

Microbiology

Syllabus

Course Information

Title: Microbiology

Course Number: 806-197

Credits: 4

Description: Examines the interactions of microbes with the environment. Analyzes microbial structure, metabolism, genetics, growth, and the relationship between humans and microorganisms. Addresses disease production, epidemiology, host defense mechanisms and the medical impact of microbes. Examines the role of microbes in the environment, industry, and biotechnology.

Textbook: Bauman. *Microbiology With Diseases by Taxonomy*. Pearson Benjamin Cummings, 2nd Edition.

Lab Book: Bookstore

Supplies: Microbiology Course Module (available online)

Class Information

Meeting Times: Wednesday 9 am to 2 pm

Class Dates: August 26 to December 16 **NO CLASS ON NOVEMBER 25**

Instructor: Dr. Kelly Schoeller

Office: Beaver Dam Rm. K105.6

Office phone: (920) 887-1425

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Office Hours: Monday: 2 pm to 3 pm

Tuesday: 2 pm to 3 pm

Wednesday: 2 pm to 3 pm

Thursday: 2:30 pm to 4:30 pm

Grading Rationale

You must meet minimum standards of performance on all course competencies in order to pass the course.

In class labs/In class projects: There will be 14 class periods where students will conduct labs **and/or** in class projects. They will be worth 10 points per class period. These **CANNOT** be made up. However, you can request an alternative assessment for **ONE** missed lab/in class project. In class projects and labs are completed throughout the entire class period. If you are not present for the **ENTIRE** class period, you will **NOT** receive 10 points.

Lab Skills: You must demonstrate competency at handling microbes in the laboratory. You will be evaluated on basic microbiology lab skills. You must earn a passing score on your lab skills assessment in order to pass the course. You will be allowed to retake the lab skills assessment one time, but the original score will be used in determining your final course grade.

Lecture quizzes: There will be a total of 13 lecture quizzes worth 25 points each. Students will receive a study guide the week prior to each quiz. **YOU MUST PASS EACH QUIZ WITH A TOTAL SCORE OF AT LEAST 76% (19/25) in order to pass this course (see competency policy below)**

Infectious Disease Poster: Research Project: You will conduct independent research on one infectious disease and its associated microbe. You will present your findings in the form of a **POSTER**. See poster guidelines. **If you plagiarize your poster, you will receive a ZERO on the poster.** In addition, your grade **will be dropped one letter grade**. Therefore, if receive a ZERO on your poster due to plagiarism and your grade is determined to be a "C", you will be dropped to a NC.

Total Points:

| | |
|---------------------------------------|----------------|
| 13 Lecture quizzes @ 25 pts | 325 pts |
| 14 Lab/in class project days @ 10 pts | 140 pts |
| Lab Skills Demonstration | 60 pts |
| Poster | 100 pts |
| TOTAL | 625 pts |

Grading Scale:

| Grade | Requirement |
|--------------|---------------------------|
| A | 93-100% (578 – 625 pts) |
| B | 84-92% (525 – 577 pts) |
| C | 76-83% (472 – 524 pts) |
| NC | < 76% (less than 472 pts) |

Policies and Information

Academic Honesty: Cheating will not be tolerated. Cheating includes giving or receiving assistance on an exam. It also includes copying homework assignments from other students, and copying material directly from the textbook or other sources. You are encouraged to help each other understand the material and to form study groups, but each student must do his/her own work. Cheating on an exam or assignment will result in an automatic grade of zero for that exam or assignment. Repeat offenses will result in automatic failure of the course.

Plagiarism: Plagiarism includes copying other students' work, as well as directly copying material from other sources (your textbook, Web sites, news and magazine articles, lab manual, etc.) without properly citing it. Plagiarism is a form of cheating. Plagiarism on an exam or assignment will result in an automatic grade of zero for the exam or assignment. Repeat offenses will result in automatic failure of the course. If you have questions about plagiarism, paraphrasing or citations, please see me and/or refer to the following websites:

www.indiana.edu/~wts/wts/plagiarism.html

www.wisc-online.com/objects/index.asp?objID=WCN4802

Make-Up Policy: If you miss class, it is your responsibility to get lecture notes and information from a **classmate**. Labs **cannot be made up**. All handouts will be posted on e-college.

