

Medical Laboratory Technology



2018 Program Manual



Table of Contents

INTRODUCTION	3
DESCRIPTION OF PROGRAM	4
PROGRAM GOALS	5
PROGRAM COMPETENCIES AND MISSION STATEMENT	6
PROGRAM OUTCOME MEASURES	7
ADMISSION CRITERIA	7
ESSENTIAL FUNCTIONS	8
REQUIRED CLINICAL DOCUMENTATION	10
CLINICAL PRACTICUM	12
ATTENDANCE	14
EVALUATION SYSTEM	15
TESTING PROCEDURE	16
PROGRAM PROGRESSION	17
PROFESSIONAL ETHICS	18
CONFIDENTIALITY	22
LABORATORY SAFETY	25
DISMISSAL AND READMISSION	29
STUDENT EXPENSES	31
CLUBS, ACTIVITIES, HONORS AND AWARDS	32
STUDENT SUCCESS	33
APPENDIX A: LABORATORY SKILLS EVALUATION	
APPENDIX B: MLT INDIVIDUAL GRADUATION PLAN	
APPENDIX C: SCC LIBRARY REFERENCES	



INTRODUCTION

Welcome, MLT Freshmen and Sophomore students! The faculty and clinical instructors are excited about starting the class of 2020 as the class of 2018 completes their clinical practicum. We believe the coming year will be a successful experience for everyone.

This manual is intended to provide MLT students with basic information and policies used in the classroom, campus lab and clinical setting. The policies were designed by the MLT faculty and are in accordance with the Southeastern Community College (SCC) catalog, the SCC Student Handbook and SCC Allied Health policies. The manual, SCC catalog and Student Handbook should be used by students to have full knowledge of all college policies. The catalog and handbook are provided to SCC students on SCC's website (<http://www.sccnc.edu>). Students are encouraged to review these policy manuals often throughout the year.

The information and policies in this manual are designed to meet regulations adopted by the North Carolina Community College System (NCCCS), the Southern Association of Colleges and Schools (SACS) and the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS). These regulatory agencies prescribe standards which affect faculty, curricula, facilities, resources and students. SCC's MLT program was approved by NCCCS in January, 1994. The program is accredited by NAACLS (address: 5600 N. River Road, Suite 720, Chicago, IL, 60018; phone: 773-714-8880).

Southeastern Community College is committed to a policy of equal opportunity to all students and employees without regard to race, color, sex, age, handicap, religion, national origin, political affiliation or belief. All the programs, activities, rights and privileges generally accorded or made available to students are provided on a non-discriminatory basis.

It is the desire of the program faculty to prepare students who not only meet but exceed the expectations of area employers who are the ultimate judge of the program's effectiveness.



DESCRIPTION OF PROGRAM

The purpose of the MLT program is to prepare individuals to perform clinical laboratory procedures in chemistry, hematology, microbiology, and immunohematology that may be used in the maintenance of health and diagnosis/treatment of disease.

The program consists of four semesters of didactic and campus lab study followed by one semester of clinical practice at an affiliate hospital. Courses are designed to promote student progression through the levels of the clinical laboratory toward a level consistent with an entry-level technician. Course descriptions are listed in the SCC catalog and course syllabi.

Upon successful completion of the MLT curriculum, the student will graduate with an Associate in Applied Science degree from the college. The student is then eligible to take a national certification exam such as the American Society of Clinical Pathologist (ASCP). Graduation from the program is not contingent upon the student's performance on national certification exams. Students are made aware of employment opportunities through program faculty, professional journals and SCC's JobLink service.

Graduates are encouraged to pursue a Bachelor of Science (BS) degree in the profession. While there are several options, most graduates from the program have chosen the online MLS program through Winston Salem State University (WSSU). WSSU accepts the general education and MLT courses from SCC's MLT curriculum. Students who enter MLT who already have a BS degree in a laboratory science may challenge ASCP's MLS certification exam after completing 2 years of work experience as a certified MLT.

The Medical Laboratory faculty consist of Dawn Williamson, MSHS, MT(ASCP), who is also the program director, and Kim McPherson, MLT(ASCP). Tanya Bellamy, MLT(ASCP), MESH, is the primary phlebotomy instructor, but also assists in the MLT courses. The faculty, along with Al West, MSN, Director of Nursing and Allied Health, are responsible for program content and effectiveness. Input from the medical laboratory community is received through the Medical Laboratory Advisory Board which meets with faculty annually to advise faculty in the areas of clinical instruction, student evaluation and program policies. The Advisory Board is composed of medical laboratory professionals who practice in the southeastern North Carolina and northeastern South Carolina region.

PROGRAM GOALS

1. To require graduates to develop skills in
 1. Fundamentals in Computing (CIS 70)
 2. Reading and Writing (DRE 96-98)
 3. Mathematics and Algebra (DMA 10-65)
 4. College success (ACA 122)
 5. Expository writing (ENG 111)
 6. Writing and Research in the Discipline (ENG 112)
 7. Basic anatomy and physiology (BIO 163)
 8. Chemistry (CHM 151/152)
 9. Introduction to Medical Laboratory Technology (MLT 110)
 10. Urinalysis and Body Fluids (MLT 111)
 11. Hematology/Hemostasis I (MLT 120)
 12. Immunology and Serology (MLT 126)
 13. Transfusion Medicine (MLT 127)
 14. Professional Issues (MLT 215)
 15. Pathophysiology (BIO 271)
 16. Clinical Chemistry (MLT 130)
 17. Hematology/Hemostasis II (MLT 220)
 18. Introduction to Microbiology (MLT 140)
 19. Special Clinical Microbiology (MLT 240)
 20. MLT Clinical Practice (MLT 283)
2. To require graduates to demonstrate competency in
 1. Introduction to Ethics (PHI 240)
 2. General Psychology (PSY 150)
3. To meet and/or exceed NCCCS performance standards, the program will achieve:
 - a. An aggregate institutional passing rate of 80% for all first-time takers of licensure/certification examinations, plus no passing rate falling below 70% for any single examination
 - b. 85% of employers report being satisfied with preparation of graduates
 - c. 90% of graduates will be employed within 1 year
 - d. An average of 10 students enrolled in the program over a three-year period
 - e. 85% of the combined respondents will report being satisfied with quality of college's programs and services
 - f. 90% of program completers will report goal completion
 - g. 80% of the defined cohort will graduate, be retained, or report goal completion.



PROGRAM COMPETENCIES

Upon completion of the program, the student should be able to demonstrate entry level competency in the following areas:

1. Collecting and processing biological specimens for analysis.
2. Performing analytical tests on body fluids, cells and products.
3. Recognizing factors that affect procedures and results, and take appropriate actions within predetermined limits when corrections are indicated.
4. Performing and monitoring quality control within predetermined limits.
5. Performing preventive and corrective maintenance of equipment and instruments or referring to appropriate source for repairs.
6. Applying the principles of safety.
7. Demonstrating professional conduct and interpersonal communication skills with patients, laboratory personnel, other health care professionals and with the public.
8. Recognizing the responsibilities of other laboratory and health care personnel and interacting with them with respect for their jobs and patient care.
9. Applying basic scientific principles in learning new techniques and procedures.
10. Relating laboratory findings to common disease processes.
11. Recognizing and acting upon the need for continuing education as a function of growth and maintenance of professional competence.

PROGRAM MISSION STATEMENT

In keeping with the mission of the college, the MLT program seeks to serve the community by providing didactic, campus laboratory and clinical practicum learning experiences that prepare individuals to analyze blood and body fluid specimens for the generation of laboratory data for health maintenance and the diagnosis of disease. Graduates qualify for entry level employment and to take a national certification exam.



PROGRAM OUTCOME MEASURES

Strategic planning is utilized to provide continuous, systematic assessment of program quality. Strategic planning identifies objectives, activities and outcome measures and are used by program faculty to achieve maximum effectiveness. NAACLS benchmarks are used in MLT program evaluation.

Three outcome measures consistently monitored are graduation rate, certification exam pass rate and employment rate. The graduation rate, as defined by NAACLS, is the percentage of students who graduated based on the number of students who began the final half of the program. During the last 3 years, the graduation rate has averaged 98%. Since the programs' inception in 1995, most years the certification exam pass rate is 100%. For the last 4 years, the pass rate has been 100%. Most years, 100% of students find jobs within 6 months of graduation. For the last 3 years, 96% of graduates acquired jobs within 6 months.

ADMISSION CRITERIA

Admission into the MLT program is based on successful completion ("C" grade or better) of prerequisite courses. MLT prerequisite courses MLT 110 (within 1 year of program entry), BIO 163 (within 10 years of program entry), DMA 10-65 (within 3 years of program entry) and ACA 122 are offered every spring semester. Students in the MLT program should take courses in the sequence specified in the curriculum master plan. Students are encouraged to complete as many general education courses as possible ahead of fall admission.

