

MICRO 130 GENERAL MICROBIOLOGY

(CRN60123)

TR, 2:30pm – 3:45pm, Hale 'Imiloa 123

INSTRUCTOR:	Hongwei Li Ph.D.
OFFICE HOURS:	TR, 4:00pm – 5:00 pm, or by appointment
ROOM:	Hale 'Imiloa 107
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EFFECTIVE DATE:	Spring 2014

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.

WCC: AA (DB), CA Agripharmatech

Activities Required at Scheduled Times Other Than Class Times

1. Read each appropriate Chapter prior to class session
2. Write your summaries and notes in a journal
3. Turn in selected homework assignments (see study questions at the end of each chapter in the textbook).

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

ASSESSMENT TASKS AND GRADING

Your learning outcomes will be achieved through the aid of the following activities:

1. Read the assigned chapters

2. Prepare a good journal
3. Assigned readings (hand-outs)
4. Homework assignments

Assigned readings will provide background and supplemental information to enhance your comprehension of the principles of microbiology. Homework assignments will expand your understanding of the topics.

Grading:

Four exams 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. Each exam counts for 25% of your grade. Exams will consist of multiple choice, fill in the blank, matching and essay questions.

No retests will be given. Make up tests 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. Students involved in cheating will receive an "F" grade for the course. No specific "extra-credit" assignments will be offered.

The total possible points:

1. Clean and complete journal	50 points
2. Homework assignments (10)	100 points
3. Exams (4)	400 points

Total	550 points
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Letter grades will be assigned as follows:

- A - - - 90% or above in total points.
- B - - - 80-89% of total points.
- C - - - 65-79% of total points.
- D - - - 55-64% of total points.
- F - - - Below 55% of total points; or incomplete official withdrawal from course.
- I - - - Incomplete; given at the **INSTRUCTOR'S OPTION** when you are unable to complete a small part of the course because of circumstances beyond your control. It is **your responsibility** to make up 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 (see catalog).
- CR - - 65% or above in total points; you must indicate the intent to take the course as **CR/NC** in writing by March 20, 2014 (see catalog).
- NC - - Below 65% of total points;
- N - - - **NOT GIVEN BY THIS INSTRUCTOR EXCEPT UNDER EXTREMELY RARE CIRCUMSTANCES** (e.g., documented serious illness or emergency that prevents you from officially withdrawing from the course); never used as an alternative for an "F" grade;
- W - - - Last day to withdraw without a "W (withdrawal)" grade is February 3, 2014, Last day to withdrawal with "W" grade is March 20, 2014 (see catalog).

LEARNING RESOURCES

Textbook: Tortora, G.J., B.R. Funke and C.L. Case. 2011. Microbiology – An Introduction. Pearson Benjamin Cummings.

Lecture materials / Hand-outs: <https://laulima.hawaii.edu/portal>

MICR 130 Schedule

Spring 2014

Date	Lecture topic	Chapter
Jan. 14	Introduction	1
Jan. 16	Microbial world and you	1
Jan. 21	Chemical principles	2
Jan. 23	Microscope	3
Jan. 28	Microscope	3
Jan. 30	Prokaryotes	4
Feb. 4	Eukaryotes	4
Feb. 6	Microbial metabolism	5
Feb. 11	Microbial metabolism	5
Feb. 13	EXAM 1	1 – 5
Feb. 18	Microbial growth	6
Feb. 20	Microbial growth	6
Feb. 25	Control of microbial growth	7
Feb. 27	Microbial genetics	8
Mar. 4	Microbial genetics	8
Mar. 6	EXAM 2	6 – 8
Mar. 11	Biotechnology & DNA technology	9
Mar. 13	Classification	10
Mar. 18	Bacteria	11
Mar. 20	Bacteria	11
Apr. 1	Fungi, algae, protozoa	12
Apr. 3	Multicellular parasites. Viruses	12/13
Apr. 8	Viruses	13
Apr. 10	EXAM 3	9 - 13
Apr. 15	Principles of disease & epidemiology	14
Apr. 17	Mechanisms of pathogenicity	15
Apr. 22	Non-specific defenses of the host	16
Apr. 24	Specific defenses of the host	17
Apr. 29	Disorders of the immune system	19
May. 1	Antimicrobial drugs	20
May. 6	Antimicrobial drugs	20
May. 15	EXAM 4 (Final)	14-17, 19-20