



## COMPREHENSIVE ACADEMIC PROGRAM REVIEW

*Note: Enter "NA" wherever data are not applicable or not available for the program under review.*

### **Program Characteristics**

Academic Program Name: **Medical Laboratory Technology**

Degree: **Associate of Applied Science (A.A.S.)**

Program CIP Code: **51.0802**

School and Department: **Health Professions/Department of Allied Health and Social Work**

Time frame for this review: **Fall 2015-Spring 2020**

Date of last internal review: **January 2015**

Current date program reviewed for this report: **April 30, 2021**

### **Program Goal Statement and Student Learning Outcomes**

Program goal statement:

The goal of the Medical Laboratory Technology (MLT) program is to provide academic instruction that supports effective learning within the program and that enhances professional performance on the job to provide employability skills in both work attitudes and work habits, and to enable graduates to contribute to the clinical laboratory field as health professionals.

#### **Program's Goals:**

The Medical Laboratory Technology program is a sequence of courses that prepares students for technician positions in medical laboratories, related businesses, and other industries. Learning opportunities develop academic, technical, and professional knowledge and skills required for job acquisition, retention, and advancement. The program emphasizes a combination of didactic and clinical instruction necessary for successful employment. Program graduates receive an Associate of Applied Science degree in Medical Laboratory Technology, have the qualifications of a medical laboratory technician, and are eligible for American Society for Clinical Pathology (ASCP) certification.

The Medical Laboratory Technology program graduates are eligible to take the National Certification Examination (NCE), ASCP, and are prepared to function as professional technicians in medical laboratories. Program graduates are to be competent in the general areas of communications, math, interpersonal relations, anatomy and physiology, inorganic chemistry, and laboratory science. Program graduates are competent to work in the major medical laboratory areas of the clinical laboratory field as medical laboratory technologists.



## COMPREHENSIVE ACADEMIC PROGRAM REVIEW

### Program Outcome:

#### Medical Laboratory Technology Program:

Upon graduation and initial employment, the medical laboratory technician should or will be able to demonstrate entry-level competencies in the areas of professional practice.

1. Graduates of the Medical Laboratory Technology Program will express satisfaction with their program of study and career choice.
2. Graduates of the Medical Laboratory Technology Program will find employment related to their degrees within six months to a year after graduation.
3. Employers will express a high level of satisfaction with graduates of the program.
4. Graduates will demonstrate competency as entry-level medical laboratory technologists by passing the American Society for Clinical Pathology (ASCP) registry within eighteen months after graduation.

### Student learning outcomes

The mission of the Medical Laboratory Technician (MLT) Program at Dalton State College is to impart the fundamental knowledge and practical skills of medical technology to the students so that the following objectives may be reached:

1. The student will be able to perform satisfactorily in any laboratory situation.
2. The student will be able to accurately judge the variability of laboratory tests, applying basic scientific principles in learning new techniques and procedures.
3. The student will be able to relate laboratory findings to common disease processes.
4. The student will utilize sound professional judgement in delivering and evaluating patient information.
5. The student will demonstrate the ability to establish professional relationships with patients and other healthcare team members.

### ***Brief Assessment of Previous Program Review***

#### Outcome of previous program review (brief narrative statement).

There has been a consistent number of students enrolled in the MLT program over the last five years with very little change in enrollment. Full-time vs part-time enrollment has significantly changed over the five-year period with an increase in full-time enrollment and a decrease in part-time enrollment due to the program changing to cohort admission. In 2014 the program went to the cohort admission eliminating part-time enrollment entirely. Many of the students entering the program are female. The program has experienced a decrease in the Hispanic population by 20%. The MLT student population is predominantly Caucasian (68%). Class size and credit hours have remained constant through the program review years. There has been consistent growth and increase in degrees awarded as years



## COMPREHENSIVE ACADEMIC PROGRAM REVIEW

progressed. There has been a consistent increase in student enrollment and graduates since 2010. With the transition of students attending classes on a part-time vs full-time basis, the shift to more full-time student status has affected the total number of students completing and graduating from the program. The cohort admission to the MLT program should increase the total number of graduates due to more reliable program progression. There was 100% job placement within three months of graduation for all students graduating from the MLT program from 2009-2013. Most graduates (90%) find jobs immediately after graduation. Some students that earned a bachelor's degree prior to entering the MLT program did not apply for graduation since they could qualify to take the ASCP registry after completion of the MLT major courses and their bachelor's degree courses. The MLT program had 100% job placement. Surveys show employers are satisfied with the students as employees in the laboratory profession. For the previous years of the program review, all students finishing the MLT program have passed the ASCP certification exam (100% pass rate for first time takers), and all are seeking employment are working. Some graduates are working in companies that supply clinical laboratory equipment and/or supplies (10%), and others are working in hospitals (75%) or physician office clinics (15%). Salaries are competitive for the area, and our employer surveys indicate satisfaction in their training/work when graduates are hired at the various facilities. Several graduates have continued their education and obtained higher degrees after graduation and continued working in the field. Based on enrollment history, retention rates, degree completion/graduation rates, and other program outcomes, there should be continued resources devoted to this program. There has been a steady influx of students and graduation rates for 2005-2010 with a greater increase since 2010 (graduation rate 8-10 students per year since 2010). Students graduating from the MLT program have 100% job placement if they choose to work: some have chosen to continue their education.

