MITCHELL TECH

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Medical Laboratory Technology Student Handbook

www.mitchelltech.edu

Program Introduction

Welcome to the Mitchell Technical College's (MTC) Program for:
Medical Laboratory Technology
MLT Program

This program presents a unique didactic and clinical challenge to students: A combination of classroom study and clinical rotation for practical application. Most classroom study will occur on the MTC campus. Clinical practicum will occur at a variety of hospital/clinic sites throughout South Dakota. A list of current clinical sites will be listed in the handbook.

Students graduating from the program will be eligible for the national certification examination offered by the ASCP Board of Certification.

STUDENT AGREEMENT

I have read the policies of MTC and the MLT Program and I agree to adhere to program policies described within.

_____
Print name

_____
Signature

_____
Date

A copy of this form is to be placed in the student's file.

Mitchell Technical College
Mission Documents

VISION STATEMENT:

Mitchell Technical College will be an innovative leader in technical education and a valued partner in global workforce development, preparing students for career success and lifelong learning in an ever-changing world.

MISSION STATEMENT:

It is the mission of Mitchell Technical College to provide skills for success in technical careers.

CORE VALUES:

o Learning: MTC provides high-quality Associate of Applied Science degree, diploma, and certificate programs which prepare students for successful careers.

o Life Skills: MTC prepares graduates for lifelong learning by building skills in technology, communication, professionalism, problem-solving, teamwork, and adaptability.

o Access: MTC provides educational services and quality training to students, alumni, businesses, and the community, both on campus and at a distance.

o Innovation: MTC integrates state-of-the-art technologies, instructional methods, and facilities to deliver a high-quality, unique educational experience.

o Excellence: MTC commits to improve student learning and institutional effectiveness through a system of assessment and continuous review.

o Talent Investment: MTC recruits, develops, and invests in skilled, dedicated, and student-oriented faculty and staff.

o Community: MTC builds student community through social and recreational activities, counseling support, and a student government structure administered through organized student services.

o Diversity and Respect: MTC seeks and values a diverse population and responds to the unique needs of individuals, recognizing the dignity and worth of all people and fostering a climate of respect among its students, faculty, staff, and administrators.

o Advocacy: MTC promotes the value of technical education through the development of relationships with stakeholders and activities that raise awareness of the institute's mission.

o Equity: Mitchell Tech strives to address gaps in achievement so that every student receives purposeful, ongoing support and programming to be successful throughout the college experience.

Medical Laboratory Technology Program
Mission Statement

It is the mission of the Mitchell Technical College Medical Laboratory Technician Program to provide skills necessary upon graduation to be able to successfully demonstrate entry- level competencies of a MLT professional.

Program Goals:

1. Students will demonstrate competency in the clinical setting.
2. Students will think critically.
3. Students will communicate effectively.
4. Students will demonstrate professional attitudes, behaviors, growth, and ethics.
5. Graduates will be prepared to become certified Medical Lab Technicians employed in their field.

Program Outcomes:
At the completion of the program, graduates will be able to:

1. Demonstrate Competency in the clinical setting.
2. Apply critical thinking skills.
3. Demonstrate communication skills when working with patients and members of the healthcare team.
4. Follow legal and ethical guidelines in the medical laboratory field.
5. Meet acceptable benchmarks for BOC according to NAACLS Standard 11B.

Faculty for the MLT Program

Program Director: Lynne M. Smith, M.Ed., MLS (ASCP)
B.S., South Dakota State University
M. Ed., South Dakota State University

Faculty: Shirlyce Weisser, MLT (ASCP)
A.A.S., Mitchell Technical College
B.G.S. South Dakota State University

Admissions Procedures

NON-DISCRIMINATION POLICIES

Non-Discrimination Statement

Mitchell Technical College does not discriminate in its employment of policies and practices, or in its educational programs on the basis of race, color, creed, religion, age, gender (including pregnancy), sexual orientation, disability, national origin, or ancestry, military/veteran status, genetic information or any other category protected by law.

Sexual Harassment - Title IX (MTC Policy 117)

Title IX is part of a 1972 federal education law that prohibits discrimination on the basis of sex in any federally funded education program or activity. Sexual harassment and sexual violence are forms of sex discrimination. Mitchell Technical College is committed to providing a workplace and educational environment, as well as other benefits, programs, and activities, that are free from sexual harassment. To ensure compliance with federal and state civil rights laws, MTC has developed this policy and related procedures to provide a prompt, fair, and impartial process for those involved in an allegation of sexual harassment as defined by this policy. MTC values and upholds the equal dignity of all members of its community and strives to balance the rights of the parties during what is often a difficult time for all those involved.

Inquiries concerning discrimination, sexual harassment, and the application of Equal Opportunity, Title IX or Section 504 may be referred to the Mitchell Technical College Title IX Coordinator named below. Reports concerning discrimination, sexual harassment, and the application of Equal Opportunity, Title IX or Section 504 can be made at any time, including non-business hours by using the Title IX Coordinator's listed telephone number or email address, or by any other means that results in the Title IX Coordinator receiving the person's verbal or written report.

John Heemstra, Vice President for Operations
john.heemstra@mitchelltech.edu
Mitchell Technical College
1800 E. Spruce St.
Mitchell, SD 57301
Phone: (605) 995-7204

OR

US Department of Education - Office for Civil Rights
One Petticoat Lane
1010 Walnut Street, 3rd floor, Suite 320
Kansas City, MO 64106
Phone: (816) 268-0550
Fax: (816) 268-0599
TDD: (800) 877-8339
Email: ocr.kansascity@ed.gov

MLT PROGRAM ADMISSION CRITERIA

Each of the following must be met:

Qualifications for Admission

1. Applicant must be in good health and must be able to comply with the "Physical Demands and Working Conditions" as outlined in the Essential Requirements and MLT Competency Release forms enclosed. Applicants must also meet the immunization requirements.

2. Communication requirements: To ensure patient safety fluency in written and spoken English is essential.

3. Environmental risks: Individuals may be exposed to blood borne pathogens and physical hazards such as needle sticks or injuries sustained from collection and processing of body fluid samples, equipment, or materials.

4. The applicant must be a high school graduate or have equivalent certificate.

5. Applicants are encouraged to submit American College Testing Program (ACT) scores. An ACT composite score of 18 is the admissions standard.

6. Upon acceptance to the program, a background check must be successfully completed at the applicant's expense.

7. In the event the student did not take the ACT test, the Accuplacer will be administered. The Accuplacer test is the entrance test used at MTC.

   Admissions personnel and program faculty have met to discuss the testing standards for respective programs.

   The **minimum** Accuplacer entrance scores for each category are listed below:

Reading	254
Math	224
English	250

8. Applicant's overall high school GPA must be at least 2.5 on a 4.0 point scale or equivalent.

9. Applicants must have completed high school Algebra I and II, chemistry, and biology with a "C" grade or better.

10. Meet with the program director and admissions staff to review program prerequisites and requirements if the above criteria are not met.

The program director will make the final decision on admission to the program.

Admission Process

1. Obtain application packet from MTC Admissions Office.
2. Submit necessary information to the Admissions Office.
3. Successfully complete a background check at the applicant's expense.
4. If admission requirements are met, the applicant will be notified of admission to the MLT program.

Pre-training Health Assessment / Immunization

The MTC department of Medical Laboratory Technology does not require a physical before entrance to programs is granted. However, it is suggested that all applicants review the physical requirements and working conditions listed in Essential Requirements for Clinical Laboratory Sciences description. The program does require certain immunizations before the student will be allowed to perform their clinical practicum. These immunizations are required out of concern for student health and safety in the clinical setting.

Please refer to the immunization section on page 14.

If any of these requirements are not met the applicant must meet with the program director and admission staff to review program prerequisites and requirements. The Program Director will make the final decision on admission to the program.

MITCHELL TECHNICAL COLLEGE ADMISSION REQUIREMENTS

The MTC Catalog and Student Handbook contains admissions requirements, how to apply for admission, and the admissions process. Placement testing policies, admissions guidelines, and information regarding immunization requirements can be found in the Catalog and Student Handbook, published on the MTC website.

1800 E Spruce Street • Mitchell, South Dakota 57301 • (800) MTC-1969 • www.mitchelltech.com

Dear Student:

We would like to welcome you into the Medical Laboratory Technician program at Mitchell Technical College. As you may know, careers in health care are the fastest growing occupations in the employment sector. We would like to take this opportunity to share with you some information about the program.

This two-year program will prepare you for employment as a Medical Laboratory Technician responsible for performing laboratory analysis. You will spend three intensive semesters taking courses such as Medical Laboratory Fundamentals, Anatomy/Physiology, Hemostasis, Hematology, Intro to Lab Chem, Clinical Chemistry, Immunohematology and others. Specific course requirements are detailed in the MTC Catalog of Course Offerings.

After completion of classroom and laboratory classes, you will be assigned to an affiliated hospital or clinical lab for a six-month externship. During this time, you will work under the supervision of lab personnel and will perform tests and other lab work as well as complete class assignments.

As you prepare to enter this exciting career field, there are a few things you should know about the required competencies for a certified lab technician. Of course, you will have to adhere to the academic competencies and requirements of MTC. In addition to those, you will need to have the ability to learn to perform several tasks. Please read the attached carefully and determine if you have any limitations that would prohibit you from performing any one of the fifteen tasks. If not, detach, sign and return the form to the MTC Admissions Office. We must have a signed copy of this release on file to complete your application file. If you do have a limitation that would prohibit you from performing any task on this list, please contact the Admissions Office by telephone or in person immediately.

We look forward to meeting with you and answering your questions. Please call our Admissions Office to set up a time when you can visit with us. If we can be of any assistance, please call.

Sincerely,

Lynne M. Smith, M.Ed., MLS (ASCP) Program Director
Medical Laboratory Technician

COMMITTEE ON MEDICAL TECHNOLOGY EDUCATION

Essential Requirements for Clinical Laboratory Sciences

Essential requirements are performance related and provide criteria so that the potential applicants can independently evaluate their own ability to fulfill the expected requirements of a medical laboratory technician. These requirements are made available to facilitate a valid career choice by the potential applicant. The achievement of these cognitive and technical competencies should not endanger or compromise the health and welfare of other students, patients, or allied health professionals and should not impose "undo hardship" upon the medical facility and/or its patients. If you are not sure that you will be able to meet the essential requirements, please consult with the Program Director for further information and to discuss your individual situation.

The applicant needs to be able to meet the following minimum Essential Requirements:

1. Ability to satisfy visual requirements:
    a. Read orders, policies, procedures, test results, charts, graphs, instrument printouts, number sequence, etc.
    b. Differentiate colors; e.g., test results, color codes, etc.
    c. Identify microscopic structures, cells, and organisms
    d. Determine specimen suitability.
2. Ability to satisfy motor/movement requirements:
    a. Report appropriately to alarms, pagers, telephones
    b. Obtain and measure specimens and reagents precisely
    c. Prepare reagents, operate delicate instrumentation and analytical equipment according to established protocol
    d. Stand and/or sit for prolonged periods
    e. Comply with safety regulations; e.g., utilize protective equipment whenever there is a potential exposure to infectious organisms, body fluids, or toxic chemicals
    f. Perform duties requiring manual/finger dexterity; e.g., use a computer keyboard to accurately enter and transmit data and information in a timely manner, manipulate and adjust gauges and microscopes, perform venipunctures
    g. Reach laboratory bench tops and shelves, and patients lying in hospital beds or seated in specimen collection furniture
3. Ability to satisfy communication/behavioral requirements:
    a. Remain calm and exercise good judgment under stressful and/or emergency situations
    b. Communicated with patients, fellow students, visitors, and healthcare professionals by giving or receiving instructions, test results, and various messages verbally, in writing, by facsimile, or via the computer
    c. Maintain a cooperative and productive working relationship with patients, fellow students, and healthcare workers
    d. Remain flexible, creative, and adaptive to professional and technical change
    e. Manage time well and display fine organizational skills to effectively complete professional and technical tasks
    f. Practice honest, compassionate, ethical, and responsible conduct
4. Ability to satisfy intellectual/conceptual requirements:

a. Possess these intellectual skills: comprehension, measurement, mathematical calculation, reasoning, integration, analysis, comparison, self-expression, and criticism
b. Exercise sufficient judgment to recognize and correct performance deviations
c. Prepare, review, and evaluate papers, laboratory reports, reagents and materials in order to meet the needs of various procedural standards.

The National Accrediting Agency for Clinical Laboratory Sciences requires that accredited Medical Technology Programs define and publish "specific technical standards: (essential requirements) required for admission to the program, and to determine "that the applicant's or student's health will permit him/her to meet these technical standards" (essential requirements).

Please sign this form to indicate that you have read and understood the program's essential requirements (technical standards) and believe that you can meet them.

Applicant's Signature _____ Date _____

IMMUNIZATION RECORD
Mitchell Technical College Medical Laboratory Technology

IMMUNIZATIONS

Students must have current immunizations or laboratory verification of immune status as required by contracts with clinical facilities and CDC recommendations.

The following immunization requirements must be met or in-process before the student will be allowed to enter the clinical setting.

Official copies of immunizations must be available. Documentation of student immunization status is essential to ensure the health and safety of student and patients/residents in healthcare agencies that provide clinical learning experiences.