MLT labs can accommodate a maximum of 12 students per section. In the event that more than 12 students desire to take a MLT course and there is an insufficient number of students to justify another lab section, 2 MLT faculty will teach the lab sections.

Transfer students must successfully complete prerequisite courses and present current program documentation. The transferability of general education courses is determined by the Dean of College Transfer. Students desiring to transfer from another MLT program must three requirements: (1) have been enrolled in an equivalent, NAACLS-accredited, MLT program within one year, (2) have at least a "C" in MLT/BIO/CHM courses, (3) provide a letter from the previous Program Director verifying the student's good standing in MLT theory and laboratory performance and clinical practice.

ESSENTIAL FUNCTIONS

Professionals in the medical laboratory require the performance of essential functions in order to provide safe care, generate accurate data and communicate effectively to patients and other health care personnel. To effectively train future medical laboratory professionals, the performance of these functions is incorporated throughout the program. Faculty and students are required to demonstrate proficiency of these functions in the campus lab and clinical practicum. The essential functions include:

1. **Critical Thinking:** critical thinking ability sufficient for clinical judgement. For example, students must be able to identify cause-effect relationships in clinical situations; research and analyze data to aid in problem-solving; read and comprehend text, numbers and graphs displayed in print and on a video monitor.
2. **Interpersonal Skills:** interpersonal abilities sufficient to interact with individuals, families, groups, etc. from a variety of social, emotional, cultural and intellectual backgrounds. For example, students must establish rapport with patients and health care team members.
3. **Communication Skills:** communication abilities sufficient for interaction with others in verbal and written form. For example, students will explain specimen collection procedures, communicate with faculty members, fellow students, staff and other health care professionals verbally and in a recorded format (writing, typing, graphics and tele/communication)
4. **Mobility:** physical abilities sufficient to move from room to room and maneuver in small spaces, stand and walk for extensive periods of time. For example, move around in a patient's room, reach patients lying in a hospital bed and move close to benchtop clinical instruments such as a microscope.
5. **Motor Skills:** gross and fine motor abilities sufficient to perform test procedures accurately. For example, students will make fine adjustments to hand-held objects, handle contaminated needles safely and move twenty-pound instruments from one area to another.
6. **Hearing:** auditory ability sufficient to monitor equipment and access health needs. For example, students will hear monitor alarms, public address pages and cries for help.



7. Visual: visual ability sufficient for observation and assessment necessary in the performance of laboratory procedures. For example, students will observe specimen and reaction colors and turbidity and observe patient responses.
8. Tactile: tactile ability sufficient for collecting blood specimens. For example, student will palpate the skin.
9. Weight-bearing: ability to lift and manipulate/move a twenty-pound instrument or box of supplies from one area to another.
10. Cognitive: ability to be oriented to time, place and person, organize responsibilities and make decisions. For example, students will organize and prioritize routine and emergency analyses.

Southeastern Community College is an ADA-compliant institution. The college does not discriminate on the basis of disability in admission or access to its programs, services or activities for qualified individuals who meet essential eligibility requirements. The college will provide reasonable accommodations for documented disabilities of individuals who are eligible to receive or participate in college programs, services or activities. Student Development Services provides a disability counselor to assist students in requesting disability-related accommodations. If a student believes that he/she cannot meet one or more of the essential functions without accommodations, the student should make this requirement known to the ADA counselor in Student Services as soon as possible. Students must certify the ability to meet essential functions of the MLT profession by a signed statement in the beginning of the program.



REQUIRED CLINICAL DOCUMENTATION

Specific clinical documentation is required of all allied health students to ensure the safety of students and patients and to satisfy the contractual agreement between the college and the clinical affiliates. This documentation includes current medical records, OSHA training, CPR certification, criminal background, drug screen and malpractice insurance. Freshmen students must submit required documentation by the first fall semester. Sophomore students must update the TB skin test and flu vaccination, purchase malpractice insurance and attend OSHA training in the second fall semester. If a student fails to submit required documentation by a specified date, the student will not be allowed to take subsequent lecture tests until the documentation is received. A student who does not comply with clinical requirements cannot meet course objectives, will fail the course and will be withdrawn from the program.

Current medical records documentation is required to diminish the risk of infectious disease to patients in the clinical area and to MLT students in the campus and clinical laboratories. Medical records consist of immunizations and a physical exam. Immunizations must be current at the time of admission into the program and updated as necessary throughout the length of the program. Since health care workers are considered high risk for contracting work-related hepatitis B infection, the Center for Disease Control highly recommends the HBV vaccine. A student who is pregnant or plans to be pregnant within three months should consult her obstetrician before receiving immunizations. Current immunizations for health care workers defined by the N.C. Department of Public Health and Center for Disease Control are:

1. Three doses of DPT vaccine (tetanus/diphtheria within 10 years)
2. Polio vaccine
3. Two MMR vaccines (one if born before 1957)
4. Annual influenza vaccine
5. Three doses of HBV vaccine (recommended)
6. Annual 2-step TB skin test or surveillance
7. Varicella injections or proof of immunity through titer

Physical examinations must be current within one calendar year. Students with previous physical, emotional or behavioral problems must provide professional certification that appropriate treatment and/or counseling has taken place to show that the problem has been adequately accommodated.



Clinical affiliates require a national criminal background search on all students entering clinical. For this reason, all students entering the first fall semester are charged a fee to perform this search. Upon entry into MLT 111, students will be asked to submit personal information which will be used to perform the search. The clinical affiliates review the results of the search and identify students who may or may not attend clinical at their facility. The affiliates have indicated that a student who has pending criminal charges or a previous criminal conviction of abuse, neglect, fraud, larceny and drug/alcohol abuse may be a threat to patients and therefore ineligible for clinical assignment. If a student is identified as a threat by one affiliate, the program director will try to find other affiliates that are willing to take the student in clinical. If no clinical affiliates are willing to take the student, the student will be dismissed from the program. Readmission in the program would be contingent upon clinical approval.

Malpractice liability insurance covers legal costs in case a patient takes legal action on an allied health student or the health care agency. Health care agencies carry malpractice insurance on its employees, but not on students. Therefore, all allied health students are charged a fee for malpractice insurance upon registration every fall semester.

A negative 12–panel drug screen with urine creatinine is required by the hospital affiliates. Therefore, all students entering the first fall semester are charged a fee to perform this screen. The clinical affiliates review the results of the drug screen and identify students who may or may not attend clinical at their facility. At any time throughout the MLT program, the faculty has the right to request an additional random drug screen, if there is a legitimate reason of suspicion. A urine creatinine 20 mg/dL or above indicates that the specimen submitted is concentrated. If the specimen was not concentrated or the affiliate asks the student to submit another specimen for any other reason, the student must comply.

The clinical affiliates require annual OSHA training for all allied health students. OSHA training occurs for Freshmen and Sophomores at the beginning of each fall semester. Some hospitals require additional OSHA orientation online.

The clinical affiliates require current CPR training for all allied health students. Certification of an American Heart Healthcare Provider course is required the summer before program entry.



CLINICAL PRACTICUM

After the second fall semester of the program, each MLT student who has successfully met academic and professional program progression requirements will qualify for assignment to an affiliate hospital for Clinical Practicum. The MLT affiliate hospitals are valuable partners in health care education. The hospital laboratories have been approved by NAACLS as an appropriate training site for MLT students. The hospitals donate employee time, supplies and patient specimens to help educate new members of the profession. In return, the college agrees to assign to the affiliates only those students who meet the academic and ethical standards of passing. The college agrees to remove any student from the affiliate hospital if the student is unacceptable to the hospital for any reason.

The MLT program at SCC is a regional program which means that students who live in surrounding counties will drive long distances to attend class. MLT hospital affiliates are located in several counties in North and South Carolina. Because of these two facts, students may be assigned to an affiliate hospital that is not close to the student's residence. Although transportation distance is a factor, clinical assignments are made to provide optimal educational opportunities for students and maintain the relationship with clinical affiliates. The clinical schedule will not be changed for the convenience of the student. Changes in clinical assignments may be made during Clinical Practicum as deemed necessary by MLT faculty. Students should be aware of driving distances to the hospital affiliates and be prepared to be responsible for reliable transportation to and from clinical assignments at these locations. Similarly, job opportunities may require graduates to leave the local area for employment. Lack of transportation is not a valid excuse for missing class or clinical.

Presently, the program has a maximum of 15 student clinical positions available with 6 clinical affiliates. Every effort is made to assign all students into Clinical Practicum. In the event that the affiliate hospitals cannot accommodate all the students in the class, students will be ranked according to GPA of MLT courses and the student positions will be filled by the top 15 students. The remaining students will remain on an alternate list and will be given first priority for clinical assignment in the next Clinical Practicum semester. In the event that the program closed, the college would provide existing students with the same educational and clinical experiences as previous students.