There have been a 100% graduation rate for those students entering the last half (the students' clinical rotation) of the program, 100% pass rate for the graduates who completed the program, and 100% employed within 3-6 months of graduation for 2009-2013.

What improvements have occurred since the last program review or assessment?

The program has added an additional full-time assistant professor, going from one full-time and one part-time professors to two full-time professors (August 2019). A new textbook was chosen for the MLTS 2218 Microbiology course, and the material such as PPT (PowerPoint), handouts, and lab exercises were updated to match the new textbook. The MLT program has asked the library to purchase the LabCE (lab continue education), DVDs (digital video disc) for student and program utilization. The program has added hybrid course work for many MLT major courses due to the COVID pandemic. All the MLT courses require face-to-face lab time due to the nature of our program. Students must have hands-on practice to understand many concepts of the MLT major subjects and courses.





## COMPREHENSIVE ACADEMIC PROGRAM REVIEW

Additional equipment for the program:

The MLT program acquired many donated items from area hospitals such as:

- Osmometer: Tennova-Cleveland, TN
- Centrifuge: Hamilton Medical Center, Dalton GA.
- Two Tube incubators and a CO2 incubator: Floyd Medical Center, Rome, GA.
- Purchased five new microscopes and five MLA pipets for student use in the laboratory use.

The retention rate for the MLT program from 2015 has been 100%, with no students lost as students entered the second half of the program (clinical rotations). The 2017/2018 class had a total of seven graduates. The MLT and Phlebotomy Advisory Board met in November 2017 and May 2018 to discuss the programs and any needed improvements or areas of concern. The advisory board discussed clinical practicum assignments and student progress. No significant changes were identified. Student and employer evaluations of the program indicate the program is progressing well with no significant problems or issues identified through the evaluation process. Employer evaluations of graduates showed satisfaction with the graduating student population that gained employment after graduation. Additional equipment and technology supplements and supplies were added to the program inventory based on requests and suggestions of students through course evaluations. The MLT program requested using year-end funding to purchase a new chemistry analyzer. The program was granted the funds and purchased the RANDOX multi-Chemistry analyzer, which was utilized starting with 2018-2019 classes. The MLT program requested two new microscopes and pipets that were approved and utilized for the MLT program. PPT and DVD are utilized to enhance the learning experience in the classroom as related to the medical laboratory profession. There were various purchases of pipets, microscopes, and instrumentation to be utilized in both the MLT and Phlebotomy programs. Three serofuges for the Blood Bank course were purchased through a generous donation from a community supporter. The MLT program graduated seven students December 2019 with 100% job placement for all seven recent graduates. The MLT program had 100% pass rate for the 2018 graduation. Surveys showed that employers are very satisfied with the program. The MLT program submitted information to NAACLS (National Accrediting Agency of Clinical Laboratory Science) for a five-year program review that was submitted October 2019 and approved in June 2021. The MLT program received CAP samples from various hospitals to be utilized in the classroom, which included slides, photo images, and DVD for training purposes.

What changes or revisions have been made to the program, its curriculum, or its program/student learning outcomes since the last program review? Please include a follow-up discussion of the previous review's action plan.

The Dalton State College Medical Laboratory Technology program implemented changes based on recommendations from the Board of Regents beginning in the August 2014 fall semester. In fall 2014, the MLT program changed from an open enrollment program (a student could start the program during any semester) to a cohort program (one time a year beginning process for the program). Starting Fall 2014, students interested in obtaining the MLT degree had to apply and go through the interview process with the MLT faculty and be accepted into the MLT program. The cohort was implemented with the goal of increasing the number of graduates from the program during a one-year graduation term. Prior to the implementation of the cohort, the MLT program had students completing and receiving their degree during various semesters over a one-year period. The cohort involved an interview session with the program director and educational coordinator, and an application process to



## COMPREHENSIVE ACADEMIC PROGRAM REVIEW

improve the selection process compared to previous years where any student could declare the MLT major and start the MLT major courses if the courses was open for enrollment. In the process of starting the cohort class schedule, the MLT program also made changes to the minimum passing grade for the MLT major courses from a grade of "78"- C to the minimum grade of "80"- B for all MLT major courses. In addition to the increase in the minimum passing grades, another policy was implemented. If a student fails two or more classes with a grade of 79 (C) or below in the same semester, the student would be dismissed from the program. Students may reapply in five years after dismal. Again, the change was implemented to recruit and retain better students and increase the ASCP registry pass rates and increase the quality of students graduating and entering the clinical laboratory field. Another policy that was added for Fall 2014 states that if a student is dismissed from the program for any reason, that the said student may reapply for the MLT program at the end of five-year period and will have to reapply and qualify under the policies and procedures of the year the student is reapplying. The half-time faculty member, Doris Shoemaker, retired in summer 2019. The MLT program hired one additional full-time assistant professor Fall 2019. This was a net gain of a 0.5 faculty position.



