

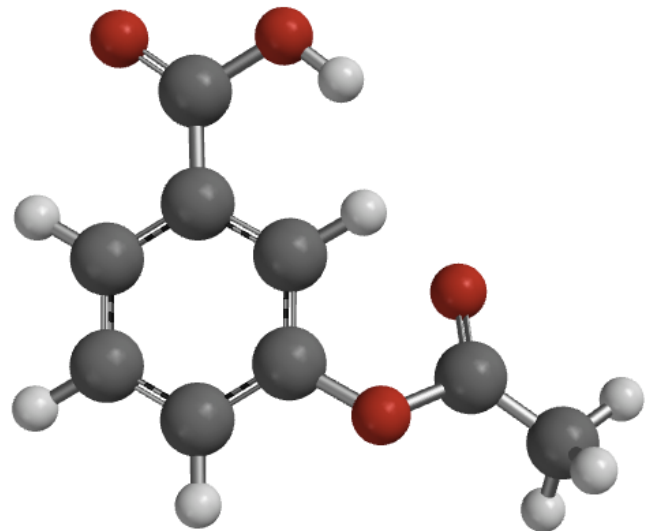
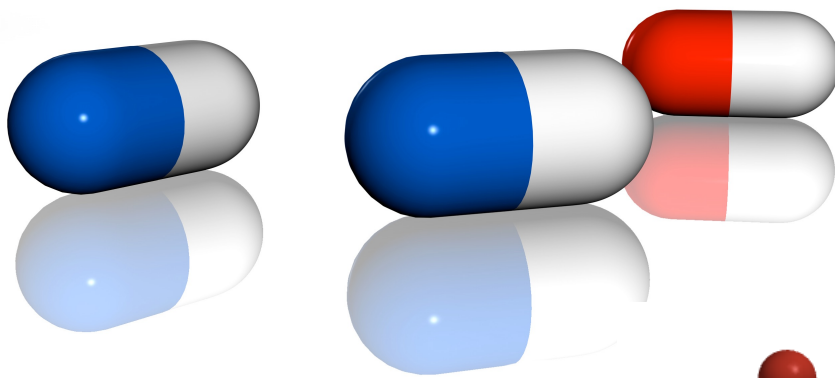
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# Fundamentals of Biochemistry

BIOC 141

Brad Ashburn, PhD  
Leeward Community College

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Course Title: Fundamentals of Biochemistry  
Course Number: 53023, 99071, 53024  
Course Modality: Online Asynchronous  
Course Website: **[www.bradashburn.com/bioc141](http://www.bradashburn.com/bioc141)**  
\*\*\*All lectures, worksheets, study guides, etc can be found at the website above.\*\*\*

Instructor: Brad Ashburn, PhD  
Office Location: PS 206  
Office Hours: M 1:00-3:00 pm via Zoom and by appt  
Email Address: bashburn@hawaii.edu  
Office Phone: 808-455-0264  
Division Office: BS 106A  
Division Office Phone: 808-455-0251

Prerequisite: CR in MATH 82X or equivalent or higher

Textbook: The Basics of General, Organic, and Biological Chemistry  
Ball, D.W., Hill, J.W., and Scott, R.J.  
Provided for free download or viewing on Course Website

Course Description: Biological chemistry focusing on the integration of concepts from general, inorganic, and biochemistry and their application to living systems. Satisfies the one-semester chemistry requirement for pre-nursing and pre-dental hygiene majors.

Student Learning Outcomes:

1. Utilize precise chemical language to communicate chemical and biochemical concepts and results.
2. Analyze and apply appropriate procedures for solving chemical and biochemical-related calculations using dimensional analysis.
3. Analyze and apply appropriate procedures for solving chemical and biochemical-related calculations involving gases, liquids, solids, and solutions.
4. Relate the location of an element in the periodic table to its electron configuration, number of subatomic particles, and subsequent chemical reactivity based on periodic trends.
5. Describe ionic and covalent bonding theories and apply them to the construction of proper Lewis structures and prediction of molecular characteristics.

6. Relate chemical and biochemical concepts, theories and laws to everyday phenomena.

**Exams:** There will be three cumulative exams each focusing on the most recent 1/3 of the course material. Each exam is worth 80 points for a total of 240 points. No extra credit, exam redos, or exam correction opportunities are provided. There will be a 2 hour time limit for each exam. Check the Course Website and Lamaku for more details and dates.

**Quizzes:** There will be 12 Module Quizzes worth 20 points each for a total of 240 points. No extra credit, quiz redos, or quiz correction opportunities are provided. There will be a 30 minute time limit for each quiz. Each Quiz is due by Sunday evening at 11:59 pm. Check the Course Website and Lamaku for more details and dates.