1) PPD (Tuberculin Skin Tests)
   a) Incoming MLT students are required to complete the two-step procedure unless documentation of the results of a TB test completed during the previous 12 months is provided. If this documentation is provided, a one-step TB skin test will be sufficient. For the initial two step PPD, two separate tuberculin skin test will need to be placed one to three weeks apart. Each test is read 48-72 hours after it has been placed. Documentation must show the dates and results of the test, as well as the lot numbers of the vaccine.
   b) Students with a positive PPD must provide documentation of a chest x-ray, treatment (if necessary), and a release to work in a healthcare setting from a doctor or healthcare provider.
2) Hepatitis B Vaccines and/or Titer
   a) This is a three-shot series vaccination. Student must have the **second** injection prior to entering the program. Adults getting Hepatitis B vaccine should get three doses with the second dose given four weeks after the first and the third dose five months after the second. Your healthcare provider can tell you more about dosing schedules that might be used in certain circumstances.
   b) If documentation of 3 Hepatitis vaccines is unavailable, a titer must be drawn. The titer needs to show immunity to Hepatitis B. If the titer is negative, the student is required to repeat the Hepatitis B three-dose series.
3) Measles, Mumps, Rubella (MMR) Vaccines
   a) Student must provide documented administration of two doses of MMR vaccines OR documentation of titer indicating immunity to all three infections. Medical documentation of an allergic reaction that would prevent MMR vaccination is needed.
4) Tetanus/Diphtheria/Pertussis (tdap) Immunization
   a) Students must have a current, within 10 years, Tetanus/Diphtheria/Pertussis injection, or booster.
5) Varicella (Chickenpox) Immunization
   a) Documentation of a varicella titer showing immunity; or
   b) Documentation of two administered doses of Varicella vaccine

6) Influenza Vaccine
   a) Students are required to receive an annual influenza vaccination by October 31st of each year. Written documentation is needed from a healthcare provider for those indicating a flu vaccination cannot be administered.
7) COVID-10 Vaccination
   - Written documentation of your COVID-19 vaccination(s). Documentation must include the vaccine manufacturer.
   - One of the following is required
     - 1 Jansen (Johnson and Johnson) COVID vaccination; or
     - 2 Moderna (NIAID) COVID vaccinations; or 2 Pfizer (BioNTech) COVID vaccinations

TRANSFER STUDENTS

Students with prior post-secondary credits with a grade of C or better may transfer credits to the MLT program. These credits will be evaluated comparatively to the credit requirements of the same curriculum/course at MTC and must have the approval of the Program Director.

Technical courses may be transferable if they are from a NAACLS accredited program.

All admission requirements must be met as set forth by Mitchell Technical College

Transfer credits must meet the criteria found in the Mitchell Technical College catalog.

Curriculum

GENERAL DESCRIPTION OF THE MLT PROFESSION

The medical laboratory technician (MLT) is an allied health professional who is qualified by academic and practical training to provide service in clinical laboratory science. The MLT must also be responsible for his/her own actions as defined by the profession.

The ability to relate to people, a capacity for calm and reasoned judgment and a demonstration of commitment to the patient are qualities essential for a MLT. They must demonstrate ethical and moral attitudes and principles, which are essential for gaining and maintaining the trust of professional associates, the support of the community and the confidence of the patient and family. An attitude of respect for the patient and confidentiality of the patient's records and/or diagnosis must be maintained.

The MLT program at MTC is accredited by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS). A student spends the first three semesters of the program on the campus in classrooms and laboratories at MTC. The fourth semester of the program is at an affiliated hospital/clinic for a clinical practicum externship. During this time the student will work under the supervision of the laboratory personnel performing tests and other laboratory work as well as completing class work.

Upon successful completion of the MLT Program the student will be awarded an Associate of Applied Science Degree. Graduates are eligible to take the BOR certification exam for Medical Laboratory Technicians (MLT) offered by the ASCP Board of Certification.

General Considerations Expected of the Students in the Medical Laboratory Department

1. The instructor and the students are expected to demonstrate both verbally and through their deportment, RESPECT, COURTESY and CIVILITY at all times.
2. The following student behaviors detract from the learning environment and students who fail to follow these guidelines will be asked to cease or leave the class.
    a. Reading materials not related to the ongoing class activities.
    b. Sleeping, talking or other forms of overt inattention that distract other students or the instructor.
    c. Cell phones must be turned off during class. In the case of an emergency, please notify the instructor and allowances may be made.
    d. Conduct that is disrespectful towards the instructor or other students.
    e. Conversations that are not part of the normal class discussion.
    f. Disruptive “early” closing of notebooks, putting on of coats, etc.
3. If a student has a concern about an instructor the proper chain of command is to:
    a. First visit with the instructor of that class about the concern
    b. If the student feels that the concern is not addressed, the student should talk to the program director.
    c. If the issue is not resolved the final step is to visit with the Vice President of Academics.

MEDICAL LABORATORY TECHNOLOGY COURSE DESCRIPTIONS

ML 104 MEDICAL LABORATORY FUNDAMENTALS/LAB

(A grade of "C" or above is required for continuation of technical courses.)

This course covers introduction to medical laboratory work with specific reference to the role, ethics, conduct, certification, education, employment and fundamental knowledge and skills related to medical laboratory personnel. Basic mathematics review and lab related math such as the metric system, temperature conversions, concentration units, dilutions, ratios and statistics used in quality control are covered. Included in this course are laboratory safety requirements to include Universal Precautions. Collections and preparation of laboratory specimens are covered to include venipunctures and capillary sticks, reporting of laboratory results, and quality assurance. Laboratory knowledge in use of a microscope and centrifuge is covered. A grade of "C" or below in either lab or lecture will mandate that the student must repeat Fundamentals lecture and the Fundamentals lab classes.

ML 105 LABORATORY INSTRUMENTATION

(A grade of "C"or above is required for continuation of technical courses.)

This class in about laboratory instrumentation to include basic design of advanced laboratory automation used in today's laboratory. This will include laboratory glassware, balances/scales, pipetting, spectrophotometry, turbidimetry, nephelometry, ion selective electrodes, chromatography and more advanced quality assurance.

HS 103 ANATOMY/PHYSIOLOGY

(A grade of "C"or above is required for continuation of technical courses.)

Course covers the basic anatomy and physiology of the human body as well as medical terminology. Systems studied include: integumentary, muscular-skeletal, nervous, circulatory, lymphatic, respiratory, urinary, digestive, endocrine, and reproductive. Major emphasis is on relationships with diagnostic medical laboratory tests.

ML 121 URINALYSIS/BODY FLUID

(A grade of "C" or above is required for continuation of technical courses.)

Course covers the anatomy, physiology and related pathology of the urinary system. Major emphasis is on the related theory and performance of physical, chemical and microscopic analysis of urine as well as collection, preservation and proper reporting of analysis. Certain renal function tests are covered. Included also are the anatomy, physiology, and related pathology of body fluids to include feces, semen, laboratory collection preparation, preservation and analysis of body fluids.

HS 101 MEDICAL TERMINOLOGY

(A grade of "C"or above is required for continuation of technical courses.)

Course covers basic medical terminology to include root words, suffixes and prefixes commonly used in the medical field. Students learn to pronounce, learn the definitions and use a combination of these in the laboratory sciences.

ML 171 IMMUNOLOGY/SEROLOGY

(A grade of "C" or above is required for continuation of technical courses.)

Course covers basic genetics, meiosis, mitosis, and understanding of the immune system as the antigen/antibody reactions, origin, stimulation, body response and rejection. A study of immunoglobulins, complement and classifications of immunity are included. Theory and practical applications of immunoassay procedures are

reviewed. Serological aspects include the related theory and performance of procedures and understanding of antigen/antibody reactions.

ML 144 INTRODUCTION TO LABORATORY CHEMISTRY

(A grade of "C" or above is required for continuation of technical courses.)

A beginning course in general and biological chemistry with applications specific to the medical laboratory. The student will become familiar with chemical terminology, the atomic structure, ionic and molecular compounds, organic chemistry, acids and base balance. The biochemistry of carbohydrates lipids, proteins, enzymes and hormones are presented and their relationship to the medical laboratory.

ML 111/112 HEMATOLOGY/HEMOSTASIS/LAB

(A grade of "C" or above is required for continuation of technical courses.)

Course covers the anatomy, physiology, and related pathology of the circulatory system with specific reference to the formation function and identification of blood cells. Major emphasis is on the related theory and performance of hematological procedures such as sample identification and collection and preparation, manual and automated leukocyte and erythrocyte counts, hemoglobin and hematocrit measurements, WBC Differentials, Leukocyte and erythrocyte morphology, RBC indices, erythrocyte sedimentation rate, platelet counts, reticulocyte counts, and eosinophil counts.

Introduction to cell counts of other body fluids such as spinal fluid, transudates and exudates are included. Automated hematological equipment is emphasized. Specific methodologies in common use in medical laboratories are followed. Hemostasis covers the theory and practical application of blood testing in regard to coagulation. Coagulation tests including capillary fragility, clotting time bleeding times, prothrombin times and partial thromboplastin times. Automated instrumentation for coagulation test procedures is used. Disease related Hemostasis is emphasized.

ML 230 CLINICAL CHEMISTRY

(Prerequisite of C or better in Basic Chemistry)

Course covers basic clinical chemistry and performance of the related theory of analytical chemical procedure such an identification, collection, handling, standardization and quality control of such chemical procedures as carbohydrate tests, renal function tests, therapeutic drug monitoring, endocrinology, and toxicology. Automated instrumentation is emphasized.

ML 240 MICROBIOLOGY

(A grade of "C" or above is required for continuation of technical courses.)

Course covers classification, identification and pathology of disease-causing organisms such as bacteria, fungus, yeasts, viruses, rickettsiae and parasites. Major emphasis is on the related theory and performance of microbiological procedures such as sterilization, collection and preparation of specimens, culturing methods, media preparation, staining techniques, antibiotic, sensitivity testing and identification of bacteria and other organisms.

ML 272 IMMUNOHEMATOLOGY (BLOOD BANKING)

(A grade of "C" or above is required for continuation of technical courses.)

(Prerequisite of C or better in Immunology/Serology)

Course covers the basic immunohematology aspects of blood factors and their relationship to blood transfusion and disease states. Topics include the history, identification, inheritance of blood factors and antigen/antibody relationships, involving detection of blood factors. Major emphasis is on the related theory and performance of immunohematology procedures such as ABO grouping, Rh typing, identification of other blood factors, direct and

indirect Coombs, Antibody screening, identification and titer, compatibility testing, transfusing of blood and blood components, selection, collection, storage of donor blood, and quality assurance.

All MLT Students are required to take the five required General Education Courses with a total of 16 credits for completion of their Associate of Applied Science Degree, which are:

Composition
Mathematics
Speech
Sociology
Psychology
Student Success

If a student fails to achieve a "C" in a required technical course, that student must reapply for admission to the program with the program director's permission. A student may not take a course more than two times.

Failure to maintain a 2.0 grade point average at MTC will prevent readmission to the program.

Re-admission Process

In order for a student to be re-admitted to the program after leaving, several requirements must be met:

1. The student must have withdrawn on their own accord and in good standing.
2. If the time period between technical courses and externship will be one year or longer technical courses must be repeated with a grade of "C" or better before entering an externship.
3. Students will be re-admitted only in the event that there is a vacancy in the class behind them.
4. Applications of students who are withdrawn for more than one year will be considered with all other applications received for that year.

Chemical Misuse and Dependency Policy

The Medical Laboratory Technology department follows the Drug and Alcohol Conduct Guidelines for Students found in the MTC Catalog and Student Handbook. Because of the requirements for certification and for the safety of the public, the MLT student policy further prohibits the use/misuse, possession, and distribution of controlled substances, drugs, and/or drug paraphernalia in any settings on- or off-campus related to MLT coursework. No student shall come to class, lab, or clinical setting while under the influence of alcohol, marijuana, controlled substances, or other drugs that can impair cognition and function.

When a college administrator, instructor, or clinical supervisor observes a student with behavior or appearance that is characteristic of alcohol or drug use in a school-related setting, the student will be required to submit to drug or alcohol testing. As soon as possible after the suspicion of impairment is voiced and brought to the student's attention, the student will be accompanied to a designated laboratory by an MTC representative such as faculty or a clinical supervisor. The student will be immediately suspended from school until test results are received. MTC is responsible for the cost of testing.

In the event that a reasonable suspicion occurs in the clinical setting, a manager or site supervisor should also contact Medical Laboratory faculty 605-995-7106 or the MTC Dean of Student Success at 605-995-7178.

If the results of the test(s) are positive, the student will meet with the Dean of Student Success or designee to determine disciplinary and treatment options that the student must follow to be reinstated into school (refer to MTC Student Handbook Drug and Alcohol Conduct Guidelines). The Medical Laboratory Program Director may recommend that the student be dismissed from the program.

- If the results of tests indicate a negative drug screen for alcohol or other illegal substances or for nonprescribed legal substances, the student shall meet with the Medical Laboratory Technology Program Director within one business day of the test results to discuss the circumstances surrounding the impaired behavior and arrange for completion of any missed class work.
- If the indicator was the odor of alcohol, the student will be mandated to discontinue the use of whatever may have caused the alcohol-like odor before returning to class/clinical.
- If the indicator was behavioral, consideration must be given to a possible medical condition being responsible for the symptoms. A medical referral for evaluation may be required.

If a student refuses to submit to drug/alcohol testing, it will be considered a positive result and the student will be removed immediately from the class/clinical setting. Transport arrangements will be made, and the student will remain out of the class/clinical area until a decision regarding the issue is finalized according to MTC's Drug and Alcohol Conduct Guidelines for Students.

Cell Phones, Social Media and General Internet Use

While students are performing clinical rotations, they are expected to use the phones of the facility for work related purposes only. Personal calls during work hours should be made only if absolutely necessary. Personal cellular telephone use and/or text messaging while on work time is prohibited, except during designated break periods and emergency. Students are expected to store personal cellular telephones with other personal items while in the clinical setting and not have them on their person.