## COMPREHENSIVE ACADEMIC PROGRAM REVIEW

### Student Demographics

Enrollment	Fall 2016	Fall 2017	Fall 2018	Fall 2019	Fall 2020	% Change
Headcount	36	35	36	32	22	-38.9%
FTE	27.08	26.5	26.25	22.83	16.25	-40.0%
Enrolled Full-time	21	20	15	16	8	-61.9%
Enrolled Part-time	15	15	21	16	14	-6.7%
Female	25	26	27	26	16	-36.0%
Male	11	9	9	6	6	-45.4%
Alaskan Native/Native American/American Indian	0	0	0	0	0	0
Asian, Hawaiian, Other Pacific Islander	3	2	0	0	1	100%
Black/African-American	2	2	0	0	0	-50%
Hispanic	10	12	10	8	8	-20%
Multi-racial	0	1	1	0	0	0%
Undeclared	2	3	2	1	0	-300%
White	19	15	23	12	19	0%

#### Analysis and comments on student demographics.

Many of the students entering the program are female (72.7%), and there has been decrease in the Hispanic population (20%). The MLT program remains predominately white. The program numbers have significantly decreased by 60% since implementing the cohort class entry and only offering the courses on a full-time academic basis. The average class size has decreased in total number again. This may be due to the decrease in number of students entering the program to full-time academic course loads only. These numbers represent MLT students that have declared the MLT major and not the actual number of students accepted into the MLT program as a cohort class. The program only accepts 12-15 students per year each Fall semester.





## COMPREHENSIVE ACADEMIC PROGRAM REVIEW

<b>Faculty Indicators of Program Quality</b>	Fall 2016	Fall 2017	Fall 2018	Fall 2019	Fall 2020	% Change
School (not Department) faculty teaching in program (excluding Areas A through E)	0	0	0	0	0	0
Full-time program faculty	1	1	1	1	2	100%
Part-time program faculty	1	1	1	1	0	-100%
Total program faculty	2	2	2	2	2	0
Percent of program classes taught by full-time program faculty	75	75	75	75	100	33.3%
<b>Gender (full-time and part-time faculty)</b>	Fall 2016	Fall 2017	Fall 2018	Fall 2019	Fall 2020	% Change
Male						
Female	2	2	2	2	2	0
<b>Race/Ethnicity (full-time and part-time faculty)</b>	Fall 2016	Fall 2017	Fall 2018	Fall 2019	Fall 2020	% Change
Alaskan Native/Native American/American Indian	0	0	0	0	0	0
Asian, Hawaiian, Other Pacific Islander	0	0	0	0	0	0
Black/African-American	0	0	0	0	0	0
Hispanic	0	0	0	0	1	100%
Multi-racial	0	0	0	0	0	0
Undeclared	0	0	0	0	0	0
White	2	2	2	2	1	-50
<b>Tenure Status (full-time faculty)</b>	Fall 2016	Fall 2017	Fall 2018	Fall 2019	Fall 2020	% Change
Tenured	1	1	1	1	1	0
On-tenure track	0	0	0	0	1	100%
Non-tenure track	0	0	0	0	0	0
<b>Rank (full-time faculty)</b>	Fall 2016	Fall 2017	Fall 2018	Fall 2019	Fall 2020	% Change
Professor	0	0	0	0	0	0
Associate Professor	1	1	1	1	1	0
Assistant Professor	0	0	0	0	1	100%
Instructor/Senior Lecturer/Lecturer	0	0	0	0	0	0



## COMPREHENSIVE ACADEMIC PROGRAM REVIEW

### ***Faculty Indicators of Program Quality***

Highest degree (full-time faculty)	2015-16	2016-17	2017-18	2018-19	2019-20	% Change
Doctorate						
Specialist	1	1	1	1	0	-100%
Master's	1	1	1	1	2	100%
Bachelor's						
Associate's/Other						

Provide additional details, analysis, and comments regarding faculty indicators of program quality.

The MLT program consists of two faculty members, having a combined number of 50 plus years of experience in the clinical laboratory field and working with the DSC MLT program for the years of 2015-2018. In January 2019, a long-time faculty member retired and was replaced with a new faculty member with ten plus years of experience in the clinical field. The newest faculty member holds a certification as a Clinical Laboratory Scientist/Medical Laboratory Science (CLS/MLS), ASCP and has a master's in health sciences. Both faculty members are full-time instructors as of Spring 2020.





## COMPREHENSIVE ACADEMIC PROGRAM REVIEW

### *Indicators of Measures of Quality*

Student Input	Fall 2016	Fall 2017	Fall 2018	Fall 2019	Fall 2020	% Change
Mean ACT score	19	19	20	21	22	15.8%
Mean SAT score	438	452	470	451	439	0.2%

If applicable to your degree program, provide any additional external quality assurance data/information or results (e.g., professional accreditation results, National Survey of Student Engagement [NSSE], market rankings, etc.).

### **Dalton State College: 5 Year Interim Report Data Summary**

#### **MLT Program Outcomes**

#### **Certification Rates:**

Year	# Of Graduates	# Graduates Taking certification exam	% Certification Pass Rate (1 <sup>st</sup> time test taker)	% Certification Pass Rate (2 <sup>nd</sup> time test taker)
<b>2014-15</b>	<b>7</b>	<b>7</b>	<b>100%</b>	<b>NA</b>
<b>2015-16</b>	<b>11</b>	<b>11</b>	<b>88%</b>	<b>100%</b>
<b>2016-17</b>	<b>8</b>	<b>8</b>	<b>92.3%</b>	<b>100%</b>
<b>2017-18</b>	<b>7</b>	<b>7</b>	<b>100%</b>	<b>NA</b>
<b>2018-19</b>	<b>7</b>	<b>7</b>	<b>100%</b>	<b>NA</b>
<b>2019-2020</b>	<b>8</b>	<b>8</b>	<b>100%</b>	<b>NA</b>

Graduates of the Medical Laboratory Program (MLT) are required to sit for the certification by the ASCP to practice in the clinical laboratory setting. Students are allowed to sit for the test up to three times within a three year period after completion of the MLT program. The program has a 97% pass rate for 2015-2020.



