SEMINOLE STATE COLLEGE

ASSOCIATE IN APPLIED SCIENCE FOR MEDICAL LABORATORY TECHNOLOGY(108)

Program Review Summary

October 1, 2015

Introduction

The mission of Seminole State College is to empower people for academic success, personal development, and lifelong learning. To that end, the College offers twenty-three degree/ certificate programs, including the Associate in Applied Science for Medical Laboratory Technology. In accordance with requirements set forth by the Oklahoma State Regents for Higher Education, the College conducts a thorough review of this degree program every five years. The Nursing and Health Science Division presents here the results of its self-review of the Associate in Applied Science for Medical Laboratory Technology.

Assessment of this degree program employed a number of direct and indirect indicators. The focus of this process was to evaluate degree program productivity and the achievement of specific degree program and general education outcomes by students. Additionally, this review relates these findings to a number of relevant Higher Learning Commission Criteria and Components, the Seminole State 2013-14 Academic Plan and the educational mission of the College. Based on the information presented here, the academic division makes recommendations regarding the degree program.

3.7.5 Process (Internal/External Review): Self-review by academic division
Previous Reviews and Actions from those reviews: In the previous review, recommendations addressed issues related to curricular changes, need for additional clinical training sites, decrease in declared majors, and increasing awareness and enrollment in the program. The Program Director implemented curriculum changes to strengthen certification outcomes, explored alternate clinical training sites, increased recruiting activities both on and off campus.

Analysis and Assessment (including quantitative and qualitative measures) noting key findings from internal or external reviews and including developments since the last review:

Analysis and Assessment Abstract

Assessment of this Degree Program derives from a culmination of direct and indirect evaluation measures. The Medical Laboratory Technology (MLT) program is accredited by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS). The requirements for NAACLS accreditation include the submission of a program self-study and site visit during each re-accreditation period. The latest self-study was submitted in April 2014 and specific assessment methods were evaluated in four main areas—Sponsorship, Resources, Curriculum, and Program Evaluation—supported by 22 focus areas. After NAACLS review of the self-study, the site visit was conducted in September 2014. The program received exceptional ratings and received the maximum 7-year reaccreditation.

Analysis of degree program productivity revealed that the program averaged about 10 students being

admitted into the program per year with over a 90% graduation rate. Employment rates for graduates of this program are 100%. Other direct indicators of program productivity include external certification of graduates through the American Society for Clinical Pathology (ASCP) Board of Certification (BOC). In the past 5 years students passing the exam on the first attempt has risen due in part to the curricular changes during the last review process.

Key findings from the most current evaluation of the Associate in Applied Science for Medical Laboratory Technology

Faculty in the MLT Program discovered graduates were waiting on average of 11 months to take the certification exam. A plan was developed to decrease the time from graduation to certification. Faculty continues to develop plans and activities to increase awareness of the field of laboratory medicine and about the MLT program. Networking to add hospital clinical sites is ongoing.

A. Centrality of the Program to the Institution's Mission:

SSC Mission Statement

Seminole State College empowers people for academic success, personal development, and lifelong learning.

The Associate in Applied Science for Medical Laboratory Technology Degree Program:
Empowers people for academic success by preparing students for a career as certified Medical Laboratory Technician (MLT) and recognize his/her role in the health care team, his/her limitations, and to accept appropriate supervision so that the goals of the laboratory health care team can be met.
Empowers people for personal development by providing academic and clinical experiences that will enable prospective to become proficient in the performance of routine laboratory procedures and develop characteristics necessary to interact with his/her coworkers on a professional level.
Empowers people for life-long learning by providing a environment to instill a desire to participate in further educational activities and to develop further skill and expertise.

Seminole State College prepares students to continue their education beyond the two-year level, trains students for careers and other educational opportunities, and makes available resources and services designed to benefit students and the community at large. Seminole State College also enhances the capabilities of individuals to achieve their goals for personal development by providing quality learning experiences and services that respond to diverse individual and community needs in a changing global society.

B. Vitality of the Program:

B.1.Program Objectives and Goals:

Associate in Applied Science for Medical Laboratory Technology Degree Program Outcomes

The Medical Laboratory Technology Program at Seminole State College was founded in 1979 to provide certified healthcare workers for hospital and clinical laboratories in Oklahoma, by providing an academically accredited program of study with nationally certified, dedicated and experienced faculty on campus and in clinical affiliates, and to maintain the high standards of professional integrity, ethics and continuing competency by interfacing with medical professionals on a local, state, and national basis.

Outcome 1: Provide academic and clinical experiences that will enable prospective medical laboratory technicians to become proficient in the performance of routine laboratory procedures under the supervision of a medical technologist and/or pathologist.