**Grades:** Final Grades will be determined out of the 480 points available. Raw scores counted for course grade. No grading curve. The tentative scale will be used:

A	90-100%
B	80-89%
C	70-79%
D	60-69%
F	59% or below

**Course Policies:**

- No make up quizzes/exams will be given except for documented medical emergencies.
- All missed quizzes/exams are counted as zero points.
- Plagiarism in any form is considered academic dishonesty.
- Academic dishonesty will not be tolerated and may result in judicial proceedings in accordance with UH policy.

### **Academic Dishonesty**

Academic dishonesty cannot be condoned by the University. Such dishonesty includes cheating and plagiarism (examples of which are given below), which violate the Student Conduct Code and could result in expulsion from the University.

Cheating includes but is not limited to giving unauthorized help during an examination, obtaining unauthorized information about an examination before it is administered, using inappropriate sources of information during an examination, altering the record of any grades, altering answers after an examination has been submitted, falsifying any official University record, and misrepresenting the facts in order to obtain exemptions from course requirements.

Plagiarism includes but is not limited to submitting any document, to satisfy an academic requirement, that has been copied in whole or part from another individual's work without identifying that individual; neglecting to identify as a quotation a documented idea that has not been assimilated into the student's language and style, or paraphrasing a passage so closely that the reader is misled as to the source; submitting the same written or oral material in more than one course without obtaining authorization from the instructors involved; or dry-labbing, which includes (a) obtaining and using experimental data from other students without the express consent of the instructor, (b) utilizing experimental data and laboratory write-ups from other sections of the course or from previous terms during which the course was conducted, and (c) fabricating data to fit the expected results. Please see the Leeward CC website for more information about [academic dishonesty](#).

### **Participation Verification**

Students who do not participate in their classes during the first week of the semester are considered to be "No Shows." The College assumes that "No Show" students no longer wish to participate in their education. Students who are identified as "No Shows" will be administratively disenrolled from their classes and given a 100% tuition refund. Participant Verification helps to release students who registered but did not intend to come to class from a financial obligation and failing grade. It also keeps the College in compliance with federal financial aid guidelines.

See [Executive Policy 7.209](#) Student Participation Verification in Coursework.

### **Statement on the Use Artificial Intelligence (AI) Tools**

AI tools such as ChatGPT are allowed to assist with homework and study. AI tools are not allowed during exams. Using AI tools during an exam is considered academic dishonesty.

### **Hō'ōia 'Āina, Land Acknowledgement Statement**

Leeward Community College, with profound reflection, offers this Hō'ōia 'Āina, Land Acknowledgement Statement, recognizing Hawai'i as an indigenous space whose original people are today identified as Native Hawaiians.

Leeward Community College upholds the University of Hawai'i's commitment to the well-being of our indigenous communities. This Hō'ōia 'Āina honors the relationship between kānaka 'ōiwi and the land upon which the college sits.

With much aloha, this statement pays respect to the 'āina 'ōiwi of our Pu'uloa campus and Wai'anae Moku Education Center, both located on the mokupuni of O'ahu, moku of 'Ewa, ahupua'a of Waiawa, as well as the moku of Wai'anae and the ahupua'a of Lualualei.

This Hō'ōia 'Āina welcomes all who gather on these ancestral lands.

## **Title IX**

Leeward Community College is committed to supporting students and upholding the College's non-discrimination policy. Under Title IX, discrimination based upon sex and gender is prohibited. If you experience an incident of sex- or gender-based discrimination, harassment, or violence, we encourage you to reach out for help. While you may talk to a faculty member, understand that as a "Responsible Employee" of the College, the faculty member must inform the college's Title IX Coordinator to ensure that our students are supported and aware of the resources available. If you would like to speak with someone who can afford you with privacy and confidentiality, there are designated confidential resources available who can meet with you.

For more information about available resources, and University policies, please see our [Title IX](#) website or contact our Title IX Coordinator, Thomas Hirsbrunner at 808-455-0478 or email [leetix@hawaii.edu](mailto:leetix@hawaii.edu).

## **Confidential Advocate\***

The UH Confidential Advocates provide confidential advocacy services and case management to victims of sex discrimination and gender-based violence (including sexual harassment, gender-based harassment, dating and domestic violence, stalking, sexual exploitation, and sexual assault) who are involved in the University system on O'ahu. Please encourage any student who is seeking confidential advocacy to contact Leeward Community College's [Mental Health and Wellness Office](#) for the Fall 2025.

\*UH Advocates cannot keep cases confidential if the responding party (alleged perpetrator, offender, or abuser) is an employee, as the University may have a duty to respond. However, the victim's privacy will be upheld to the extent permitted by law. To explore off-campus confidential options refer to our [Community Resources](#) page.