The affiliate hospitals are:

Brunswick Novant Medical Center, Supply, NC
Columbus Regional Healthcare System, Whiteville, NC
Grand Strand Regional Medical Center, Myrtle Beach, SC
McLeod Health, Loris, Little River and Dillon, SC
New Hanover Regional Medical Center, Wilmington, NC
Southeastern Regional Medical Center, Lumberton, NC

Clinical experiences are designed to provide students with a working knowledge and entry-level competency of medical laboratory procedures. Under the direction of program faculty and direct supervision of hospital preceptors, the student will perform analytical tasks as he/she rotates through the departments of the clinical laboratory. Once the student gains entry-level competency, repetition is limited to periodic review to maintain proficiency and, with the hospital preceptor's supervision, the student may report results. The clinical affiliates understand that clinical students may not be used to carry the workload of regular staff employees. Daily tasks, such as disinfecting work areas and specimen processing, will be also performed by students throughout the clinical practicum.

Typically, the student trains at the clinical affiliate approximately eight hours a day, Monday through Friday. Hours depend on each affiliate hospital, yet typical hours are 6:00am to 2:00pm for days including phlebotomy collection and 7:00am to 3:00pm for non-phlebotomy days. Evenings, weekends and holidays are not assigned. Students may make up absent hours and/or perform remediation in the evenings, weekends or holidays only if the clinical instructor and college faculty approve.

SCC students and allied health faculty are not entitled to any compensation from the clinical affiliates in connection with their respective allied health program assignments. Students are permitted to work at a health care facility of their choice outside of scheduled academic hours with the condition that the student has proven proficiency in the clinical area(s) of the assigned work and that the employer agrees to assign the student only to those areas. Additional clinical information is provided in an extensive notebook as students enter Clinical Practicum.



ATTENDANCE

Attendance and punctuality are essential parts of the educational process as well as excellent indicators of a student's dependability and integrity as a future health care employee. It is impossible for a student to keep up without consistent attendance. Students should make arrangements for childcare, medical appointments and transportation before each semester begins. Absences should occur only in the event of personal illness, family emergency or other unavoidable situation that prevents the student from attending class, campus lab or clinical. Students are strongly advised to reserve absences for such times as these.

Students are responsible for missed assignments on absent days. It is the student's responsibility to contact the instructor for a make-up assignment. If a student does not make the effort to make up the missed grade within 14 days of the absence, a zero grade will be assigned for the missed assignment. A student who is absent on a test day must be prepared to take a test of varying format upon the next day returning to school.

Habitual tardiness is unprofessional. Three tardies are equivalent to one absent hour. Tardiness greater than 5 minutes on a test day is considered an absence. Attendance is recorded in the instructor's gradebook at the beginning of class/lab. If a student is tardy and arrives in class after the role has been taken, it is the student's responsibility to see the instructor at the end of class to request that the documented absence be changed to a tardy.

Students should never endanger their lives to attend class or clinical. College closings and delays due to bad weather, natural disasters or any other emergency situations are informed to students via the emergency notification system, voicemail announcement at the college phone number and through radio and television broadcasts. MLT students not assigned to clinical must follow the SCC weather plan. MLT students assigned to clinical are not required to follow the SCC closing announcements for two reasons: 1) Clinical students may have to arrive at clinical before a school closing is announced. 2) Weather/Threatening conditions may or may not be present at the assigned clinical. Therefore, students are allowed to use their best judgment whether to attend clinical, but are encouraged to attend if safely possible. Students may contact the instructor with help making this decision. When clinical hours are missed due to bad weather or threatening conditions, students must make up the missed hours.

A student who exceeds 5% of all scheduled contact hours may be dropped from the course provided that the student had previously received a verbal or written warning notice about the excessive absences. The student will receive a "W" grade if dropped before the last lecture test of the course. Exceptions may be made in the event of professionally documented illness or extreme extenuating circumstances.



EVALUATION SYSTEM

Students are evaluated on the knowledge and skills gained through specific objectives as defined in each course syllabus. Specific evaluation procedures and schedules are listed in the syllabi. Test grades are calculated to the nearest whole number. The course syllabi also contain the formula for calculating the final course grade. A seven-point scale is used to assign letter grades in all MLT courses. The time of test review is conducted at the discretion of the instructor. The instructor will allow students to review a graded test for a limited amount of time. Students may make notations in lecture notes on material in missed questions to help in future testing. Plagiarism of test questions is not permitted. Test materials may not be taken out of the classroom. All tests and evaluations are part of the student's permanent record in the Allied Health Division of the college. Evaluation materials may not be photocopied due to student confidentiality.

Laboratory competence is imperative in the clinical laboratory. Campus lab performance is evaluated by the accuracy of the student's written lab report and by the student's technique and professionalism observed by the instructor during lab. The lab report must reflect the student's comprehension, application and problem-solving ability in order to receive a passing grade. Deficient laboratory skills are identified by failing lab grades or repeated technical errors on the lab report. When a deficiency is recognized, the MLT faculty will meet privately with the student. The faculty may allow a student to improve a failed lab by demonstration of competency through additional practice. If a student receives a failing lab grade and the instructor allows the grade to be improved, the student must demonstrate competency by no more than 2 attempts within the timeframe given by the instructor. If competency is not demonstrated, the failed lab grade will be permanent.

Near the end of MLT courses, faculty performs a Laboratory Skills evaluation. The evaluation is a reflection of the student's ability to meet psychomotor and affective objectives during the semester. The evaluation is graded on the Pass/Need Improvement/Fail scale. A student who receives a third N evaluation grade during the program will not be allowed to attend clinical assignments, thus fail the course and be dismissed from the MLT program. A student who receives a second F evaluation grade during the program will fail the course and be dismissed. A copy of the Laboratory Skills evaluation is documented in Appendix A.

TESTING PROCEDURE

Since patients' lives depend upon the competency of others, healthcare programs must ensure student competency of professional information and skills. This makes cheating a life-or-death issue. The MLT faculty has developed a testing procedure to minimize the occurrence of cheating. MLT students will be expected to observe the procedure when taking a lecture test, performing a graded laboratory exercise or taking a final exam in Clinical Practicum. A student who is suspected of cheating will not be allowed to finish the lab/test, thus receiving a much-reduced grade. A student who knowingly provides answers to another student will also be asked to leave the testing area immediately.

1. Any type of communication is not permitted between classmates during a graded lab/test. Students may not use cell phones during a test.
2. Students may use a non-programmable calculator during a graded lab/test. The calculator must be on the desktop before the test begins. Cell phone calculators may not be used. Students may not borrow calculators during the test.
3. Students must have sufficient #2 pencils and erasers on the desktop before a graded lab/test begins. Students may not reach into bookbags or use any resources during the test.
4. Students must keep lab/test paper and answer sheet covered or turned over when not in use.
5. Students must show all mathematical calculations in order to get credit for correct answers.
6. LABS: Students must perform graded labs at the lab station assigned by the instructor. Lab stations will be assigned at the beginning and midterm of each semester. Students must complete all lab exercises by the end of lab time.
7. LECTURE TESTS: Students will be spaced apart before the test. Students should be prepared to remain in their seats until he/she finishes the test. Students may not take a break for any reason during the test. Every test is timed. Students will have one minute per question unless otherwise directed by instructor.

Test review will be accomplished as a class after the test is given. Faculty will allow no more than 2 class meetings for test review at the end of the semester as preparation for the final exam.



PROGRAM PROGRESSION

In order for students to continue in the MLT program, students must meet specific academic and professional requirements.

Academic Requirements

1. Successfully pass every BIO, CHM and MLT prefix course with a minimum grade of "C".
2. Successfully pass the laboratory portion and Laboratory Skills evaluation of every MLT course.
3. Meet cognitive, psychomotor and affective objectives of each MLT curriculum course with a minimum grade of "C".
4. Take MLT courses as sequenced in the curriculum.
5. Meet the 2.0 GPA requirement for graduation.

Professional Requirements

1. Complete and maintain required clinical documentation.
2. Purchase criminal background at the beginning of the first fall semester.
3. Purchase malpractice insurance at the beginning of both fall semesters.
4. Attend required OSHA training by both fall semesters.
5. Attend American Heart Healthcare Provider CPR training before both fall semesters.
6. Purchase appropriate clinical attire before the first day of clinical day (MLT 111) and maintain clinical dress guidelines.
7. Present a negative 12-panel drug screen (with creatinine) to the hospital clinical instructor on the first clinical day of each clinical practicum rotation.
8. Maintain professional ethics and safety requirements as specified in the MLT Program Manual.

