Montgomery County Community College
MLT 110
Introduction for the Medical Laboratory Technician
4-2-6

COURSE DESCRIPTION:

This course introduces the student to varied aspects of Medical Laboratory Technician careers. The course is a combination of classroom and laboratory experiences. Subjects covered include general laboratory techniques, safety, professional issues, an introduction to the role of computers in the laboratory setting, and some basic concepts and analyses from each of the major areas of the medical laboratory. This course is subject to a course fee. Refer to http://mc3.edu/adm-fin-aid/paying/tuition/course-fees for current rates.

REQUISITES:
Previous Course Requirements

- MAT 011 Beginning Algebra or MAT 011B Beginning Algebra with Review of Arithmetic with a minimum grade of "C"

Concurrent Course Requirements
None

COURSE COMMENTS:
Attainment of Medical Laboratory Technician Selective Admissions Criteria and Admission into the Program required prior to registration for this course

LEARNING OUTCOMES	LEARNING ACTIVITIES	EVALUATION METHODS
1. Demonstrate interest in the field by displaying dependability, integrity and a professional demeanor and appearance.	Role Playing Performance Competencies Laboratory Practice	Daily Laboratory Evaluations
2. Demonstrate effective interpersonal skills when communicating with MLT colleagues.	Role Playing Performance Competencies Laboratory Practice	Daily Laboratory Evaluations
3. Identify patients properly when collecting blood by venipuncture.	Role Playing Laboratory Demonstration/ Practice Models/Mannequins and Manipulatives AV/Multimedia Materials	Daily Laboratory Evaluations

LEARNING OUTCOMES	LEARNING ACTIVITIES	EVALUATION METHODS
4. Follow specimen collection and handling procedures to maintain specimen integrity throughout all laboratory procedures.	Lecture/Discussion Assigned Readings Laboratory Practice	Written Examinations Laboratory Competencies Daily Laboratory Evaluations
5. Use medical terminology appropriately.	Lecture/Discussion Assigned Readings Writing Assignments	Written Examinations Laboratory Reports/ Discussion Questions
6. Evaluate suitability of specimens for analyses requested while performing simple tests in blood banking, chemistry and hematology.	Lecture/Discussion Assigned Readings Laboratory Practice Performance Competencies	Written Examinations Laboratory Competencies Daily Laboratory Evaluations
7. Record results of analyses using appropriate terms and units, taking special care to write records neatly and clearly.	Lecture/Discussion Laboratory Practice Performance Competencies Writing Assignments	Written Examinations Laboratory Competencies Daily Laboratory Evaluations Laboratory Reports/ Discussion Questions
8. Evaluate validity of tests performed.	Lecture/Discussion Laboratory Practice Performance Competencies	Written Examinations Laboratory Competencies Daily Laboratory Evaluations
9. Operate common laboratory instruments and equipment used for procedures in this course according to predefined instructions.	Lecture/Discussion Laboratory/Demonstration and Practice Performance Competencies	Laboratory Competencies Daily Laboratory Evaluations
10. Work safely; minimize hazards to self, co-workers and environment.	Lecture/Discussion Laboratory Practice AV/Multimedia Materials	Laboratory Competencies Daily Laboratory Evaluations

LEARNING OUTCOMES	LEARNING ACTIVITIES	EVALUATION METHODS
11. Discuss the relationship between data obtained and other pertinent information.	Lecture/Discussion Assigned Readings Laboratory Practice Writing Assignments	Written Examinations Laboratory Competencies Daily Laboratory Evaluations Laboratory Reports/ Discussion Questions

At the conclusion of each semester/session, assessment of the learning outcomes will be completed by course faculty using the listed evaluation method(s). Aggregated results will be submitted to the Associate Vice President of Academic Affairs. The benchmark for each learning outcome is that *70% of students will meet or exceed outcome criteria*.

SEQUENCE OF TOPICS:

1. Orientation, Safety and Emergency Procedures
2. Specimen Collection: Venipuncture and Capillary Puncture
3. Basic Laboratory Techniques
4. Laboratory Mathematics
5. Microscopy
6. Analytical Procedures and Spectrophotometry
7. Quality Assurance; Introduction to Computers
8. Introduction to Immunohematology and the Blood Group Systems ABO and Rh, RBC Suspensions
9. Introduction to Hematology, Red Blood Cells, Cell Counts, Hemoglobin and Hematocrit
10. Occult Blood Testing, Introduction to Microbiology
11. White Blood Cells, Slide Preparation and Stain
12. Reticulocytes, Reticulocyte Counts
13. Complete Blood Counts, Red Blood Cell Indices
14. Laboratory Skills Completion; Preparation for Final Examination

LEARNING MATERIALS:

Textbooks and Required Materials:

Estridge and Reynolds. (2012). *Basic Medical Laboratory Techniques* (6th ed.). Thomson Delmar Learning.

Garza and Becan-McBride. (2019). *Phlebotomy Simplified* (3rd ed.). Pearson.

"Practical Absorption Spectrophotometry," Kettering, #123 (Self-instructional Guide)

"Reading and Grading Agglutination Reactions," Kettering, #129 (Self-Instructional Guide)

Laboratory Manual (Provided by Instructor)

Suggested Reading:

Medical Dictionary – several are available in the College bookstore.

Other learning materials may be required and made available directly to the student and/or via the College's Libraries and/or course management system.

COURSE APPROVAL:

Reapproved by:	B. Gottfried	Date:	12/3/1998
Prepared by:	John C. Flynn, Jr.	Date:	8/1998
Revised by:	Debra Lynn Eckman, M.S., MT (ASCP)	Date:	1/2009
VPAA/Provost Compliance Verification:	Dr. John C. Flynn, Jr.	Date:	9/11/2009
Revised by:	Debra Lynn Eckman, M.S., MT (ASCP)	Date:	10/2012
VPAA/Provost or designee Compliance Verification:	Victoria L. Bastecki-Perez, Ed.D.	Date:	11/5/2012
Revised by:	Debra Lynn Eckman, M.S., MT (ASCP)	Date:	11/15/2013
VPAA/Provost or designee Compliance Verification:	Victoria L. Bastecki-Perez, Ed.D.	Date:	11/15/2013
Revised by:	Debra Lynn Eckman, M.S., MT (ASCP)	Date:	10/12/2017
VPAA/Provost or designee Compliance Verification:		Date:	11/13/2017

This course is consistent with Montgomery County Community College's mission. It was developed, approved and will be delivered in full compliance with the policies and procedures established by the College.