Students are not to browse the internet or participate in personal social networking while they are in the clinical setting and clocked in.

Uniforms and Appearance

The MTC Department of Medical Laboratory Technology uniform is representative of Mitchell Technical College and of the Laboratory Professions. Students are required to meet these standards to project a professional image to patients, faculty and clinical staff. **These guidelines apply whether the student is wearing the scrub uniform or casual clothing.**

GROOMING & HYGIENE:

- Clean and neat appearance, not offensive, clothes tailored and properly fitted
- Conservative use of cosmetics, colognes, perfumes
- Fingernails must be well trimmed.
- Conservative hair color and style; styles that will come in contact with patients must be pulled back ex: hair that touches the student's shoulders must be pulled back.
- Limited accessories
- Visible body piercings are unacceptable with the exception of ears. Ears may be pierced but usually limited to 3 piercings on each ear.
- Existing tattoos must be concealed or approved by faculty if not concealable
- Men must be well groomed and facial hair must be well trimmed

Health Insurance Requirements

Students are required to carry their own health coverage. Proof of coverage must be provided to the faculty prior to beginning classes.

Infection Control / Work Related Injuries

Infection Control

It is the student's responsibility to report all suspected body fluid exposures to the faculty immediately.

School Related Injury

Any injury, no matter how severe, should be immediately reported to faculty (see "Health Insurance Requirements").

PRACTICUM COURSES

COURSE DESCRIPTIONS—CLINICAL PRACTICUM

Clinical practicum takes place at an affiliated medical laboratory. The major portion of the clinical practicum coursework is observing, practicing, and performing laboratory test procedures in a real work-type setting. Additional student activities during clinical practicum will include written assignments, keeping of records, taking comprehensive review examinations, and evaluation. The clinical practicum portion of the program is approximately 22 weeks in length for approximately 880 clock hours. The students' schedule and duties are set by the affiliated laboratory. The student is supervised at all times and is not paid a wage for time spent at the affiliated laboratory. The student will learn to organize a daily workload, increase technical expertise, recognize and correct performance errors, and follow a system of quality assurance and control.

ML 214 PRACTICAL CLINICAL HEMATOLOGY:
Some laboratory procedures expected in the Hematology/Hemostasis area are hemoglobin, hematocrit, leukocyte count, WBC differential sed-rate, erythrocyte count, platelet count, reticulocyte count, eosinophil count, clotting time, bleeding time, prothrombin time, activated partial thromboplastin time, preparation of bone marrow smears, venipuncture and capillary puncture to obtain blood samples. Additional hematological procedures may be performed at the option of the affiliated laboratory.

ML 224 PRACTICAL CLINICAL URINALYSIS:
Some laboratory procedures expected in the Urinalysis area are routine physical and chemical test; microscopic identification of formed elements; collection and preparation of 24-hour samples for quantitative test; pregnancy tests; renal function tests; occult blood; spinal fluid and other body fluid testing. Additional urinalysis procedures may be performed at the option of the affiliated laboratory.

ML 234 PRACTICAL CLINICAL CHEMISRY:
Some laboratory procedures expected in the Clinical Chemistry area are quantitative measurement of glucose, urea nitrogen protein and albumin/globulin, bilirubin cholesterol, electrolytes, enzymes, creatinine uric acid, calcium, toxicology, endocrine test, minerals, pH, blood gases, and the collection of blood by venipuncture, capillary puncture and arterial puncture. Additional chemical procedures may be performed at the option of the affiliated laboratory.

ML 244 PRACTICAL CLINICAL MICROBIOLOGY-SEROLOGY:
Some laboratory procedures expected in Microbiology are taking, setting up, plating, incubating, transporting, and transferring microbiological cultures; identification of organisms involving techniques such as grams stain, special stains, biochemical identification systems, coagulase and catalase tests; and antibiotic susceptibility tests. Serological procedures might include VDRL or RPR, ASO titer, infectious mono test, RA, C-RP test, hepatitis, rubella, AIDS, and other immunological procedures. Preparation of samples for parasitology and mycology study are also included.

ML 274 PRACTICAL CLINICAL IMMUNOHEMATOLOGY
Some laboratory procedures expected in Blood Banking are ABO grouping, Rh typing, direct and indirect coombs testing, antibody screening, and compatibility testing. Selection of blood donors, collection of blood for transfusion, storage and testing of blood and blood components. Additional blood baking procedures may be

included at the option of the affiliated medical laboratory.

MEDICAL LABORATORY TECHNOLOGY MLT PROGRAM

ASSOCIATE OF APPLIED SCIENCE DEGREE

Course schedule

FIRST YEAR

First semester			Credits
ML	104	Medical Laboratory Fundamentals	3
HS	103	Anatomy/Physiology	4
MATH	105	Mathematical Reasoning	3
SPCM	101	Fundamentals of Speech	3
HS	101	Medical Terminology	3
ML	105	Laboratory Instrumentation	2
SSS	100	Student Success	1
		TOTAL	19

Second semester			
ML	111	Hemostasis	2
ML	112	Hematology	6
ML	144	Intro to Laboratory Chem	3
ML	171	Immunology/Serology	3
ML	121	Urinalysis/Body Fluids	3
ENGL	101	English Composition	3
		TOTAL	20

SECOND YEAR

First semester Credits			
ML	240	Microbiology	6
ML	230	Clinical Chemistry	4
ML	272	Immunohematology	3
HS	100	Basic Life Support for Health Care	.5
		Behavioral Science Elective	3
		Social Science Elective	3
		TOTAL	19.5

Second semester (Clinical Practicum)			
ML	214	Practical Clinical Hematology	4
ML	224	Practical Clinical Urinalysis/Body Fluids	3
ML	244	Practical Clinical Microbiology/Serology	5
ML	274	Practical Clinical Immunohematology	4

Summer Session			
ML	234	Practical Clinical Chemistry/Immunoassay	6
		TOTAL	22

COURSE CURRICULUM AND GRADING

Each individual course in the Medical Laboratory Technician Program at Mitchell Technical College has a syllabus. Included in that syllabus is:

Instructor
Course Title
Credits
Prerequisites
Course Description
Course Purpose
Course Objectives
Student Participation/Contributions
Method of Instruction
Instructional Materials Evaluations and Requirements Grading Scale

ATTENDANCE POLICIES

Attendance requirements for the MLT Program will follow the general attendance policy of Mitchell Technical College as described in the Student Handbook. Attendance at each meeting of classes is vital to success in the Program.

In addition, the following will apply:

1. Due to the length and nature of most of the laboratory exercise it usually will not be possible to "make them up" after an absence.
2. Each instructor will have their own policy regarding missed quizzes, assignments, and examinations. Students may or may not be allowed to "make up" such quizzes, assignments, and tests.
3. A satisfactory attendance record must be maintained by the student during the didactic course work in order to obtain a clinical practicum assignment.
4. Credit for assignments will not be given when students are absent or tardy.
5. It is the STUDENT'S RESPONSIBILITY to notify the instructors of absences and to find out what materials were covered.
6. In specific regard to the clinical practicum, successful completion requires full attendance of the specified training period with verified attendance records. Time missed by the student must be accounted for and approved by the affiliated site. During the clinical practicum unsatisfactory attendance including tardiness may be cause for dismissal. The advisory committee has determined an excess of five days without serious cause is unsatisfactory. Failure to complete an externship due to unsatisfactory evaluations or attendance will result in failure to graduate from the program.

ATTENDANCE CONTRACT FOR EXTERNSHIP

An externship requires maturity, seriousness of purpose, and self-discipline. Every student is expected to attend each day required to fulfill the approximately 880 hours or be deemed an entry level tech, to arrive on time, and to stay for the full scheduled shift. MTC recognizes that absences occur because of circumstances beyond a student's control, as well as from a student's failure to accept responsibility for attending the externship regularly. To that end, the following attendance policy will be followed:

1. You are allowed 5 days of absences in this externship. If more than 5 days of absences occurs a meeting with your clinical supervisor and the program director must take place to allow you to continue in the program. A plan of action will be discussed at this point to allow continuation in the program.
2. A tardy is equivalent to 1 hour of absence. An accumulation of 4 hours will be counted as one day of absence. A tardy is defined as being 10 minutes late.
3. If the student will be absent, the facility and the program director must be notified as soon as possible.
4. In the case of a major life event, exceptions may be made on an individual basis. For example, emergency surgery or death of a family member.

Program Director Signature: _____ Date: _____

Extern Signature: _____ Date: _____

Clinical Supervisor Signature: _____Date: _____

Academic Integrity
Students are expected to do their own work unless advised that collaboration is acceptable. When taking a test, students are expected to keep their eyes on their own tests and protect their tests from being copied by classmates. To avoid plagiarism when using facts, quotes or ideas from another person or source, students must cite the source they used, even if they rephrase the content in their own words. Failure to use proper citation procedures is considered plagiarism.

Students who engage in academic dishonesty may be subject to assignment and/or course failure.

ADA Statement
I wish to fully include persons with disabilities in this course. Please let me know if you need any special accommodations in the instruction or assessments of this course to enable you to fully participate. The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with documented disabilities. It is the responsibility of the student to contact the Mitchell Tech Disabilities Coordinator at 995-7135 to further coordinate accommodations.

MTC Catalog and Student Handbook

Additional information related to academic policies and procedures can be found in the Mitchell Tech Catalog and Student Handbook. Information on tuition refunds, internships, credit hour system, grades, academic warning and suspension, repeating a course, and transferring to other institutions is all covered in the catalog and student handbook. MTC annually publishes the catalog and student handbook on its website. Archived copies from previous years are also available on the website.

SAFETY AGREEMENT

Although there are certain hazards present in the medical laboratory, it is possible to make the laboratory a safe work environment. Each laboratory worker must agree to observe all safety rules posted or unposted which are required by the instructor or employer. No set of rules can cover all the hazards that may be present. However, several general rules are listed below:

1. Keep all personal items, such as purses, book bags, cell phones, and binders away from your working area. These items should be placed on the back tables in the laboratory.
2. Avoid eating, drinking, smoking, gum chewing, or applying makeup in the work area.
3. Wear a laboratory jacket or coat and closed-toe shoes.
4. Pin long hair away from face and neck to avoid contact with chemicals, equipment, or flames.
5. Avoid wearing chains, bracelets, rings or other loose hanging jewelry.
6. Use gloves when handling blood, biological specimens, and hazardous chemicals or reagents.
7. Use universal barrier precautions in handling patients and biological specimens, including human blood and diagnostic products made from human blood.
8. Disinfect work area before and after laboratory procedures and any other time necessary.
9. Wash hands before and after laboratory procedures, before putting on and after removing gloves, and any other time necessary.
10. Discard all contaminated material into an appropriate, labeled biohazard container. (A rigid, puncture-proof container must be used for disposal of sharp objects such as needles and lancets.)
11. Wear safety goggles when working with strong chemicals and when splashes are likely to occur.
12. Wipe up spills promptly and appropriately for the type of spill.
13. Avoid tasting, smelling, or breathing the dust of any chemicals.
14. Follow the manufacturer's instructions for operating equipment.
15. Handle equipment with care and store it properly.
16. Report any broken or frayed electrical cords, exposed electrical wires, or damaged equipment.
17. Discard any broken glassware into a safe container.
18. Allow visitors only into nonworking area of the laboratory.
19. Report any accident to the supervisor immediately.

All students will agree to follow all set rules and regulations as required by the instructor or supervisor, including those listed above. Students have been informed that biological specimens and blood products may possess the potential of transmitting diseases such as hepatitis and acquired immunodeficiency syndrome (AIDS). Students understand that even though diagnostic products are tested for HIV antibodies and Hepatitis B surface antigen (HBsAg), no known test can offer 100% assurance that products derived from human blood will not transmit disease.

Student's signature: _____ Date: _____

STUDENT HEALTH

Students are responsible for their own medical and health care costs. Affiliated sites will provide emergency health care to students; however, students will bear the cost.

Mitchell Technical College students are covered by professional liability insurance. Such professional liability insurance coverage provides a minimum coverage limit of one million dollars ($1,000,000) per occurrence and three million dollars ($3,000,000) annual aggregate.

During a student clinical practicum experience at an affiliate site (hospital/clinic) Mitchell Technical College covers the student under their Workmen's Compensation Insurance.

IMMUNIZATIONS:

All MLT students must receive immunization for Hepatitis B virus. Documentation of previous immunizations or immunizations at Mitchell Technical College must occur. Prior to any participation in a clinical practicum experience, proof of such student's compliance with Hepatitis B immunization is necessary.

A current dTap, proof of Varicella zoster, Covid vaccination and two-step tuberculosis skin test are required upon admission to a clinical site by most affiliates.

REPORTING OF AN ACCIDENT

Any occurrence of an injury during the laboratory classes at Mitchell Technical College must be reported to an instructor immediately. An incident form must be completed. Forms are available in the Business Office.

All injuries during working hours at an affiliated site must be reported to a clinical supervisor in the laboratory. Proper medical attention as per the policies of the site must occur. MTC instructors must be notified of such incident within 24 hours of occurrence.

BACKGROUND CHECKS

A background check must be successfully completed upon acceptance to the program. Our extern site facilities now require a background check on all students training at their facility.

Clinical Practicum Guide, Policies & Agreement

INTRODUCTION TO CLINICAL PRACTICUM GUIDE AND POLICIES

The clinical practicum portion of the Medical Laboratory Program is essential to fulfill the objectives of the curriculum. The affiliated medical laboratory can be of help in providing the setting needed to enable the student to gain the practical experience necessary to complete his or her preparation to become a qualified medical laboratory technician. The student's activities during clinical practicum include observation, practice and performance of laboratory test procedures, written assignments, keeping of records, online examinations, and evaluations.

