

## WINDWARD COMMUNITY COLLEGE

Vin Nayyar, Ph.D.

General Microbiology-130

Fall, 2009

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**Office Hours: M, W, F. 10:30-11:20 am**

Days	Time
Monday	9:25 A.M.– 10:25 A.M
Tuesday	9:45 A.M.- 10:45 A.M.
Wednesday	11:30A.M – 12:30 A.M
Thursday	9:45A.M.-10-45 AM.

### 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.

### Activities Required at Scheduled Times Other Than Class Time

1. Read each appropriated Chapter prior to class session. (Do objective type study questions at the end of each chapter in the textbook).
2. Write your summaries and notes in a journal
3. Turn in selected homework assignments, Current Events, etc.

### STUDENT LEARNING OUTCOMES

The student learning outcomes for the course are:

1. Describe the main morphological characteristics, growth, reproduction and classification of algae, bacteria, fungi, protozoa, viruses and helminthe
2. Discuss etiologies, reservoirs of infection, modes of transmission, signs, symptoms, and treatments and/or methods of prevention of common infectious diseases of humans

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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

### **General Introduction:**

The course is designed to introduce the fundamentals of microbiology, growth, development and classification of microorganisms, role of microorganisms in relation to environment and human affairs. The course also acquaints the students to medical microbiology, microbial genetics, immunology, molecular biology and, applied microbiology for food, sanitation and public health. A successful completion of this course fulfills natural science requirements for AA degree (WCC) and for arts and science BA programs (UHM). A basic knowledge of introductory mathematics, though not required as a prerequisite, is strongly recommended.

### **Evaluation:**

The student evaluation will be based on quizzes, examinations, short-term projects, class attendance and active participation during class periods. There will NOT BE A RETEST under any circumstances. Make up tests will not be given without a valid reason (medical certificate) and must be taken on the day the student returns to the class. Though unexpected and extremely unpleasant to mention, but any unfair practices (cheating, etc) during the course activities would automatically lead to a final grade of "F", without any compromises. In case of a missed class, student alone shall be responsible for the material covered or any announcements made during that class period.

### **Grading Policy:**

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

1. Read the assigned chapters before coming to the class
2. Take good notes and be attentive in the class
3. Form a cluster of 3 students and work together.

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

Four quizzes and exams will be administered during the semester. Each quiz and exam will cover the lectures and chapters assigned since the preceding exam was given. The **four quizzes will be of open book type**. For each exam, you are allowed to bring an index card(3"X5") All quizzes and exams will consist of objective types questions.

**ALL QUIZZES AND EXAMINATIONS WILL BE ANSWERED ON SCANTRON FORMS ONLY AND STUDENTS SHALL BE RESPONSIBLE FOR PROVIDING THEIR OWN SCANTRONS.**

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The distribution of points for the final grade shall be as follows:

Type	Percentage
4 Open book quizzes	20 %
First, Second and, Third Examinations	51 %
3 Current events	9%
Final Examination	17%
Attendance, class participation,	3%

The final grade will be determined by the following range:

Grade	Range
A	90 % and above
B	80-89 %
C	70-79 %
D	60-69 %
F	59 % and less

### **Additional Information:**

Any further detailed information can be obtained from the WCC general catalog.

Text Book: Microbiology: An Introduction. Tortora, Funk, and Case. 10<sup>th</sup> Edition, 2007  
NAYYAR, MICRO-130 -STUDY GUIDE TO ACCOMPANY THE TEXT

**Schedule: The schedule is subject to change.**

Class no.	Date	Topic	Chapter
1	Aug, 24, 26, 28	(i) General Course Introduction (ii) The Microbial World and You	1
2	Aug, 31, Sept, 2	Chemical Principles	2
3	Sept, 4	Chemical principles	2
	Sept, 7	HOLIDAY-LABOR DAY	
4	Sept, 9, 11	(i). Observing Microorganisms Through a Microscope (ii). Functional Anatomy of Prokaryotic and Eukaryotic Cells	3,4
5	Sept, 14	Functional Anatomy of Prokaryotic and Eukaryotic Cells	4

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6	Sept, 16, 18	Microbial Metabolism	5
7	Sept, 21	Microbial Metabolism	5
<b>8</b>	<b>Sept, 23, 25</b>	<b>QUIZ-1, OPEN BOOK, REVIEW</b>	<b>1-5</b>
<b>9</b>	<b>Sept, 28</b>	<b>FIRST EXAMINATION</b>	<b>1-5</b>
10	Sept, 30, Oct, 2	Microbial Growth	6
11	Oct, 5	The Control of Microbial Growth	7
12	Oct, 7, 9	Microbial Genetics	8
13	Oct, 12	Biotechnology and Recombinant DNA,	9
14	Oct, 14, 16	Classification of Microorganisms	10
<b>15</b>	<b>Oct, 19</b>	<b>QUIZ-11, OPEN BOOK , REVIEW</b>	<b>6-10</b>
<b>16</b>	<b>Oct, 21</b>	<b>SECOND EXAMINATION</b>	<b>6-10</b>
17	Oct, 23	The Eukaryotes,	12
18	Oct, 26	(i). The Eukaryotes (ii). Viruses	12, 13
19	Oct, 28, 30	Principles of Disease and Epidemiology	14
20	Nov, 2, 4	Microbial Mechanism of Pathogenicity	15
<b>21</b>	<b>Nov, 6</b>	<b>QUIZ-III, OPEN BOOK , REVIEW</b>	<b>12-15</b>
<b>22</b>	<b>Nov, 9</b>	<b>THIRD, EXAMINATION</b>	<b>12-15</b>
23	Nov, 13, 16	Non-Specific Defenses of the Host	16
24	Nov, 18, 20	Specific Defenses of the Host: The Immune Response	17
25	Nov, 23, 25	Practical Applications of Immunology	18
26	Nov, 30, Dec, 2	Disorders Associated with the Immune System	19
27	Dec, 4, 7	Antimicrobial Drugs,	20
<b>28</b>	<b>Dec, 9</b>	<b>Quiz-IV, OPEN BOOK, REVIEW</b>	<b>16-20</b>
		<b>FINAL EXAM, AS ANNOUNCED IN THE SCHEDULE OF CLASSES</b>	<b>16-20</b>

**NOTE: Failure of the instructor to arrive within 15 minutes of the scheduled class timings would lead to the automatic dismissal of the class for that period. Mahalo nui loa.**

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