MICRO 130 GENERAL MICROBIOLOGY

(CRN63072)

TR, 8:30 am – 9:45 am, Hale ʻImiloa 123

INSTRUCTOR:	Hongwei Li Ph.D.
OFFICE HOURS:	Thursday 1:00 pm – 2:00 pm, or by appointment
OFFICE:	Hale ʻImiloa 107
TELEPHONE:	236-9104
EMAIL:	hli@hawaii.edu
EFFECTIVE DATE:	Fall 2016

WINDWARD COMMUNITY COLLEGE MISSION STATEMENT

Windward Community College is committed to excellence in the liberal arts and career development; we support and challenge individuals to develop skills, fulfill their potential, enrich their lives, and become contributing, culturally aware members of our community.

CATALOG DESCRIPTION

Fundamentals of microbiology: growth, development, and classification of bacteria, viruses, protozoa, fungi and algae; roles of microorganisms in the environment and human affairs; medical microbiology, immunology, and applied microbiology for food sanitation and public health.

REQUIREMENT COURSE SATISFIES:

AT WCC:

- AA Lib Arts (DB, DY)
- Certificate of Achievement in Agripharmatech: Ethnopharmacognosy

AT UHM:

- Bachelor of Science Degree Program in Plant and Environmental Biotechnology. Accepted as an elective for the following specializations: Plant Biotechnology, General Biotechnology, and Environmental-Microbial Biotechnology.

STUDENT LEARNING OUTCOMES

1. Describe the main morphological characteristics, growth, reproduction and classification of algae, bacteria, fungi, protozoa, viruses and helminthes
2. Discuss etiologies, reservoirs of infection, modes of transmission, signs, symptoms, and treatments and/or methods of prevention of common infectious diseases of humans
3. Describe the basic principles of molecular genetics as they relate to cell division, mutation, genetic engineering, protein synthesis, bacterial virulence, and antibiotic resistance
4. Describe pathogenicity, immunity and allergies

COURSE TASKS, ASSESSMENTS AND GRADING

Course Tasks:

1. Class attendance is mandatory.

2. Students must be able to access / utilize Laulima via the internet for this course.
3. Read each appropriate Chapter prior to class session
4. Participate course-based research projects and group discussions.
5. Complete homework assignments and review study guides

Assessments:
1. There will be one essay assignment; late submission of the assignment will result in point deduction.

2. There are four quizzes will be given in the class, and the time will be announce at least one day ahead.

3. Four exams (3 midterms and one final) will be administered during the semester. Each exam will cover the lectures and chapters assigned since the preceding exam was given. Even though the exams are not cumulative, an understanding of previously covered material is generally needed to answer questions on each exam. Exams will consist of multiple choices, fill in the blank, matching and essay questions.

NOTE: Make-up quizzes/exams will only be given with a valid reason (i.e. medical or other emergency) on the FIRST day you return to class. In such a circumstance, you should make every reasonable attempt to contact the instructor as soon as possible before the exam. There is *No early or make-up exam for the final*.

4. Completion of a scientific report on a course-based research project: you are required to conduct research on a given topic and write a scientific report.

Grading:
The total possible points:

1. Assignments (1)	20 points
2. Quizzes (4)	80 points
3. Exams (4)	400 points
4. Scientific report	100 points
Total	600 points

Letter 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. The student is expected to complete the course by the designated deadline in the succeeding semester. If this is not done, the I grade will revert to the contingency grade identified by the instructor

LEARNING RESOURCES

1. Required Textbook: Tortora, G.J., B.R. Funke and C.L. Case. *Microbiology – An Introduction*. Pearson Benjamin Cummings. 11th or 12th edition

2. Reference Textbook Companion Website, *Mastering Microbiology*:
www.masteringmicrobiology.com
3. Course materials: https://laulima.hawaii.edu/portal

DISABILITIES ACCOMMODATION STATEMENT

If you have a physical, sensory, health, cognitive, or mental health disability that could limit your ability to fully participate in this class, you are encouraged to contact the Disability Specialist Counselor to discuss reasonable accommodations that will help you succeed in this class. Ann Lemke can be reached at 235-7448, lemke@hawaii.edu, or you may stop by Hale 'Akoakoa 213 for more information.

Date	Lecture topic	Chapter
Aug. 23	Microbial world and you	1
Aug. 25	Chemical principles	2
Aug. 30	Chemical principles	2
Sep. 1	Chemical principles/ Microscope	2/3
Sep. 6	Prokaryotes	4
Sep. 8	Prokaryotes	4
Sep. 13	Eukaryotes	4
Sep. 15	Microbial metabolism	5
Sep. 20	Microbial metabolism	5
Sep. 22	**EXAM 1**	**1-5**
Sep. 27	Microbial growth	6
Sep. 29	Control of microbial growth	7
Oct. 4	Microbial genetics	8
Oct. 6	Microbial genetics	8
Oct. 11	Biotechnology & DNA technology	9
Oct. 13	Biotechnology & DNA technology	9
Oct. 18	**EXAM 2**	**6-9**
Oct. 20	Classification	10
Oct. 25	Prokaryotes	11
Oct. 27	Prokaryotes	11
Nov. 1	Eukaryotes: fungi, algae, protozoa	12
Nov. 10	Viruses, viroid and prions	13
Nov. 15	**EXAM 3**	**9-13**
Nov. 17	Principles of disease & epidemiology	14
Nov. 22	Mechanisms of pathogenicity	15
Nov. 29	Non-specific defenses of the host	16
Dec. 1	Specific defenses of the host	17
Dec. 6	Disorders of the immune system	19
Dec. 8	Vaccines and antimicrobial drugs	18/20
Dec. 15	**EXAM 4 (Final, 8:30am - 10:30am)**	**14-20**

(Please note that this schedule is subject to change)