The clinical practicum training period is approximately 22 weeks in length for approximately 880 clock hours or less in the event of an approved circumstance where the student has been deemed an entry level technician by the clinical affiliate. The student's schedule and duties are set by the affiliated laboratory. The student is always supervised and is not paid a wage for time spent at the affiliated laboratory.
Primary emphasis is placed upon the student's actual performance of laboratory test procedures considered to be of a routine nature in the five major disciplines:

1. Hematology
2. Urinalysis
3. Clinical Chemistry
4. Microbiology-Serology
5. Immunohematology

Student experiences in other areas of laboratory work are at the discretion of the affiliated laboratory. The actual total number of laboratory test procedures performed by the student is not as important as the quality achieved to perform the procedures with the necessary degree of accuracy, precision, and efficiency. The chief concerns during clinical practicum are that the student:

1. Learn to organize a daily workload.
2. Learn to increase technical expertise.
3. Learn to recognize and correct performance errors.
4. Learn to follow a system of quality assurance and control.
5. Learn to work with patients and co-workers.
6. Complete all assignments.

Evaluation of the student's performance and progress is done by laboratory personnel and MTC instructional staff. One person at the affiliated laboratory is designated as the supervisor of the student's clinical practicum and is to be responsible for the scheduling, assignment of duties, and evaluation. Frequently this person is the laboratory supervisor who may delegate this to other laboratory personnel who work with the student. The instructors from MTC communicate the affiliated laboratory on a scheduled basis to confer with the supervisor and the student and evaluate the student's performance and coordinate the clinical practicum. Contact is also maintained by telephone, email, and mail correspondence.

MITCHELL TECHNICAL COLLEGE

Medical Laboratory Technology Program
Clinical Practicum

GENERAL GOALS

After successful completion of the didactic courses in the Medical Laboratory Technician (MLT) Program the student is required to complete an approximately 880 clock hours or less in the event of an approved circumstance where the student has been deemed an entry level technician at appointed clinical affiliate. In addition to adherence to the mission and goals of Mitchell Technical College the MLT clinical practicum goals in general are to provide the student with a clinical setting where the student can under supervision:

1. Obtain a level of technological instruction equal to the latest procedures and instrumentation in a medical laboratory as appropriate for entry level as an MLT.
2. Develop ethical professionalism as related to the medical field to include confidentiality.
3. Gain empathy and respect for the people the medical laboratory field serves.
4. Demonstrate responsible actions to include attendance.
5. Accept instruction and constructive criticism willingly.
6. Maintain a friendly atmosphere with co-workers.
7. Practice safety in all respects of the laboratory to include universal precautions.
8. Process specimens properly for each respective department of the laboratory.
9. Perform quality assurance in all procedures and equipment.
10. Demonstrate competency in laboratory computer technology.
11. Pursue additional reference material as related to the medical laboratory.
12. Meet all requirements of their clinical practicum as outlined by Mitchell Technical College.

MITCHELL TECHNICAL COLLEGE

Medical Laboratory Technology Program

Clinical Practicum

SPECIFIC DEPARTMENT OBJECTIVES

HEMATOLOGY/HEMOSTASIS

The student while under supervision will be able to perform accurately the following using safe laboratory procedures and proper laboratory techniques:

- Obtain blood samples for Hematology analysis to include finger puncture and venipuncture.
- Prepare samples for Hematological procedures to include dilutions and staining.
- Use instrumentation to include automated cell counters and coagulation.
- Recognize normal and abnormal results encountered in Hematology and Hemostasis.
- Use quality assurance procedures to include quality control.
- Identify technical errors and apply problem solving techniques.
- Perform preventative maintenance on hematology and coagulation instrumentation.
- Recognize major disease states which correlate with laboratory results.
- State the principle of the procedures used and perform the following tests:
    - Complete Blood Count to include:
        - Hemoglobin
        - Hematocrit
        - Red blood cell count
        - White blood cell count
        - Indices
        - Differential White Count
        - Platelet counts
        - Manual Differential Count identifying normal cells and recognizing abnormal cells.
        - Reticulocyte count
        - Prothrombin Times
        - Activated Partial Thromboplastin Tests
        - Erythrocyte Sedimentation Rate
        - Cell counts on other body fluids

Observation and exposure to other laboratory tests performed in a Hematology and Hemostasis department as appropriate for a particular laboratory. This may include Histograms, RDW, screening tests for abnormal Hemoglobin's, specialty stains, eosinophil count, activated clotting time, specific clotting factors, bone marrow smears and others.

HEMATOLOGY/HEMOSTASIS

Procedures/Tests

- Manual Differential with Morphology RBC Morphology, Inclusions, Indices
- WBC Morphology with Differential, Artifacts, Inclusions Manual Cell Counts on Body Fluids
- WBC and Platelet Estimate from Blood Smear Automated WBC, RBC, and Platelet Counts Hematocrit and Hemoglobin
- Manual Reticulocyte Counts
- Westergren sedimentation Rate
- Special Stains (1 or more of the following)
    - periodic acid-Schiff
    - myeloperoxidase
    - Sudan black
    - esterase
    - nonspecific esterase
    - tartrate-resistant acid
    - phosphatase
    - Prussian blue
- Leukocyte Alkaline Phosphatase
- Stain Partial
- Thromboplastin Time
- Prothrombin Time
- Thrombin Clotting Time Fibrinogen
- Factor Assays
- Latex FDP Assay
- Latex D-Dimer Assays

Instruments/Methods

- Automated Stainers
- Microhematocrit
- Centrifuge
- Automated Cell Counters
- Automated WBC Differential Scattergrams
- Photo-Optical Detection of Fibrin Clot

MITCHELL TECHNICAL COLLEGE

Medical Laboratory Technology Program
Clinical Practicum
SPECIFIC DEPARTMENT OBJECTIVES

URINALYSIS AND BODY FLUIDS

Students while under supervision will be able to perform accurately the following using safe laboratory procedures and proper laboratory techniques:

- Prepare samples for Urinalysis/Body Fluid examinations to include preservatives and centrifugation.
- Use Instrumentation in Urinalysis/Body Fluid procedures.
- Recognize normal and abnormal results in Urinalysis/Body Fluid exams.
- Use quality assurance procedures to include quality control.
- Identify technical errors and apply problem-solving techniques.
- Recognize major disease states, which correlate with laboratory results.
- State the principle of the procedure and perform the following tests:
    - Routine urinalysis to include microscopic examination
    - Perform confirmatory urinalysis tests when appropriate
    - Spinal fluid cell count, differential of white cells
    - Occult blood
    - Seminal fluid analysis and/or sperm count
    - Synovial fluid analysis
- Troubleshoot instruments and procedures as needed.
- Perform preventative maintenance on instruments.
- Observation and exposure to other laboratory tests performed in Urinalysis and
- Body Fluid Examinations as appropriate for a particular laboratory.

Urine, Body Fluids and Stool Analysis

- Physical, Chemical, and Microscopic Examination of Urine Urine Reducing Substances
- Urine Pregnancy Test
- Cerebrospinal Fluid Cell Count, Differential, and Chemistry Fecal Occult Blood
- Automated Dipstick Reader

MITCHELL TECHNICAL COLLEGE

Medical Laboratory Technology Program
Clinical Practicum
SPECIFIC DEPARTMENT OBJECTIVES

IMMUNOHEMATOLOGY

Students while under supervision will be able to perform accurately the following using safe laboratory procedures and proper laboratory techniques:

- Obtain proper blood samples for immunohematology analysis.
- Screen blood donors to include medical history and physical examination.
- Draw blood donors for the hospital blood bank if applicable at site.
- Process donor units to include immunohematology testing.
- Observe autologous and directed donations, therapeutic phlebotomy.
- Observe preparation and storage of blood components.
- Perform a Direct and Indirect antiglobulin technique.
- Determine an ABO and Rh blood type.
- Recognize discrepancies in blood grouping.
- Do the procedure for an antibody screen and antibody identification.
- Perform compatibility testing for crossmatched blood.
- Recognize incompatibility crossmatches and apply problem-solving techniques.
- State intern site policies for issuing blood, blood components and RhIG.
- Observe transfusion therapy.
- State the procedure for a transfusion reaction.
- Receive and ship blood and blood inventory.
- State the requirements for site blood inventory.
- Follow all quality controls procedures in immunohematology.
- Perform preventative maintenance on blood bank equipment.
- Test procedures for MLT should include:
    - ABO typing
    - Rh typing to include Du
    - Direct and Indirect antiglobulin Antibody screening
    - Antibody identification Compatibility testing Transfusion reaction workup
    - Observation and exposure to all immunohematology tests performed in the department as deemed appropriate by the educational coordinator.

Immunohematology/Blood Banking

Components

- Random Donor Platelets Single Donor Platelets Packed RBC's

- Leukocyte Reduced RBC's Fresh Frozen Plasma Cryoprecipitate
- Rho Immune Globulin

Procedures/Tests

- Direct Antihuman Globulin Test Indirect Antihuman Globulin Test ABO Blood Group System
- Rh Blood Group System Antibody Screen
- Major Crossmatch
- Antibody Identification Including Multiple Antibodies Phenotyping RBC's
- Prewarming Technique Elutions
- Reagent Quality Control
- Emergency Blood Release Procedure Transfusion Reaction Work Up

Immunology

Tests/Methods

- Rapid Plasma Reagin Test Mononucleosis Test
- Cold Agglutinins or Mycoplasma Antibody Streptococcus Antibody Test
- C-Reactive Protein Latex Agglutination

MITCHELL TECHNICAL COLLEGE

Medical Laboratory Technology Program
Clinical Practicum
SPECIFIC DEPARTMENT OBJECTIVES

CLINICAL CHEMISTRY

Students while under supervision will be able to perform accurately the following using safe laboratory procedures and proper laboratory techniques:

- Obtain proper blood samples for clinical chemistry analysis.
- Obtain arterial blood for blood gases if applicable to clinical site.
- Identify automated chemical analyzers as to their types, components and values each is capable of producing to include immunoassay instrumentation.
- Operate automated clinical instrumentation and perform calibrations and preventative maintenance.
- Use quality assurance procedures to include quality control.
- State the principle of method for each analyte tested in clinical chemistry and immunoassay to include the reagents necessary
- State the reportable units for each analyte.
- Recognize normal and abnormal results for each test.
- Identify technical errors and apply problem-solving techniques.
- Recognize major disease states, which correlate with laboratory results.
- Determine the chemistry profiles used at clinical site and identify test
- Components, and discuss pathophysiological significance of the profiles.

Test procedures for MLT should include:

- Glucose, Glucose Tolerance Test, Hgb A-lc
- Urea nitrogen, Uric acid
- Creatinine, creatinine clearance
- Electrolytes
- Blood gases
- Calcium
- Magnesium
- Cardiac Enzymes Troponin I or T
- Liver enzymes
- Iron studies
- Therapeutic drug monitoring
- Endocrine studies
- Cholesterol, LDL, HDL, Triglycerides
- Total protein, Albumin, Globulin
- Hormone analysis to include thyroid function tests

Observation and exposure to all clinical chemistry procedures and immunoassays as available and deemed

appropriate by the educational supervisors at the clinical site.

Chemistry

At least one representative analyte should be run for each methodology under the instrumentation category.

- Total Serum Protein
- Serum Albumin
- Blood Urea Nitrogen Creatinine
- Uric Acid
- Iron or Total Iron-Binding Capacity
- Calcium
- Phosphorus
- Magnesium
- Bilirubin
- Cholesterol Triglyceride
- High-Density Lipoprotein
- Cholesterol Low-Density Lipoprotein
- Cholesterol Glucose
- Lipase Amylase
- Creatine Kinase
- Lactate Dehydrogenase
- Aspartate Aminotransferase Alanine
- Aminotranferase Gamma-Glutamyl Transferase Lipase
- Amylase
- Ethanol
- Ammonia
- Ion-Selective Electrodes (ISE)
- Electrolytes (Na+, K+, CL-)

Immunoassay Techniques

- Tranferrin, Serum Iron, TIBC Free T4, Total T4, T3, and TSH
- Prostate Specific Antigen
- Therapeutic Drug Monitoring
- Beta Human Chorionic Gonadotropin
- Troponin

Osmometry

- Urine and Serum Osmolality

Automated Multichemistry Analyzer

Other

- Screenings for drugs of abuse
- Microalbumin

- Glycated hemoglobin

MITCHELL TECHNICAL COLLEGE

Medical Laboratory Technology Program
Clinical Practicum

SPECIFIC DEPARTMENT OBJECTIVES

MICROBIOLOGY

Students while under supervision will be able to perform accurately the following using safe laboratory procedures and proper laboratory techniques:

- Obtain specimens for culture from desirable body sources and state sources of errors for aerobic and anaerobic culture.
- Identify potential pathogens upon examination of growth from commonly encountered specimens.
- Identify different sterilization techniques and disinfecting.
- Utilize and prepare media.
- Perform and interpret a Gram stain.
- Describe colony morphology for various bacterial growths.
- Prepare stain slides for direct examination.
- Culture, identify and differentiate staphylococci and streptococci.
- Culture and identify Neisseria.
- Culture, identify and differentiate Enterobacteriaceae.
- Culture and identify non-fermentative bacilli, gram-negative coccobacilli, Hemophilus, Gardnerella, Campylobacter.
- Review staining of acid-fast smears and culturing for acid-fast bacilli.
- Observe culture and identification of spore forming bacilli.
- Perform MIC.
- Use problem-solving techniques for troubleshooting and correlation of microscopic, colonial and biochemical characteristics.
- Obtain a blood culture and identify growth-suing instrumentation if available.
- Perform a rapid group A strep antigen test.
- Do a urine colony count.
- Recognize major clinical manifestations of potential pathogens in pure and mixed cultures and correlate with patient information.
- Observe collection of viral specimens and state necessary concerns for transportation.
- Observe collection of Chlamydia specimens and perform immunological identification.
- Culture and identify Candida albicans.
- Observe identification of Cryptococcus neoformans to include India ink.
- Concentrate a fecal sample for parasites.
- Look at and/or prepare a trichrome stain for parasites.
- Identify macroscopically and/or microscopically parasites common to the United States either by laboratory specimens or use of reference material.
- Perform immunological tests for ID of Clostridium difficile.
- Obtain fungal specimens and state necessary precautions for growth and transportation.

