

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, prerequisites be completed before starting the MLTS major field courses, but at least MATH 1111 and BIOL 2252K.
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. Once accepted into the program, students must have up-to-date immunizations and obtain a TB skin test. After acceptance into the MLT program, additional requirements will involve a background check, drug screen, malpractice insurance, uniforms, and BLS-AHA CPR at the student's 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 outlined in the MLT Student Handbook.
6. Achieve a 2.5 GPA in general education courses.

Before entering MLT major courses, students must complete all learning support, MATH 1111 and BIOL 2252K. It is HIGHLY recommended that all prerequisites be completed before entering MLT major courses. It is highly recommended that students take BIOL 1107K and BIOL 2251K before enrolling in BIOL 2252K based on their science background. Students transferring U.S. History course credit from a non-USG/non-TCSG institution and a few private Georgia colleges must satisfy the Georgia History non-course requirement. Students transferring American Government course credit from a non-USG/non-TCSG institution and a few private Georgia colleges must satisfy the Georgia Constitution non-course requirement. This is satisfied by passing an exam administered through the Dalton State College Testing Center or by taking HIST 2111 or 2112 for Georgia History and POLS 1101 for Georgia Constitution.

The MLT faculty determines assignments to affiliated hospitals. Students must purchase liability insurance and appropriate uniforms for clinical practicum once accepted into the MLT Program. Clinical facilities used by the program require students to submit a background check and drug screenings before being allowed to begin practicum. 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.
3. Possess manual dexterity.
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 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 to perform many tests simultaneously.
- 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, 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, who are doctors who 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" -B or better in MLT major courses.
4. The MLT faculty will contact the 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 2251K.)
5. Submit the program Health Career Data Sheet Technical Evaluation Form. Submission Deadline April 1 each year for Fall admission. Interviews are set up in May, before the 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 must submit a background check, drug screen, and immunization records before 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), name tag, and BLS-AHA CPR.

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. The admission documents deadline is APRIL 1 for a fall cohort. Extensions of application document deadlines 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 selected.

The MLT program is a full-time commitment consisting of class and practicum Monday-Thursday 7:30 a.m.-4:30 p.m. and Monday-Friday 7:00 a.m.-3:30 p.m. for clinical practicum (mainly) for three semesters once starting the MLT major courses. The MLT faculty must approve any change in the scheduled courses. (Example: failure to proceed as scheduled due to course failure or extended illness.) Students who fail an MLT course (make less than a "B," which is a score less than 80) may repeat the course only once. Students who fail an 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 the total qualifying score in rank order from the highest until the admission quota is reached.

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

The DSC Medical Laboratory Program is accredited 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

Program outcomes for the Medical Laboratory Technology Program include placement of graduates in the workforce, the pass rate for those who sit for the ASCP registry, and the MLT program graduation rate. An acceptable placement for a graduate is if they begin working as a Medical Laboratory Technician or continue their education after completing the MLT program. The target for program graduation is 75%. A total of 8 MLT A.A.S. students graduated in 2023 (January 1 -December 31, 2023). The job placement of these graduates was 100% either part-time or full-time employment within 3-6 months after graduation. The Dalton State College MLT students achieved 85% pass rate for the ASCP certification for first-time test takers (national pass rate 79%) with a minimum program score of 550 compared to the national minimum score of 479. The graduation rate for 2023; the number of students midpoint 8; the number of students who graduated 8; graduated 100% for the DSC MLT program.

Graduation Rates:

Year	# of Students (Midpoint)	# of Students Graduated	% Graduation Rate
2021	8	8	100%
2022	5	5	100%
2023	8	8	100%

Certification Rates:

Year	# of Graduates	# of Graduates Taking Certification Exam	% Certification Pass Rate
2021	8	8	88%
2022	5	5	100%
2023	8	7	85%

* One student has not sat for ASCP certification at the time of the report, and one student is set for re-take. Students have 18 months after completing the program to sit for ASCP certification in the state of Georgia.

** No students have sat for the ASCP certification at the time of catalog publication.

Job Placement Rates:

Year	# of Students (Midpoint)	# Employed in Field (within 3-6 months)	% Job Placement Rate
2021	8	8	100%
2022	5	5	100%
2023	8	8	100%

*All students had job offers and/or employment after completing the MLT Program.

MLT PROGRAM PROSPECTIVE STUDENT SCHEDULE:

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

MLTS 1101(Fall II) is required before beginning MLT major courses (Spring II). It is highly recommended that students take BIOL 1107K and BIOL 2251K before enrolling in the BIOL 2252K. Based on Science background, BIOL 1107K and BIOL 2251K may be necessary.