Computer skills are not required to progress through the program, but students should be aware that basic computer skills and internet capability are necessary for web-enhanced courses.



PROFESSIONAL ETHICS

The public and the health care profession rely on the knowledge, honesty and integrity of trained professionals. Medical Laboratory Technology is a profession which demands careful attention to detail and precision. Medical laboratory professionals must assume full responsibility for the quality of test results and care given to their patients. Employers in the community rely on educators to produce ethical health care graduates. For these reasons, professional ethics is emphasized in every allied health program. Students are introduced to professional ethics on the first class day so they will be well prepared for actual application of those principles on the first day of clinical practicum.

For health care professionals, unethical behavior can result in revocation of license, legal action and/or loss of life. Any form of dishonest, unsafe or unethical behavior is a serious threat to a professional's career and to the well-being of the people of the community. Unsafe behavior is defined as any deliberate or negligent act of commission or omission which threatens the safety and well-being of the public regardless of actual injury. Whether in the campus or clinical laboratory, students must perform laboratory procedures independently, without any assistance from fellow students, unless otherwise directed by the instructor. Examples of unsafe behavior are plagiarism, falsification of laboratory results, inappropriate infection control technique and destruction or misuse of equipment.

All work that is turned in for a grade must be performed independently, whether in lecture, campus lab or clinical. Students should be forewarned that evidence of any dishonest behavior may result in immediate dismissal from the program. Unsafe or unprofessional behavior will result in probation or immediate dismissal from the program. A student who is witness to any such behavior is ethically responsible to report the behavior to an instructor immediately.

Socially accepted behavior is expected of students in campus and clinical settings. Students must address faculty, patients and family members by the appropriate title and surname. Students are expected to remain in control of their emotions. The quality and tone of conversation must be pleasant and at an appropriate volume. A display of disruptive, hostile or aggressive behavior or the use of profane or obscene language is unprofessional and will not be permitted. A student who does not adhere to socially accepted behavior is in violation with professional ethics guidelines and with the SCC Student Code of Conduct and will be asked to leave the activity immediately. Such behavior is grounds for dismissal from the program.



The MLT program adheres to the American Society of Clinical Pathologists' (ASCP) Code of Ethics for laboratory professionals which states:

Recognizing that my integrity and that of my profession must be pledged to the best possible care of patients based on the responsibility of my work, I will:

Treat patients and colleagues with respect, care and thoughtfulness;
Perform my duties in an accurate, precise, timely and responsible manner;
Prudently use laboratory resources;
Advocate the delivery of quality laboratory services in a cost-effective manner;
Work within the boundaries of laws and regulations and strive to disclose illegal or improper behavior to the appropriate authorities;
Continue to study, apply and advance medical laboratory knowledge and skills and share this knowledge with my colleagues, other members of the health community and the public.

In order to allow MLT students full knowledge of their professional and ethical responsibilities, the following specific ethical guidelines have been established for the program. A student who violates these guidelines may be placed on probation and/or dismissed from the program.

1. **Honesty.**
A health care worker is effective only if he/she can be trusted. Dishonesty is a severe offense for a health care worker. It can lead to the death of a patient, immediate job termination and/or a legal suit. If a health care agency discovers that a job applicant has falsified information, the applicant is quickly disqualified. Short-cutting, using sloppy technique and omitting procedures in the laboratory are dishonest, unsafe behaviors. Cheating and plagiarism are also serious academic offenses. Any type of dishonest behavior in the program will lead to dismissal from the program.
2. **Attitude.**
A positive attitude is essential for any worthwhile goal in life. Students are expected to strive for excellence, be responsible and establish a sense of teamwork with fellow students. Personal problems can be weighty during an intense program. Students are encouraged to seek counseling for academic or personal problems with the MLT instructors or counselors in Student Development.

3. **Lab preparation, conservation and clean-up.**
Students should come to campus lab and clinical with the necessary supplies and prepared to work. Health care agencies follow consistent cost-effective measures, therefore students are expected to begin the practice of conserving laboratory supplies whenever possible. In the clinical laboratory, clean-up is the responsibility of each laboratorian at his/her assigned work area. If a student fails to clean his/her work area before leaving, the lab grade will be reduced. Students may not leave the campus lab or clinical area without permission from the instructor.
4. **Food, drinks and smoking.**
Food, drinks and smoking are prohibited in SCC classrooms and, because of the biohazardous nature of the laboratory, are not allowed to be brought into contaminated areas of the campus lab or clinical area. Applying cosmetics or contact lenses are also prohibited in biohazardous areas.
5. **Conduct.**
Students are expected to conduct themselves in a studious, professional manner as befitting the profession for which they are training. Students must remain in control of their emotions. A disruptive student will be asked to leave class, campus lab or clinical on the first offense. Continued disruptive behavior will be met by dismissal from the program.
6. **Communication.**
Students are expected to communicate to other students, instructors and patients in a professional manner. The quality and tone of voice must be pleasant and positive. Use of profanity or obscene language is strictly prohibited. Because of security reasons, students are allowed to keep cell phones on vibrate in class and campus labs, but cell phone use is forbidden in the clinical area.
7. **Dress.**
During class, students may wear usual campus attire. For campus lab, students may wear usual campus attire, but must include closed leather shoes. Labwear to be maintained in appropriate condition must include disposable lab coat and face shield which must be kept within the contaminated area of the campus lab. Only students with prior approval of MLT faculty may use a washable lab coat. Clinical dress is required at the hospital affiliate. The required dress includes royal blue scrub pants, scrub top of any pattern, white, waist-length lab jacket, white leather shoes and nametag. Shoes must be clean and polished. Students must wear clean white socks. Clogs, open-toed shoes and sling-backs are not permitted. Visible tattoos are not permitted.

8. **Personal hygiene.**
Students are expected to be neat and clean without body odor or halitosis. Fingernails in the laboratory do not meet safety standards if they can be seen when viewed from the palm side of the hand. Acrylic and/or false nails are not permitted in the laboratory. Male students must shave daily. Sideburns, mustaches and beards are permitted provided they are neatly trimmed. Perfume and aftershave are not permitted in the clinical area.
9. **Hair.**
Hair should be clean and neatly styled. Exotic hair styles, such as unnatural colors or mohawk styles, are not acceptable. Styles longer than the shoulders must be pulled back. Bangs must not be in the eyes. Hats and headwear are not permitted in the clinical area.
10. **Jewelry.**
In the laboratory, dangling earrings, bracelets and necklaces are not only unprofessional but also hazardous in the laboratory environment. Students are limited to 2 rings. Rings must have a smooth surface to protect patients from scratches and tearing of gloves. Earrings must be small studs and are limited to one stud per lower earlobe. Visible body piercings (other than earrings) are not permitted.
11. **Social Networking.**
Professionalism and confidentiality practices must extend to the internet. A shared computer drive, an email and a Facebook page are not private spaces. Personal comments in Moodle discussions and on social networking sites such as Facebook and Twitter must not describe event or contain comments or images related to clinical instructors or patients. Written opinions related to faculty and classmates must reflect socially acceptable standards of ethical behavior. Any single act of inflammatory, disrespectful documentation is considered a gross act of unprofessional conduct and may result in dismissal from the program.

CONFIDENTIALITY

Health care professionals are ethically and legally bound to regard the patient's right to privacy as a very important part of the job. Modern technology offers many avenues to access personal information. A computer printout or screen, a phone call or a fax could contain personal information about a patient that must be protected. Revealing personal information about a patient (or co-worker) is unethical and illegal since it can result in harm to that individual.

In 1996, the Health Insurance Portability and Accountability Act (HIPAA) was passed into law. It requires the Department of Health and Human Services to maintain national standards for the security and privacy of protected health information (PHI). Patients have the right to receive a copy of the health care facility's privacy practices, request restrictions on their PHI and inspect, amend and copy their PHI. Health care facilities must have safeguards in place that protect the confidentiality and security of PHI.

Health care facilities have several ways to identify breaches in confidentiality. Hospitals have a hotline that may be used by personnel or the public to report violations. Most health care agencies respond to a breach of confidentiality with immediate termination. Additional penalties can occur if a civil or criminal suit is pursued which can terminate the employee's license to practice, fines or prison.

Confidentiality guidelines must be strictly practiced by all allied health faculty and students at SCC. Breaching one of these guidelines is a serious behavior and may result in the student's dismissal from the program. The following is an inconclusive list of situations in which confidentiality must be practiced. Any situation in which a student is asked to do something in which he/she feels ethically uncomfortable should be immediately discussed with the MLT faculty. These practices must be followed on campus and in the clinical area:

1. Revealing laboratory test results to unauthorized persons is illegal and is considered practicing medicine. Only a physician or clinical practitioner is authorized to report lab results to patients. All lab results are confidential information and should NEVER be revealed to unauthorized persons, which includes patients, or discussed outside the clinical facility.
2. Personal information, such as sexual activity, behavior or family situations, about a patient/student is limited to the student, instructor and health care personnel directly involved in the patient/student's care.