Microbiology

- Bacteria and Fungi
- Staphylococcus aureus
- Staphylococcus epidermidis
- Other coagulase-negative Staphylococcus species
- Streptococcus viridans
- Beta Streptococcus group A/group B
- Other beta hemolytic Streptococci Enterococcus faecalis/faecium
- Other group D streptococci/enterococci Streptococcus pneumoniae
- Listeria species
- Corynebacterium species
- Bacillus species
- Lactobacillus species p
- Escherichia coli
- E coli 0157:H7
- Klebsiella-Enterobacter-Serratia Proteus-Providencia-Morganella
- Citrobacter species
- Other Enterobacteriaceae Aeromonas species
- Campylobacter jejuni
- Salmonella species S
- Shigella species
- Yersinia enterocolitica
- Pseudomonas aeruginosa
- Stenotrophomonias (Xanthomonas) maltophilia
- Burkholderia (Pseudomonas) cepacia
- Acinetobacter calcoaceticus
- Other nonfermentative gram-negative bacilli
- Pasteurella multocida
- Neisseria gonorrhoeae and meningitides Moraxella catarrhalis Hemophilus influenzae
- Other Hemophilus species Gardnerella vaginalis Legionella pneumophila Actinomyces species
- Bacteroides fragilis/fragilis group Bacteroides
- Prevotella melaninogenica-oralis group Clostridium perfringens
- Clostridium difficile
- Fusobacterium species
- Propionibacterium species
- Candida albicans

Parasitology

- Entamoeba histolytica and coli
- Giardia lamblia
- Trichomonas vaginalis

- Cryptosporidium species
- Trichuris species
- Plasmodium species
- Taenia species
- Hymenolepsis nana

Procedures/Tests/Cultures

- Gram Stain
- Modified Acid-Fast Stain
- Blood Culture - - routine and fungal GC (gonococcus)
- Throat cultures Urine cultures Sputum cultures
- Wound/Abscess cultures Body Fluid Cultures Anaerobic Cultures
- Antimicrobial Susceptibility - - minimum inhibitory concentration and Kirby-Bauer
- Rapid Group A Streptococcus Antigen Tests Yeast Assimilations
- Enzyme Immunoassay Methods
- Stool Microscopic Examination for Fecal Leucocytes Beta Lactamase Detection
- Commercial Bacterial Identification Systems TSI/LIA urea
- Trichrome Stain for Parasites
- Formalin/Ethyl Acetate Concentration for Parasites Giemsa Stain for Parasites

Instruments

- Blood culture and bacterial identification

Mitchell Technical College

MLT Program

Historical List of Clinical Practicum Sites Used by MTC

Avera Sacred Heart Hospital
501 Summit Street
Yankton, SD 57078

Avera Queen of Peace Hospital
525 N Foster
Mitchell, SD 57301

IHS/Indian Health Service
2200 Canyon Lake Drive
Rapid City, SD 57701

Sanford Mid-Dakota Hospital
300 S Byron Blvd
Chamberlain, SD 57325

Huron Regional Medical Center
172 SE 4th SE
Huron, SD 57350

Sanford USD Medical Center
1100 S Euclid
Sioux Falls, SD 57105

Avera St. Benedict Hospital
1 West Glynn
Parkston, SD 57366

Yankton Medical Clinic
1104 West 8th
Yankton, SD 57078

STUDENT ASSIGNMENT TO A CLINICAL PRACTICUM SITE:

Approximately two months prior to the start of the clinical practicum period, each student will be assigned a site by the Program Director. The decisions will be based on the following:

Needs of students (to include marriages, house ownership, children of school age, etc.)

Grade Point Averages (GPA's). Students are advised that GPA is very important in the placement process. If there are two students applying for the same site, the GPA may be a factor in the final decision.

Interviews will be conducted at the various extern sites. It will be the site's decision on the placement of the student at their site. In the event a student does not receive acceptance at any of the designated extern sites, it will be up to the student to find an extern site that will successfully fulfill the criteria needed to complete their degree. This site must be approved by the MLT program director.

NOTE: Once a clinical practicum assignment is made, it is expected that they will not be changed.

STUDENT SCHEDULES AND ATTENDANCE

The daily work schedule for the student will be determined by each intern site. It will ensure that the student will fulfill the approximately 880 clock hours or less in the event of an approved circumstance where the student has been deemed an entry level technician by the clinical affiliate needed to complete the program. This schedule may typically be 5 days per week, 40 hours per week. This would require approximately 22 weeks at the intern site. Attendance is stressed. If more than 5 days of absence are documented, a waiver from the Program Director may be needed to complete the program. If the absences are of a medical nature, the program Medical Director may need to review the medical evaluations of your attending physician. Students are NOT on the MTC holiday schedule while on clinical practicum. They are on the clinical practicum's holiday schedule. If you do work on a scheduled holiday, you can take an additional number of hours (up to a maximum of 8) and apply them to externship hours required. All absences must be made up.

MITCHELL TECHNICAL COLLEGE

MEDICAL LABORATORY TECHNOLOGY PROGRAM
OFFICIAL ATTENDANCE RECORD-CLINICAL PRACTICUM

This is the official attendance record for your clinical practicum. You must clock in and out daily using Trajecsys and your technical supervisor/educational coordinator will approve your hours.

CLINICAL PRACTICUM:

DEPARTMENT	HRS	WKS
Hematology	160	4
Urinalysis	80	2
(Hemo. & UA may be combined)		
Microbiology	200	5
Immunohematology	200	5
Chemistry	240	6
(Chem. to include immunoassay/Sp. Chem.)		

This schedule is a suggested schedule for the extern. It will vary based on the externship site.

STUDENT CONDUCT DURING CLINICAL PRACTICUM

All students are expected and required to meet and maintain accepted professional standard of employee conduct. This would include proper, acceptable dress and appearance. The clinical practicum site is responsible for orientation of the students to include policies and procedures applicable to their conduct while on site premises.

Students shall follow site policies of confidentiality with all information or records of the site to include patient, visitors, personnel, or business of the site. The clinical practicum site will document attendance records and disciplinary actions.

Laboratory Environment during Clinical Practicum

The MLT program requirements include successful completion of the above didactic curriculum as outlined in each course syllabus. At the practicum students must complete: online comprehensive tests, three sets of worksheets for each area, proficiency sheets signed by the affiliated laboratory educational coordinator (supervisor), a record of hours completed, and an evaluation of each department. The use of program specified procedure checklists, worksheets and required hours ensures that the students' experiences are comparable at each clinical site to develop entry-level competencies.

After demonstrating proficiency in a laboratory skill, students, with qualified supervision, may be permitted to

perform procedures. Although once a laboratory competency is achieved repletion of a laboratory skill will be minimal. Service work policies will be clearly defined with the affiliate sites and students are not to be substituted for clinical staff.
Students will be under supervision of designated laboratory personnel during their clinical practicum. This may be a different person on different days or shifts. Learning experiences for other than normally scheduled hours will be clearly defined. It is highly suggested that students take part in varying shifts when nearing the end of their clinical experiences. This will help ensure the students' exposure to preventive maintenance practices and the need to be able to multi-task in all areas of the lab.

Volunteering for community activities, such as health fairs, is not mandatory for the student but strongly encouraged to promote the profession. If a student is hired by the clinical affiliate for laboratory skills such as phlebotomy, these hours must be considered "off hours" and do not apply toward the required hours for the clinical practicum.

Withdrawal from Clinical Site

The clinical practicum site may request MTC to withdraw any MLT student whose conduct or practice will have a detrimental effect on patients, site, personnel, or other students. MTC shall withdraw any such student at the request of the clinical practicum site. Sites shall have the right to refuse acceptance of any student for clinical practicum experience who has previously been discharged for reasons which would make the affiliation undesirable. It will be up to the student to find a new extern site that meets the requirements needed to finish their degree in the event they have been dismissed. This site must be approved by the program director of the MLT program.

STUDENT EVALUATIONS AT CLINICAL PRACTICUM SITES

Student performance and progress is evaluated by the affiliated laboratory and MTC personnel. MTC instructors from the MLT program shall visit the affiliated laboratory during the student's clinical practicum experience and confer with the laboratory personnel as to the student progress and aid in coordinating the experience. An MTC instructor is continually available to the MLT students and site via telephone, cell phone, or email and a maximum of three clinical visits (minimum of one) for immediate guidance or consultation during the clinical practicum experience. An MTC instructor shall be available, as needed, for conference discussions involving individual students and site representatives.

Program Graduation Requirement: Students must earn a grade of C or higher in technical courses during the clinical practicum to graduate.

MTC courses required during clinical practicum experience:

ML 214 Practical Clinical Hematology/Hemostasis	5 credits
ML 224 Practical Clinical Urinalysis/Body Fluids	2 credits
ML 274 Practical Clinical Immunohematology	4 credits

ML 214 Practical Clinical Microbiology/Serology 5 credits
ML 234 Practical Clinical Chemistry/Immunoassay 6 credits

EVALUATIONS FOR ABOVE COURSES ARE:
25% WORKSHEETS
25% COMPREHENSIVE ONLINE TESTS (4)
50% CLINICAL PRACTICUM EVALUATION FOR SITE

Criteria for worksheets, tests and clinical practicum site evaluations are stated with each identity.

Mitchell Technical College shall award academic credit to each MLT student of the clinical practicum experience.

MITCHELL TECHNICAL COLLEGE

MEDICAL LABORATORY TECHNOLOGY PROGRAM

COMPREHENSIVE CLINICAL PRACTICUM TEST #1

Questions	Department	Grade
40	HEMATOLOGY/HEMOSTASIS	
20	URINALYSIS/BODY FLUIDS	
40	CLINICAL CHEMISTRY	
40	MICROBIOLOGY	
40	IMMUNOLOGY/IMMUNOHEMATOLOGY	
180	TOTAL	

NAME: _____

LOCATION: _____

DATE: _____

ADMINISTERED BY: _____

ALL EXTERN TESTS ARE ONLINE. THE RESULTS WILL BE SENT ELECTRONICALLY FOR GRADING. THIS EXAM IS YOURS TO USE FOR BOARD CERTIFICATION READINESS.

MITCHELL TECHNICAL COLLEGE
MEDICAL LABORATORY TECHNOLOGY PROGRAM
1800 EAST SPRUCE STREET
MITCHELL, SD 57301

Mitchell Technical College Medical Laboratory Technology Program
Worksheets

Subject matter for worksheets—Three (3) units each.

- Hematology/Hemostasis
- Clinical chemistry
- Urinalysis/Body fluids
- Microbiology
- Immunology/Immunohematology

Grading criteria – 25% of Clinical Practicum grade per department

A- 90% - 100%
B- 89% - 80%
C- 79% - 70%
D- 69% – 60%
F - Less than 60%

An “A” worksheet consists of:
All information complete
All facts accurate, no omissions
Correctly written using phrases and equations

A “B” worksheet consists of:
Almost all information complete. Most facts accurate
Correctly written using phrases and equations

A “C” worksheet consists of:
Most information complete. Most facts accurate
Correctly written using phrases and equations

A “D” worksheet consists of:
Many items of information incomplete. Many facts inaccurate
Poorly written and difficult to read

A “F” worksheet consists of:
Most items incomplete. Most facts inaccurate
Poorly written.
Arrival after due date for clinical practicum exercises

MITCHELL TECHNICAL COLLEGE
MEDICAL LABORATORY TECHNOLOGY PROGRAM

Clinical Practicum Evaluation Grading Criteria for a MLT Student

This evaluation form is to be filled out by the clinical faculty or assigned technologist responsible for the student during the period of evaluation. This appraisal form will be used to evaluate the student's performance at the middle and end of a clinical rotation. The middle evaluation is like a mid-term grade to give the student feedback on their performance and an opportunity to digest the information and respond to it. The end of the rotation evaluation will become part of the student's permanent record and grade.

Instructions to Evaluators:

1. Please be honest in rating the characteristics of the student.
2. Base your judgment on behavior you feel is characteristic of the student during the period of evaluation rather than on an isolated incident.
3. Fill in the appropriated box for each behavior/performance electronically on Trajecsys.
4. Use the comment space for information regarding the student including praise or any problems you may have encountered.
5. If the description of the criteria does not apply, please comment or mark N/A

IMPORTANT: Please contact Mitchell Technical College, Medical Laboratory Technician Program, if you suspect or know of student behavior not appropriate in the clinical laboratory. 1-800-952-0042 Ext. 7106 or 605-995-7106.

EVALUATION	POINTS	DESCRIPTION
Excellent	9.5	Displays superior aptitude.
Above Average	8.5	Does well meeting department objectives (requirements).
Satisfactory/Average	7.5	Meets minimum entry-level objectives (requirements).
Below Average	6.5	Needs practice and further instruction.
Unsatisfactory	5.5	Has demonstrated little or no improvement with practice and additional instruction.

