MEDICAL LABORATORY TECHNOLOGY

Associate of Applied Science

A candidate for the Associate of Applied Science degree in Medical Laboratory Technology must follow the required procedure for admission to the College and, in addition, is required to:

1. Contact the MLT faculty to schedule an interview and a career interest/options guidance session. (Prospective MLT students who lack a strong science background may also be required to complete BIOL 1107K before progressing further than MLTS 1101.) It is highly recommended that most, if not all, pre-requisites be completed prior to starting the MLTS major field courses, but at least MATH 1111 and BIOL 2213K.
2. Apply and be accepted to Dalton State College and meet all regular A.A.S. degree admission requirements.
3. Procure a physical examination form from the MLT department after being accepted into the program, have a personal physician complete it, and forward the completed form to the MLT program director before the clinical practicum begins. Students will be required to have up to date immunizations and obtain a TB skin test once accepted into the program. Additional requirements, after acceptance in to the MLT program, will involve a background check and drug screen at the students cost. (Information distributed in MLTS 1101, Introduction to Health Sciences/Phlebotomy.)
4. Satisfactorily complete all chemistry requirements and clinical courses before beginning clinical practicum at an affiliated hospital.
5. Become acquainted with policies pertaining to college and hospital regulations as set forth in the MLT Student Handbook.
6. Achieve a 2.5 GPA on general education courses.

Students must complete all learning support, MATH 1111 and BIOL 2213K prior to entering MLT major courses. It is HIGHLY recommended that all pre-req’s be completed before entering MLT major courses. It is highly recommended that students take BIOL 1107K and BIOL 2212K prior to enrolling in the BIOL 2213K based on Science background. Assignment to affiliated hospitals is determined by the MLT faculty. Students are required to purchase liability insurance and appropriate uniforms for clinical practicum. Clinical facilities used by the program may require students to submit to background checks and drug screenings before they are allowed in the facility. Based on the information obtained, these facilities can refuse student access. Failure to be accepted into clinical facilities may jeopardize the student’s ability to complete the program.

MLT Technical Essentials

These are the essential non-academic requirements of the MLT Program, “that the student must master to successfully participate in the program and become employable.”

MLT students must be able to meet the following essentials:

1. Ability to read and write legibly.
2. To see through a microscope accurately, to differentiate colors/stains/special stain reactions.
4. Good communication skills.
5. Be mobile, able to stand long hours, lift 20-30 lbs.
6. Hear within normal range with/without corrective devices (able to hear bells, buzzers, warning devices, and timers).
7. Must possess organizational skills and be able to prioritize.
8. Work/respond in stressful/emergency situations.

Medical laboratory technologists and technicians typically do the following:

- Analyze body fluids, such as blood, urine, and tissue samples, and record normal or abnormal findings
- Study blood samples for use in transfusions by identifying the number of cells, the cell morphology or the blood group, blood type, and compatibility with other blood types
- Operate sophisticated laboratory equipment, such as microscopes and cell counters
- Use automated equipment and computerized instruments capable of performing a number of tests at the same time
- Log data from medical tests and enter results into a patient’s medical record
- Discuss results and findings of laboratory tests and procedures with physicians
- Supervise or train medical laboratory technicians

Both technicians and technologists perform tests and procedures that physicians and surgeons or other healthcare personnel order. However, technologists perform more complex tests and laboratory procedures than technicians do. For example, technologists may prepare specimens and perform manual tests that are based on detailed instructions, whereas technicians perform routine tests that may be more automated. Medical laboratory technicians usually work under the general supervision of medical laboratory technologists or laboratory managers.

Technologists in small laboratories perform many types of tests; in large laboratories, they generally specialize. The following are examples of types of specialized medical laboratory technologists:

- Blood bank technologists, or immunohematology technologists, collect blood, classify it by type, and prepare blood and its components for transfusions.
- Clinical chemistry technologists prepare specimens and analyze the chemical and hormonal contents of body fluids.
- Cytotechnologists prepare slides of body cells and examine these cells with a microscope for abnormalities that may signal the beginning of a cancerous growth.
- Immunology technologists examine elements of the human immune system and its response to foreign bodies.
- Microbiology technologists examine and identify bacteria and other microorganisms.
- Molecular biology technologists perform complex protein and nucleic acid tests on cell samples.

Like technologists, medical laboratory technicians may work in several areas of the laboratory or specialize in one particular area. For example, histotechnicians cut and stain tissue specimens for pathologists, that
are doctors that study the cause and development of diseases at a microscopic level.

Technologists and technicians often specialize after they have worked in a particular area for a long time or have received advanced education or training in that area.

Work Environment

Medical laboratory technologists operate sophisticated laboratory equipment such as microscopes and cell counters.