Option 1 Beginning Freshman

(Student must have permission to take BIOL 2252K without the BIOL 2251K 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	
Spring I		
ENGL 1102	English Composition II	3
COMM 1110	Fundamentals of Speech	3
CHEM 1211K	Principles of Chemistry I	4
BIOL 2252K	Anatomy and Physiology II	4

*permission from MLT faculty to exempt BIOL 2251K pre-req for BIOL 2252K

Option 2 Beginning Freshman

(Taking BIOL 2251K 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	

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 2251K	Anatomy and Physiology I	4
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*May also need to take BIOL 1107K to prepare for BIOL 2251K

FALL II

BIOL 2252K	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 2252K before progressing to other MLT major courses or may be dismissed from program or put on wait list to progress through the program)	3

MLT courses after completion of pre-req's courses

Students must complete all learning support and all prereqs before beginning MLT Major courses beyond MLTS 1101. MLTS 1101 is required before beginning MLT major courses. It is highly recommended that students take BIOL 1107 and BIOL 2251K before enrolling in BIOL 2252K based on their science background.

FALL II

MLTS 1101	Intro to Health Sci/Phlebotomy	3
MLTS 1105	Serology/Immunology	3
BIOL 2252K	Anatomy and Physiology II (and/or General Chemistry)	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	4

FALL III

MLTS 1104	Hematology/Coagulation II	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

SUMMER III		
MLTS 2291	MLT Clinical Practicum IV	4

Transfer students: (Students that have all prereqs/general educational courses)

MLT courses after completion of pre-reg courses

Students must complete all learning support and all prereqs 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 2251K prior to enrolling in the BIOL 2252K based on Science background.

FALL II		
MLTS 1101	Intro to Health Sci/Phlebotomy	3

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.

MLTS 1105	Serology/Immunology	3
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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	4

FALL III		
MLTS 1104	Hematology/Coagulation II	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

SUMMER III		
MLTS 2291	MLT Clinical Practicum IV	4

SUMMER III		
MLTS 2291	MLT Clinical Practicum IV	4

SUMMER III		
MLTS 2291	MLT Clinical Practicum IV	4

SUMMER III		
MLTS 2291	MLT Clinical Practicum IV	4

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

Dalton, Ga. 30720

tstalling@daltonstate.edu

706-272-2508

Or

Marcela Armenta, MLS (ASCP), M.S.

Education Coordinator of Medical Laboratory Technology and Phlebotomy

Dalton State College

650 College Drive

Dalton, Ga. 30720

marmenta@daltonstate.edu

706-272-4512

MEDICAL LABORATORY TECHNOLOGY Associate of Applied Science

This degree requires proof of computer literacy.

General Education

BIOL 2252K	Anatomy and Physiology II	4
CHEM 1211K	Principles of Chemistry I	4
COMM 1110	Fundamentals of Speech	3
ENGL 1101	English Composition I	3
ENGL 1102	English Composition II	3
HIST 2111	United States History to 1877	3
or HIST 2112	United States Hist since 1877	
MATH 1111	College Algebra	3
POLS 1101	American Government	3

Major Field Courses

MLTS 1101	Intro to Health Sci/Phlebotomy	3
MLTS 1103	Hematology/Coagulation I	3
MLTS 1104	Hematology/Coagulation II	3
MLTS 1105	Serology/Immunology	3
MLTS 1106	Blood Bank	3
MLTS 1107	Clinical Chemistry	4
MLTS 1112	Urinalysis/Parasitology	3
MLTS 1118	Instrumentation/Computer Appli	3
MLTS 1190	MLT Clinical Practicum I	1
MLTS 1191	MLT Clinical Practicum II	1
MLTS 2218	Microbiology	4
MLTS 2290	MLT Clinical Practicum III	12
MLTS 2291	MLT Clinical Practicum IV	4

Physical Education

PHED Activity Elective	1
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Total Hours **74**

- Successful completion of all MLTS major field courses with a "B" (80) or better is required.
- MLTS major field courses can be repeated a maximum of one time.
- All general education courses must be completed before starting MLT major field courses.
- All MLT major field courses must be completed before 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.

National Accrediting Agency for Clinical Laboratory Sciences (NAACLS)

5600 N. River Road, Suite 720

Rosemont, IL 60018

PH: 773-714-8880

Fax: 773-714-8886

Email: info@nacls.org or www.nacls.org

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)

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 2260K or BIOL 2252K.

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 2260K or BIOL 2252K.

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 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 2252K.

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.