## COMPREHENSIVE ACADEMIC PROGRAM REVIEW

### *Indicators of Measures of Quality*

<b>Student Output</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>	<b>2019-20</b>	<b>% Change</b>
Exit scores on national/state licensure (if applicable)	572	496	460	496	635	11%
Graduating majors' mean GPA	3.51	3.42	3.54	3.43	3.64	3.7%
Employment rate of graduates (if available)	100%	100%	100%	100%	100%	0
Number of students entering graduate/professional programs	11	13	11	6	8	-27.3%

Describe the extent to which students have achieved current program outcomes during this program review cycle (most recent year).

Graduating students and current/past employers are surveyed at the end of each year after students have completed the MLTS clinical practicums MLTS 2290 and MLTS 2291. As of 2019-2020, the surveys and the following tables provide the results of program assessment. All students completing the MLT program as of 2019-2020 have passed the ASCP certification exam (100% pass rate), and all graduates are working, and some are continuing their education. Some are working in companies that supply clinical laboratory equipment and/or supplies, and others are working in a hospital clinical laboratory or physician office clinics. Our employers' surveys indicate satisfaction with program graduates' training/work when hired. Several graduates have continued their education and obtained B.S. degrees after graduation. Based on job placement response from surveys, job placement for graduating students is at 100% within three to six months of graduation. Graduating students' current and former employers are surveyed. Surveys indicate graduates are performing at or exceeding standard requirements for entry-level Medical Laboratory Technologists. As reported by the ASCP, certification registry, the MLT program has exceeded the target for registry pass rate of at least 75%. See charts for Graduation Rate, Certification Rates, and job placement for supporting evidence.

#### MLT Program Outcomes Analysis Charts

##### Graduation Rates:

Year	# Of Students (Midpoint)	# Students Graduated	% Graduation Rate
2014-15	7	7	100%
2015-16	11	11	100%
2016-17	8	8	100%
2017-18	7	7	100%
2018-19	7	7	100%
2019-20	8	8	100%

The program has had 100% graduation rate for 2015-2020.



## COMPREHENSIVE ACADEMIC PROGRAM REVIEW

### Program Outcome:

1. Graduates of the Medical Laboratory Technology Program will express satisfaction with their program of study and career choice.

**Target:** Seventy-five percent of graduates who completed the Medical Laboratory Technologist program that are surveyed will express satisfaction with their program of study and career choice.

**Assessment:** Target met: 100% of the graduates met the standard. Student enrolled in the Medical Laboratory Technology program are required to complete clinical practicum MLTS 2290/2291. At the end of the practicum experience students are required to fill out the MLT graduate surveys. For year 2019-2020, 8 out 8 students (100% response rate) responded on survey that they have personal fulfillment in personal life and are satisfied with their program of study and career choice.

2. Graduates of the Medical Laboratory Technology Program will find employment related to their degrees within 3-6 months after graduation.

**Target:** Seventy-five percent of graduates who completed the Medical Laboratory Technologist program will obtain a job upon graduation within three to six months post-graduation, express satisfaction with the MLT program, and high employer satisfaction.

**Assessment:** Target met: 100% of the graduates met the standard. 100% of MLT graduates completed the Medical Laboratory Technologist program obtain a job upon graduation within 3-6 months post-graduation. Evaluations indicate graduate satisfaction with the MLT Program, and have high employer satisfaction.

### Job Placement Rates:

Year	# Of Graduates	# Employed in Field	% Job Placement Rate
2014-15	11	11	100%
2015-16	8	8	100%
2016-17	7	7	100%
2017-18	7	7	100%
2018-19	7	7	100%
2019-20	7	7	100%





## COMPREHENSIVE ACADEMIC PROGRAM REVIEW

3. Employers will express a high level of satisfaction with graduates of the program.

**Target:** Seventy-five percent of program graduates who completed the Medical Laboratory Technologist program that are surveyed will practice entry-level Medical Laboratory Technologist analysis as expected by employers and pass the ASCP registry.

**Assessment:** Target met: 100% of the graduates met the standard. Medical Laboratory Technologist program graduates current and former employers were surveyed and indicated graduates can practice entry-level Medical Laboratory Technologist analysis as expected by employers and pass the ASCP registry.

4. Graduates will demonstrate competency as entry-level medical laboratory technologists by passing the American Society of Clinical Pathologist (ASCP) registry.

**Target:** Seventy-five percent of graduates who completed the Medical Laboratory Technologist program will be able to perform satisfactorily in any laboratory situation, be able to accurately judge the variability of laboratory tests, apply basic scientific principles in learning new techniques and procedures, relating laboratory findings to common disease processes, and recognizing and acting upon individual needs for continuing education as a function of growth and maintenance of professional competence and find employment related to their degree.

**Assessment:** Target met: 94% of the graduates met the standard. MLT graduates who completed the Medical Laboratory Technologist program was able to perform satisfactorily in any laboratory situation, were able to accurately judge the variability of laboratory tests, apply basic scientific principles in learning new techniques and procedures, relate laboratory findings to common disease processes, and recognize and act upon individual needs for continued education as a function of growth and maintenance of professional competence and find employment related to their degree.