Outcome 2: Provide experiences that will help the student to recognize his/her role in the health care team, his/her limitations, and to accept appropriate supervision so that the goals of the laboratory health care team can be met.

Outcome 3:	Assist the student in developing those characteristics necessary to interact with his/her coworkers on a professional level.
Outcome 4:	Instill a desire to participate in further educational activities and to develop further skill and expertise.
Outcome 5:	Prepare the students so that those successfully completing the program will be successful in achieving professional certification status through a national certification examination.

B.2 Quality Indicators (including Higher Learning Commission issues):

The SSC Medical Laboratory Technology Program fulfills Higher Learning Commission Criteria by providing evidence of student learning, faculty engagement that encourages quality teaching, and effective assessment of the student learning process. The Seminole State College MLT Program has several methods to review effectiveness of the program.

The program participates in the NAACLS accreditation review process and the writing of the self-study document. The last self-study was completed in 2014. The program has participated in the NAACLS accreditation process since the conception of the program in 1979.

External certification outcome measures based on 2010-2015 Annual Program Performance Report summary.

Table 1.
The American Society for Clinical Pathology (ASCP)
Board of Certification (BOC)

ASCP BOC Exam Scores
External certification outcome measures based on MLT Graduating Class (2010-2015)
The information summarized in this table is by graduating class.

Year	# Graduates	# taking exam	Passed 1st attempt	Pass rate	Exam Score Program Mean	Exam Score National Mean
2010	6	6	4	67%	465	495
2011	10	9	6	67%	491	497
2012	8	8	7	67%	491	497
2013	9	7	5	71%	448	498
2014	12	11	10	91%	526	496
2015	13	3 (9 more are scheduled to take exam by Dec 2015)	3	100%	xxx	xxx

Mean Passing Score = 400

Other quality indicators include Program evaluation through; Degree Assessment process, MLT Advisory Committee, student evaluation of faculty, MLT Program graduate surveys, Employer Surveys, and student evaluation of clinical sites.

This process illustrates that the Medical Laboratory Technology Program fulfills academic priorities such as improving the assessment of student learning and striving for instructional quality as emphasized in the SSC Institutional Degree Completion and Academic Plans, 2012-2013 Outline.

B.3. Minimum Productivity Indicators:

The following table provides data for the Medical Laboratory Technology Degree Program. Report Date September 2015

Table 2. Medical Laboratory Technology Declared Majors and Graduates

Academic Year	Students accepted into program	Graduates	% graduation	% employed upon graduation
2009-2010	6	6	100	100
2010 - 2011	11	10	91	100
2011 - 2012	9	8	89	100
2012 – 2013	12	9	75	100
2013 - 2014	13	12	92	100
2014 - 2015	13	13	100	100

Analysis of Graduation and Placement Rates and their Use in Program Evaluation

In Table 2, the results show the program has shown a steady growth over the past 6 years. Approximately 10 students enter the program each year and over 90% of the students graduate. As a result of the decrease in retention rates during 2010-13, changes to the admission requirements for the MLT Program were made. The MLT Program faculty decided to remove the Nelson Denny reading test as a requirement and replace it with the ACT Reading sub score (minimum of 19). This new admission criteria has been in use since the spring of 2013. Changing the admission criteria has increased the quality of the students entering the program and the retention rate has been increasing since that change.

Employment of new graduates in the field is consistently high. Graduates of the MLT Program find jobs very quickly, often before they have completed their clinical rotation. Area employers call the Program Director for graduates, which is an indication of their satisfaction with the graduates. The demand for graduates has also resulted in an increase in the salaries. That, in turn, has created more applicants to the program.

B.4. Other Quantitative Measures:

a. Number of courses taught for the major program for each of the last five years and the size of classes:

Table 3. Number of Sections Taught and Enrollment for Each Course in Major Field of Degree Program

Prefix	Number	Major Field Course Title	Number of Sections	Total Students	Ave. Class Size	Credit Hours
MLT	1402	MLT Orientation	5	84	17	168
MLT	1412	Urinalysis/Body Fluids	5	58	12	116
MLT	1515	Hematology	5	58	12	290
MLT	1523	Instrumental Chemical Analysis	5	58	12	174
MLT	2101	MLT Capstone Seminar	5	58	12	58
MLT	2413	Hematology Clinical Practicum I	10	58	6	174
MLT	2423	Chemistry Clinical Practicum II	10	58	6	174
MLT	2433	Microbiology Clinical Practicum III	10	58	6	174
MLT	2443	Blood Banking Clinical Practicum IV	10	58	6	174
MLT	2455	Clinical Chemistry	5	58	12	290
MLT	2462	Mycology/Parasitology	5	58	12	116
MLT	2564	Clinical Microbiology	5	58	12	232
MLT	2434	Immunology/Blood Bank	5	58	12	232

b. Student credit hours by level generated in all major courses that make up the degree program for five years:

Table 4. Credit Hours Generated in Major Field Courses By Level

Academic Year	1000 Level Credit Hours Generated	2000 Level Credit Hours Generated
2014-15	168	364
2013-14	162	364
2012-13	156	336
2011-12	122	252
2010-11	140	308
Totals	748	1624

Note: Table 4 shows the credit hours generated by all the Major courses of the degree program for the given academic years.

c. Direct instructional costs for the program for the review period:

Instructional Costs:

The annual SSC budget report provided the total expenditures for the Medical Laboratory Technology department as shown in Table 5.

