



Course Number and Title: MLT 251 Clinical Microbiology II

Campus Location:

Georgetown

Effective Date:

2019-51

Prerequisite:

MLT 250

Co-Requisites:

None

Course Credits and Hours:

4.00 credits

3.00 lecture hours/week

4.00 lab hours/week

Course Description:

This course covers isolation, identification, and antibiotic studies of bacteria of clinical significance. Basic techniques used to detect and identify fungi and parasites are introduced.

Required Text(s):

Obtain current textbook information by viewing the [campus bookstore - https://www.dtcc.edu/bookstores](https://www.dtcc.edu/bookstores) online or visit a campus bookstore. Check your course schedule for the course number and section.

Additional Materials:

None

Schedule Type:

Classroom Course

Disclaimer:

None

Core Course Performance Objectives (CCPOs):

1. Describe the causative agent and clinical significance of microbes that may be encountered in human clinical specimens. (CCC 1, 2; PGC 9)
2. Describe the methodologies that are used to identify microbes in clinical specimens, and identify variables that can affect laboratory results. (CCC 5; PGC 2, 4)
3. Identify microbes from human clinical specimens using appropriate microscopic, cultural, biochemical, and serological techniques. (CCC 2, 3, 4; PGC 1, 2, 4, 5, 6, 8)
4. Evaluate laboratory data, and describe the role of quality assurance in the microbiology laboratory. (CCC 5,6; PGC 4,5)
5. Describe safety awareness for microbiology personnel to include blood borne pathogens, biohazardous materials, and the use of personal protective equipment for the laboratorian. (CCC 5; PGC 1, 6, 8)
6. Describe the organizational structure of the healthcare system and the legal and ethical importance of the medical laboratory technician's role in the healthcare system. (CCC 1, 3, 4, 5; PGC 7, 10)

See Core Curriculum Competencies and Program Graduate Competencies at the end of the syllabus. CCPOs are linked to every competency they develop.

Measurable Performance Objectives (MPOs):

Upon completion of this course, the student will:

1. Describe the causative agent and clinical significance of microbes that may be encountered in human clinical specimens.
 1. Describe the microbes most likely to be identified in human clinical specimens and associate the disease/condition associated with each microbe.
 2. Differentiate normal flora from the pathogens that may be encountered in each human clinical specimen.
2. Describe the methodologies used to identify microbes in clinical specimens, and identify variables that can affect laboratory results.
 1. Describe the microscopic procedures that are typically used in the microbiology lab.
 2. Describe the microscopic procedures that are typically used in the parasitology lab.
 3. Describe the significant cultural characteristics used in the microbiology lab.
 4. Describe the standard biochemical testing protocols used to identify human pathogens in the microbiology lab.
 5. Describe the standard immunological/serological procedures used in the microbiology lab.
 6. Describe standard automation used in the microbiology laboratory.
3. Identify microbes from human clinical specimens using appropriate microscopic, cultural, biochemical, and serological techniques.
 1. Describe the general principles of the identification protocols used in the microbiology laboratory.
 2. Describe the principles of basic procedures used in the parasitology laboratory.
 3. Identify unknown organism(s) from representative respiratory specimen, wound specimen, genital specimen, stool specimen, and urine specimen.
 4. Evaluate a microscope slide for the presence of parasites, and identify parasites found by scientific name.
 5. Prepare iodine stained and unstained wet mounts of fecal material.
4. Evaluate laboratory data, and describe the role of quality assurance in the microbiology laboratory.
 1. Define quality assurance as it relates to the microbiology lab.
 2. Describe the role of quality assurance in the microbiology lab.
 3. Identify and define the key words of a successful quality assurance program.
 4. Discuss the relationship of quality assurance to quality control and continuous quality improvement.
 5. Perform quality control in the microbiology lab.
 6. Analyze data to determine if testing data is acceptable.
 7. Design and implement a simple quality assurance program for the microbiology lab.
5. Describe safety awareness for microbiology personnel to include blood borne pathogens, biohazardous materials, and the use of personal protective equipment for the laboratorian.
 1. Explain the basic techniques in the prevention of disease transmission.
 2. Name the components of personal protective equipment standard.
 3. Describe the safety practices used in the microbiology lab.
 4. Perform safety procedures for biohazardous materials, i.e. collection, handling, discarding, and disinfection.
 5. Employ Right-to-Know procedures.
 6. Employ Standard Precautions when working with blood, body fluids, or secretions.
6. Describe the organizational structure of a healthcare facility and the legal and ethical importance of the medical laboratory technician's role in the healthcare facility.
 1. Identify healthcare providers in hospitals and clinics.
 2. Describe the various hospital departments and their relationship to the microbiology lab.
 3. Describe the legal and ethical importance of proper patient and/or sample identification.

Evaluation Criteria/Policies:

Students must demonstrate proficiency on all CCPOs at a minimal 75 percent level to successfully complete the course. The grade will be determined using the Delaware Tech grading system:

92	-	100	=	A
83	-	91	=	B
75	-	82	=	C
0	-	74	=	F

Students should refer to the [Student Handbook - https://www.dtcc.edu/handbook](https://www.dtcc.edu/handbook) for information on the Academic Standing Policy, the Academic Integrity Policy, Student Rights and Responsibilities, and other policies relevant to their academic progress.

Final Course Grade:

Calculated using the following weighted average

Evaluation Measure	Percentage of final grade
Summative: Case studies – (15-25) (equally weighted)	6.5%
Summative: Tests – (7-10) (equally weighted)	45.5%
Formative: Homework Assignments & lecture quizzes (equally weighted)	13%
Summative: Lab exercises (equally weighted)	17.5%
Summative: Practical – (5-10) (equally weighted)	17.5%
TOTAL	100%

Core Curriculum Competencies (CCCs are the competencies every graduate will develop):

1. Apply clear and effective communication skills.
2. Use critical thinking to solve problems.
3. Collaborate to achieve a common goal.
4. Demonstrate professional and ethical conduct.
5. Use information literacy for effective vocational and/or academic research.
6. Apply quantitative reasoning and/or scientific inquiry to solve practical problems.

Program Graduate Competencies (PGCs are the competencies every graduate will develop specific to his or her major):**AHTAASMLT**

1. Collect, process, and analyze biological specimens and other related substances.
2. Recognize factors that affect procedures and results, and take appropriate actions within predetermined limits when corrections are indicated.
3. Perform and monitor quality control within predetermined limits.
4. Apply basic scientific principles for application in medical laboratory procedures and methodologies.
5. Employ safety principles according to health and environmental regulations.
6. Correlate laboratory results with common disease processes and treatments for diagnosis.
7. Demonstrate professional conduct and interpersonal communication skills with patients, laboratory personnel, other healthcare personnel, and the public.

Disabilities Support Statement:

The College is committed to providing reasonable accommodations for students with disabilities. Students are encouraged to schedule an appointment with the campus Disabilities Support Counselor to request an accommodation needed due to a disability. A listing of campus Disabilities Support Counselors and contact information can be found at the [disabilities services - https://www.dtcc.edu/disabilitysupport](https://www.dtcc.edu/disabilitysupport) web page or visit the campus Advising Center.