MINNESOTA WEST COMMUNITY & TECHNICAL COLLEGE
COURSE OUTLINE

Faculty is required to have the outline submitted to the Academic Affairs Office. The course outline is the form used for approval of new courses by the Academic Affairs and Standards Council.

DEPT. Medical Laboratory Technician COURSE NUMBER: MDLT 1105

NUMBER OF CREDITS: 3 (1 lecture, 2 lab)

COURSE TITLE: Medical Microbiology I

CATALOG DESCRIPTION: This courses introduces the student to the microbial world. The course covers the study of the materials and methods used for identification of pathogenic organisms and the study of these in relation to their disease processes in humans. The course will present microbiology within an epidemiologic, diagnostic, and clinical framework. In the laboratory, the student will learn such techniques as gram staining, microscopy, culturing, identification of microorganisms and anti-microbial susceptibility testing.

AUDIENCE: Medical Laboratory Technician student or any student interested in microbiology.

FULFILLS MN TRANSFER CURRICULUM AREA(S) (Leave blank if not applicable)
Area: by meeting the following competencies:
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PREREQUISITES OR NECESSARY ENTRY SKILLS/KNOWLEDGE: None. It is helpful to have a general biology background or take Principles of Biology or Human Biology prior to taking this course.

LENGTH OF COURSE: Semester

THIS COURSE IS USUALLY OFFERED:
Every other year ☐ Fall X spring ☐ summer ☐ undetermined ☐

Four goals are emphasized in course at Minnesota West Community & Technical College:

1) ACADEMIC CONTENT: The academic objectives of this course are:
   a. Learn proper and safe specimen collection
   b. Sterile and safe technique for handling bacteria in the lab
   c. Study cellular structure and morphology of bacteria
   d. Study bacteria (gram positive cocci, gram negative cocci, gram negative rods) in regards to virulence, test results for identification, diseases they cause (including pathophysicsology) and their antibiotics susceptibility
2) THINKING SKILLS: This course will help students improve the effectiveness of their thinking skills through:
   a. Determining what sequence of lab test to set up to identify certain bacteria based on gram stain, colonial morphology and other tests
   b. Identifying bacteria based on results of lab tests
   c. Correlating identified bacteria with diseases

3) COMMUNICATIONS SKILLS: This course will help students improve their oral and written communication skills through:
   a. Writing or reading case studies
   b. Collaborating with classmates in the laboratory
   c. Writing a research paper about a certain bacteria

4) HUMAN DIVERSITY: This course will help students recognize, understand, and appreciate human diversity through:
   a. Working closely with classmates in small groups and in the laboratory

TOPICS TO BE COVERED:
1. Microscopy
2. Safety and infection control
3. Microscopic and colonial morphology
4. Medium used in microbiology
5. Specimen collection, transportation, and handling
6. Standard microbiology tests and procedures
7. Gram positive cocci of medical importance
8. Gram negative cocci of medical importance
9. Gram negative rods of medical importance

LIST OF EXPECTED COURSE OUTCOMES:
1. Properly collect and handle specimens
2. Use sterile technique and safely handle bacteria
3. Know what media to use in regards to specimen received and correctly streak for isolation
4. Use the correct test to identify the bacteria based on gram stain and colonial morphology
5. Correlate bacteria, transmission of and diseases caused by the bacteria
6. Understand antibiotic susceptibility and antibiotic resistant bacteria

LEARNING/TEACHING TECHNIQUES used in the course are:
X Collaborative Learning       X Problem Solving
☐ Student Presentations       X Interactive Lectures
☐ Creative Projects           X Individual Coaching
X Lecture                    X Films/Videos/Slides
X Demonstrations             Other (describe below)
X Lab

ASSIGNMENTS AND ASSESSMENTS FOR THIS CLASS INCLUDE:
Reading                        X Tests                        X Individual Projects (lab)
Oral Presentations              X Worksheets                 X Collaborative Projects (lab)
EXPECTED STUDENT LEARNING OUTCOMES: See course outcomes

The information in this course outline is subject to revision

To receive reasonable accommodations for a documented disability, please contact the campus Student Services Advisor or campus Disability Coordinator as arrangements must be made in advance. In addition, students are encouraged to notify their instructor.

Veteran Services: Minnesota West is dedicated to assisting veterans and eligible family members in achieving their educational goals efficiently. Active duty and reserve/guard military members should advise their instructor of all regularly scheduled military appointments and duties that conflict with scheduled course requirements. Instructors will make every effort to work with the student to identify adjusted timelines. If you are a veteran, please contact the Minnesota West Veterans Service Office.

This document is available in alternative formats to individuals with disabilities by contacting the Student Services Advisor or by calling 800-658-2330 or Minnesota Relay Service at 800-627-3529 or by using your preferred relay service.

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