Each evaluation will be graded as:
Sum of clinical department evaluation points: _____ = 75% of grade
Sum of Professionalism evaluation points: _____ = 25% of grade

Student Total Points: _____ Corresponding Letter Grade _____

Student Points = Letter grade

A = 90-100 **B** = 80-89 **C** = 70-79 **D** = 60-69 **F** = below 60

Mitchell Technical College

CLINICAL PRACTICUM EVALUATION- MLT
CLINICAL URINALYSIS

STUDENT NAME: _____ DATE: _____ LOCATION: _____

Criteria for a MLT student: Point value of each:	**Unsatisfactory 5.5 pts each**	**Below average 6.5 pts. each**	**Average 7.5 pts. each**	**Above Average 8.5 pts. each**	**Excellent 9.5 pts. each**
Demonstrates physiological knowledge of the urinary system, exudates, transudates, and various body fluid, and semen.					
Identifies patients and specimens properly; accurately processes specimens for departmental analysis.					
Demonstrates knowledge regarding collection and measurement of 24 hr. urine specimens; preserves an adequate aliquot for assay.					
Performs physical, chemical, and microscopic analysis or urine, including confirmatory testing.					
Performs quality control properly, including documentation of acceptable values and the ability to react to unacceptable values.					
Demonstrates knowledge of normal reference ranges of tests performed, recognizing incorrect results.					
Performs analyses on body fluids other than urine (CSF synovial fluid, semen, etc.) as well as other testing offered by the laboratory such as occult blood.					

Follows test procedures using procedural manuals as necessary.					
Reports laboratory results accurately into lab computers & records them legibly.					
Follows laboratory safety protocol; maintains a clean work area.					
Comments:					

Mitchell Technical College

CLINICAL PRACTICUM EVALUATION- MLT
Affective Domain (Laboratory Professionalism)

Criteria for a MLT student: Point value of each:	Unsatisfactory 5.5 pts each	Below average 6.5 pts. each	Average 7.5 pts. each	Above Average 8.5 pts. each	Excellent 9.5 pts. each
Conducts himself/herself in ethical and professional manner					
Possesses good communication skills and maintains good interpersonal relationships with clinical staff					
Projects an image of professionalism including appearance, dress, attitude and confidence.					
Works independently and with others under time constraints.					
Strives to follow all safety guidelines in the laboratory					
Successfully handles stressful situations such as emergency & STAT laboratory orders.					
Responds positively to criticism & challenges					
Seeks assistance or advice from proper authority.					
Keeps laboratory personnel informed & takes appropriate actions.					
Strives to provide good customer service in the healthcare arena					
Maintains confidentiality of patient information.					
Maintains satisfactory attendance					
Comments:					

Clinical site signature: _____
MTC instructor signature: _____ Student signature: _____

Student grade:
Sum of clinical department evaluation: _____ = 75% of grade
Sum of professionalism: _____= 25% of grade
Total Grade: _____ = points
Letter Grade: _____

Student Points = Letter grade
A = 90-100 **B** = 80-89 **C** = 70-79 **D** = 60-69 **F** = below 60

PROCEDURE CHECKLIST

Objective: After observation of techniques and demonstration of analysis and/or methods, the student will be able to successfully execute the following tasks in a job setting after the usual employee orientation as an entry level Medical Laboratory Technician (MLT).

Completion Date: After a student has completed the final or full rotation in a department.

Departments with procedure checklists:
Hematology/Phlebotomy
Immunohematology (Blood Banking)
Clinical Chemistry/Immunoassay
Microbiology (Bacteriology, Parasitology, Mycology, Virology)
Urinalysis/Body Fluids
Serology Instrumentation

Form completion:
Proficiency yes/no: Fill in yes if student is able to perform the tests as would an entry level technician. If after clinical practicum the student is still unable to perform the test or has not been exposed to the procedures, then answer no.

Has observed/working knowledge: Check this column if student is not proficient in a procedure but has observed the techniques at their extern site BUT is able to exhibit knowledge of the test.

No experience/working knowledge: Check this column if student has not performed or observed this procedure BUT is able to discuss the test in regard to its use, techniques and clinical application.

Comments: Use for explanation of student ability, number of tests performed, details of procedure at your clinical site, and other information regarding student performance of tests.

PROCEDURE CHECKLIST
Instrumentation

The student after observation of technique and demonstration of analysis or method will be able to successfully execute the following tasks in a job as an entry level Medical Laboratory Technician:

TEST	PROFICIENT YES/NO	HAS OBSERVED/ Working Knowledge	NO EXPERIENCE/ Working knowledge	COMMENT	TECH/ DATE
Laboratory Computer System					
Microscopes					
Centrifuges					
Automated pipettes					
HEMATOLOGY:					
Automated cell counter					
Automated WBC differential					
Scattergrams					
Microhematocrit centrifuge					
Automated Stainers					
Automated coagulation					
CHEMISTRY:					
End point spectrophotometry					
Kinetic spectrophotometry					
Enzyme immunoassay					
Fluorometry					
Nephelometry					
Osmometry					
Automated multichemistry analyzer					
Ion selective electrodes					
URINALYSIS:					
Automated dipstick reader					
Osmometry					
MICROBIOLOGY:					
Blood culture automation					
Bacterial identification					
IMMUNOHEMATOLGY:					
Automated cell washers					
Gel system for typing and/or antibody screening					
Immunohematology centrifuges					
Blood Bank temp. control					

PROCEDURE CHECKLIST
Urinalysis/Body Fluids

The student after observation of technique and demonstration of analysis or method will be able to successfully execute the following tasks in a job setting after usual employee orientation as an entry level Medical Laboratory Technician:

TEST	PROFICIENT YES/NO	HAS OBSERVED/ Working Knowledge	NO EXPERIENCE/ Working knowledge	COMMENT	TECH/ DATE
Physical exam for urinalysis					
Reagent strips (chemistry exam) for urinalysis					
Specific gravity – refractometer					
Acetest					
Protein (SSA) acid test					
Icotest					
Urine Osmolarity					
UA micro exam for cells					
UA micro exam for crystals					
UA micro exam for casts					
UA micro exam for "other"					
Fecal specimen for WBCs					
Fecal specimen Occult blood					
Synovial fluid exam					
Seminal fluid analysis					
Sperm count					
Nasal smear for eosinophils					
Spinal fluid hematology tests					
Spinal fluid specimen for chem.					
Spinal fluid specimen for micro.					
Urine pregnancy test					

PROCEDURE CHECKLIST

Hematology

The student after observation of technique and demonstration of analysis or method will be able to successfully execute the following tasks in a job setting after usual employee orientation as an entry level Medical Laboratory Technician:

TEST	PROFICIENT YES/NO	HAS OBSERVED/ Working Knowledge	NO EXPERIENCE/ Working knowledge	COMMENT	TECH/ DATE
Venipuncture					
Capillary stick					
Arterial draw					
CBC					
Scattergrams					
Histograms					
Manual diff with morphology					
Hemoglobin					
Hematocrit					
White cell count/differential					
Indices					
Erythrocyte sedimentation rate					
Reticulocyte count					
Prothrombin time					
Partial Thromboplastin time – APTT					
Fibrinogen assay / Thrombin clotting time					
FDP slide test / D-dimer test					
Malaria smear					
Bone marrow preparation					
Osmotic fragility					
Special stains					
Others:					
Others:					

PROCEDURE CHECKLIST

Microbiology

The student after observation of technique and demonstration of analysis or method will be able to successfully execute the following tasks in a job as an entry level Medical Laboratory Technician:

TEST	PROFICIENT YES/NO	HAS OBSERVED/ Working Knowledge	NO EXPERIENCE/ Working knowledge	COMMENT	TECH/ DATE
Sample Collection					
Inoculate solid media					
Inoculate liquid media					
Gram stain					
Acid-fast stain					
India ink stain					
Trichrome stain					
Sputum culture					
Throat culture					
Urine culture					
Wound / abscess culture					
Blood culture					
Genital culture					
Identify & differentiate Staph					
Identify & differentiate Strept					
Identify & differentiate Neisseria					
Identify & differentiate Hemophilus					
Identify & differentiate gram negative bacillus					
Beta lactamase detection					
Identify & differentiate Campylobacter					
Urine colony counts					
Fungal culture					
Identify common fungi					
Identify common yeasts					
KOH slide preparation					
Serotyping					

PROCEDURE CHECKLIST

Microbiology

The student after observation of technique and demonstration of analysis or method will be able to successfully execute the following tasks in a job as an entry level Medical Laboratory Technician:

TEST	PROFICIENT YES/NO	HAS OBSERVED/ Working Knowledge	NO EXPERIENCE/ Working knowledge	COMMENT	TECH/ DATE
Process a stool sample for O&P					
Identify common parasites					
Trichrome/Giemsa stains for parasites					
Process specimen for mycobacterium culture					
Automated antibody susceptibility for MICs					
Kirby Bauer Ab. susceptibility					
Wright stain for Protozoa ID					
Prepare virology specimen for transport to reference lab					
Subculture stock cultures					
Quality control of media and procedures					
Others:					

PROCEDURE CHECKLIST

Chemistry/Immunoassay

The student after observation of technique and demonstration of analysis or method will be able to successfully execute the following tasks in a job as an entry level Medical Laboratory Technician:

TEST	PROFICIENT YES/NO	HAS OBSERVED/ Working Knowledge	NO EXPERIENCE/ Working knowledge	COMMENT	TECH/ DATE
Comprehensive metabolic test panel					
Metabolic test panel					
Electrolytes (Na, K, Cl, CO_2, Anion gap)					
Electrolytes (Na, K, Cl)					
Lipid panel (Chol, Trig, HDL)					
Liver panel (AST, ALT, Albumin Total & Direct bilirubin)					
Glucose					
GTT Glucose tolerance test					
2 hr. glucose tolerance					
Hbg A1c (Glycated Hgb)					
Urea (BUN)					
Creatinine					
Creatinine clearance					
Uric acid					
Total Cholesterol					
HDL / LDL lipoprotein					
Triglycerides					
Total protein					
Albumin					
Total bilirubin					
Direct bilirubin					
AST (SGOT)					
ALT (SGPT)					
GGT					
Lipase					
Ammonia					
Total CPK (CK)					
Amylase					

TEST	PROFICIENT YES/NO	HAS OBSERVED/ Working Knowledge	NO EXPERIENCE/ Working knowledge	COMMENT	TECH/ DATE
CK-MB band					
Troponin					
Microalbumin					
Total LDH (LD)					
Total calcium					
Ionized calcium					
Magnesium					
Phosphorus					
Alkaline Phosphate					
Lactic acid					
PSA					
Serum iron					
TIBC					
Ferritin					
Transferrin					
Vitamin B 12					
Blood gases					
TSH					
Free Thyroxine (FT4)					
Beta HCG					
Catecholamines					
Cortisol					
Lithium					
Acetaminophen					
Acetylsalicylic acid – aspirin					
Gentamicin					
Tobramycin					
Digoxin					
Carbamazepine					
Phenytoin					
Valproic Acid					
Theophylline					
Osmolality (serum/urine)					
Others:					

PROCEDURE CHECKLIST

Serology

The student after observation of technique and demonstration of analysis or method will be able to successfully execute the following tasks in a job as an entry level Medical Laboratory Technician:

TEST	PROFICIENT YES/NO	HAS OBSERVED/ Working Knowledge	NO EXPERIENCE/ Working knowledge	COMMENT	TECH/ DATE
RPR/VDRL					
Monotest					
C-reactive protein (latex)					
C-reactive protein (immunoassay)					
Cold agglutinins					
Rubella					
Rapid Strept screen					
RA factor					
ANA/FANA					
Influenza A					
Influenza B					
Rotavirus					
HIV					
Hepatitis A antibody					
Hepatitis B antibody					
HBsAB					
HCV					
Giardia					
RSV					
Clostridium difficile					
Helicobacter pylori					
Beta - HCG urine					
Beta - HCG serum					
PKU collections					
Covid 19 testing					

PROCEDURE CHECKLIST

Immunohematology

The student after observation of technique and demonstration of analysis or method will be able to successfully execute the following tasks in a job as an entry level Medical Laboratory Technician:

TEST	PROFICIENT YES/NO	HAS OBSERVED/ Working Knowledge	NO EXPERIENCE/ Working knowledge	COMMENT	TECH/ DATE
Prepare a 2-5% cell suspension					
Read & grade agglutination					
Read & grade hemolysis					
ABO grouping					
RH_o (D) typing					
Weak D (Du) typing					
Other Rh group typing					
Solve ABO discrepancies					
Direct Coombs (DAT)					
Antibody screening					
Antibody identification including multiple antibodies					
Compatibility testing (Xmatch)					
Blood component selection					
Prewarming techniques)					
Elutions					
Issuance of blood & components					
Emergency blood release procedure					
Platelet processing & selection for patients					
Pooling platelets					
Thawing/pooling cryoprecipitate					
Selecting/thawing FFP					
Transfusion observation					
Transfusion reactions workup					
Cord blood workup					
RhIG (RhoGam) processing					
Donor selection					
Donor/therapeutic phlebotomy					
Processing donor components					
Quality assurance Bld. Bank equipment & reagents					
Other:					

MEDICAL LABORATORY TECHNOLOGY PROGRAM AGREEMENT

This Agreement is made and entered into this first day of _____, by and between _____ (Hospital), of _____, South Dakota, and Mitchell Technical College, of Mitchell, South Dakota (Institute).

WITNESSETH:
WHEREAS, Institute offers a program in Medical Laboratory Technician for qualified students preparing for Medical Laboratory Technician (MLT) careers.

