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

Course Number: CH 254
Course Title: Survey of Organic and Bioorganic Chemistry for Nursing
School Name: Natural Sciences and Mathematics
College/School/Division Name: NSM, Division of Chemistry and Biochemistry
Term: Summer 2025
Course Credits: 3
Class Meeting Days/Location/Time for each section:
Section 01 Monday, Thursday Henry Hall 210 12:00-1:40 PM

Instructor Name: Dr. Kelvin Frazier
Email: kelvin.frazier@chaminade.edu
Office Location: Henry Hall 206C
Office Hours:
MR 1:40pm-2:30pm using Calendly https://calendly.com/kelvin-frazier

1. University Course Catalog Description

An introductory course with a focus on biological systems from a molecular point of view.
Prerequisites: CH 201 or consent of instructor, BI 151, BI 151L, BI 152, BI 152L, MA 100 or equivalent with grade of C or better; Corequisite: CH 254L

2. Course Overview

A nursing-centered approach will be used in studying the concepts in General, Organic and Biological Chemistry that are foundational to an understanding of normal cellular processes. Topics that will be covered include measurements, atomic structure, bonding, chemical reactions, properties of gases and liquids, solutions, equilibrium, acids and bases, pH, buffers, nuclear chemistry, nomenclature and properties of the main organic functional groups, and the structures and function of carbohydrates, proteins and lipids. *3 credits*

3. Course Prerequisites

- Completion of CH 201 or consent of instructor, BI 151, BI 151L, BI 152, BI 152L, MA 100 or equivalent with grade of C or better
- Concurrent registration in CH 254L required

4. Required Learning Materials

- Textbook
  - Essentials of General, Organic, and Biochemistry Third Edition ©2024 Denise Guinn
  - Access to Second Edition (optional): https://www.vet-ebooks.com/essentials-of-general-organic-and-biochemistry-pdf/

- Scientific calculator
- Computer and/or smartphone with web/app access to CANVAS (PowerPoint Lecture Files)

5. Technical Assistance for Canvas Users:

- Search for help on specific topics at help.instructure.com
- Chat live with Canvas Support 24/7/365
- Watch this video to get you started with online guides and tutorials
- Contact the Chaminade IT Helpdesk for technical issues: helpdesk@chaminade.edu, or call (808) 735-4855

6. Assessment

See below for grading scale.

Grading Scale

10%	Midterm Exam 1
10%	Midterm Exam 2
10%	Midterm Exam 3
30%	Final Exam
15%	Written Literature Quiz
15%	Oral Presentation
10%	Attendance

Points Scale (total 100 points)

10	Midterm Exam 1
10	Midterm Exam 2
10	Midterm Exam 3
30	Final Exam
15	Literature Quiz
15	Oral Presentation
10	Attendance

Grades will strictly not be curved, and letter grades will be assigned as follows:

Grade	Percent
A	90-100%
B	80-89%

C 70-79%

D 60-69%

F 0-59%

There is no "extra credit" for BC/CH 254 and no rounding up on Final Grades.

-Literature Quiz should be sourced by ACS publications: https://pubs.acs.org/

-The final exam is cumulative and will include concepts covered during the entire semester. The final exam can only be taken on its scheduled day and time. Do not schedule any travel, appointments, work, etc. that would conflict with the final exam.

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	70 – 79%	Average grade indicating a competent grasp of subject matter
D	60 – 69%	Inferior work of the lowest passing grade, not satisfactory for fulfillment of prerequisite course work
F	Below 60%	Failed to grasp the minimum subject matter; no credit given

7. Program Learning Outcomes

Chemistry Mission Statement

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

Chemistry Program Learning Outcomes as related to Nursing:

1) To appreciate the importance of chemistry in the nursing profession
2) To understand and apply the basic principles of chemistry relevant to health and medicine
3) To evaluate chemical concepts for effective decision-making and problem-solving

Course Learning Outcomes
1. Apply the scientific method as it used in organic and bioorganic chemistry
2. Apply the basic principles of chemistry relevant to health and medicine
3. Evaluate chemical concepts for effective decision-making and problem solving

Marianist Values (MVs) and Native Hawaiian Values (NHVs) for CH 254

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'a Na'au*, learn deeply

8. 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.

0-24 hours late 5 points deduction
24-48 hours late 10 points deduction
48-72 hours late 15 points deduction
72-96 hours late 20 points deduction
96-120 hours late 25 points deduction
>120 hours late 30 points deduction

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 at [francis.sakai-kawada@chaminade.edu]. 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 ʻIke 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 ʻIke 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 Summer 2025

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

Week	Dates	Experiment
1	05/12	Lab Check-In: Syllabus
2	05/15	Chapter 1: Matter and Measurement Chapter Chapter 2: Atomic Structure and Radioisotopes Chapter 3: Ionic and Covalent Compounds **Literature Quiz Due 05/16**
3	05/19	Chapter 4: Molecular Geometry, Polarity, and Intermolecular Forces of Attraction Chapter 5: Chemical Quantities and Introduction to Reactions Chapter 6: Chemical Reactions: Energy, Rates, and Equilibrium
4	05/22	Chapter 7: Changes of State and Gas Laws Chapter 8: Mixtures, Solution Concentrations, and Diffusion Chapter 9: Acids and Bases, pH, and Buffers **Literature Oral Presentation Due 05/23**
5	05/26	Memorial Day (No Class)
6	05/29	Midterm Test 1 General Chemistry (No In-person Class)
7	06/02	Chapter 10: Introduction to Organic Chemistry: Hydrocarbon Structure Chapter 11: Alcohols, Phenols, Thiols, Ethers, and Amines Chapter 12: The Carbonyl Containing Functional Groups
8	06/05	Midterm Test 2 Organic Chemistry
9	06/09	Chapter 13: The Common Organic Reactions in Biochemistry Chapter 14: Carbohydrates: Structure and Function Chapter 15: Lipids: Structure and Function
10	06/12	Chapter 16: Proteins: Structure and Function Chapter 17: Nucleotides and Nucleic Acids Chapter 18: Energy and Metabolism
11	06/16	Midterm Test 3 Biochemistry (No In-person Class)
12	06/19	Juneteenth Holiday (No Class) **Final Exam Due 6/20**