

## MLT Pathogenic Microbiology

### Course Information

**Developers:** Medical Laboratory Technology State Curriculum Committee

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**Development Date:** 9/18/2014

**KBOR Facilitators:** Seth Carter, Shirley Antes, Rita Johnson, April Henry

**Credit Hours:** 6

**Prerequisite:** Admission to the MLT program or instructor approval.

### Description:

This course will survey microbiology as it is applicable to a clinical laboratory. Procedures for routine specimen collection will be discussed and practiced. Normal flora and pathogenic bacteria will be identified by morphology, staining characteristics, growth on selective media, biochemical testing and serological methods. Basic theory in antimicrobial susceptibility testing will be covered. Principles of all tests will be studied. Study of viruses and chlamydia will be limited to the processing and handling of specimens for consultant referral and principles of serological testing. Normal and pathogenic parasites and fungal elements will be identified and procedures utilized for proper identification will be discussed.

### Competencies:

1. Relate the proper specimen collection and handling, type of quality control used, reference ranges, principle of analysis currently available, and sources of analytical errors for each of the analytes discussed or approached in the course.
2. Perform all procedures with regard to prescribed safety protocol and confidentiality.
3. Correlate abnormal results with the most likely disease process by determining the clinical significance of the findings.
4. Relate the transmission, entry into their host, and disease mechanism of common human pathogenic bacteria with the collection and processing of clinical specimens for bacteriological culture.
5. Describe the appropriate methods of collecting clinical specimen given the body site and the type of organism that is suspected.
6. Describe and perform accurately and safely basic microbiology techniques including microscopic, staining, plating, subculturing, and identification techniques.
7. Relate the physical and biochemical growth requirements of specific bacteria to the composition of general, selective and identification media.

8. Utilize simple and compound stains, colony characteristics, and growth on selective media to determine initial grouping of bacteria commonly encountered in clinical specimens to determine identification steps.
9. Identify common normal flora and possible pathogens from clinical specimens by the utilization of biochemical testing. Relate the principle behind each test utilized.
10. Relate the method of transport of either culture or specimen for unusual pathogenic organism. Briefly discuss the characteristics that would be used to identify the organism.