

Course Prefix: MED 113
Course Title: Basic Medical Laboratory Techniques
Lecture Hrs/Week: 2.0 Hybrid Internet
Lab Hrs/Week: 3.0
Credit Hrs/Sem: 3.0

[Distance Learning Attendance/VA Statement](#)
[Textbook Information](#)

COURSE DESCRIPTION

This course provides a study of specimen collection and techniques for related laboratory procedures routinely performed in medical offices and clinics, including hematology and procedures related to body fluids.

COURSE COMPETENCIES

Module I: Infection Control/Safety

1. Distinguish between a pathogen and non-pathogen.
2. Explain the importance of proper hand-washing procedures.
3. Demonstrate proper hand-washing procedure.
4. Demonstrate the proper use of personal protective equipment.
5. Explain the purpose of the OSHA blood-borne pathogen (BBP) standard.
6. List the components of the BBP standard as it pertains to medical assisting.
7. Define and give examples of engineering controls, work practice controls, and personal protective equipment.

Module II: Sterilization/Disinfection

1. Describe the information provided on the MSDS sheets.
2. State the purpose of sanitization.
3. Define disinfection and sterilization.
4. Describe the levels of disinfection.
5. List and describe the methods of sterilization.
6. Demonstrate proper procedure for wrapping items for autoclaving.
7. Demonstrate proper use of the autoclave.

Module III: Specimen Collection

1. Explain the importance of proper patient identification.
2. Describe the procedure for proper patient identification.
3. Describe the procedure for venipuncture using the evacuated tube system, syringe, and winged infusion set.
4. Demonstrate proper collection of venous specimens.
5. Discuss problems encountered during venipuncture.

6. Describe the procedure for capillary puncture.
7. Demonstrate proper collection of capillary specimens.

Module IV: Clinical Laboratory

1. List examples of specimens and identify proper handling and storage techniques.
2. List the laboratory safety guidelines that should be followed in the medical office.
3. Explain the purpose of various urine collections.
4. Identify the various tests included in the physical and chemical examination of urine.
5. Perform the physical and chemical assessment of a urine specimen.
6. List the tests included in a complete blood count.
7. Describe the functions of the cells found in normal peripheral blood.
8. Perform a hemoglobin determination using an automated analyzer.
9. Perform a hematocrit.
10. Prepare a blood smear.
11. List the most commonly performed chemistry tests.
12. Identify patient preparation for a glucose tolerance test.
13. List the most commonly performed serology tests.
14. List the blood types and the antibodies and antigens associated with each.
15. List and describe three classifications of bacteria based on shape.
16. Give examples of diseases caused by the most common bacteria.
17. Explain the function of each part of the compound microscope.
18. Describe how to perform a Gram stain and state its purpose.
19. Perform a Gram stain.

Module V: Cardiopulmonary Procedures

1. List the various pulmonary function tests.
2. Describe proper placement of electrocardiograph leads.
3. State the purpose of electrocardiography.
4. State the purpose of spirometry.

Performance Objectives

1. Using the materials provided, the student will perform basic hand-washing procedures according to the standards of the current textbook and to the satisfaction of the instructor.
2. Given personal protective equipment, the student will demonstrate proper use of this equipment to the satisfaction of the instructor and according to the standards of the textbook.
3. Given the appropriate materials, the student will demonstrate the proper procedure for wrapping items for sterilization.
4. Given the appropriate equipment, the student will demonstrate the proper use of the autoclave.
5. Given the appropriate equipment, the student will demonstrate the proper procedure for collection of venous and capillary specimens.
6. Given the appropriate equipment and supplies, the student will perform a complete urinalysis to include the physical and chemical assessment of urine.
7. Given the appropriate equipment and supplies, the student will perform a hemoglobin determination on an automated hematology analyzer or point of care instrument.
8. Given the appropriate equipment and supplies, the student will perform a hematocrit determination.

9. Given the appropriate supplies, the student will prepare a blood smear for a manual differential.
10. Given the appropriate supplies, the student will prepare and stain a specimen for a Gram stain.
11. Given a stained smear, the student will identify the appropriate Gram Stained morphology of bacteria.
12. Given the appropriate equipment and supplies, the student will perform an ECG.

COURSE REQUIREMENTS

1. Attend lecture/lab consistently. Attendance is required at all laboratory sessions. The allowed absence for this lab is 10%. If a student is unable to attend a scheduled practical, the instructor must be notified prior to the practical. Make-up work is at the discretion of the instructor.
2. Students will adhere to the student code of conduct as described in the York Technical College Catalog and Handbook. Students will conduct themselves with dignity and maintain high standards of responsible citizenship. Any student caught cheating or involved in any other academic dishonesty will be given a grade of zero and will be subject to further disciplinary action.

EVALUATION STRATEGIES/ GRADING

1. Perform all laboratory exercises at a satisfactory level per instructor observation according to guidelines given with each laboratory exercise.
2. Take and pass 5 written tests and a Final Exam.
3. Take and pass 2 lab practicals.
4. Perform a minimum of 2 venipunctures and 2 fingersticks.
5. Pass all laboratory quizzes and assignments.

The average **must** be 70% or greater for satisfactory completion of this course.

Grading Scale

90 - 100	A
80 - 89	B
70 - 79	C
60 - 69	D
<60	F

ENTRY LEVEL SKILLS: Successful completion of ENG 100 and RDG 100 or equivalent placement scores on the Compass placement test.

PREREQUISITES: AHS 102, BIO 112

CO-REQUISITE: None

Disabilities Statement: Any student who feels s/he may need an accommodation based on the impact of a disability should contact the Special Resources Offices (SR) at 803-327-8007 in the 300 area of Student Services. The SRO coordinates reasonable accommodations for students with documented disabilities.