



UNIVERSITY of HAWAII
WINDWARD COMMUNITY COLLEGE

Ke Kulanui Kaiāulu o ke Ko'olau

MICR 140L GENERAL MICROBIOLOGY Lab

Spring / 2026

2 Credits | CRN [63307]

MW, 12:10pm – 2:00 pm

Kailua High School

About Windward Community College

Mission Statement

‘O keia ka wā kūpono e ho‘onui ai ka ‘ike me ka ho‘omaopopo i kō Hawai‘i mau ho‘oilina waiwai. Aia nō ho‘i ma ke Kulanui Kaiāulu o ke Ko‘olau nā papahana hou o nā ‘ike ‘ake akamai a me nā hana no‘eau. Me ke kuleana ko‘iko‘i e ho‘ohiki ke Kulanui e kāko‘o a e ho‘okumu i ala e hiki kē kōkua i ka ho‘onui ‘ike a nā kānaka maoli. Na mākou nō e ho‘olako, kāko‘o a paipai i nā Ko‘olau a kō O‘ahu a‘e me nā hana no‘eau ākea, ka ho‘ona‘auao ‘oihana a me ka ho‘onui ‘ike ma ke kaiāulu— hō‘a‘ano a e ho‘oulu i nā haumāna i ka po‘okela.

Windward Community College offers innovative programs in the arts and sciences and opportunities to gain knowledge and understanding of Hawai‘i and its unique heritage. With a special commitment to support the access and educational needs of Native Hawaiians, we provide the Ko‘olau region of O‘ahu and beyond with liberal arts, career and lifelong learning in a supportive and challenging environment — inspiring students to excellence.

‘Āina

Windward Community College is located in the ahupua‘a of Kāne‘ohe and He‘e‘ia in the moku of Ko‘olaupoko on the island of O‘ahu. Both ahupua‘a are directly connected to the mo‘o ‘ōlelo of Pāpa and Wākea, who are seen as the ancestors of the Hawaiian nation. The campus sits beneath the pu‘u of Keahiakahoe, which is also connected to many mo‘o ‘ōlelo of this ‘āina. Because wind names and rain names are associated with specific ‘āina, the rain name of Kāne‘ohe is known as the ‘Āpuakea and the rain name of He‘e‘ia is the Ulumano.

Instructor Information

Hongwei Li, PhD

Associate Professor of Microbiology and Botany

Coordinator of Agripharmatech Program

Natural Sciences Department

Office: Hale Imiloa 101 | Phone: (808) 236-9104

Email: hli@hawaii.edu

Agripharmatech (<https://windward.hawaii.edu/programs-of-study/agripharmatech/>)

Office Hours

- Wednesday, 2:00 pm – 3:00 pm, KHS Lab

Windward Community College is an Equal Opportunity Institution.

- Students may also make an appointment to meet instructor individually via Zoom at any convenient time.

Response Time

- Students can contact instructor via email anytime with a 24 business hour response.

Asking Course Questions

- Please use course Q&A in Lamakū Discussions for all general course questions about content, activities, due dates, how work will be graded, etc. I will check Q&A daily and provide follow-up information there.
- Email specific grading questions and/or personal matters, per FERPA, to keep your information protected. Please use [Lamakū Email](#) instead of UH Gmail or other email.

Alternate Contact Information

If you are unable to contact the instructor, have questions that your instructor cannot answer, or for any other issues, please contact the Academic Affairs Office:

- Location: Alaka'i 121
- Phone: (808) 235-7422

Contingency Plan

If there is an outage, weather situation, or family emergency on my end, I will do my best to find a way to communicate an update as soon as possible about my return to the course. Mahalo in advance for your understanding and I hope you will do the same.

Course Format & Structure

This course is offered in a 16-week time frame, face-to-face.

All course activity due dates are listed in Lamakū on the Calendar. Please check your UH email often and set your [Lamakū Notifications](#) to receive course notices, such as grading updates, announcements, and activity reminders. I will keep our Lamakū course Grades as current as possible.

Participation Verification

Campuses are required by federal regulations to verify the participation of students in their classes. In accordance with [Executive Policy 7.209](#), all students in the University of Hawai'i system are required to establish "participation" to ensure that they are not dropped from their class(es). Effective Fall 2021, students who fail to participate by the late registration period for a class will be administratively dropped from that class. Students may also be dropped from dependent prerequisite and/or corequisite classes if both courses do not establish participation.