Please see “core abilities” in module. Students are expected to attend class.

MISSED Lecture Quiz: A student will be allowed to make up **TWO** missed written quizzes. ALL make up quizzes will be taken on the **last day of class**.

Missed Laboratory Skills Test: Any student who misses the scheduled laboratory skills test will make up the test **ON THE LAST SCHEDULED CLASS PERIOD**.

RETAKE for Laboratory Skills Test: If a student receives less than 76% on the Laboratory Skills Test, the student will be required to **RETAKE** the test on the **LAST SCHEDULED CLASS PERIOD**.

COMPETENCY POLICY: It is MPTC policy that students should be competent in all areas of a course. Therefore, you must receive at least 76% (**19/25**) on EVERY lecture quiz. If you do NOT receive 76%, you must write a **short paragraph** for **each question** you got wrong **EXPLAINING THE CORRECT ANSWER** including the page number from the textbook where the correct answer was found. **THESE EXPLANATION PAPERS ARE DUE THE FOLLOWING CLASS PERIOD**. You will be allowed to receive less than 76% on **THREE** quizzes. If you receive less than 76% on a **FOURTH** quiz or you do not turn in your explanation papers on the due date, you will need to drop the class or you may stay in the class and receive a NC grade.

| <u>Class Date</u> | <u>Lecture topic</u> | <u>Reading Assignment</u> | <u>Lab Topic/Lab Manual pages</u> | <u>Lecture Quiz and other notes</u> |
|-------------------|--|---------------------------|--|--|
| 8/26 | Intro, Cells, Staining, Microscopes | Ch. 1, 3, 4, 11 | Lab Safety The Microscope p. 1-6 | No Quiz ALL LECTURE QUIZZES WILL BE GIVEN AT 9 am |
| 9/2 | Intro, Cells, Staining, Microscopes | Ch. 1, 3, 4, 11 | Handling Cultures p. 7-10 | No Quiz |
| 9/9 | Metabolism | Ch. 5 | Gram Stain p. 11-13 | Quiz: Intro, cells and microscopy Poster topic due |
| 9/16 | Microbial Growth | Ch. 6 | Isolation from a Mixed Culture p. 14-15 Differential and Selective Media p. 19-22 | Quiz: Metabolism |
| 9/23 | Microbial Genetics | Ch. 7, 8 | Genetics Project | Quiz: Microbial Growth |
| 9/30 | Infection, Infectious Disease and Epidemiology | Ch. 14 | Culturing MPTC p. 16-18 | Quiz: Microbial Genetics |
| 10/7 | Pathogenic Gram positive bacteria | Ch. 19 | Throat culture p. 23 | Quiz: Infection, Infectious Disease and Epidemiology |
| 10/14 | Pathogenic Gram negative bacteria and other bacteria | Ch. 20, 21 | Urine culture p. 24-26 | Quiz: Pathogenic Gram positive bacteria |
| 10/21 | Virus characteristics and Pathogenic Viruses | Ch. 13, 24, 25 | Viral case studies | Quiz: Pathogenic Gram negative bacteria and other bacteria |

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|-------|---|----------------|---|---|
| 10/28 | Eukaryotes and Pathogenic Fungi & Protozoa | Ch. 12, 22, 23 | Parasites Lab p. 27, 28 | Quiz: Virus characteristics and Pathogenic Viruses |
| 11/4 | Controlling Microbial Growth in the Environment | Ch. 9 | Disinfectants p. 29-30 | Quiz: Eukaryotes and Pathogenic Fungi & Protozoa |
| 11/11 | Controlling Microbial Growth in the Body | Ch. 10 | Antimicrobial susceptibility testing p. 31-32 | Quiz: Controlling Microbial Growth in the Environment |
| 11/18 | | | LAB SKILLS TEST | Quiz: Controlling Microbial Growth in the Body |
| 11/25 | NO CLASS | | | |
| 12/2 | Immunity | Ch. 15, 16 | Hand Washing | NO QUIZ |
| 12/9 | Immunization, Immune testing, Immune disorders | Ch. 17, 18 | CASE STUDIES | Quiz: Immunity POSTERS DUE |
| 12/16 | Microbial Foods Party | | Poster Review | Quiz: Immunization, Immune testing, Immune disorders |