



Medical Laboratory Technology Program Timeline and Course Descriptions First Year

MLT 100 ORIENTATION/CLINICAL CHEMISTRY I

Tues/Thurs 10:00 - 11:30 AM UMPI

3 credits. Orientation to the field of medical laboratory including professionalism and ethics, laboratory safety, and medical terminology. Additional topics include: laboratory math, quality control, and theory of instrumentation. Emphasis will be placed on the quantitative analysis of blood using spectrophotometers and correlation of laboratory test results with normal physiology and disease states.

MLT 203 CLINICAL CHEMISTRY II and IMMUNOLOGY

Tues/Thurs 10:00 - 11:30 AM UMPI

3 credits. Prerequisites: MLT 100 or permission of the instructor. Topics include: the analysis of proteins, enzymes, laboratory markers of cardiac damage and function, liver function, hormones, therapeutic drug monitoring, and toxicology. Emphasis will be placed on the correlation of laboratory test results with normal physiology and disease states.

MLT 103 PHLEBOTOMY

Tues/Thurs 08:30 – 10:30 AM UMA

2 credits. Prerequisites: MLT 203 or permission of the instructor. An introduction to blood collection: safety precautions, types of specimens, collection and handling techniques. Routine venipuncture and dermal puncture equipment and procedures as well as special situations and additional techniques used to accommodate them.

MLT 105 URINALYSIS

Mon/Wed 10:00AM-12:00 PM UMPI

3 credits. Prerequisites: MLT 100, MLT 203 or permission of instructor. The course prepares students to perform a complete urinalysis, which includes physical, chemical and microscopic analysis. Topics explore anatomy and physiology of the urinary system and its functions, urine formation and the procedures used in analysis of urines and body fluids, and the correlation of abnormal findings with disease states.

MLT 104 PHLEBOTOMY CLINICAL PRACTICUM (Recommended)

80 hours UMA & UMPI

1 credit. Prerequisites: MLT 103 and permission of the instructor. Practicum in phlebotomy utilizing the laboratory facilities and staff at the University of Maine at Presque Isle and clinical affiliated hospitals. The fundamentals of specimen collection, specimen processing and handling with a minimum performance of 100 successful unaided blood collections including venipuncture and skin punctures will be performed. Offered second summer session.

Second Year

MLT 204 CLINICAL MICROBIOLOGY

Tues/Thurs 8:00 – 9:30 AM UMA

4 credits. Prerequisites: MLT 105, MLT 203 or permission of the instructor. Consideration of pathological forms of microbes including their morphological, physiological, and nutritive characteristics. Some emphasis will be given to mycology and parasitology. Three intensive labs and/or review sessions.

MLT 205 IMMUNOHEMATOLOGY

Tues/Thurs 12:30 - 2:00 PM UMPI

4 credits. Prerequisites: MLT 105, MLT 203 or permission of the instructor. Fundamentals of immunohematology with emphasis on antigens and antibodies of ABO, Rh and other blood group systems, antibody identification, pre-transfusion practices, donor screening, preparation of components and adverse effects of transfusion. Routine serological tests and quality control are included. Four intensive labs and/or review sessions.

MLT 206 HEMATOLOGY/COAGULATION

Tues/Thurs 2:15 – 3:45 PM UMA

4 credits. Prerequisites: MLT 105, 203 or permission of the instructor. Identification of blood cell types and their enumeration of body fluids. Various red cell and white cell disorders are discussed. Coagulation including routine coagulation tests, coagulation disorders, and anticoagulant therapy is covered. Three intensive labs and/or review sessions.

MLT 395 HOSPITAL PRACTICUM

5 days/week, 8 hours/day for 20 weeks

UMA & UMPI

12 credits. Prerequisites MLT 100-206. A twenty-week practicum in hematology, coagulation, blood banking, serology, urinalysis, clinical chemistry, and microbiology utilizing the laboratory facilities and staff at various clinical affiliates around the state.