

# MINNESOTA WEST COMMUNITY & TECHNICAL COLLEGE

## COURSE OUTLINE

**DEPT. MDLT**

**COURSE NUMBER: 1105**

**NUMBER OF CREDITS: 3**

**Lecture: 1 Lab: 2 OJT: 0**

<b>Course Title:</b>
Medical Microbiology I

<b>Catalog Description:</b>
Medical Microbiology I course 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.

<b>Prerequisites or Necessary Entry Skills/Knowledge:</b>
None

**FULFILLS MN TRANSFER CURRICULUM AREA(S) (*Leave blank if not applicable*)**

- ☐ Goal 1: Communication: By meeting the following competencies:
- ☐ Goal 2: Critical Thinking: By meeting the following competencies:
- ☐ Goal 3: Natural Sciences: By meeting the following competencies:
- ☐ Goal 4: Mathematics/Logical Reasoning: By meeting the following competencies:
- ☐ Goal 5: History and the Social and Behavioral Sciences: By meeting the following competencies:
- ☐ Goal 6: The Humanities and Fine Arts: By meeting the following competencies:
- ☐ Goal 7: Human Diversity: By meeting the following competencies:
- ☐ Goal 8: Global Perspective: By meeting the following competencies:
- ☐ Goal 9: Ethical and Civic Responsibility: By meeting the following competencies:
- ☐ Goal 10: People and the Environment: By meeting the following competencies:

<b>Topics to be Covered</b>
Microscopy
Safety and infection control
Microscopic and colonial morphology
Medium used in microbiology
Specimen collection, transportation, and handling
Standard microbiology tests and procedures
Gram positive cocci of medical importance

Gram negative cocci of medical importance
Gram negative rods of medical importance

<b>Student Learning Outcomes</b>
Apply principles of safety, quality assurance, quality control in clinical microbiology
Properly collect, transport, and handle specimens using safe and sterile techniques
Describe colonial and microscopic morphology of microbes
Identify and classify microorganisms
Conduct the correct test to identify the bacteria based on gram stain, colonial morphology, and biochemical tests
Correlate bacteria, transmission of, and diseases caused by microorganisms
Understand antibiotic susceptibility and antibiotic resistant bacteria
Identify microbial and immunological methodologies are used in disease treatment and prevention
Select additional procedures based on preliminary results
Discuss molecular diagnostic techniques used to identify microorganisms
Discuss pathophysiology of microorganisms and virulent factors

<b>Is this course part of a transfer pathway:</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
<small>*If yes, please list the competencies below</small>

Revised Date: 3/29/2022