Course Information

Catalog Description

Laboratory course illustrating fundamental techniques and concepts of microbiology, such as microscopic observations, aseptic transfer, microorganism classification and identification, environmental factors influencing microbial growth, biochemistry of microorganisms, ecological microbiology, and medical microbiology.

Prerequisites: Credit for or registration in MICR 130; placement into Math 24, 25, 26, 28, 29, 82 or higher.

Requirement course satisfies:

- DB for AS in Natural Science
- DB for AA in Liberal Arts
- Required course for Certificate of Achievement in Agripharmatech

Student Learning Outcomes

Students can expect to attain the following outcomes as a result of taking this course:

1. Operate equipment used in microbiology laboratory
2. Prepare growth media
3. Perform aseptic transfer
4. Identify microorganisms using morphological and physiological tests
5. Follow biosafety procedures
6. Produce lab reports using the standard scientific format

Course Materials

Lamaku Class Site (<https://lamaku.hawaii.edu/d2l/home>):

Find class materials under the following tabs

- Content
- Assignments
- Quizzes
- Discussions

UHCC Lamakū Student Resources (how-to videos)

- Contact UH ITS for 24/7 Lamakū assistance.

Reference Lab Materials: [OER Commons](https://www.oercommons.org/) (<https://www.oercommons.org/>)

- Osborn's [Microbiology Laboratory Manual](https://www.oercommons.org/courseware/lesson/120169/overview) (<https://www.oercommons.org/courseware/lesson/120169/overview>)
- [Laboratory Exercises in Microbiology: Discovering the Unseen World Through Hands-On Investigation](https://www.oercommons.org/courses/laboratory-exercises-in-microbiology-discovering-the-unseen-world-through-hands-on-investigation) (<https://www.oercommons.org/courses/laboratory-exercises-in-microbiology-discovering-the-unseen-world-through-hands-on-investigation>)

Regular access to a computer with internet (desktop or laptop).

- Windward offers free laptop and WiFi hotspot check-out to students (first-come, first-served), as well as software and other tech discounts; see Ka Piko [Student Tech Support](#) for information.
- UH Online provides an [online learning Readiness Activity](#) and an [Orientation to Online Learning](#) that Windward CC students may take to see if online learning is a good fit.

Other Technology

Review the privacy/security policies before using the technologies we will be using in this class. Contact me if you would like to discuss the use of alternate options or technologies.

- [Google Drive](#) is UH-provided cloud storage ([accessibility statement](#), [privacy policy](#))
- [Google Docs](#) is used to create documents ([accessibility statement](#), [privacy policy](#))
- [Google Sheets](#) is used to create assignment and reference worksheets ([accessibility statement](#), [privacy policy](#))
- [Google Slides](#) is a presentation authoring software provided by UH ([accessibility statement](#), [privacy policy](#))
- [YouTube](#) is used for delivering some of the course content ([accessibility statement](#), [privacy policy](#))
- [Zoom](#) is used for the Synchronous Sessions and virtual office ([accessibility statement](#), [privacy policy](#))
- [H5P](#) is used for creating review activities ([accessibility](#), [privacy policy](#))

Grading Policy

Assessments and Tasks

- **Lab Participation**
You are required to actively participate in all lab activities, and expected to work, as an individual or in groups, safely and efficiently in the laboratory. You will be graded based on laboratory attendance, biosafety compliance, and completion of lab assignments.
- **Pre-lab quizzes**
Prior to attending each lab, you will be required to go over the lab materials on Lamaku (e.g., lab manuals, videos, reading materials, etc.) of that lab in order to be prepared for each lab. Pre-lab quizzes are due the day before each lab session (except for Lab 1). All pre-lab quizzes are on Lamaku and open book.
- **Exams**
There are three exams (two midterms and one final), and the format of exams includes a written part (Multiple Choice, Fill-in-the-blank, Matching, Short Answers), and a hands-on practical test. Make-up midterm exams will be permitted only when there is a legitimate excuse (such as illness or emergency; doctor's note is required).
- **Group Project**
Students are required to work in instructor-assigned groups to do research on a selected topic and give a presentation in class.