WHEREAS, Institute desires to provide its Medical Laboratory Technician Students with a clinical practicum experience; and

WHEREAS, Hospital operates an acute care hospital, own laboratory facilities, conducts medical laboratory functions and employs trained and qualified laboratory personnel; and

WHEREAS, Hospital and Institute recognize it is imperative and necessary for the proper education of students enrolled in the MLT Program to receive clinical experience and instruction; and

WHEREAS, it is in the best interests of Hospital to foster and encourage training and education of medical laboratory technicians to ensure an adequate supply of such trained professionals to meet patient needs; and

WHEREAS, Institute and Hospital desire to cooperate in the education of Medical Laboratory Technician students.

NOW, THEREFORE, in consideration of the mutual covenants, promises and provisions of this agreement and in consideration of the above and foregoing, it is hereby

AGREED by and between Institute and Hospital as follows:

A. RESPONSIBILITIES OF HOSPITAL

1. Hospital hereby agrees to accept students of Institute that are enrolled in the Medical Laboratory Technology program as hereinabove mentioned, for participation in a MLT practicum experience. Such clinical practicum experience shall include actual participation in laboratory testing and clinical instruction in area relating to medical laboratory procedures. Nothing in this Agreement shall preclude Hospital from accepting students from any other university, college or technical institutes for clinical practicum experience in the area of medical laboratory technology or any other area. Students shall qualify for participation in the clinical practicum experience at Hospital upon successful completion of the didactic portion of the MLT curriculum offered and

required by Institute prior to enrollment in clinical practicum experience, and by providing to Hospital proof of adequate health insurance coverage.

2. Hospital shall allow Institute's MLT students to enter the premises of Hospital for the purposes of the clinical practicum experience at such times that are mutually agreed upon by Institute and Hospital.

3. Hospital shall provide adequate physical resources and equipment for the purposes of the clinical practicum experience, including conference facilities, workroom space and reference materials. Provided, however, that such availability does not interfere with the regular operations and needs of Hospital.
4. Hospital shall provide competent and qualified instructors for the purposes of this Agreement. Hospital, with consultation and assistance from Institute, shall assume full responsibility for planning and executing the clinical practicum experience, including overall implementation, administration and content. Hospital shall have the right to accept or refuse any MLT student's participation in said clinical practicum experience.
5. Hospital agrees to orient the MLT students to Hospital, including its policies and procedures applicable to their conduct while on Hospital's premises.
6. Hospital shall have sole authority and control over all aspects of laboratory work and patient care, including those activities wherein MLT students may be exposed to or interrelate with Hospital's patients.
7. Hospital shall permit access to medical records of selected patients as required to carry out the clinical practicum experience.
8. Hospital and its personnel shall follow existing policies regarding confidentiality and other information or records of Institute, including information and records of its students and employees.
9. Hospital shall allow MLT students to utilize the library and other resource materials whenever these facilities are open for normal hospital purposes and not otherwise in use.
10. Hospital agrees to provide emergency health care to the MLT students, with Institute and/or the MLT students bearing the cost of the same.
11. Hospital shall maintain attendance records and documentation of disciplinary actions for a reasonable amount of time and submit the same to Institute upon request thereof.

B. RESPONSIBILITIES OF INSTITUTE

1. Institute shall be responsible for maintenance of all records and reports regarding the MLT students' clinical practicum experience. Institute shall be responsible for establishing criteria require for proper and continued student performance in the medical laboratory program and maintaining proper records thereof.
2. Institute shall be responsible for ensuring that MLT students in the clinical practicum experience and shall have the sole right to initially accept or refuse any MLT student's participation in said program, except to the extent that such right of acceptance or refusal conflicts with Hospital's right to accept or refuse such students for participation in clinical practicum experience.

3. Institute shall be responsible for ensuring that MLT students registered for the clinical practicum experience have completed the required courses prior to commencing the clinical practicum experience, including proper education to fully and adequately demonstrate adequate knowledge of medical laboratory technology, patient care and medical laboratory safety procedures.
4. The hospitalization and medical care for MLT students participating in the clinical practicum experience shall be the individual responsibility of such students. Institute warrants that all MLT students have been tested for working under supervision for the work that is required under the clinical practicum experience. Institute further warrants that all such MLT students are immunized for Hepatitis B. Institute shall provide to Hospital, prior to any individual student participating in the clinical practicum experience, proof of such student's compliance with the Hepatitis B immunization. Institute shall require students to comply with all of hospital's health policies.
5. Institute, as well as its employees and students, including the MLT students in the clinical practicum experience, shall maintain the confidence of any personal, medical or other information relevant to the patients, visitors, personnel, or business of Hospital. Institute agrees to appraise its employees and students of the confidential nature of all patient and medical information.
6. MLT students shall be subject to the rules, regulations and policies of Hospital. Institute shall assume full responsibility for its MLT students' full compliance with such rules, regulations and policies insofar as they pertain to activities on Hospital's premises.
7. MLT students shall conform to a dress code that is acceptable to Hospital.
8. Institute shall provide to Hospital, prior to or during a MLT student's affiliation, pertinent and appropriate information necessary to perform the provisions of this Agreement.
9. Institute warrants that Institute and its MLT students participating in the clinical practicum experience are covered under a group or individual professional liability insurance policy carried by either Institute or its students. Such professional liability insurance coverage shall provide minimum coverage limits of One Million Dollars ($1,000,000.00) per occurrence and Three Million Dollars ($3,000,000.00) annual aggregate. Prior to the commencement of the clinical practicum experience, Institute shall provide to Hospital copies of certificates of such insurance for Institute and each MLT student that is participating in the clinical practicum experience and, upon request, copies of the insurance policies.
10. MLT students shall be responsible for all personal expenses while participating in the clinical practicum experience, including transportation, meals and lodging. It is understood that MLT students may utilize Hospital's cafeteria facilities and may purchase meals at the same cost to Hospital's employees.
11. Institute shall appoint and make available an instructor who shall be continually available to the MLT students via telephone, and a maximum of three (3) visits per six (6) month program, for immediate guidance or consultation during the clinical practicum experience. Such instructor shall further be available, as needed, for conference discussions involving individual MLT students and a Hospital representative. At the minimum, there shall be one formal meeting each year between an Institute

representative and Hospital representative to ensure a high quality clinical practicum experience.

12. Institute shall award academic credit to each MLT student for the clinical practicum experience, as set forth in the Institute school catalog.

C. MUTUAL RESPONSIBILITIES

1. Institute shall assign and Hospital shall accept MLT students for clinical practicum experience without discrimination as to laboratory assignment or use of Hospital's facilities. Institute shall assign and Hospital shall accept such MLT students without discrimination as to faith, national origin, color, race, sex, age, creed, marital status or handicap.
2. Hospital may request Institute to withdraw any MLT student whose conduct or practice will have a detrimental effect on patients, Hospital, personnel or other MLT students. Institute shall withdraw any such MLT student at the request of Hospital. Hospital shall reserve the right to refuse acceptance for clinical practicum experience any MLT student who previously has been discharged for reasons which would make the affiliation undesirable.
3. Institute and Hospital agree to appoint a representative from their respective facility for purposed of maintaining on-going, open, communications and for scheduling and attending meetings to ensure understanding of the roles and expectations of both institutions in fulfilling the terms of this Agreement. The point of contact for each facility is:

   Hospital: _____ *Laboratory Director*

   Institute: *Lynne M. Smith, MEd. MT (ASCP) Program Director*
4. Neither Institute, its faculty, nor the MLT students shall be entitled to, nor receive, compensation of any kind from Hospital in connection with the clinical practicum experience.

D. OTHER PROVISIONS

1. Term. This Agreement shall become effective _____,_____ . The term of this Agreement is for a period of one (1) year, and it will be renewed automatically under the terms hereof for subsequent one (1) year periods unless either party gives the other party at least sixty (60) days prior written notice of intent to terminated the Agreement. Notwithstanding the foregoing, either party may terminate this Agreement, with or without cause, by providing sixty (60) days prior written notice to the other party of intent to terminate. If Hospital terminates Agreement, it will permit the then current MLT students to complete their clinical practicum experience.
2. Number of Students. The number of MLT students participating in the clinical practicum experience at any given time shall be limited to (_____).

3. Working Hours. Individual MLT students participating in the clinical practicum experience shall be given an average of forty (40) hours per week to spend in clinical experiences. Hospital shall submit to Institute a student clinical rotation schedule which will include hours, days off and holidays.

4. Insurance. For the purposes of this Agreement, Institute and Hospital agree that MLT students are not employees of Hospital and, as such, are not eligible for worker's compensation coverage by Hospital while on the premises of Hospital or involved in any procedure or clinical practicum experience. Institute agrees to carry such accident and personal injury liability insurance covering MLT students as may be require or is acceptable to Hospital, and Institute shall provide to Hospital the necessary certificates as evidence of such insurance. During and after term of this Agreement, Institute further agrees to indemnify and hold Hospital harmless of any and all damages to person or property and any claims, liabilities, cost or expense (including attorney's fees and medical treatment expenses), resulting from injuries, accidents or other occurrences affecting MLT student during or as a result of the clinical practicum experience.

5. Indemnity. Institute hereby expressly agrees to indemnify and hold Hospital harmless from all damages to persons or property or any other claims, liabilities, cost or expenses (including attorney's fees), resulting from the acts or omissions, including default or negligence, of Institute and its employees, students (including the MLT students, against principals, agents, successors, or assigns). Institute shall further indemnify Hospital for any and all damages, costs or expenses (including attorney's fees), resulting from any claims or causes of action brought by Institute's employees or students, including its MLT students, against Hospital. Hospital hereby expressly agrees to indemnify and hold Institute harmless from any and all damages to persons or property or any other claims, liabilities, costs or expenses (including attorney's fees), resulting from the acts or omissions, including default or negligence, of Hospital and its employees, principals, agents, successors or assigns.

6. Non-Assignment. No assignment of this Agreement or the rights and obligations there under shall be valid without the specific written consent of both parties hereto.

7. Waiver/Breach. The waiver by either party of a breach or violation of any provision of this Agreement shall not operate as or be construed to be a waiver of any subsequent breach of the same or other provision hereof.

8. Joint Preparation. This Agreement shall be deemed to have been prepared jointly by the parties hereto and any uncertainty or ambiguity shall not be interpreted more strongly against either of the parties.

9. Governing Law. This Agreement shall be deemed to have been entered into in the State of South Dakota and all duties, obligations and rights there under shall be governed by the laws of the State of South Dakota.

10. Entire Agreement. This Agreement constitutes the entire agreement between the parties with respect to its subject matter. It supersedes any prior agreement or understanding between them and it may not be modified or amended except by a writing executed by both parties.

MITCHELL TECHNICAL COLLEGE

By: _____ Its: President

By: _____ Its: Program Director

By: _____ Date: _____

Graduation Requirements

MLT GRADUATION REQUIREMENTS

Students in the MLT Program must meet all requirements for graduation as outlined in the Mitchell Technical College Catalog and Student Handbook.

In addition, the students must receive a "C" or better in technical didactic courses on MTC campus as well as received a grade of "C" or better for Clinical Practicum courses.

Didactic courses to include:

- ML 104 Medical Laboratory Fundamentals
- ML 105 Instrumentation
- HS 101 Medical Terminology
- HS 103 Anatomy/Physiology
- ML 111 Hemostasis
- ML 112 Hematology
- ML 121 Urinalysis/Body Fluids
- ML 144 Intro to Laboratory Chemistry
- ML 171 Immunology/Serology
- ML 240 Microbiology
- ML 230 Clinical Chemistry
- ML 272 Immunohematology/Blood Banking

Clinical Practicum Courses to include:

- ML 214 Practical Clinical Hematology
- ML 224 Practical Clinical Urinalysis/Body Fluids
- ML 244 Practical Clinical Microbiology
- ML 274 Practical Clinical Immunohematology
- ML 234 Practical Clinical Chemistry/Immunoassay

Sixteen credits of general education courses are required to obtain the AAS degree. The sixteen credits must include the following:

Mathematical Reasoning
Fundamentals of Speech
Social Science Elective
Behavioral Science Elective
English Composition
Student Success (1 credit)

All requirements for Clinical Practicum (Externship) must be met to include the completed documentation of Proficiency Checklists and Externship Time Sheet.

Operational Policies & Procedures

Operational Policies & Procedures

The Mitchell Technical College Catalog and Student Handbook contains important operational policies and procedures that affect students and employees. The Catalog and Student Handbook is published annually on the MTC website; past catalogs are archived on the website as well.

STUDENT RECORDS

The Family Education Rights and Privacy Act of 1974 protects the privacy of students' educational records. The statute governs access to records maintained by educational institutions and the release of educational information. The Institute is in compliance with the Family Educational Rights and Privacy Act of 1974. Compliance procedures are further defined in the Catalog and Student Handbook.

ACADEMIC ADVISING

Each student at Mitchell Technical College will be assigned an academic advisor (usually a faculty member from the student's program). Academic advisors provide students with the needed connection to the various campus services. In addition, academic advisors will assist students in course selection during the registration process to ensure timely program completion. Students are ultimately responsible for taking and successfully completing all required coursework; however, advisors provide helpful guidance and support for making good academic decisions. Program requirements and course information can be accessed via the student's MyTech account.

Advisors meet with their advisees at least once per semester and are encouraged to monitor the student's grades and attendance. The advisor will maintain confidentiality with respect to the student's personal and academic information. They are also committed to treating all students with fairness, objectivity, and impartiality.