## COMPREHENSIVE ACADEMIC PROGRAM REVIEW

### Certification Rates:

Year	# Of Graduates	# Graduates Taking certification exam	% Certification Pass Rate (1 <sup>st</sup> time test taker)	% Certification Pass Rate (2 <sup>nd</sup> time test taker)
2014-15	7	7	100%	NA
2015-16	11	11	88%	100%
2016-17	8	8	92.3%	100%
2017-18	7	7	100%	NA
2018-19	7	7	100%	NA
2019-20	8	8	100%	NA

### MLT Program Outcomes Analysis Charts

#### Graduation Rates:

Year	# Of Students (Midpoint)	# Students Graduated	% Graduation Rate
2014-15	7	7	100%
2015-16	11	11	100%
2016-17	8	8	100%
2017-18	7	7	100%
2018-19	7	7	100%
2019-20	8	8	100%



## COMPREHENSIVE ACADEMIC PROGRAM REVIEW

Describe the extent to which students have achieved current student learning outcomes during this program review cycle (most recent year).

### Student Learning Outcome:

1. The student will be able to perform satisfactorily in any laboratory situation.

**Target:** Seventy-five percent of students who completed the Medical Laboratory Technologist program that are surveyed will indicate or demonstrate ability to perform satisfactorily in any laboratory situation.

**Assessment:** Target met: 100% of the students met the standard. Student enrolled in the Medical Laboratory Technology program are required to attend clinical practicum MLTS 2290/2291. At the end of the practicum experience, students are evaluated by exams and the practicum site. For year 2019-2020, eight out eight students attended practicum and received passing scores for performance in any laboratory situation.

2. The student will be able to accurately judge the variability of laboratory tests, applying basic scientific principles in learning new techniques and procedures.

**Target:** Seventy-five percent of students who complete the Medical Laboratory Technologist program will be able to accurately judge the variability of laboratory tests, applying basic scientific principles in learning new techniques and procedures.

**Assessment:** Target met: 95% (4/5 rating) from employer surveys – see chart and example of Employer survey. Employer surveys are distributed to the MLT graduates current and/or past employer. Based on the employer's response, students received at least a four out of five rating (80%) of the graduates' abilities to accurately judge the variability of laboratory tests, apply basic scientific principles in learning new techniques and procedures.

3. The student will be able to relate laboratory findings to common disease processes.

**Target:** Seventy-five percent of students who completed the Medical Laboratory Technologist program will be able to relate laboratory findings to common disease processes.

**Assessment:** Target met: 95% of the clinical sites surveyed identified graduating students as exhibiting at least a 4/5 rating for the ability to related laboratory findings to common disease processes.





## COMPREHENSIVE ACADEMIC PROGRAM REVIEW

4. The student will utilize professional judgement in delivering and evaluating patient information.

**Target:** Seventy-five percent of students' who complete the Medical Laboratory Technologist program will demonstrate the use of professional judgement in delivering and evaluating patient information, and perform satisfactorily in any laboratory situation, and establish professionalism with patients and other healthcare team members.

**Assessment:** Target met: 95% of employers of graduating students received at least a 4/5 rating from the students' former or current employer surveys – see chart and example of Employer survey.

5. The student will demonstrate the ability to establish professional relationships with patients and other healthcare team members.

**Target:** Seventy-five percent of students who completed the Medical Laboratory Technologist program will demonstrate the ability to establish professional relationships with patients and other healthcare team members.

**Assessment:** Target met: 95% of employers of graduating students received at least a 4/5 rating from the students' former or current employer surveys – see chart and example of Employer survey. Students demonstrated the ability to establish professional relationships with patients and other healthcare team members.

### Summary:

MLT students have exceeded the target expectations for student learning outcomes for the MLT program. Employer evaluations show evidence of employer satisfaction. Graduation and student evaluations indicated satisfaction in career path and graduation rates. Evaluation of ASCP registry shows a 100% pass rate for the most recent year for graduating students. Students practice entry-level competency and demonstrate ability to perform satisfactorily in any laboratory situation. Clinical practicum evaluations indicate students accurately judge the variability of laboratory tests, apply basic scientific principles in learn new techniques and procedures and exhibit sound professional judgement in delivering and evaluating patient information along with the ability to establish professional relationships with patients and other healthcare team members.



## COMPREHENSIVE ACADEMIC PROGRAM REVIEW

If available, provide additional information and/or results of other indicators of quality related to student output such as completer satisfaction surveys, employer satisfaction surveys, stakeholder satisfaction surveys, completion and continuation rates, attrition rates, starting salaries of graduates, etc.