3. Student/instructor conferences should not use names of patients or reveal personal information not related to laboratory procedures.
4. Discussion of a patient/student medical or personal history in any public area, such as a hallway, elevator, cafeteria or parking lot, is a breach of confidentiality.
5. Discussion of internal privileged information (such as personal laboratory conflicts, doctor/patient relationships, or overheard hospital gossip) is a break in confidentiality. Personal comments in Moodle discussions and on social networking sites such as Facebook and Twitter must not describe event or contain comments or images related to clinical instructors or patients.
6. Reading patient charts or requesting non-laboratory information on any patient is a breach in the patient's right to privacy.
7. Using a patient's name on any written material, except hospital records requiring such name, is a breach to patient's right to privacy.
8. An audiotape, photograph, photocopy or videotape may not be made of a patient or the patient's medical record. The use of an Ipod or cell phone, calls or texting, are not allowed in the clinical areas. With the facilities permission, clinical specimens and laboratory data may be used on campus only if patient identifiers are removed.
9. SCC Medical Laboratory students are not allowed to verbally report or electronically release patient lab results unless authorized by a staff technologist, whose initials must accompany the student's initials as documentation.
10. Some clinical facilities allow students to access the computer system through a student password while others allow access through a clinical instructor standing nearby. Either way, a computer password is meant for one person only. A student may not share his/her password with anyone or ask a clinical instructor her password. Students are responsible for any activity performed on the system.
11. Computer screens must be positioned so that passersby will not see the screen. Never leave a computer logged in.
12. Printers should never be left with printed information. Unneeded computer-generated paperwork must be shredded.



13. Personal information may be faxed or electronically transmitted only if vitally needed for the patient's care. The patient's written authorization must be obtained to release information. The transmitter must call to alert the receiver when a fax or electronic data is about to be transmitted.



LABORATORY SAFETY

Every effort is made to ensure laboratory safety on campus and at clinical. Safety procedures are detailed in the introductory course (MLT 110) and updated in each course by faculty and clinical instructors. A mandatory OSHA workshop is provided for MLT students at the beginning of the freshman and sophomore school years. OSHA procedures are strictly enforced in the campus lab and the hospital to ensure the safety of the student, patient and fellow laboratorians.

While on campus, a student who becomes injured must report the injury to the instructor. A SCC Occurrence Report must be initiated as soon as possible as a record of the injury. First aid kits and faculty trained in basic first aid procedures are located in each SCC building. The county EMS is activated for more serious injuries. If biohazardous materials are involved in the injury, the student is asked to report to his/her family physician to initiate OSHA exposure guidelines.

During clinical, students must report injuries to the clinical instructor and proceed per the hospital's exposure policy. Again, a SCC Occurrence Report must be completed as soon as possible as documentation for college records.

Students in the program are required to purchase a student accident policy each semester. Student accident claims may be filed with the SCC cashier. However, if the accident insurance does not pay the cost of an injured student's medical bills, the student must assume responsibility for their medical charges incurred at the hospital which includes the cost of exposure testing. For this reason, students are strongly advised to purchase health insurance to cover the cost of medical expenses.

Federal law states that a patient who is injured because of improper actions of a health care worker is entitled to compensation for the injury. Malpractice liability insurance covers legal costs in case a patient takes legal action on a health care worker or the health care agency. Mistakes in the medical laboratory do occur and may or may not be life-threatening. Health care agencies carry malpractice insurance on its employees but not on students. Students are therefore required to purchase malpractice insurance upon registration for both fall semesters.

Safety regulations for the clinical laboratory are mandated by several agencies. When followed, these regulations protect the health and well-being of laboratory workers and the patients. Students must take safety as a personal responsibility since faculty cannot watch every move each student makes during a laboratory exercise. MLT students are expected to follow all laboratory safety regulations in the campus lab and clinical area. The safety regulations for the laboratory are:

1. Gloves must be worn when there is a risk of contact with blood, body fluids or other potentially infectious materials.
2. Protective face shields which cover the eyes, nose and mouth must be worn during procedures that are likely to generate droplets/aerosols of blood or body fluids.
3. Protective lab coats must be worn during procedures that are likely to generate splashes of blood, body fluids and chemicals. Lab coats must be long-sleeved, knee-length and buttoned and must be kept in the laboratory available for use.
4. Students who have open cuts or lesions on the hands and arms must completely cover the area with a fluid resistant bandage and glove before proceeding to the laboratory area.
5. Safety needles must be used for specimen collection. Contaminated needles must be covered then disposed in impervious sharps containers. All laboratory sharps, such as needles and glass slides, must be disposed in sharps containers.
6. Students must follow recommended procedures for transporting specimens, cleaning equipment and performing lab functions to minimize spills and aerosols.
7. Work surfaces and instruments used in procedures must be decontaminated with disinfectant before leaving the area.
8. Students must correctly wash hands with soap between procedures, before touching uncontaminated articles, after removing gloves and before leaving the lab area.
9. All contaminated trash must be placed in biohazard bags and brought to one central location for sterilization before students leave the lab.
10. Volatile, caustic and toxic chemicals must be used under the fume hood. Procedures that create aerosols must be performed under the hood.
11. Strong chemicals must be carried in the protective bucket.
12. Biohazardous spills must be cleaned up immediately using disinfectant solution. Wet floors must be marked.
13. Mouth pipetting is never allowed. Safety bulbs must be used for pipetting.

14. Smoking, eating, drinking and applying cosmetics and contact lenses are never allowed. Food must be confined to non-testing areas. Students must avoid putting pencils or any other object in their mouths.
15. A microbiology incinerator or flame must never be left unattended.
16. Hair styles must be no longer than the shoulders and must not hang in the face. Individuals with long hair styles must pull hair back in a ponytail. Hats may not be worn.
17. Closed (toe and heel) leather shoes must be worn while working in the lab.
18. Books, purses and personal clothing are not allowed in the analytical area.
19. Asbestos gloves and tube holders must be used when handling hot materials.
20. Accidents must be reported to the instructor immediately.
21. Students are responsible for knowing the location and proper operation of safety equipment including the eye wash station, fire extinguisher, shower, fire cabinet and fume hood.
22. No supplies, equipment, books, chemicals or specimens may be taken out of the laboratory without permission of the instructor.
23. Students are permitted to perform laboratory procedures only under the direct supervision of an instructor.

Safety in the clinical laboratory is a constant concern, but overall campus security is a top priority and is addressed annually at faculty and student orientation. SCC name badges must be worn at all times on campus. Students must recognize that they should take individual precautions to protect themselves from becoming victims of a crime on campus and at the clinical affiliates. Individual precautions include such as keeping purses and bookbags with them at all times and walking in well lit, open areas of the campus. The college cannot be responsible for items left unattended in a classroom. Threats of any kind, inappropriate sexual behavior or suspicious individuals should be called to the campus switchboard immediately. Students should activate EMS with fire, serious injury or active shooter and find the nearest safe room.

SCC's emergency notification system allows students and faculty to keep current with urgent college messages and threatening conditions through cell phone notifications. Students are encouraged to register with this system on the college website. Students are allowed to bring their cell phones to class, but must keep the phones on vibrate and put away.



Lab work is fun and exciting, but producing accurate lab results is serious business. It can mean life or death to a patient. The MLT faculty is committed to producing graduates who practice careful, safe laboratory skills. The following recommendations will help students know what faculty expects of them in the campus laboratory.

The DOs and DON'Ts of Laboratory Practice

DO

- 1) Check patient's name and ID number before beginning a procedure, every time the tube is handled and before reporting the result.
- 2) Label all tubes, beakers, flasks, wash bottles, slides and any other container in the lab.
- 3) Work independently. If you have questions, ask the instructor, not another student.
- 4) Write legibly. Lab report must be neat.
- 5) Pace yourself to complete all work within the specified timeframe.
- 6) Read directions very carefully.
- 7) Use a pencil to record results unless otherwise directed by the instructor.
- 8) Use standard, acceptable abbreviations.
- 9) Listen to verbal directions in the beginning of the lab, making notes prior to testing.
- 10) Restock work station after lab when finished.
- 11) Empty biohazardous trash when finished.

DO NOT

- 1) Enter the lab for additional practice without permission from an instructor.
- 2) Use correction fluid on laboratory paperwork.
- 3) Walk around the lab looking for specimens or reagents or stand behind a seated student.
- 4) Enter a refrigerator or incubator without permission from an instructor.
- 5) Use + or - signs for positive/negative reactions.
- 6) Leave work station untidy or without decontaminating counter.

