

Revised by Marshall Griffin
December 4, 2002

WEST VIRGINIA UNIVERSITY AT PARKERSBURG
UNIFORM COURSE SYLLABUS

Name of Course: Microbiology Laboratory Course No. Biology 200L

Department: Biology Division: Natural Science/Mathematics

I. Course Objectives:

At the completion of the lecture component of the Microbiology course, the student will be able to:

1. Demonstrate acceptable microscopic technique.
2. Describe the preparation of bacteriological media.
3. Describe the sterilization methods for bacteriological media.
4. Isolate bacteria from simulated clinical specimens.
5. Demonstrate collection of microbiological specimens.
6. Demonstrate aseptic technique in handling microbiological specimens.
7. Perform the Gram stain technique.
8. Perform such special staining techniques as the acid-fast stain, the capsule stain, and the spore stain.
9. Perform DNA fingerprinting.
10. Identify according to genus selected saprophytic fungi.
11. Identify by microscopy selected animal parasitic agents.
12. Identify by simple biochemical tests selected medically important bacteria.
13. Perform antimicrobial susceptibility testing.
14. Perform disinfection techniques.

II. Topics to be Studied:

How will course objectives be met?

Exercises to be performed include laboratory safety training; microscope technique; bacterial smear preparation; Gram staining; Acid-fast, capsule, spore, and flagella staining techniques; types of media and bacteriologic media preparation; pure culture isolation techniques; catabolism of carbohydrates and proteins; control of microbial populations by heat, ultraviolet radiation, and antimicrobial agents; DNA fingerprinting of a phage genome; parasitology; mycology; and the identification of Gram positive cocci and selected members of the family: *Enterobacteriaceae*.

III. Special Projects to be Included in Course:

Research papers Reports
Surveys Annotated bibliographies
Other

None

- IV. Methods of Student Evaluation:
Tests (how many? how often? what type?)
Quizzes
Oral Presentations
Written Papers
Laboratory Activities
Clinical Experiences

Three, announced, cumulative practical examinations will be given in the laboratory component of the course. The exam items will emphasize the application level to develop the students' critical thinking skills. The laboratory average score will be calculated as the arithmetic mean of the three practical examination scores. The laboratory average score counts as 25% of the overall final course grade.

- V. Assessment of Outcomes:
What measurements will be used to demonstrate that outcomes have been reached? (Refers to class as a whole, not individual students.)

Students will be asked to complete a course and instructor evaluation form at the end of the semester.

- VI. Other Information:
What additional information will help to clarify the course?

Prerequisites: Biology 107 and 108 (Anatomy and Physiology) or Biology 101, 102, 103, and 104 (General Biology), or consent of the instructor.

The course is offered in the Fall/Spring/Summer terms on the Parkersburg campus only.

Biology 200L is the laboratory component of a four-semester hour credit course. During the fall or spring semester, the course lecture component meets for two and one-half hours per week, and the course laboratory component meets for one, one hour and fifty-five minute session per week. During an eight-week summer session, five hours of lecture are offered per week along with four hours of laboratory instruction.