### MLT Program Employer Survey Summary 2015-2019:

Graduation Year	Employer Survey Evaluation Overall satisfaction average	Benchmark: 75%
2015	4.8/5 (96%)	Met
2016	4.2/5.0 (84%)	Met
2017	4.6/5.0 (93%)	Met
2018	4.9/5.0 (97%)	Met
2019	4.8/5.0 (96%)	Met

### Graduation Rates:

Year	# Of Students (Midpoint)	# Students Graduated	% Graduation Rate
2014-15	7	7	100%
2015-16	11	11	100%
2016-17	8	8	100%
2017-18	7	7	100%
2018-19	7	7	100%
2019-20	8	8	100%



## COMPREHENSIVE ACADEMIC PROGRAM REVIEW

### Certification Rates:

Year	# Of Graduates	# Graduates Taking certification exam	% Certification Pass Rate (1 <sup>st</sup> time test taker)	% Certification Pass Rate (2 <sup>nd</sup> time test taker)
2014-15	7	7	100%	NA
2015-16	11	11	88%	100%
2016-17	8	8	92.3%	100%
2017-18	7	7	100%	NA
2018-19	7	7	100%	NA
2019-20	8	8	100%	NA

### Job Placement Rates:

Year	# Of Graduates	# Employed in Field	% Job Placement Rate
2014-15	11	11	100%
2015-16	8	8	100%
2016-17	7	7	100%
2017-18	7	7	100%
2018-19	7	7	100%
2019-20	7	7	100%





## COMPREHENSIVE ACADEMIC PROGRAM REVIEW

Describe efforts undertaken to achieve and maintain curricular alignment within the program and currency to the discipline.

The field is changing in that it is moving toward the area of molecular study and DNA diagnosis in the lab. Our courses and clinical training which students take, and we teach, such as Clinical Chemistry, Immunology, and Clinical Microbiology have included the areas of change of molecular study and DNA analysis. The faculty of the MLT program are ASCP certified Medical Laboratory Scientists. As part of the certification, certified medical laboratory scientists must obtain continuing education units to maintain certification. Therefore, the faculty is continuously gaining education and updates in the area of clinical laboratory science. Students are knowledgeable and trained in these areas of molecular study and DNA analysis through course work and clinical practicum. The faculty are always in communication with the area hospitals through e-mail, site visits, and advisory board meetings to evaluate the area needs and students. Also, annually the MLT program sends employee and program evaluations annually to the various area hospitals for their feedback on satisfaction and improvements.

Our instructors are required to attend and obtain a minimum number of 32 C.E.U. (continuing education units) over three years to retain their certification by ASCP. The C.E.U.s are obtained through the attendance at conferences, workshops, and teleconferences in the various areas and subjects within the clinical laboratory field.

## Summary

### Quick Facts: Clinical Laboratory Technologists and Technicians

<b>2019 Median Pay</b>	\$53,120 per year \$25.54 per hour
<b>Typical Entry-Level Education</b>	Bachelor's degree
<b>Work Experience in a Related Occupation</b>	None
<b>On-the-job Training</b>	None
<b>Number of Jobs, 2019</b>	337,800
<b>Job Outlook, 2019-29</b>	7% (Faster than average)
<b>Employment Change, 2019-29</b>	24,700



## COMPREHENSIVE ACADEMIC PROGRAM REVIEW

### **What Clinical Laboratory Technologists and Technicians Do**

Clinical laboratory technologists and technicians collect samples and perform tests to analyze body fluids, tissue, and other substances.

### **Work Environment**

Many clinical laboratory technologists and technicians work in hospitals. Others work in medical and diagnostic laboratories or doctors' offices.

### **How to Become a Clinical Laboratory Technologist or Technician**

Clinical laboratory technologists typically need a bachelor's degree. Technicians usually need an associate degree or a postsecondary certificate. Some states require technologists and technicians to be licensed.

### **Pay**

The median annual wage for clinical laboratory technologists and technicians was \$53,120 in May 2019.

### **Job Outlook**

Overall employment of clinical laboratory technologists and technicians is projected to grow 7% from 2019 to 2029, faster than the average for all occupations. An increase in the aging population is expected to lead to a greater need to diagnose medical conditions, such as cancer or type 2 diabetes, through laboratory procedures.

Bureau of Labor Statistics, U.S. Department of Labor, *Occupational Outlook Handbook*, Clinical Laboratory Technologists and Technicians,

at <https://www.bls.gov/ooh/healthcare/clinical-laboratory-technologists-and-technicians.htm> (visited *October 05, 2021*).

### **Indicators of Measures of Viability**

<b>Internal Demand for the Program</b>	<b>Fall 2016</b>	<b>Fall 2017</b>	<b>Fall 2018</b>	<b>Fall 2019</b>	<b>Fall 2020</b>	<b>% Change</b>
Number of students enrolled in the degree program	13	11	6	8	14	7.7%
Number of students who applied to the program (if applicable)						
Number of students admitted to the program (if applicable)	13	11	6	8	14	7.7%
Percent of classes taught by full-time faculty	50%	50%	50%	100%	100%	100%

Describe additional details as deemed appropriate.



## COMPREHENSIVE ACADEMIC PROGRAM REVIEW

### ***Indicators of Measures of Productivity***

Graduation	2015-16	2016-17	2017-18	2018-19	2019-20	% Change
Number of degrees conferred	13	11	6	8	14	7.7%
Total student credit hours earned	91.07	114	97	112	85	-6.6%

Describe any institutional-specific factors impacting time to degree.

The class size and credit hours have remained consistent through the 2015-2020 review years. The number of degrees has increased a bit. The program is reaching out to the community, high school graduates, and the DSC biology majors and courses to recruit more students into the program. In addition, with the recent COVID pandemic, our program has seen less student interest in entering the clinical laboratory field. For example, the Fall 2020 cohort class accepted ten students to start that semester, but only 4 students began due to job changes, family responsibilities, and fear of the COVID virus.