Table 5. Instructional Costs

Academic Year	2010-11	2011-12	2012-13	2013-14	2014-15
Instructional Cost	$170,540	$175,050	167,204	$124,500	$128,613

d. The number of credits and credit hours generated in the program that support the general education component and other major programs including certificates:

Courses required for the Medical Laboratory Technology Program degree support the General Education Philosophy of Seminole State College. Medical Laboratory Technology instructors make every effort to provide experiences that will equip students with the necessary skills to make informed decisions and encourage life-long learning. Please see Table 3 for a list of student credit hours generated in the major courses.

Table 6. Credit Hours Generated by Courses in Major Field of Degree Program That Are Part of General Education Requirements in Other Degree Programs

Major Field Course Information			
Prefix	**Number**	**Title**	**Credit Hours Generated**
n/a	n/a	n/a	n/a

All courses in the Medical Laboratory Technology Degree area at Seminole State College support one or more of the General Education Outcomes. As students successfully progress through the degree requirements for the Medical Laboratory Technology Program, they will eventually achieve all four General Education Outcomes. To illustrate this support of the General Education Outcomes Table 7 shows the Major Field courses for the Associate in Applied Science for Medical Laboratory Technology Degree Program and the General Education Outcomes each course addresses.

Table 7. All General Education Outcomes addressed by a specific course are marked with the letter "X."

Major Field Course Information

Prefix	Number	Title	General Education Outcome			
			1	2	3	4
MLT	1402	MLT Orientation	x	x	x	
MLT	1412	Urinalysis/Body Fluids	x	x		
MLT	1515	Hematology	x	x		
MLT	1523	Instrumental Chemical Analysis	x	x		x
MLT	2101	MLT Capstone Seminar	x	x	x	
MLT	2413	Hematology Clinical Practicum I	x	x	x	
MLT	2423	Chemistry Clinical Practicum II	x	x	x	
MLT	2433	Microbiology Clinical Practicum III	x	x	x	
MLT	2443	Blood Banking Clinical Practicum IV	x	x	x	
MLT	2455	Clinical Chemistry	x	x		
MLT	2462	Mycology/Parasitology	x	x		
MLT	2564	Clinical Microbiology	x	x		
MLT	2434	Immunology/Blood Bank	x	x		

e. A roster of faculty members, faculty credentials and faculty credential institution(s). Also include the number of full time equivalent faculty in the specialized courses within the curriculum:

Table 8. Current Mathematics/Science/Engineering Division Faculty

Full-Time Faculty			
Name	**Teaching Area**	**Highest Degree**	**Institution**
Browning, Malinda	Medical Laboratory Technology	M.P.H.	University of Oklahoma
Current Part-Time Faculty Teaching Medical Laboratory Technology Classes			
Hankal, Kelly	Medical Laboratory Technology	B.S.	East Central University

f. If available, information about employment or advanced studies of graduates of the program over the past five years:

NAACLS requires tracking of graduates for a period of 3 years. 100% of the graduates from the past 3 years are employed in the field. Approximately 25% of the graduates have or are pursuing a higher degree.

g. If available, information about the success of students from this program who have transferred to another institution:

Transfer Reports from Four-Year Institutions:

Not applicable.

B.5. Duplication and Demand:

B.5. Duplication and Demand Issues:

Review of Duplicated Programs

Seminole State College provides local access to students in our five county service area wishing to pursue the Medical Laboratory Technology Degree. There are 4 other Medical Laboratory Technology Degree Programs in the state of Oklahoma and none in our five county service area.

B.5.a. Detail demand from students, taking into account the profiles of applicants, enrollment, completion data, and occupational data:

The MLT Degree is a low to moderate demand program. Enrollment in the program is limited 12-15 students per year due to space, equipment and clinical sites. Profile of applicants from Fall 2010-15; 73% Female, 27% male; 79% white, 21% minority and 60% are between the ages of 20-30. Students are selected through an application process. Once the students enter the program, the graduation rate averages 90% and employment rate is 100%.