Grading

The total possible points:

<i>Laboratory Participation</i>	150	points
<i>Pre-lab Quizzes</i>	150	points
<i>Exams (3)</i>	300	points
<i>Group Project and Presentation</i>	100	points

Total	700	points

Grading is based on the percentage of total points earned. Final Grades will be assigned as follows:

- A - - - 90% or above in total points.
- B - - - 80-89% of total points.
- C - - - 70-79% of total points.
- D - - - 60-69% of total points.
- F - - - Below 60% of total points

I (incomplete) grade is given at the instructor's option when a student has failed to complete a small part of a course because of circumstances beyond his or her control. It is the student's responsibility to contact the instructor to make up the incomplete work with a minimum level (or better) of achievement. Failure to satisfactorily make up incomplete work within the appropriate time period will result in a grade change for "I" to the contingency grade identified by the instructor.

Class Schedule

Week	Date	Topic
1		Introduction and lab safety
		Ubiquity of microorganisms and cultural characteristics of bacteria
2		Compound microscope / Preparing a wet mount
3		Aseptic techniques / Bacterial culture transfer
		Preparation of smears and simple staining

Week	Date	Topic
4	Gram staining	Lab 6
	Capsule and acid fast staining	Lab 7
5	Endospore staining	Lab 8
	Preparing and dispensing media /Autoclave sterilization	Lab 9
6	1st Midterm Exam (02/18/2026, Lab 1-8)	
7	Effect of oxygen, temperature and UV radiation on bacterial growth	Lab 10
	Effect of disinfectants, antiseptics and antibiotics on bacterial growth	Lab 11
8	Biochemical activities of microorganisms	Lab 12
	Serial dilution of bacterial culture and plating	Lab 13
9	Spectrophotometry and determination of bacterial growth	Lab 14
	Scientific Methods and Group Projects	
10	Spring Recess	
11	Bacteria of the skin, throat and intestinal tract	Lab 15
	2nd Midterm Exam (03/25/2026, Lab 9-14)	
	Group projects	
12	Bacteria of the mouth /Dental caries susceptibility	Lab 16
	Identification of unknown bacteria	Lab 17
	Group projects	
13	Bacteriophage	Lab 18
	Fungi	Lab 19
	Group projects	
14	Protists	Lab 20
	Bacterial transformation	Lab 21
	Group projects	
15	PCR	Lab 22
	Group projects	
16	Immunoassay	Lab 23
	Group project	

Week	Date	Topic
17		Group project presentation
Finals		Final Exam (Wednesday, 05/13/2026)

* This Lab Schedule is subject to change at any time. I will notify you of any changes via announcements on the Lamaku class site.

Academic Integrity

Work submitted by a student must be the student's own work. The work of others should be explicitly marked, such as through the use of quotes or summarizing with reference to the original author. In this class, students who commit academic dishonesty, cheating, or plagiarism will have the following consequence(s):

- Students will receive a failing grade for plagiarized assignments.
- All cases of academic dishonesty are referred to the Vice Chancellor for Student Affairs.

Academic and Technical Support

Academic Support

- [Windward Community College Library](#)
- [Library eResources](#)
- [Library Research Units \(LRUs\)](#)
- [Ka Piko Tutoring Services: Math Lab, Speech Lab, Writing Lab, 'Ōlelo Hawai'i Lab](#)
- [Online Learning at Windward Community College](#)
- [STAR Balance](#)

Technical Support

- [UH ITS Help Desk](#): email help@hawaii.edu or call (808) 956-8883 (or 1-800-558-2669) for Lamakū and most technology support. Available 24 hours a day, 7 days a week, including holidays.
- Student Tech Support: email winhelp@hawaii.edu, call (808) 235-7437, or stop by in person at Hale La'akea 228. Available Monday–Friday from 8:00 am–4:00 pm.
- Lamakū: Click on the [Lamakū Help](#) link in the menu bar at the top of the Lamakū homepage to fill out and submit a question and get your answer via email.
- [Information Security for Students](#)

College Policies & Support Services

Your instructor may also provide additional resources in your Lamakū course.

Basic Needs

Basic needs include food and housing, childcare, mental health, financial resources, and transportation. 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 see the [UH System Basic Needs](#).

Disabilities Accommodations Statement

Windward Community College's Disability Student Services Office (WCC-DSSO) is committed to providing equal access to qualified students with disabilities.

