MLT-2940: MEDICAL LABORATORY FIELD EXPERIENCE

Cuyahoga Community College

Viewing: MLT-2940 : Medical Laboratory Field Experience

Board of Trustees:
2011-09-22

Academic Term:
2012-08-28

Subject Code
MLT - Medical Laboratory Technology

Course Number:
2940

Title:
Medical Laboratory Field Experience

Catalog Description:
Capstone course in Medical Laboratory Technology. Supervised clinical experience. Students rotate through chemistry, microbiology, serology, immunohematology, hematology/coagulation, body fluids laboratories, and phlebotomy departments for thirty-six (36) hours per week meeting performance objectives of medical laboratory personnel at the MLT level.

Credit Hour(s):
3

Other Hour(s):
36

Other Hour Details:
Field Experience: 36 hours per week

Requisites

Prerequisite and Corequisite
MLT-2990 Advanced MLT Applications.

Outcomes

Course Outcome(s):
A. Perform as an entry-level Medical Laboratory Technician (MLT) through practical application of theoretical knowledge and basic skills acquired in a clinical setting in the following clinical laboratory departments: phlebotomy, serology, immunohematology, hematology/coagulation, body fluids, chemistry, or microbiology.

Objective(s):
1. 1. Examine the flow of work in the laboratory and describe the interrelationships of divisions of the clinical laboratory relative to performance of diagnostic tests.
2. 10. Apply appropriate troubleshooting techniques when necessary
3. 11. Evaluate and validate test results.
4. 12. Log in and process specimens and keep accurate records.
5. 13. Prepare and transmit reports, electronically, verbally or in writing.
6. 14. Properly triage stat specimens and report all critical values properly.
7. 15. Develop the ability to plan, organize and efficiently handle workload.
8. 16. Develop speed and accuracy in performance of diagnostic tests commonly performed by the MLT.
9. 17. Work independently or as a team member as needed in an effective manner.
10. 18. Maintain an organized, neat and clean workstation.
11. 19. Assume responsibility for his/her own work
12. 2. Set up and perform routine manual procedures including blood collection, with minimal assistance, obtaining results within established ranges.
13. 20. Develop ethical and professional behaviors in the clinical setting.
14. 21. Demonstrate effective communication skills, both written and verbal.
15. 3. Operate sophisticated medical laboratory instrumentation correctly.

16. 4. Perform simple maintenance of instruments.
17. 5. Recall the principles of methodologies for tests.
18. 6. Recognize factors which directly affect procedures and results.
19. 7. Identify, explain, and apply quality control procedures in each of the departments.
20. 8. Use and monitor quality control programs with predetermined parameters.
21. 9. Recognize and avoid objective, subjective, and technical errors in diagnostic procedures.

Methods of Evaluation:

1. Examinations
2. Laboratory practical examinations
3. Instructor evaluation of bench performance
4. Competency check list

Course Content Outline:

1. Workflow in laboratory
2. Specimen collection, handling, processing, and storage
3. Laboratory computer systems, accessioning/result entry
4. Performance of routine manual laboratory tests
5. Performance of automated tests using laboratory instrumentation
   a. Maintenance of instruments
   b. Operation
   c. Troubleshooting
6. Quality control in all departments, for both manual and automated tests
7. Recognizing out of control situations
8. Factors affecting tests
9. Principles and methodologies of all tests and instruments
10. Perform at entry-level
    a. Organizational skills
    b. Speed
    c. Accuracy
11. Reporting of results
12. Professional actions and demeanor
13. Communication skills

Resources

Free, H. M., ed. *Modern Urine Chemistry: Application of Urine Chemistry and Microscopic Examination in Health and Disease.* Bayer, 2004.

Mundt, Lillian and Shanahan, Kristy. *Graff's Textbook of Urinalysis and Body Fluids.* 2nd ed.,. Philadelphia: Wolters Kluwer/LWW, 2011.

Turgeon, Mary Louise. *Clinical Laboratory Science, The Basics and Routine Techniques.* 6th ed. St. Louis: Mosby/Elsevier, 2012.

Essridge, Barbara and Reynolds, Anna. *Basic Clinical Laboratory Techniques.* 5th ed. Albany, NY: Delmar, 2008.

Doucette, Lorraine. *Mathematics for the Clinical Laboratory.* 2nd ed. Maryland Hts., MO, 2011.

Garza, Diana and Becan-McBride, Kathleen. *Phlebotomy Handbook.* 8th ed. Upper Saddle River, NJ, 2010.

Diggs, L. W., D. D. Sturm, and A. Bell. *The Morphology of Human Blood Cells.* 6th ed. Abbott Park, IL: Abbott Laboratories, 2003.

Carr, Jacqueline and Rodak, Bernadette. *Clinical Hematology Atlas.* 3rd ed. St. Louis: Saunders/Elsevier, 2009.

McKenzie, Shirlyn and Williams, J.Lynne. *Clinical Laboratory Hematology.* 2nd ed. Upper Saddle River: Pearson, 2010.

Harmening, Denise. *Clinical Hematology and Fundamentals of Hemostasis.* 5th ed. Philadelphia: F.A. Davis, 2009.

Comeaux, Linda and Fike, Dorothy. *Clinical Laboratory Hematology, Instructor's Guide.* 1. Upper Saddle River: Prentice Hall, 2004.

Engelkirk, Paul. *Laboratory Diagnosis of Infectious Disease.* 8. Baltimore: LWW, 2007.

Harmening, Denise. *Modern Blood Banking and Transfusion Practice.* 5th ed. Philadelphia, PA: F.A. Davis, 2005.

Stevens, Christine. *Clinical Immunology and Serology.* 3rd ed. Baltimore, MD: F.A. Davis, 2009.

Bishop, Michael. *Clinical Chemistry, Principles, Procedures, Correlations.* 6 th ed. Baltimore: LWW, 2010.

Campbell, Joe, and June Campbell. *Laboratory Mathematics Medical and Biological Applications.* 5th ed. Mosby Publishers, 1997.

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