Prospective MLT students:

Application Process:

1. Meet all regular A.A.S. degree admission requirements for the college.
2. Satisfactorily complete all general education courses prior to starting the MLT major career courses.
3. Achieve a 2.5 GPA on general education courses and maintain "80" or better in major courses.
4. The MLT faculty will contact applicant to schedule an interview (May) and a career interest/options guidance session. (Prospective MLT students who lack a strong science background may also be required to complete BIOL 1107K and BIOL 2212K.)
5. Submit program Health Career Data Sheet Technical Evaluation Form. Submission Deadline April 1 for Fall admission. Interviews set up May, before Fall semester.
6. Become acquainted with policies pertaining to college and hospital regulations as set forth in the MLT Student Handbook once accepted into the MLT program.

Once accepted into the MLT program, students are required to procure a physical examination form from the MLT department and have a personal physician complete it (distributed in the MLTS 1101 course), and forward the completed form to the MLT program director before the clinical practicums begin. Students are required to submit a background check and drug screening results to the MLT department prior to attending any clinical portion at any clinical affiliate (once accepted into the program). Additional costs for the student include requirements for malpractice insurance, uniform(s), and name tag.

All admissions documents (including Health Career Data Sheet, background check results, drug screening results) must be received by the program director prior to enrollment in the MLT major course beyond MLTS 1101. Admission documents deadline is APRIL 1 for a fall cohort. Extensions of application documents deadline are made on a situational basis.

Students meeting the MLT requirements are not guaranteed admission to the Medical Laboratory Technology program. Program enrollment is limited (12-15) and competitive. Those students meeting MLT requirements and completing all program admission assessments and documents will be evaluated by the faculty of the MLT program with the most qualified students being selected.

The MLT program is a full-time commitment consisting of class and practicum Monday-Friday 7:30 a.m.-4:30 p.m. (mainly) for 3 semesters once starting the MLT major courses. Any change in the scheduled courses must be approved by the MLT faculty. (Example: failure to proceed as scheduled due to course failure or extended illness.) Students who fail a MLT course (make less than a "B", which is a score less than an 80) may repeat the course only once. Students who fail a MLT course a second time or who fail two MLT courses, make less than a "B"= 80 within a single or one semester will not be eligible for continuation of the program.

Applicants will be ranked by points using information the applicant provides to the MLT Program. Ranking will be based on GPA, Completion of MLTS 1101 (not required) and grade in the MLTS 1101 course, Course Grade(s) for Math/Science General Education courses, Course Grades for Non-Science/Math General Education courses, additional courses completed with grades of B or higher (up to limit of 4 courses: Biology, Chemistry, Math and Reference Score). Selection is based on total qualifying score in rank order from the highest until admission quota is reached.

All documentation must be submitted to be included in the point system by application deadline. All information is kept confidential.

The DSC Medical Laboratory Program is an accredited and approved program by NAACLS (National Accrediting Agency for Clinical Laboratory Sciences): 5600 N. River Rd. Suite 720, Rosemont, IL 60018-5119

Phone Number: 847.939.3597, 773.714.8880, 773.714.8886 (FAX)
info@naacls.org
http://www.naacls.org

The DSC MLT Program Outcome

One of the Clinical Laboratory Science Program outcomes is placement of graduates in the workforce; the pass rate for those that sit for the ASCP registry and graduation rate. An acceptable placement for a graduate is if they begin working as a Medical Technologist/Medical Laboratory Scientist (MLS) or continue on with their education. A total of 7 MLT A.A.S. students graduated in December 2018 (January 1 -December 31, 2018). The job placement of these graduates was 100% either part-time or full-time employment within 3-6 month after graduation. As for The ASCP registry, all 7 graduates sat for the ASCP registry in the 2018 testing year. The Dalton State College students achieved 93% pass rate (national pass rate 89%) with a minimum program score of 539 compared to the national minimum score of 497. Graduation rate for 2018; number of students midpoint 7; number of students graduated 7; % graduated 100% for DSC MLT program.

MLT PROGRAM PROSPECTIVE STUDENT SCHEDULE:

Any learning support courses must be completed prior to beginning pre-requisite courses.

MLTS 1101 (Fall II) is required prior to beginning MLT major courses (Spring II). It is highly recommended that students take BIOL 1107K and BIOL 2212K prior to enrolling in the BIOL 2213K. Based on Science background, BIOL 1107K and BIOL 2212K may be necessary.

Option 1 Beginning Freshman

(Student must have permission to take BIOL 2213K without the BIOL 2212K pre-req.)