GOLDEN RULES FOR RESPONSIBLE LIVING

- 1) If you open it, close it.
- 2) If you turn it on, turn it off.
- 3) If you unlock it, lock it back.
- 4) If you borrow it, return it.
- 5) If you make a mess, clean it up.
- 6) If you move it, put it back.
- 7) If you break it, admit it.
- 8) If it ain't broke, don't fix it.
- 9) If you can't fix it, call someone who can.
- 10) If it belongs to someone else and you want to use it, ask permission.
- 11) If it's none of your business, don't ask questions.
- 12) If it will brighten someone's day, SAY IT!

DISMISSAL AND READMISSION

A student may be dismissed from the program by the MLT faculty for academic or ethical reasons. The MLT faculty and college administrators make dismissal decisions on a case-by-case basis depending on the nature of the offense. Students must also be aware that administrative dismissal can occur as a result of violation of the SCC Student Code of Conduct, as outlined in the SCC Student Handbook.

The MLT faculty follows SCC Allied Health policies and practices that provide for identification and dismissal of students. Dismissal from the MLT program may result from, but is not limited to, the following reasons:

1. Ethical

Cheating, plagiarism or falsification of information.

Breach of confidentiality.

A pattern of unprofessional or socially unacceptable behavior which is not corrected with counseling within a reasonable period of time

A pattern of careless, inaccurate, unsafe laboratory performance.

Willful destruction of college or hospital property.

Willful failure to follow an instructor's directions.

Failure to meet clinical affiliate requirements.

Excessive absence and/or tardies as defined by course syllabi.

Impaired thinking evidenced by an inability to make appropriate judgments and carry out laboratory functions. Impaired thinking may be the result of fatigue, anxiety, sleep deprivation, medication use and/or drug use.

Physical or emotional health problem which conflicts with safe, professional laboratory performance and does not respond to appropriate treatment and/or counseling within a reasonable period of time.

Violation of the SCC Student Code of Conduct

One incident of gross unprofessional conduct (ie, hitting/cursing a patient, instructor, another student or health care professional) or gross unsafe laboratory behavior

One incident of inflammatory, disrespectful documentation on a social network

2. Academic

A grade lower than "C" on a BIO, CHM or MLT curriculum course.

Failure of the laboratory portion of a MLT course.

Two F or three N grades on the Laboratory Skills Evaluation during the program.

Withdrawal from a MLT course.



A student who is dismissed from the program for academic reasons may re-enter program courses the following year if the student has a satisfactory campus lab/clinical record. Re-entry must occur in the academic year immediately following the semester in which the student left the program. There can be no more than two entries within a 5-year period.

A student who is dismissed for ethical reasons is not readmitted unless professional certification is presented that appropriate treatment/counseling/modification has taken place and that the problem(s) have been satisfactorily resolved. There can be no more than two entries within a 5-year period.

A student who seeks justice for what he/she perceives to be any unfair treatment should follow the college grievance procedure by discussing the problem first with the instructor, then with the Director of Nursing and Health Technologies and finally with the Vice-President of Student Development Services. A student who feels conflict/harassment from another student may discuss the matter with an instructor and should ultimately talk with the Vice-President of Student Development Services as a record of the incident. A discussion of student rights, grievance procedure and appeals is detailed in the SCC Student Handbook.



STUDENT EXPENSES

The following is a list of the approximate costs for two years of the MLT program at SCC. Students should be reminded that figures may vary, and miscellaneous expenses, such as school supplies, meals and commuting costs, should also be considered.

Full-time, in-state tuition and student fees	\$ 5367
Books (new)	1440
Disposable lab wear	24
Non-programmable calculator (include sq. root)	10
3 HBV vaccinations	225
Permanent lab markers	6
Clinical uniforms	280
Professional white shoes	70
Malpractice insurance	35
Background and drug screen	<u>70</u>
	\$ 7527

SCC offers a variety of financial aid opportunities, including grants, scholarships, low-interest loans and on-campus jobs. A MLT Scholarship may be granted to a MLT sophomore entering Clinical Practicum. Eligibility depends mainly upon documented need. If necessary, students may apply for educational-related, short-term emergency loans. Interested students should contact the Financial Aid office in the A-building. Another option for financial assistance is a scholarship/loan granted to allied health students by some area hospitals.

Current professional journals, references and study booklets are available for loan in the campus MLT lab to help reduce student costs. All loaned materials must be returned by the day of the final exam each semester. Students will not be allowed to take the final exam until loaned materials are returned.

In MLT courses, the entire set of typed lecture notes may be purchased at the SCC bookstore. The lecture notes give students the advantage of paying attention to explanations during lecture instead of missing key points while notetaking. It is highly recommended that students purchase lecture notes if financially possible.



CLUB ACTIVITIES, HONORS, AWARDS

The MLT Club was organized to financially support the MLT Scholarship and Sophomore pinning ceremony and promote public awareness of the profession. Activities usually include annual fundraisers and the Sophomore pinning ceremony. All present and future MLT are invited to become students are members of the club. All MLT students are encouraged to be actively involved in class decisions and support class activities.

During the fall semester, MLT Freshmen are asked to vote on the honored position of Class President. Class President acts as the spokesperson for the entire class. The Freshman Class President also serves as MLT Club President and represents the club as a senator in the Student Government Association (SGA). The Freshman and Sophomore Class Presidents work with fellow students and MLT faculty to coordinate college-oriented extracurricular class activities. Specific duties as president include coordinating the Sophomore pinning, annual fundraisers and attending SGA meetings.

Students who achieve high academic standards are also honored at SCC. The Honors List and High Honors List are published to honor full time students who earn a GPA of 3.25 and 3.60, respectively. Students who maintain a cumulative program GPA of 3.50 on 12 or more credit hours per semester are invited to join the Phi Theta Kappa national honor society for junior college students. The SCC Ambassador Program and Student Government Association are two other honoraries that are worth competing for.

STUDENT SUCCESS

Health care is exciting! Being a MLT is like being a detective. A MLT uses highly automated instruments and manual skills to gather bits of biological data to solve the mystery of a patient's condition. Health care is a very rewarding career.

Health care education can be very challenging. Health care students are expected to learn a massive amount of complex information in a short period of time. Programs demand that students be responsible learners. Each course in the curriculum sequence equips the student for the next course, which means that knowledge gained in each course is the basis for new material. Health care instructors also realize the additional challenges that students in our area face. In times past, the "traditional" college student was someone coming to college straight out of high school. Today's typical student is greater than 23 years old, has a family, works a part time job and has personal concerns that add additional stress.

The faculty and staff at SCC are committed to helping students as much as possible through financial services, counseling, tutorial services as well as providing sound educational training to meet the student's career choice. Many medical laboratory resources are available in the SCC library. A list of specific textbook references is documented in Appendix C. It is the student's responsibility to make an appointment to talk with faculty to discuss his/her progress, grades or any other concerns or problems. Students are encouraged to seek help before a situation becomes a crisis. Freshmen and Sophomore MLT students are encouraged to support each other and build strong bonds. Freshmen students will find that the Sophomores are a valuable source of help and inspiration.

From past students, the MLT faculty has found that there are specific things students can do to keep abreast with their education and reduce stress. In order of importance, recommendations include:

1. Purchase MLT lecture notes at the SCC bookstore.
2. Study notes daily.
3. Use unit objectives and case studies/worksheets as a study guide.
4. Read assigned text before attending class.
5. Eat healthy meals, get 7 hours of sleep each night and exercise daily.
6. Use MLT exam reviews on reserve in the SCC library as study guides:
 - a. Board of Certification Study Guide, ASCP. (5)
 - b. Medical Laboratory Technology Pearls of Wisdom by Polansky, Boston Medical Publishing Co. (2)
 - c. Medical Technology Examination Review and Study Guide by Ciulla, Appleton and Lange. (4)
 - d. Alba's Medical Technology Board Examination Review, Berkley Scientific Publications. (2)
 - e. NCA Review for the Clinical Laboratory Sciences by Beck, Little, Brown and Company. (2)
 - f. Review in Clinical Laboratory Science, American Society for Medical Technology. (1)
 - g. Clinical Laboratory Science Review by Harr, F.A. Davis. (4)

- h. A Study Guide of Clinical Hematology: theory and practice by Judson, F.A. Davis. (5)
- i. Outline Review of Medical Technology/Clinical Laboratory Science by Leach, Pearson-PrenticeHall. (3)

APPENDIX A

Laboratory Skills Evaluation

4.28.15

Student _____ Course _____

Professional

Integrity: consider the student’s honesty, ethical values, work ethic, safety and appearance.