University of Hawai'i System, Office of Institutional Equity  
Email: [advocate@hawaii.edu](mailto:advocate@hawaii.edu)  
Phone: 808-348-0432

## **Student Code of Conduct**

The University of Hawai'i is committed to ensuring a safe, civil, learning and working environment in which the dignity of every individual is respected. All members of the UH community—students, faculty and staff—share responsibility for its growth and continued welfare. Students who are part of the UH community are obligated to abide by the University's Student Code of Conduct. As members of the UH community, students are responsible for becoming fully acquainted with UH's expectations and to comply with UH's authority. To familiarize yourself with what is expected of you as a student, view the [Student Conduct Code](#) website.

## **Netiquette**

Netiquette is defined as Internet etiquette and it can be applied to almost every form of online communication, email, forum discussions, web conferences (e.g. Zoom, Google

Meet), and social media. We expect students to conduct themselves using proper netiquette practices. View the [Student Netiquette quick guide](#) or [accessible Student Netiquette quick guide](#) for more information.

### **Students with Disabilities Statement**

Leeward Community College abides by Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990, which stipulate that no student shall be denied the benefits of an education "solely by reason of a handicap."

Students with disabilities may apply for services at any time during the semester. If you believe that you need accommodations in this class, you are encouraged to contact the Disability Services Office (DSO) by visiting our [DSO website](#) as soon as possible to ensure that such accommodations are implemented in a timely fashion.

Alternatively, the Disability Services office is located on the second floor of the Learning Commons building (to the right of the main Learning Commons entrance) or call (808) 455-0421.

### **Tutoring**

Website: Content and Writing Tutoring  
Phone: 808-455-0409

### **Learning Resource Center**

The Learning Resource Center (LRC) offers free support for Leeward CC content courses. Content tutors are fellow students who are available to help with course concepts and study strategies.

LRC Email: [lrctutor@hawaii.edu](mailto:lrctutor@hawaii.edu)  
[Book a Content Tutor Appointment](#)

### **The Writing Center**

The Writing Center provides free writing support for Leeward CC students. Writing consultants are fellow students who are available to help with writing assignments for any Leeward CC class, scholarship essays, and college success skills (including Laulima, OER, time management, organization, note taking, and reading). The content tutors and writing consultants are available online on both an appointment and drop-in basis. Schedule a [tutoring or writing consultant appointment](#) online. See the LRC and Writing Center websites for instructions on using Penji, the online appointment app.

The Writing Center Email: [writers@hawaii.edu](mailto:writers@hawaii.edu)  
[Book a Writing Center Appointment](#)

### **Additional Online Tutoring Services**

The UH System also offers [online tutoring services](#). Log in to "MyUH," click on the "Tutor.com Online Tutoring (all campuses)" tab, then "Proceed to Tutor.com." Click on "Connect Now."

**Assessment for Student Work**

With the goal of continuing to improve the quality of educational services offered to students, Leeward CC conducts assessments of student achievement of course, program, and institutional learning outcomes. Student work is used anonymously as the basis of these assessments, and the work you do in this course may be used in these assessment efforts.

**UH Alert Emergency Notification**

The UH Alert emergency notification system is the primary communication tool used to alert the Leeward Community College community of an immediate threat to the safety and security of our students and employees. UH Alert is also used to announce campus closures. You must register online to receive the UH Alert service. UH Alert includes automated emergency messages sent via email and text message alerts sent to mobile phones. All students, faculty and staff are encouraged to sign up at [UH Alert](#) online.

**Withdrawal Deadlines for 16-week and Part-of-term Courses**

Not all deadlines for withdrawal are the same. Refer to the [Academic Deadlines](#) page for the traditional 16-week courses. For part-of-term courses, specific deadlines are located in the Class Availability List for each course. Click on the specific CRN and the important registration and withdrawal deadlines unique to the class are listed. View the [special deadline instructions](#).

**Student Access to Mental Health Services**

Leeward Community College understands that the attainment of educational and professional goals depends vitally on students' health, safety, and wellbeing. This also includes students' mental health. If any currently enrolled Leeward CC student feels they would benefit from the support of mental health services, please contact our mental health professionals.

Lori Lum, LMHC, Mental Health Professional

- Phone: 808-455-0331
- Email: [leecare@hawaii.edu](mailto:leecare@hawaii.edu)
- Website: [Mental Health Services](#)

**UH System Basic Needs**

Basic needs include food and housing, childcare, mental health, financial resources and transportation, among others. Student basic needs security is critical for ensuring strong academic performance, persistence and graduation and overall student well being. If you or someone you know is experiencing basic needs insecurity, please go to [UH System Basic Needs](#) website.