### ***Evidence of Program Viability***

Based on evidence from **ALL the above** information, data, and analysis, discuss whether continued resources should be devoted to this program. This discussion must be evidence-based. Your comments should consider external factors and address questions such as the following: Are your students getting jobs? What is the job outlook for graduates? Are students prepared for the jobs they get? How is the field changing? Are program faculty members in contact with employers and getting back feedback on graduates' job performance? Do employers state or suggest a need for changes in the program?

Based on enrollment history, retention rates, degree completion/graduation rates, and other program outcomes, there should be continued resources devoted to this program. There has been a steady influx of students and graduation rates between 2015-2020 with a graduation rate of six to fourteen students per year since 2015. Students graduating from the MLT program have 100% job placement if they choose to obtain employment. Some have chosen to continue their education and/or work. Eighty-five percent of our students are employed in the tri-state area.

The field is changing in that it is moving toward the area of molecular study and DNA diagnosis in the lab. Our courses and clinical training which the students take, and we teach, such as Clinical Chemistry, Immunology and Clinical Microbiology have included these areas of change, and students are knowledgeable and trained in these areas. The faculty are always in communication with the area hospitals through e-mail, site visits, and advisory board meetings to evaluate the area needs and students. Also, annually, the MLT program sends employee and program evaluations to the various area hospitals for their feedback on satisfaction and improvements. We are always striving to improve the program with new equipment and supplies that are comparable to the work environment that the students will be entering into after graduation.

See attached letters: presented at the end of report.





## COMPREHENSIVE ACADEMIC PROGRAM REVIEW

The MLT program is a successful program. The job outlook is very promising. Our students have no problem finding jobs in the tri-state area or nationwide. Based on graduate surveys, the MLT program has had 100% job placement for the review years. Our students generally have job offers before completing the program and graduating. The program is in continuous contact with students both personally and via surveys, to gain feedback regarding the program. Employers appear to be very satisfied with the students that graduate and employed by area hospitals and clinical laboratory facilities based on surveys and private discussions. The MLT program also has an advisory board that meets twice a year for input regarding the MLT program to gain input for the various facilities that our students attend. The various hospitals are very supportive of the MLT program and the students that graduate. Our graduation rates, job placement and certification exam rates are excellent. Student enrollment has declined in the last few years. As a program, we are exploring ways to recruit students for the program. Recruitment activities include attending high school career fairs, college career fairs, community career fairs, and talking with the Dalton State College science department to distribute information about the MLT program. There is growing need for Medical Laboratory Technologists.

(Job Outlook: Employment of clinical laboratory technologists and technicians is projected to grow 11 percent from 2020 to 2030, faster than the average for all occupations.

About 25,900 openings for clinical laboratory technologists and technicians are projected each year, on average, over the decade. Many of those openings are expected to result from the need to replace workers who transfer to different occupations or exit the labor force, such as to retire.

( Bureau of Labor Statistics, U.S. Department of Labor, *Occupational Outlook Handbook*, Clinical Laboratory Technologists and Technicians, at <https://www.bls.gov/ooh/healthcare/clinical-laboratory-technologists-and-technicians.htm> (visited October 05, 2021).





## COMPREHENSIVE ACADEMIC PROGRAM REVIEW

### ***Program Strengths and Weaknesses***

#### **Strengths:**

A strength of the MLT program is, prior to Fall 2014, students could enter the MLT program any semester. Starting with Fall 2014, cohorts were added and students started once a year. The cohort format has increased the number of students graduating at one time. Since the change of the cohort class structure, the class numbers have been consistent with a steady graduation rate.

The program continues to produce high pass rates for the ASCP certification test and continues to have high employment rates and high satisfaction rates with current and former employers. The program has maintained NAACLS accreditation with a maximum ten year award at the last site visit and accreditation time frame. All students graduating take and pass the ASCP certification registry with a pass rate above the national average. Dalton State College's MLT program is the only program in the North Georgia area, and we serve the tri-state area of Tennessee, Georgia, and Alabama.

There has been an increase in the number of students entering the MLT program that already have B.S. degrees in biology, chemistry, and microbiology due to the inability of B.S. degree graduates to obtain jobs. Because of this increase in such students entering the program, our program is benefitting by having better prepared students enrolling in and graduating from the MLT program. Job security is strong at this time and is predicted to only increase over time, especially for those individuals that have B.S. degrees.

#### **Weaknesses and concerns:**

A weakness that has been identified because of the change to a cohort student population is that some students are not able to attend college on a full-time basis due to employment and family obligations. Thus, the program may lose students that potentially could be successful in the MLT clinical field but are unable to attend the program on a full-time basis. Another weakness identified is the lack of supplies (consumables) and instruments to demonstrate laboratory exercise and allow students to observe and work on instruments that they will see once they enter the clinical field as students and eventually as employees. With the increase in the number of students in the cohort population, the need for supplies and instruments will only be greater. As a program we are working on obtaining supplies through donations, benefactors, and end-of-year funds which have helped the program tremendously.

### ***Recommendations for Follow-Up and/or Action Plans (if needed)***

#### **Issue/Concern:**

There are always concerns for supplies in the MLT and Phlebotomy program when there are budget cuts and changes in the community (i.e., COVID). The program is striving to maintain the student needs and training; and through donations from hospitals and private donations, we are able to maintain a high-level of instruction and training of the MLT students.



## COMPREHENSIVE ACADEMIC PROGRAM REVIEW

Specific action(s):

Request that the program budget be supported by the college. The MLT program has requested many items over the years that have been purchased either by budgeted funds or year-end funding. For the 2020-21 year end "wish list" the following items have been requested to support the continued development of skills needed by the MLT graduate.