Fall I

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<tr>
<td>ENGL 1101</td>
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<td>POLS 1101</td>
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<td>HIST 2111</td>
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<tr>
<td>or HIST 2112</td>
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Spring I
ENGL 1102 English Composition II 3
COMM 1110 Fundamentals of Speech 3
CHEM 1211K Principles of Chemistry I 4
Biol 2213K Anatomy and Physiology II (*) 4
*permission from MLT faculty to exempt BIOL 2212K pre-req for BIOL 2213K

Option 2 Beginning Freshman
(Taking BIOL 2212K as pre-req)

FALL I
ENGL 1101 English Composition I 3
MATH 1111 College Algebra 3
POLS 1101 American Government 3
HIST 2111 United States History to 1877 3
or HIST 2112 United States Hist since 1877 3

SPRING I
ENGL 1102 English Composition II 3
COMM 1110 Fundamentals of Speech 3
CHEM 1211K Principles of Chemistry I 4

Recommend students that desire to pursue a Bachelor's degree take CHEM 1212K
Biol 2212K Anatomy and Physiology I (*) 4
*May also need to take BIOL 1107K to prepare for BIOL 2212K

FALL II
Biol 2213K Anatomy and Physiology II 4
MLTS 1101 Intro to Health Sci/Phlebotomy (MLTS 1101 with permission of the Program Director. Must successfully complete the BIOL 2213K before progressing to other MLT major courses or may be dismissed from program or put on wait list to progress through the program)

MLT courses after completion of pre-req's courses
Students must complete all learning support and all pre-req's prior to beginning MLT Major (Spring II) courses beyond MLTS 1101. MLTS 1101 is required prior to beginning MLT major courses. It is highly recommended that students take BIOL 1107 and BIOL 2212 prior to enrolling in the BIOL 2213 based on Science background.

FALL II
MLTS 1101 Intro to Health Sci/Phlebotomy 3
Biol 2213K Anatomy and Physiology II 4
Any pre-req's required: All pre-req's must be completed by the end of the semester enrolled in the MLTS 1101 course and acceptance in the MLT program prior to proceeding forward in the MLT major courses.

SPRING II
MLTS 1103 Hematology/Coagulation I 3
MLTS 1118 Instrumentation/Computer Appli 3
MLTS 2218 Microbiology 4
MLTS 1190 MLT Clinical Practicum I 1

MLTS 1107 Clinical Chemistry (Tentative subject to change based on the student enrollment and requirements to complete the program. Bases on student's needs and courses that are needed.) 4

FALL III
MLTS 1104 Hematology/Coagulation II 3
MLTS 1105 Serology/Immunology 3
MLTS 1106 Blood Bank 3
MLTS 1112 Urinalysis/Parasitology 3

SPRING III
MLTS 1191 MLT Clinical Practicum II 1
MLTS 2290 MLT Clinical Practicum III 12

For more information contact:
Tyra Stalling, BSMT, MLS (ASCP), M.S.H.S
Program Director of Medical Laboratory Technology and Phlebotomy
Dalton State College
650 College Drive
MEDICAL LABORATORY TECHNOLOGY
Associate of Applied Science

This degree requires proof of computer literacy.

General Education

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Major Field Courses

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<td>MLTS 1107</td>
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<td>MLTS 1112</td>
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Physical Education

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Total Hours 74

- All general education courses must be completed prior to starting MLT major field courses.
- All MLT major field courses must be completed prior to entering MLTS 2290 and MLTS 2291.

This program is accredited by the National Accrediting Agency for Clinical Laboratory Sciences which is sponsored by the American Society of Clinical Pathologists and the American Society for Clinical Laboratory Scientists.

N.A.A.C.L.S.
8410 West Bryn Mawr Avenue, Suite 670
Chicago, IL 60631
(773) 714-8880

Courses

MLTS 1101. Intro to Health Sci/Phlebotomy. 3-1-3 Units.
The student is introduced to the health sciences environment and language. The hospital as an organization is discussed, as well as the role of each major department. The concepts, personnel, and work flow of the clinical laboratory is discussed in detail, as an example of health care application. Other topics include professional ethics, regulatory agencies, legal concepts as applied to confidentiality and patients rights, infection control, and safety. Students will learn venipuncture/capillary puncture techniques, equipment, application, and specimen processing. Enrollment is limited to students of the Medical Laboratory or Phlebotomy programs. (Career Course)

MLTS 1102. Phlebotomy Clinical Practicum. 1-11-5 Units.
Students receive clinical application of the venipuncture and micropuncture skills learned in MLTS 1101. Five days per week students are assigned to an area hospital where they work under the direct supervision of a preceptor. Students return to campus one afternoon per week for problem-solving and review. (Career Course)
Prerequisites: ALHT 1130, CAPS 1101, MLTS 1101, and BIOL 1100 with a grade of C or better.