If you have a physical, sensory, health, cognitive, or mental health disability that could limit your ability to participate fully in this class, you are encouraged to contact the Disability Specialist Counselor, Roy Inouye, to discuss reasonable accommodations that will help you succeed in this class. The Disabilities Counselor can be reached at (808) 235-7448, wccdsso@hawaii.edu, or stop by the office (Hale Kako'ō 106) for more information.

Financial Aid

If you are receiving financial aid and are contemplating not completing the course it is highly recommended that you contact the Financial Aid Office at (808) 934-2712 or email them at wccfao@hawaii.edu **BEFORE** you withdraw to discuss the impact this decision may have on your financial aid eligibility.

LGBTQ+

The University of Hawai'i system and Windward Community College are committed to building an inclusive community that supports and advocates for all students, staff, and faculty. We welcome all members of our campus community to our campuses: transgender, māhū, and people of all gender identities. All members of our campus community deserve a work and educational environment free from harassment or bullying based on their sexual orientation, gender identity, or expression. For more information, see the [University of Hawai'i Commission on LGBTQ+ Equality](#). Windward Community College Commissioner: Scott Sutherland, scottjks@hawaii.edu

Mental Health Counseling

Mental Health and Wellness at Windward Community College provides counseling services and activities on campus to support students' life goals as well as their academic goals. Information about services can be found at [WCC Mental Health & Wellness](#).

Student Conduct Code

Windward Community College follows the University of Hawai'i Code of Student Conduct which defines expected conduct for students and specifies those acts subject to University sanctions. Students should familiarize themselves with the Code of Student Conduct since, upon enrollment at Windward Community College, they have placed themselves under the policies and regulations of the University and its duly constituted bodies. The disciplinary authority is exercised through the Office of the Vice Chancellor for Student Affairs. Copies of the [Student Conduct Code](#) are available at the Office of the Vice Chancellor for Student Affairs.

TRiO Program

The Federal TRiO Programs are educational opportunity outreach programs designed to motivate and support students from disadvantaged backgrounds. TRiO includes six outreach and support programs targeted to serve and assist low-income, first-generation college students and students with disabilities in progressing through the academic pipeline from middle school to post-baccalaureate programs. Information about services can be found at [Windward CC TRiO](#).

Title IX - Sex Discrimination And Gender-Based Violence Resources

Windward Community College is committed to providing a learning, working, and living environment that promotes personal integrity, civility, and mutual respect and is free of all forms of sex discrimination and gender-based violence, including sexual assault, sexual harassment, gender-based harassment, domestic violence, dating violence, and stalking.

If you or someone you know is experiencing any of these, WCC has staff and resources to support and assist you. To report an incident of sex discrimination or gender-based violence, as well as receive information and support, please contact one of the following:

Desrae Kahale, UH System Confidential Advocate

Phone: (808) 235-7393

Email: advocate@hawaii.edu

Office: Hale Kāko'o 101

Desrae Kahale, Mental Health Counselor & Confidential Resource

Phone: (808) 235-7393

Email: dkahale3@hawaii.edu

Office: Hale Kāko'o 101

Mykie E. Menor Ozoa-Aglugub, J.D., Title IX Coordinator

Phone: (808) 235-7468

Email: mozoa@hawaii.edu

Office: Hale Kāko'o 109

Karen Cho, Deputy Title IX Coordinator

Phone: (808) 235-7404

Email: kcho@hawaii.edu

Office: Hale 'Alaka'i 120

As a member of the University faculty, I am required to immediately report any incident of sex discrimination or gender-based violence to the campus Title IX Coordinator. Although the Title IX Coordinator and I cannot guarantee confidentiality, you will still have options about how your case will be handled. My goal is to make sure you are aware of the range of options available to you and have access to the resources and support you need.

For more information regarding sex discrimination and gender-based violence, refer to the University's [Title IX](#) resources, and the University's Policy, [EP 1.204](#).

UH Alerts

The UH Alert emergency notification system alerts the university community in the event of a natural, health or civil emergency. The information you provide will only be used in the event of an emergency

that impacts the health and safety of the UH community or the closure of whole campuses. It will not be shared with others or used for routine UH communications or announcements. To sign up, visit [UH Alerts](#) for more information.