives.

Determination of valid excuses for missed classes is at the sole discretion of the instructor.

Student athletes should communicate absences to the instructor with the earliest possible notice. Students are not allowed to miss class for practices.

Grades of "Incomplete"

Students and instructors may negotiate an incomplete grade when there are specific justifying circumstances. When submitting a grade the “I” will be accompanied by the alternative grade that will automatically be assigned after 90 days. These include IB, IC, ID, and IF. If only an “I” is submitted the default grade is F. The completion of the work, evaluation, and reporting of the final grade is due within 90 days after the end of the semester or term. This limit may not be extended.

Writing Policy

Plagiarism will not be tolerated and will be checked.

Instructor and Student Communication

Questions for this course can be emailed to the instructor. I respond to student emails by the next school day in most cases. Typically, this will be within 24 hours, but response time may be longer for e-mails sent during the evening, weekend, or holidays. It is the responsibility of the student to check their email frequently.

Cell phones, tablets, and laptops

Music Devices and Cellular Phones: Unless specifically permitted by your instructor, use of music devices and cell phones is prohibited during all Natural Science and Mathematics classes, as it is discourteous and may lead to suspicion of academic misconduct. Students unable to comply will be asked to leave class.
Out of consideration for your classmates, please set your cell phone to silent mode during class. Students are encouraged to bring laptops or tablets to class as the instructor will assign online activities and readings that will require the use of a laptop or tablet. Laptops and tablets should not be misused, such as checking distracting websites. Use your best judgment and respect your classmates and instructor.

ADA Policy

Chaminade University of Honolulu is committed to providing reasonable accommodations for persons with documented disabilities. If you need individual accommodations to meet course outcomes because of a documented disability, please speak with me to discuss your needs as soon as possible so that we can ensure your full participation in class and fair assessment of your work. 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 Kōkua'Ike by the end of week three of the class, in order for instructors to plan accordingly. If a student would like to determine if they meet the criteria for accommodations, they should contact the Kōkua'Ike Coordinator at (808) 739-8305 for further information (ada@chaminade.edu).

Title IX Compliance

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. If you or someone you know has been harassed or assaulted, you can find the appropriate resources by visiting Campus Ministry, the Dean of Students Office, the Counseling Center, or the Office for Compliance and Personnel Services.

Academic Conduct Policy

From the 2020-2021 Undergraduate Academic Catalog (p. 13):
Campus life is a unique situation requiring the full cooperation of each individual. For many, Chaminade is home, school, recreation center, and work, all in one. That makes it a community environment in which the actions of one student may directly affect other students. Therefore, each person must exercise a high degree of responsibility. The university expects students to remain in good conduct standing, which is defined as not currently being under a resolution status (i.e., student conduct probation, suspension, or expulsion). Please refer to the Student Handbook for more details. A copy of the Student Handbook is available on the Chaminade website.

For further information, please refer to the Student Handbook: https://chaminade.edu/wp-content/uploads/2021/04/NEW-STUDENT-HANDBOOK-20-21-Final-3.31.2021.pdf

Credit Hour Policy

The unit of semester credit is defined as university-level credit that is awarded for the completion of coursework. One credit hour reflects the amount of work represented in the intended learning outcomes and verified by evidence of student achievement for those learning outcomes. Each credit hour earned at Chaminade University should result in 45 hours of engagement. This equates to one hour of classroom or direct faculty instruction and a minimum of two hours of out-of-class student work each week for approximately fifteen weeks for one semester, 10-week term, or equivalent amount of work over a different amount of time.

Direct instructor engagement and out-of-class work result in total student engagement time of 45 hours for one credit.

The minimum 45 hours of engagement per credit hour can be satisfied in fully online, internship, or other specialized courses through several means, including (a) regular online instruction or interaction with the faculty member and fellow students and (b) academic engagement through extensive reading, research, online discussion, online quizzes or exams; instruction, collaborative group work, internships, laboratory work, practica, studio work, and preparation of papers, presentations, or other forms of assessment. This policy is in accordance with federal regulations and regional accrediting agencies.

The instructor may modify elements of this syllabus according to the operational needs of the class.

Course Schedule Spring 2023

Week	Dates	Topic
1	1/9 – 1/13	Lab check-in, safety information
2	1/16 – 1/20	Experiment 1: General Chemistry I Review
3	1/23 – 1/27	Experiment 2: Molecular Geometry
4	1/30 – 2/3	Experiment 3: EDTA Titration of Calcium in Egg Shells
5	2/6 – 2/10	Experiment 4: Manganese in Steel (Beer's Law) – Wet Lab
6	2/13 – 2/17	Manganese in Steel (Beer's Law) – Data Analysis
7	2/20 – 2/24	Experiment 5: Colligative Property
8	2/27 – 3/3	TBA
9	3/6 – 3/10	Experiment 6: Redox Titration
10	3/13 – 3/17	Experiment 7: Reaction of Bleach and Bromocresol Green
	3/20 – 3/24	**SPRING BREAK**
11	3/27 – 3/31	Experiment 8: Le Chatelier'sPrinciple
12	4/3 – 4/7	TBA
13	4/10 – 4/14	Experiment 9: pH Titration of Coke and Pepsi
14	4/17 – 4/21	Experiment 10: Precipitation of Silver Chloride
15	4/24 – 4/28	**LAST DAY OF INSTRUCTION**