MLTS 1103. Hematology/Coagulation I. 2-0-3 Units.
Introduces the fundamental formation of normal blood cells and some disease states related to hematopoiesis. Safety and quality control are also included throughout the course. Instrumentation relating to hematology is introduced. (Career Course)
Prerequisites: BIOL 2215K or BIOL 2213K.

MLTS 1104. Hematology/Coagulation II. 2-2-3 Units.
Coagulation and related diseases, instrumentation relating to coagulation, critical level, blood cell dyscrasias, special stains, leukemias/lymphomas, flow cytometry, safety and quality control are covered. (Career Course)
Prerequisites: MLTS 1103.

MLTS 1105. Serology/Immunology. 2-2-3 Units.
Introduces the fundamental theory and techniques applicable to serology and immunology practice in the clinical laboratory. Topics include: immune system, antigen and antibody reactions, common clinical applications, serological/microbiological applications, common serological techniques, and safety and quality control. (Career Course)
Prerequisites: BIOL 2215K or BIOL 2213K.

MLTS 1106. Blood Bank. 2-2-3 Units.
Provides an in-depth study of immunohematology principles and practices as applicable to medical laboratory technology. Topics include: genetic theory and clinical implications, immunology, donor collection, pre-transfusion testing, management of disease statistics, and safety and quality control. (Career Course)
Prerequisites: BIOL 2215K or BIOL 2213K.
MLTS 1107. Clinical Chemistry. 3-2-4 Units.
Develops concepts and techniques of clinical chemistry applicable
to medical laboratory technology. Topics include: carbohydrates,
electrolytes and acid-base balance, nitrogenous compounds, enzymes
and endocrinology, bilirubin metabolism, lipids, toxicology and
therapeutic drug monitoring, and safety and quality control. (Career
Course)
Prerequisites: CHEM 1211K.

MLTS 1112. Urinalysis/Parasitology. 2-2-3 Units.
Provides theory and techniques of urinalysis. Urinalysis topics include:
significance, correlation to disease states, physical, chemical and
microscopic urinalysis theory and practice. Selected types of other body
fluids will be discussed to discover their significance and uses in disease
correlation. This class also introduces concepts and techniques used in
the identification of selected human parasites. (Career Course)

MLTS 1118. Instrumentation/Computer Appli. 2-2-3 Units.
Clinical Laboratory provides an introduction to basic physics concepts
used in clinical laboratory instrumentation. Examines, in detail,
selected equipment in the laboratory representing the principles
of cell counting, spectrophotometry, continuous-flow analysis, and
radioimmunoassay. Computer concepts, applications, and interfacing
with laboratory instrumentation is introduced. Satisfies the computer
literacy requirement. (Career Course)
Prerequisites: MLTS 1101, MLTS 1103, and MLTS 1105.

MLTS 1190. MLT Clinical Practicum I. 0-3-1 Unit.
Introduces Medical Laboratory Technician students to the hospital
environment. Students gain experience with venipuncture and
microcapillary techniques while working under the direction of a hospital
preceptor. (Career Course)
Prerequisites: MLTS 1101 or permission of instructor.

MLTS 1191. MLT Clinical Practicum II. 0-3-1 Unit.
Resumes the clinical experience begun in Medical Laboratory Technology
1190. Students rotate through selected departments in the clinical
laboratory to apply and complement concepts and applications learned in
previous Medical Laboratory Technology courses. Introduces students to
problem solving at the clinical level. (Career Course)
Prerequisites: MLTS 1101, MLTS 1104, MLTS 1105, MLTS 1190.

MLTS 2218. Microbiology. 2-4-4 Units.
Introduces fundamental clinical microbiology theory and techniques
applicable to disease state identification. Topics include: isolation
techniques, biochemical techniques, anti-microbial sensitivity, safety and
quality control, and disease processes. (Career Course)
Prerequisites: BIOL 2215K or BIOL 2213K.

MLTS 2290. MLT Clinical Practicum III. 1-32-12 Units.
Full-time supervised experience in an affiliated clinical laboratory.
Students will rotate among designated laboratory sections where they
will work side by side with, and be under the supervision of, medical
technologists and the laboratory director, to develop professional skills in
the practice of medical laboratory technology. (Career Course)

MLTS 2291. MLT Clinical Practicum IV. 0-12-4 Units.
Full-time supervised experience in an affiliated clinical laboratory.
Students will rotate among designated laboratory sections where they
will work side by side with, and be under the supervision of medical
technologists and the laboratory director, to develop professional skills in
the practice of medical laboratory technology. (Career Course)
Prerequisites: MLTS 2290 with a grade of C or better.