<input type="checkbox"/> PASS	<input type="checkbox"/> NEEDS IMPROVEMENT	<input type="checkbox"/> FAIL
Can be trusted to work independently; appears academically prepared for lab; seeks help from the instructor when questions arise; appears committed to ethical values; seated and ready for lab on time; arrives to lab with required materials; appearance is acceptable; safety procedures are followed.	May need reminding about working independently; academic preparation appears missing at times; asks students for assistance in lab; has been tardy or not ready for lab on some occasions; has arrived to lab without required materials; reminder about appearance and/or safety procedures has occurred twice.	Faculty do not feel confident leaving student alone; academic preparation for lab appears minimal; student often needs assistance to complete labs; tardiness occurs frequently; arrives to lab without required materials; student has arrived for lab without appropriate dress; safety reminders have occurred >2 times.

COMMENTS:

Attitude and Relationship to Others: consider the student’s attitude, adaptability to different personalities, reaction to constructive criticism and emotional stability.

<input type="checkbox"/> PASS	<input type="checkbox"/> NEEDS IMPROVEMENT	<input type="checkbox"/> FAIL
Consistently maintains a pleasant, courteous attitude toward students and faculty; makes an effort to adjust to different personalities; appreciates recommendations for improvement and makes an effort to use recommendations as a learning tool; demonstrates poise and control under pressure; adjusts to changes without complaint.	Tries not to let negative feelings show; may have difficulty relating to some classmates and/or faculty; attitude needs improvement; views constructive criticism with reservations; may become defensive or irritated; recommendations may or may not be followed; frustrations are evident if pressed for time or changes are made; complaint noted.	Student sometimes displays a negative attitude; shows little interest in communicating with classmates and/or faculty; appears unreceptive toward constructive criticism; displays defensive/irritated attitude when critiqued; may blame others for errors; sometimes flustered under pressure; resistant to follow changes.

COMMENTS:

Technical

Quality of Work: consider the student's report accuracy, laboratory technique, equipment operation, QC and specimen identification.

☐ PASS	☐ NEEDS IMPROVEMENT	☐ FAIL
Work is performed with a high degree of accuracy; errors are minor and few; technique is good; student usually follows instructions as directed; associates theory with practice; operates equipment correctly; QC is correct and documented; specimen ID is always correct.	Quality of work is occasionally deficient; improvements in technique and accuracy are needed; instructions sometimes need repeating; needs help associating theory with practice; needs additional help to operate equipment; QC sometimes missed; 1 specimen ID problem has occurred.	Work often contains an unacceptable percentage of errors or shows evidence of technique errors; instructions and/or procedure are not followed; associating theory with practice is difficult; needs help with equipment; QC errors have been unnoticed or undocumented; >1 specimen misidentified.

COMMENTS:

Organization and Productivity: consider the student's organizational skills, work area, speed and initiative.

☐ PASS	☐ NEEDS IMPROVEMENT	☐ FAIL
Completes assigned lab tasks on or before allotted time; lab time is used wisely and efficiently; workflow is easy to follow; student appears to use provided and/or recommended resources for learning; assists classmates appropriately; work area is clean, organized and stocked.	Speed needs improvement; prompting is occasionally needed to complete assignments on time and keep on task; work area appears disorganized at times; does not usually seek additional learning opportunities; may assist classmates inappropriately; cleanliness and restocking needs reminding.	Assigned tasks are often not completed on time; student does not appear to use resources provided or seek additional help when needed; unwilling to assist classmates or assists inappropriately; cleanliness and restocking is either careless or neglected.

COMMENTS:

Grade _____

(≥ 1 N = N grade, ≥ 1 F = F grade)

APPENDIX B

Individual Graduation Plan A45420 – Medical Laboratory Technology

The Medical Laboratory Technology curriculum prepares individuals to perform clinical laboratory procedures in chemistry, hematology, microbiology, and immunohematology that may be used in the maintenance of health and diagnosis/treatment of disease. Course work emphasizes mathematical and scientific concepts related to specimen collection, laboratory testing and procedures, quality assurance and reporting/recording and interpreting findings involving tissues, blood, and body fluids. Graduates may be eligible to take the examination given by the Board of Certification of the American Society for Clinical Pathology. Employment opportunities include laboratories in hospitals, medical offices, industry, and research facilities.

Developmental Requirements

(Some developmental requisites may be waived based on placement scores, course selection, etc.)

Year	Semester	Grade	Course Number and Title	Hrs	Prerequisites	Corequisites	
			CIS 070	Fundamentals of Computing	1		
			DMA 010	Operations with Integers	1		
			DMA 020	Fractions and Decimals	1*	DMA 010	
			DMA 030	Propor/Ratio/Rate/Percent	1*	DMA 010 and 020	
			DMA 040	Express/Lin Equat/Inequal	1*	DMA 010, 020 and 030	
			DMA 050	Graphs/Equations of Lines	1*	DMA 010, 020, 030 and 040	
			DMA 065	Algebra for Precalculus	2*	DMA 010, 020, 030, 040, and 050	
			DRE 096	Integrated Reading and Writing	3		
			DRE 097	Integrated Reading Writing II	3*	DRE 096	
			DRE 098	Integrated Reading Writing III	3*	DRE 097	

Curriculum Program Requirements

Year	Semester	Grade	Course Number and Title	Hrs	Prerequisites	Corequisites	
1st Semester							
			ACA 122	College Transfer Success	1*	(CIS 070 or CIS 110) and DRE 097	
			BIO 163	Basic Anat & Physiology	5*	DRE 097	
			MLT 110	Intro to MLT	3*	DMA 010, DMA 020 and DMA 030	
2nd Semester							
			CHM 151	General Chemistry I	4*	DMA 010, DMA 020, DMA 030, DMA 040, DMA 050 and DMA 065	
			ENG 111	Writing and Inquiry	3*	DRE 098	CIS 070 or CIS 110
			MLT 111	Urinalysis & Body Fluids	2*	DRE 098, MLT 110 and Enrollment in the Medical Laboratory Technology Program	BIO 163
			MLT 140	Intro to Microbiology	3*	DRE 098, MLT 110 and Current Program Status	BIO 163

3 rd Semester						
			CHM 152	General Chemistry II	4	CHM 151
			MLT 120	Hematology/Hemostasis I	4	MLT 110 and Current Program Status
			MLT 126	Immunology and Serology	2	MLT 110 and Current Program Status
			MLT 127	Transfusion Medicine	3	MLT 110 and Current Program Status
4 th Semester						
			BIO 271	Pathophysiology	3	BIO 163 or BIO 169
			PHI 240	Introduction to Ethics	3	ENG 111
			PSY 150	General Psychology	3*	DRE 096
			MLT 215	Professional Issues	1*	MLT 110, MLT 120, MLT 126, MLT 127, MLT 140 and Current Program Status ACA 122
5 th Semester						
			ENG 112	Writing/Research in the Disc	3	ENG 111
			MLT 130	Clinical Chemistry I	4	CHM 151, MLT 120 and Current Program Status
			MLT 220	Hematology/Hemostasis II	3	MLT 220 and Current Program Status
			MLT 240	Special Clin Microbiology	3	MLT 111, MLT 140 and Current Program Status
Clinical Work Experience						
			MLT 283	MLT Practicum I	13	CHM 151, ENG 112, MLT 126, MLT 127, MLT 130, MLT 220, MLT 240 and Current Program Status
TOTAL PROGRAM HOURS REQUIRED =					70	
Total Developmental Hours Required * =						
Total Hours Required =						
* Hours may be required as indicated by placement scores increasing the number of semester hours required for program completion.						
Notes:						
_____				_____		
<i>Student Signature</i>				<i>Date</i>		
_____				_____		
<i>Advisor/Counselor Signature</i>				<i>Date</i>		

7/31/17

APPENDIX C

SCC Library Resources

January 31, 2018

BLOOD BANK

- Blaney: Basic and Applied Concepts of Immunohematology, Mosby, 2008.
Fung: Technical Manual, AABB, RM172.T43, 2014.
Harmening: Modern Blood Bank and Transfusion Practices, F.A. Davis, RM172.M62, 2012.
Hillyer: Blood Banking and Transfusion Medicine, Elsevier, RM171.B583, 2007.
Quinley: Immunohematology Principles and Practice, Lippincott, RM171.I43, 2010.
Rudman: Textbook of Blood Banking and Transfusion Medicine, Saunders, RM171.T45, 2005.

CHEMISTRY

- Arneson: Clinical Chemistry: a laboratory prespective, F.A. Davis, RB40.C5693, 2007.
Bishop: Clinical Chemistry: Techiques, Principles and Correlations, Lippincott, RB40.576, 2013.
Bruns: Fundamentals of Molecular Diagnostics, RB43.7.B8, 2007.
Burtis: Tietz Fundamentals of Clinical Chemistry and Molecular Diagnostics, Saunders, RB40.F84, 2015.
Caroli: Analytical Techniques for Clinical Chemistry Methods and Applications, Wiley, 2012.
Kee: Fluids and Electrolytes with Clinical Applications, Delmar, RC630.K43, 2010.
Marshall: Clinical Chemistry, Mosby, RB40.M284, 2012.
Renz: Advances in Clinical Chemistry and Laboratory Medicine, Waster De Gruyter, 2012 ebook.
Schmaier: Concise Guide to Hematology, Wiley-Blackwell, 2012 ebook.
Williams: Handbook of Diabetes, Blackwell Publishing, RC660.W49, 2008.