- Human blood smear slides – development: Wards Scientific -5-\$11 each, \$55
- Human blood smear slides: Fisher Scientific \$205, qty 1, \$205
- Thermo Scientific Finnpiquette (0.5 - 5 mL), Fisher Scientific: \$494-2qty; \$988
- Pathogenic slide set: Flinn Scientific: \$183.00, 1qty, \$183
- Life/form replacement skin & vein kit: MLT/PHLE, AED Superstore: \$149.00, 3qty, \$447

Expected outcomes:

Budgeted support for the supplies and needs for the program to better prepare the graduates and to be less dependent on donations.

Time frame for achievement:

Yearly

Person(s) responsible:

Program Director: Tyra D. Stalling, M.S.H.S., MLS (ASCP)  
 Educational Coordinator: Marcella Armenta M.S., MLS (ASCP)

Resources needed:

Budget support for the supplies (especially consumables) and equipment for the Program.

Qty	Item	Price	total
6	ORT 719100 Surgiscreen 3x10ml	\$325.34	\$ 1952.04
6	ORT 719210 Affirmagen 2x10ml	\$130.13	\$ 780.78
3	ORT 719510 Resolve Panel A 11x3ml	\$482.01	\$ 1446.03
3	ORT 719520 Resolve Panel B 11X3ml	\$482.01	\$ 1446.03
6	ORT 719810 Coombs Control 1x10ml	\$139.56	\$ 837.36
6	ORT 1828		



## COMPREHENSIVE ACADEMIC PROGRAM REVIEW

6 ALBUMIN BOVINE 22% 10ML 46.84 281.04 Total: \$6,743.28

Ward's® Simulating Urinalysis Kit

Simulation of HIV Detection by ELISA

Genes in a Tub1

Alcohol pads	\$ 42.41	\$ 42.41
Band-aids	\$ 95.55	\$ 95.55
Lancets	\$ 46.97	\$ 46.97
Needles	\$ 282.39	\$ 282.39
12X75 Tubes	\$ 59.61	\$ 59.61
Pbt. Sharps cont.	\$ 277.47	\$ 277.47
0.85% Saline	\$ 36.25	\$ 36.25
latex free tourniquet	\$ 14.35	\$ 14.35
Electronic scale	\$ 109.15	\$ 109.15
2X2 sponge gauze	\$ 27.36	\$ 27.36
Eclipse needles	\$ 283.88	\$ 283.88
1-5 ml pipet tips	\$ 49.03	\$ 49.03

Example of items purchased:

Qty

2 case	14-961-27	13X100 tubes
5bx-20	221239BD	TRYP SOY W 5% BLD plates
2 sleeves/pks	221838BD	Bile Esculin plates
2	221366	Hektoen-enteric plates
2	221181	Salmonella-Shigella plates
2	221509	Motility Agar
2	R065212	Urea Agar
2	221192	XLD agar
2	221954 10	Heamphilus ID plts
1	381370	Bandaides
2	221173	MS media plates
1 bx	C7592-100	Data trol control
2	221172	MAC media
2	221170	EMB media
1	221169	Choc plates



## COMPREHENSIVE ACADEMIC PROGRAM REVIEW

2	0T928-576	Pointe Scientific Total Protein Rgt
2	OMAG2-50	Magnesium reagent
1	1245-250	Total Bilirubin rgt
1 pk	22-544-232	Lueko Chek WBC/PLT
1	TR 70121-1	AST/COT reagent
2	TR12421	BUN reagent
1	DR0700M	Strep Grp test kit
1	21144	Staphlatex
1	R08342	DNase test agar
1	221637	CTA Maltose
1	05511	Kimtech-wipes
1 cs	10041	Med Lab coats
1 bx	047	2 Gal Sharps containers
1 bx	TR 35121	Creatinine reagent
1 bx	TR 15421-1	Glucose reagent
2 bx	1778	Nutrient Broth
1 bx	R061302	LIA agar
1 bx	RO64852	TSI agar
1 kit	R62031	Strep B test kit
1 case	53102	1 Med gloves
2 bx	26553	21X1.5 Needles

Prepared by:

Signature

*Jane J. Kelly MSAS, MSc (ASCP)*

Date: 09/20/2021

Dean's Approval

Signature:

*Guion M. Kertulis-Jantar*

Date: 11/21/2021

Approval of the Chair of the DSC Comprehensive Program Review Committee:

Signature:

*Walter D. Adams*

Date: 1/3/2022





## COMPREHENSIVE ACADEMIC PROGRAM REVIEW

### Vice President of Academic Affairs (VPAA) Categorical Summation:

Check any of the following to categorically describe action(s) the institution will take concerning this program.

Program **MEETS** Institution's Criteria

Program is critical to the institutional mission and will be retained.

Program is critical to the institutional mission and is growing, or a high demand field, and thus will be enhanced.

Program **DOES NOT MEET** Institution's Criteria for continuation.

Program will be placed on monitoring status.

Program will undergo substantive curricular revisions.

Program will be deactivated.

Program will be voluntarily terminated.

Other (Please elaborate):

VPAA Signature: \_\_\_\_\_

Date: \_\_\_\_\_

01/03/22

Bruno Hicks, Ed.D.

Provost and Vice President for Academic Affairs

Dalton State College