B.5.b. Detail demand for students produced by the program, taking into account employer demands, demands for skills of graduates, and job placement data:

There is a shortage of medical laboratory professionals across the nation. Students with an Associate in Applied Science in Medical Laboratory Technology degree are in high demand to fill vacancies in medical laboratories through out the state and across the U.S. All graduates (100%) of the MLT Program find jobs very quickly, often before they have completed their clinical rotation. Area employers call the Program Director for graduates, which is an indication of their satisfaction with the graduates.

B.5.c. Detail demand for services or intellectual property of the program, including demands in the form of grants, contracts, or consulting:

Not applicable to SSC.

B.5.d. Detail indirect demands in the form of faculty and student contributions to the cultural life and well-being of the community:

Although the one full-time faculty member commutes, the faculty participates in community activities such as United Way and local hospital volunteer activities. Students are encouraged to participate in the five county area communities served by SSC.

B.5.e. The process of program review should address meeting demands for the program through alternative forms of delivery. Detail how the program has met these demands:

With the advances in technology, faculty members have the opportunity to expand to several different forms of delivery. Although still experimenting with new methods, faculty members have found that hybrid or blended courses and IETV prove to be successful delivery methods for general courses. SSC also addresses the community need for a variety of course scheduling by offering night courses, weekend courses, 8-week courses, and courses at correctional facilities.

B.6. Effective Use of Resources:

Staff Support

The Nursing and Health Science Division has a full-time secretary who primarily supports the Division Chair, and secondarily supports the other functions of the division including purchasing, maintaining budgets and various records, and facilitating the various needs of the Nursing and Health Science faculty members.

Educational Technology Support

The infusion of technology into academic programs and processes currently receives priority implementation and funding at Seminole State College. Through this focus, the College creates a technologically enhanced academic environment focused on student learning. As a result, technology has never been a limiting factor in classroom instruction. Primary funding sources are E&G funds, federal grants, dedicated student fees, and private donations.

Seminole State College installed a wireless network with two control centers providing Internet and Seminole State College Intranet connectivity to campus academic and residential buildings. In addition to wireless connectivity, all classrooms are hard-wired for Internet and Seminole State College Intranet access. Students have access to personal email accounts, online enrollment, student records, and can obtain copies of their transcripts online. Students may use one of the computers in 16 computer labs stationed across campus to access these sites.

Technologically equipped classrooms have computer systems with current instructional and multimedia software, CD/DVD/VCR players, digital multimedia projectors and a Smart Board. Classrooms equipped for IETV have full-motion video/audio interactive television technology interfaced with fiber optic transmission equipment and a computerized multimedia projection system for OneNet course sharing. Faculty members use the internet for instructional activities and information research in courses throughout the curriculum.

Technological services provided by the Testing Center include computerized Advanced Placement testing, class placement testing, ACT residual testing, telecourse testing, and technologically-aided ADA appropriate testing for students with special needs.

Instructional Technology Support Services

Maintaining all forms of technology used in instruction requires a qualified support team. Seminole State College has just such a team made up of the MIS director and two tech persons. They are responsible for maintaining all campus technology such as computers, Smart Boards, IETV equipment, and keeping the campus Intranet and Internet operable in all offices and classrooms.

Web-based Support Services

Campus Cruiser is available to instructors for course management and not just for online course delivery. Through Campus Connect, instructors report student grades electronically, receive emergency response, and make announcements.

Institutional Program Recommendations: (describe detailed recommendations for the program as a result of this thorough review and how these recommendations will be implemented, as well as the timeline for key elements)

Table 9

Recommendation	Implementation Plan	Target Date
Increase awareness about the field of laboratory medicine and the MLT program.	MLT faculty plan to increase awareness of the field of laboratory medicine and the MLT Program through increased contact between faculty, SSC students enrolled in Freshman Seminar and Science classes. Use MLT brochures, MLT faculty, MLT graduates and SSC recruiters to raise awareness about the profession and program through area high schools, career fairs and Vo Tech health programs.	On-going
Expand professional networks to facilitate the use of additional clinical sites for student training.	MLT faculty will continue to explore opportunities for additional clinical sites to complete student training.	On-going
Increase student awareness of availability and advantages of continuing their education with a four-year degree in Medical Laboratory Science (MLS).	MLT faculty continues to support the collaboration with the MLS program at Northeastern State University.	On-going

Summary of Recommendations:

	Department	School/College	Institutional
Possible Recommendations:			
Expand program (# of students)			
Maintain program at current level	Recommend maintaining the program at the current level.		
Reduce program in size or scope			
Reorganize program			
Suspend program			
Delete program			

Department/
Program Head______________________________ Date__09/24/2015_____
(Signature)

Dean_____ Date_____
(Signature)