

Common Course Outline
MLTC 240
Directed Practice in Medical Laboratory Technology I
4 Credits

The Community College of Baltimore County

Description

Two (2) eight-hour (8) days a week. (Offered Fall, Spring) Prerequisites (Day Program): MLTC 101, BIOL 145, BIOL 146, completed physical exam, current immunizations, and written permission of program coordinator. CHEM 223, CHEM 225 may be taken concurrently. (Co-op Program): MLTC 253, MLTC 254, completed physical exam, current immunizations, and written permission of program coordinator (MLTC 255 may be taken concurrently)

Students are assigned for clinical internships, under supervision, in affiliated hospitals that have been approved by NAACLS (National Accrediting Agency for Clinical Laboratory Science). The student will spend a total of 28 days at the hospital. A weekly seminar for all students enrolled in this course is held on campus. Students are not paid a salary during internships. Students must pass each area of the clinical experience in order to receive a grade for the course. Includes on-campus competency testing and a research paper.

Overall Course Objectives

The clinical experience is designed for students to have an opportunity to develop cognitive & technical skills of the MLT profession and to develop their own identities as medical laboratory technicians. Development of cognitive and technical skills will be encouraged by observations and demonstrations, followed by student practice and concluded with feedback and evaluation of performance.

In addition, through psychosocial associations with working professionals, students will develop and demonstrate the following professional characteristics:

1. advance preparation for the day's work by completion of reading assignments
2. punctuality and dependability
3. proper dress and appearance
4. organization and efficiency
5. neatness
6. proper maintenance and care of equipment
7. initiative
8. polite, considerate, pleasant interrelationships with patients, co-workers, and phone contacts
9. willingness to follow directions and accept constructive criticism
10. calmness in stressful situations
11. maintenance of patient confidentiality
12. honesty in reporting results, admitting and correcting mistakes, repeating questionable results
13. adherence to all published safety regulations

Major Topics

- A. Specimen collection and handling. Students are expected to participate daily in phlebotomy team assignments until proficiency is attained.

- B. Hematology: 10 days
 1. specimen processing and preparation and staining of slides
 2. operation and basic maintenance of cell counter, including interpretation of quality control results.
 3. perform basic hematology tests such as sedimentation rate, reticulocyte count, eosinophil count, sickle prep, etc.
 4. perform routine differentials, recognition of abnormal cells
 5. observation of more complex maintenance procedures and abnormal differentials
 6. perform body fluid cell counts

- C. Coagulation: 3 days
 1. specimen processing and storage
 2. operation and basic maintenance of PT/APTT instrument, including interpretation of quality control results
 3. perform routine coagulation tests such as: PT, APTT, Fib, TT, BT, FSP, etc.
 4. observation of more complex maintenance procedures
 5. observation of more complex coagulation procedures such as factor assays, AT III, mixing studies, platelet studies, Protein C & S assays.

- D. Immunology: 5 days
 1. specimen processing
 2. evaluation of quality control materials
 3. perform routine immunology tests such as RPR, RA latex, C-RP, ASO, mono spot, hepatitis testing, HIV testing
 4. observation of more complex immunological techniques such as fluorescent microscopy.

- E. Blood Bank: 10 days
 1. specimen processing & storage
 2. observation of blood donation procedures
 3. perform and evaluate quality control procedures
 4. perform basic equipment maintenance
 5. perform ABO grouping and Rh typing
 6. perform DAT & IAT procedures
 7. perform routine crossmatches
 8. identify a single antibody by use of panel cells

Course Requirements

By the conclusion of the internship, students must meet the criteria for performance expected of an entry level medical laboratory technician. Evaluation will be primarily the domain of the clinical facility and will be based upon:

1. student performance check sheet
2. professional attitude assessment check sheet
3. written quizzes and practical exams given at the clinical site
4. on-campus competency testing for each major laboratory area. These tests will be scheduled by the student with the Program Coordinator and must be completed by the end of finals week each semester.
5. attendance & participation in a seminar held on campus.
6. a research paper of 5-7 pages. Topic will be some current aspect of laboratory science, e.g. a new method, procedure, instrument. Word-processed, double-spaced, properly annotated. Due at the last seminar meeting.
7. Clinical Internship Grade
students must pass each area of the internship coursework in order to receive a passing grade for the course (MLTC240 or MLTC241).

Other Course Information

Prior to beginning the internship, students must present proof of current health insurance, hepatitis B vaccination certificate or waiver, and a completed physical examination form, including current titers or immunizations for communicable diseases.