**SYLLABU** 

**FALL 2012** 

Course: Microbiology in Health and Disease

**BIPIN PATFI** 

Office Hours: Before or after Class or by appointment

2900 D 4.00	Microbiology in Health/Disease	Main Campus
LECTURE LAB	MON-TUES 05:30 pm - 06:45 pm MON-TUES - 06:55 pm - 08:20 pm	BC 1025LECTURE BC 2068LAB
22801 BIOL		

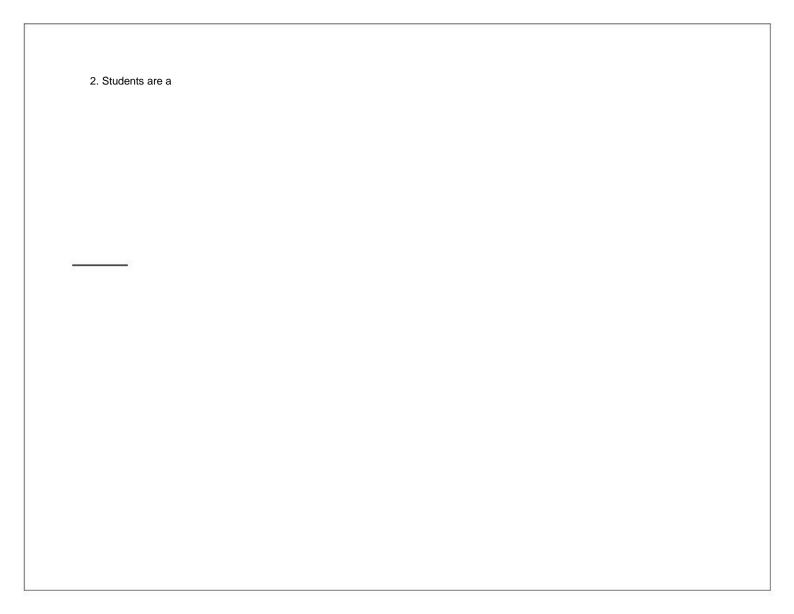
## COURSE OBJECTIVES:

With a focus on healthcare majors, the objectives of this course are:

- (a) To introduce students to microbiology and the vital role microorganisms play in the well-being of higher forms of life, as well as in causing diseases, mostly as opportunists,
- (b) To learn various groups of microorganisms and what makes them infectious,
- (c) To learn most common infections caused by microorganisms, and
- (d) To learn the preventive and curative measures against common infections.

## SPECIAL NOTES TO STUDENTS:

1. In order to respect the privacy of each student, exam scores and grades will not be posted, given out by telephone, or sent to students by email.



## GRADING SCALE:

Grade A = 90 - 100% or between 540 and 600 points

Grade B = 80 - 89% or between 480 and 539 points

Grade C = 70 79% or between 420 and 479 points

Grade D = 60 69% or between 360 and 419 points

Grade F = Less than 60% or 359 or less points

Jan 12 Week 1 Subject(s) Learning Objectives History of Microbiology, role of microbes in General course information nature, well-being of other living things, science, Introduction to Microbial World health and diseases. Introduction to Microbiology Introduction to Microscopy Laboratory Safety, hand hygiene Personal and patient safety in healthcare environment Proper handling and use of microscope Safety in microbiology laboratory Week 2 Characteristics of prokary otic and eukaryotic cells The Molecules of Life Principles of microscopy, use of microscopes Microscopy and Cell Structure Use of Microscope, Practice of focusing on human blood components Distinction of various groups of bacteria Practice of using oil immersion lens Week 3 Microbial Metabolism, Physiology and Genetics How microbes live and multiply Examination of microscopic life in pond water - Protozoa, Algae, Study of higher forms of microbial life Cyanobacteria Culture of normal environmental and body flora

7/1

Week 6

Control of Microbial Growth Disinfection and Sterilization Demonstration of Steam sterilization and Sterility Check Gram Stain of common pathogenic bacteria

Levels of sanitization, disinfection, and sterilization under various situations

diagnose infectious diseases?

Week 7

Diagnosis of Infectious Diseases in clinical Laboratory - Methods for the direct and indirect, rapid and slow techniques employed in a clinical Microbiology laboratory

Demonstration of rapid diagnostic techniques used in a POC or ED laboratory

What is available at the disposal of clinicians to

MID-TERM EXAMINATION

Introduction to Antimicrobial Agents
Aerobic Gram Positive Cocci and their clinical significance
Differentiation of Gram Positive Cocci in a laboratory

Treatment of microbial infections Introduction to Staphylococci, and their impact on humans

Continuation of Antimicrobial Agents Continuation of Aerobic Gram Positive Cocci Differentiation of Gram Positive Cocci in a laboratory

Week 10

Week 9

Week 8

Treatment of microbial infections

Week 11

Antimicrobial Susceptibility testing Principles, procedures, and results

Clinically significant aerobic Enteric Gram Negative bacteria Escherichia, Salmonella, Shigella

How antimicrobial treatment parameters are determined Introduction to Enterobacteriaceae, and their impact on humans