HEMATOLOGY

- Carr: Clinical Hematology Atlas, Elsevier Saunders, RB145.C26, 2012.
Ciesla: Hematology in Practice, F.A. Davis, RB145.C5444, 2011.
Harmening: Clinical Hematology and Fundamentals of Hemostasis, F.A. Davis, RB145.C536, 2009.
Hatton: Lecture Notes Haematology, John Wiley and Sons, 2013.
Johnson: Essential Laboratory Mathematics, Thomson/Delmar, RB38.3.J647, 2009.
McKenzie: Clinical Laboratory Hematology, Person Prentice Hall, RB45.M385, 2014.
Provan: Oxford Handbook of Clinical Haematology, Oxford UP, 2009.
Turgeon: Clinical Hematology: theory and procedures, Lippincott, RB145.T79, 2011.

MICROBIOLOGY

- Alcamo: Schaum's Outlines: Microbiology, McGraw-Hill, QR62.A432, 2010.
Baron: Manual of Clinical Microbiology, ASM, 2007.
Bogistsh: Human Parasitology, Elsevier, QR251.B47, 2014.
Engelkirk: Laboratory Diagnosis of Infectious Diseases: Essentials of Diagnostic Microbiology, Wolters Kluwer Health/Lippincott, QR67.E54, 2008.
Forbes: Bailey and Scott's Diagnostic Microbiology, Elsevier, QR67.B37, 2007.
John: Markell and Voge's Medical Parasitology, Elsevier, RC119.M3, 2008.

- Koneman: Color Atlas and Textbook of Diagnostic Microbiology, Williams and Wilkins, R67.C64, 2006.
- Leventhal: Medical Parasitology: A Self-Instructional Text, E.A. Davis Company, QR251.L38, 2012.
- Maczulak: Encyclopedia of Microbiology, Facts On File, QR9.M33, 2011.
- Mahon: Textbook of Diagnostic Microbiology, QR67.T49, 2015.
- Rai: Applied Mycology, Wallinford, 2009 ebook.
- Reiss: Fundamentals Medical Mycology, Wiley-Blackwell, 2012 ebook.
- Sratton: Clinical Microbiology Quality in Laboratory Diagnosis, Demos Medical, 2012 ebook.
- Ziebig: Clinical Parasitology, Saunders, QR255.Z45, 2012.

INTRODUCTION TO MLT

- Chabner: The Language of Medicine, W.B. Saunders, R123.C43, 2013.
- Chernecky: Laboratory tests and diagnostic procedures, Elsevier, RB38.2.L33, 2013.
- Ciulla: Success in Clinical Laboratory Science, Pearson, RB38.25.M42, 2010.
- Craig: Clinical Calculations Made Easy: Solving Problems Using Dimensional Analysis, Lippincott, RS57.C73, 2011.
- Cox: Palko's Medical Laboratory Procedures, McGraw Hill, RB38.2.C69, 2011.
- Daniels: Clinical Calculations: A Unified Approach, Delmar, RS57.D36, 2013.
- Doucette: Mathematics in the Clinical Laboratory, Saunders, RB38.3.D68, 2015.
- Flynn: Procedures in Phlebotomy, W.B. Saunders. RB45.15.F596P763, 2011.
- Fitzgerald: Glencoe Phlebotomy for Health Care Personnel, Glencoe McGraw-Hill, RB45.15.F586, 2009
- Garza: Phlebotomy Handbook: Blood Collection Essentials, Appleton and Lang, RB45.15.G372, 2014.
- Henry: Clinical Diagnosis and Management by Laboratory Methods, Saunders, RB37.C54, 2011.
- Hoeltke: The Complete Textbook of Phlebotomy, Delmar, RN182.H64, 2012.
- Hoeltke: Phlebotomy Procedures and Practices, Delmar, RB45.15.H64, 2012.
- Hubbard: A Concise Review of Clinical Laboratory Science, Wolters Kluwer, RB38.25.H83, 2010.
- Jacobs: Laboratory Test Handbook, Lexi-Comp, RB38.2.L327, 2011.
- Kalanick: Phlebotomy Technician specialist: Certification Exam Review, Thomson/Delmar Learning, RB45.15.K355, 2011.
- Lesmeister: Math Basics for the Health Care Professional, Prentice Hall, R853.M3B46, 2013.
- Lieseke: Essentials of Medical Laboratory Practice, F.A.Davis, RB37.L54, 2012.
- McCall: Phlebotomy Essentials, Lippincott, RB45.15.M33, 2011.
- Newby: HIPAA for Allied Health Careers, McGraw-Hill, KF3827.R4N52, 2009.
- Purtilo: Health Professional/Patient Interaction, Saunders, R727.3.P87, 2012.
- Sommer: Phlebotomy Worktext and Procedures Manual, Saunders, RB45.15.S664, 2015.
- Stanfield: Introduction to the Health Professions, Jones and Barlett, R690.M55, 2011.
- Warekoi: Phlebotomy: Worktext and Procedures Manual, Saunders Elsevier, RB45.15.S664, 2015.
- Wu: Self-Assessment in Clinical Laboratory Science, AACCC Press, RB40.W8, 2008.

SEROLOGY

- Buckingham: Molecular Diagnostics, F.A. Davis, RB43.7.B83, 2012.
Carruthers: Bloodborne Pathogens, Jones and Bartlett Publishers, RA642.B56C37, 2005.
Crowley: An Introduction to Human Disease: A Student Workbook, Jones and Bartlett Publishers, RB112.C769, 2012.
Mahon: Clinical Laboratory Immunology, Prentice Hall, RB46.5.M34, 2006.
Specter: Clinical Virology Manual, American Society of Microbiology, QR387.C48, 2009.
Turgeon: Immunology and Serology in Laboratory Medicine, Mosby, RB46.5.T87, 2013.
Turkington: Encyclopedia of Infectious Diseases, Facts on File, RC112.T87, 2007.

URINALYSIS

- Adelman: Atlas of Sperm Morphology, ASCP, QM602.A34, 1989.
Brunzel; Fundamentals of Urine & Body Fluid Analysis, RB 53 .B86, 2012.
Delanaye: Nephrology and Clinical Chemistry the Essential Link, Bentham Science, 2012.
Graff: A Handbook of Routine Urinalysis, Lippincott, RB53.G73, 1983.
Kruger: Atlas of Human Sperm Morphology Evaluation, Taylor and Francis, QP255.A85, 2004.
Ringsrud: Urinalysis and Body Fluids, Mosby, RB53.587, 2014.

RELATED TEXTS

- Alba's Medical Technology: Board Examination Review and Text, Volumes 1 and 2, RB37.A57, 1996.
ASCP Press: Board of Registry Study Guide, RB37.B6, 1993.
Beck: NCA Review for the Clinical Laboratory Sciences, Little, Brown and Company, RB38.25.N38, 2002.
Chabner: The Language of Medicine, W.B. Saunders, R123.C43, 2013.
Dorland's Pocket Medical Dictionary, Mosby, R121.A25, 2012.
Fry: Ace Any Test, Career Press, LB3060.57.F79, 2011.
Harr: Clinical Laboratory Science Review, F.A. Davis, RB38.25.C574, 2011.
Leonard: Quick and Easy Medical Terminology, Saunders, R123.L47, 2013.
Marieb: Essentials of Human Anatomy and Physiology, Benjamin Cummings, QP34.5.M455, 2015.
Maxwell: The 17 Indisputable Laws of Teamwork, HD66.M375, 2013.
Maxwell: The 21 Indispensable Qualities of a Leader, BF637.L4M39, 2007.
McCutcheon: Exploring Health Careers, Thomson/Delmar Learning, R690.M354, 2006.
Memmler: Study Guide for Memmler's Human Body in Health and Disease, Lippincott, QP34.M48, 2013.
NCA Review for Clinical Laboratory Sciences, Little, Brown, RB38.25.N34, 2002.
Polansky: Medical Laboratory Technology Pearls of Wisdom, Boston Medical Publishing, RB37.P64, 1999, 2014.
Resumes for Health and Medical Careers, VGM, R690.R48, 2008.
Stedman's Medical Dictionary, Lippincott, R121.S8, 2011.
Turkington: Encyclopedia of Infectious Diseases, Facts on File, RC112.T87, 2007.