WITHDRAWAL FROM SCHOOL

A student may withdraw from a course or from all courses. Partial refunds will be given for courses withdrawn according to the refund scheduled published in the catalog. Students receiving Title IV Financial Aid must complete exit counseling to ensure receipt of this refund discount. Administrative withdrawals are initiated by Mitchell Tech personnel due to a student's lack of attendance for on-campus courses and non-activity for online courses. Students receive all failing grades from administrative withdrawals and no refund.

More information can be found in the Catalog and Student Handbook on the MTC website.

STUDENT DISCRIMINATION GRIEVANCE POLICY AND PROCEDURES MTC 1046

I. POLICY

It is the policy of Mitchell Technical Institute to provide a learning and working environment free from discrimination. To that end, Mitchell Technical Institute requests students and staff to assist the Institute in identifying barriers to a discrimination-free learning and working environment. The following grievance procedure is provided as an avenue for the processing of complaints toward the prompt, equitable, and appropriate elimination of unlawful discrimination from the learning and working environment.

II. DEFINITIONS

A. Grievance: a complaint alleging a violation of any policy, procedure, or practice which would be prohibited by Title IX, Section 504, and other federal and state civil rights laws, rules, and regulations. Complaints of other natures should be pursued under Policy MTI 1045: Student Complaints and Appeals.

B. Title IX: of the Education Amendments of 1972, the 1975, and 1980 implementing regulations, and any memoranda, directives, guidelines, and subsequent legislation or regulation that may be issued

C. Section 504: of the Rehabilitation Act of 1973.

D. Federal and State Civil Rights Laws, Rules, and Regulations: 1964 Civil Rights Act, Title VI, Title VII as amended, Title IX, Age Discrimination Act of 1967 and 1975 as amended, Equal Pay Act of 1963, Section 504, the Constitution of South Dakota, and implementing federal and state rules and regulations.

E. Grievant(s): a student, parent, or guardian who submits a grievance

F. Mitchell Technical Institute, 1800 E. Spruce, Mitchell, South Dakota 57301

G. Title IX or Title IX/Section 504 Coordinator: the employee designated to coordinate the Institute's efforts to comply with equity regulations and facilitate processing of complaints (hereafter Coordinator). NOTE: The Institute may authorize others to conduct investigations of complaints.

H. Day: a working day; the calculation of days in grievance processing shall exclude Saturdays, Sundays, and school holidays

III. BASIC PROCEDURAL RIGHTS (Applicable to all levels of the grievance process)

A. The Title IX (or Title IX/Section 504) Coordinator (or authorized individual) shall receive complaints, actively and independently investigate the merit of complaints and assist the parties in prompt and equitable resolution of complaints. The Coordinator may be utilized as a resource by any party at any level of this procedure.

B. This procedure does not deny the right of the grievant to file formal complaints with other state and federal agencies (South Dakota Human Rights Commission or the United States Department of Education Office of Civil Rights) or to seek private counsel for complaints alleging discrimination.

C. In investigation of sexual harassment or sexual intimidation, it is recommended that the grievant be accompanied by a friend, parent, or advisor of their own choosing for support during any part of the process.

D. Retaliation against any person filing a grievance or any person participating in the investigation or resolution of a grievance is a violation of law and constitutes the basis for filing a separate grievance.

E. It is the policy of this Institute to process all grievances in a confidential manner, to the extent possible.

F. The President, Vice-President, or School Board member of the district may request that the Title IX Coordinator or any other authorized individual conduct an investigation of suspected violations of Title IX. The investigator will prepare a report as outlined in Level 2 of the grievance process.

IV. PROCESS

Level 1: Dean of Student Success (informal and optional—may be bypassed by grievant)

Many problems can be solved by an informal meeting with the parties and the Dean of Student Success. An exception is that complaints of sexual harassment should be discussed with the first line supervisor or administrator that is not involved in the alleged harassment. Persons filing complaints of sexual harassment should never be forced to confront the alleged harasser. Further, handling of complaints through informal measures should not be used to impede the prompt resolution of the complaint, and the grievant may bypass informal measures at any time to file a formal complaint.

Level 2: Title IX (Title IX/Section 504) or Other Authorized Grievance Coordinator

If the complaint or issue is not resolved at Level 1, the grievant may file a written grievance stating: 1) the nature of the grievance; 2) the remedy requested; and 3) be signed and dated by the grievant. The Level 2 written grievance must be filed with the Coordinator (or

designated person) within sixty (60) days of the event or incident, or from the date the grievant could reasonably have become aware of such occurrences.

Upon receipt of a written report alleging a grievance, the coordinator shall authorize an investigation. The investigation may be conducted by the Coordinator, other MTI employees designated by the Coordinator, or by a 3rd party designated by the Coordinator. The investigating party shall provide a written report of the investigation within fifteen (15) working days to the Coordinator. The investigating report will include the following:

1. A clear statement of the allegations of the grievance and remedy sought by the grievant.

2. A statement of the facts as contended by each of the parties.

3. A statement of the facts as found by the Investigator and identification of evidence to support each fact.

4. A list of all witnesses interviewed and documents reviewed during the investigation.

5. A narrative describing attempts to resolve the grievance.

6. The Investigator's conclusion as to whether the allegations in the grievance are meritorious.

7. If the Coordinator believes the grievance is valid, the Coordinator will recommend appropriate action.

The Coordinator will publish a decision within ten (10) days of receipt of the report. Copies of the Coordinator's decision will be sent by certified mail to both parties to document receipt of the written decision. A copy will also be sent to the President and district superintendent.

Level 3: President

Either party may make a written appeal to the President within ten (10) days of receiving the Coordinator's decision. The appeal must include the original complaint form, copy of the written decision, and a written statement as to the reason for the appeal. The President will review the material submitted and publish a decision to uphold, modify, or reverse the decision of the Coordinator within ten (10) days of receipt of the appeal. Copies of the President's decision will be sent by certified mail to both parties to document receipt of the written decision.

Any recommended actions that are not under appeal will be implemented by the Institute within sixty (60) days, unless with reasonable justification communicated to all parties.

Level 4: Superintendent of Schools

If either party is not satisfied with the decision at Level 3, either party may make a written appeal to the Superintendent of Schools within ten (10) days of receiving the President's decision. The Superintendent will publish a decision within ten (10) days of receipt of the appeal. Copies of the Superintendent's decision will be sent by certified mail to both parties to document receipt of the written decision.

The decision of the Superintendent of Schools will be final.

V. OTHER OPTIONS

At any time during this process, a grievant may file a complaint with the South Dakota Division of Human Rights (Labor & Management), 123 W Missouri Ave., Pierre, SD 57501 (605-773-3681) OR with the regional Office for Civil Rights, U.S. Department of Education, One Petticoat Lane, 1010 Walnut St, 3rd Floor, Suite 320, Kansas City, MO 64106 (816-268-0550) OR take legal action.

With questions or complaints contact:

Title IX Coordinator:	Vice President	(605) 995-3023

TECHNICAL ASSISTANCE AVAILABLE:

South Dakota Department of Education
800 Governors Drive
Pierre, SD 57501-2291
Phone: (605) 773-4771

South Dakota Division of Human Rights
123 W. Missouri Ave.
Pierre, SD 57501
Phone: (605) 773-3681

STUDENT COMPLAINTS

Mitchell Technical College recognizes that there may be conditions that are in need of improvement and that students and others should have some means by which their concerns may be effectively expressed, considered, and dealt with fairly. Such means can do much to maintain harmonious relationships between the Institute and the students, employees, and community.

Mitchell Tech desires that all types of complaints be handled informally at the level closest to the origin of the complaint, but that channels be provided for filing official complaints when resolution is not achieved. Mitchell Tech will follow approved policies and procedures for handling complaints. (Students wishing to file an official complaint or appeal with the Institute should refer to Policy MTC 1045. Students wishing to file a grievance alleging a violation of federal or state civil rights laws, rules, and regulations should refer to Policy MTC 1046.)

For all complaints, the first course of action must be to try to resolve the complaint directly with Mitchell Tech through informal or formal processes. To formally file a complaint, please submit the Complaint Intake Form (found in MyTech and on the MTC website).

If the matter is not resolved through formal processes, individuals may choose to file a complaint at the state level. Students who are South Dakota residents or who are attending courses on the Mitchell Tech campus may file unresolved complaints with the South Dakota Board of Technical Education. The BOTE office will only handle those complaints that concern educational programs or practices of technical institutes and that have exhausted the individual institution's formal process for complaints. The office does not handle anonymous complaints, nor does it intervene in matters concerning an individual's grades or examination results, as these are the prerogative of the institute's faculty.

Mitchell Tech is accredited by The Higher Learning Commission. For complaints related to institutional practices that may not meet the Criteria for Accreditation established by The Higher Learning Commission, individuals should direct complaints to HLC.

Allegations about the MLT program's failure to comply with program accreditation standards should be directed to the accrediting body in question.

A complaint of consumer fraud on the part of Mitchell Tech should be directed to the South Dakota Attorney General's office.

Accreditation of MLT Program

Accreditation of MLT Program

National Accrediting Agency for Clinical Laboratory Sciences (NAACLS)

The National Accrediting Agency for Clinical Laboratory Sciences (NAACLS) is a non-profit organization that independently accredits clinical laboratory scientist/medical technologist (MLS/MT), medical laboratory technician (MLT) (associate degree and certificate), histotechnologist (HTL), histologic technician (HT) (associate degree and certificate) and pathologists' assistant (Path Asst) educational programs. NAACLS also independently approves phlebotomist, cytogenetic technologist and clinical assistant educational programs.

NAACLS is comprised of four review committees, the Board of Directors and the executive office staff. The Clinical Laboratory Sciences Programs Review Committee (CLSPRC) reviews MLS/MT, MLT, HTL and HT programs for accreditation. The Affiliated Professions Review Committee (APRC) reviews pathologists' assistant programs for accreditation. The Programs Approval Review Committee (PARC) reviews phlebotomy, cytogenetic technology and clinical assistant programs for approval. The Board of Directors functions as the governing unit of NAACLS and grants final accreditation and approval awards. The executive office staff facilitate both the accreditation and approval process.

NAACLS is an autonomous, nonprofit organization established in 1973 as the successor to the American Society of Clinical Pathologists' (ASCP) Board of Schools. ASCP and the American Society for Clinical Laboratory Science (ASCLS) are sponsoring organizations of NAACLS. The National Society for Histotechnology (NSH) and the Association of Genetic Technologists (AGT) are participating organizations. The American Association of Pathologists' Assistants (AAPA) is an affiliating organization. NAACLS is recognized by the United States Department of Education (USDE), which is a federal agency authorized by federal statute to publish a list of accrediting agencies and associations recognized as reliable authorities concerning educational quality. NAACLS is also recognized by the Council for Higher Education Accreditation (CHEA).

NAACLS and the organizations that collaborate in the accreditation and /or approval of clinical laboratory science education programs are:

Bylaws Committee Administrative Services Section
Executive Committee Financial Services Section
Finance and Insurance Committee Publications Services Section Nominations Committee
Program Services Section

Standards of Accredited Educational Programs for the Medical Laboratory Technician

PREAMBLE

Objectives

The purpose of these Standards and the Description of the Profession is to establish, maintain, and promote standards of quality for educational programs in the clinical laboratory sciences and to provide recognition for educational programs which meet or exceed the minimum standards outlined in this document.

The Standards are to be used for the development and evaluation of medical laboratory technician programs. Paper reviewers and site visit teams assist in the evaluation of the program's compliance with the Standards. Lists of accredited programs are published for the information of students, employers, and the public.

DESCRIPTION OF THE MEDICAL LABORATORY TECHNICIAN PROFESSION

The medical laboratory technician is qualified by academic and applied science education to provide service in clinical laboratory science and related areas in rapidly changing and dynamic healthcare delivery systems. Medical laboratory technicians perform, evaluate, correlate and assure accuracy and validity of laboratory information; direct and supervise clinical laboratory resources and operations; and collaborate in the diagnosis and treatment of patients. The medical laboratory technician has diverse and multi-level functions in the areas of collecting, processing, and analyzing biological specimens and other substances, principles and methodologies, performance of assays, problem solving, troubleshooting techniques, significance of clinical procedures and results, principles and practices of quality assessment, for all major areas practiced in the contemporary clinical laboratory.

Medical laboratory technicians practice independently and collaboratively, being responsible for their own actions, as defined by the profession. They have the requisite knowledge and skills to educate laboratory professionals, other health care professionals, and others in laboratory practice as well as the public.

The ability to relate to people, a capacity for calm and reasoned judgment and a demonstration of commitment to the patient are essential qualities. Communications skills extend to consultative interactions with members of the healthcare team, external relations, customer service and patient education. Laboratory professionals demonstrate ethical and moral attitudes and principles that are necessary for gaining and maintaining the confidence of

patients, professional associates, and the community.

DESCRIPTION OF CAREER ENTRY OF THE MEDICAL LABORATORY TECHNICIAN

At entry level, the medical laboratory technician will possess the entry level competencies necessary to perform routine clinical laboratory tests in areas such as Clinical Chemistry, Hematology/Hemostasis, Immunology, Immunohematology/Transfusion medicine, Microbiology, Urine and Body Fluid Analysis, and Laboratory Operations.

The level of analysis ranges from waived and point of care testing to complex testing encompassing all major areas of the clinical laboratory. The medical laboratory technician will have diverse functions in areas of pre- analytical, analytical, post-analytical processes. The medical laboratory technician will have responsibilities for information processing, training, and quality control monitoring wherever clinical laboratory testing is performed.

At entry level, the medical laboratory technician will have the following basic knowledge and skills in:

A. Application of safety and governmental regulations compliance;
B. Principles and practices of professional conduct and the significance of continuing professional development;
C. Communications sufficient to serve the needs of patients, the public and members of the health care team.

STANDARDS FOR ACCREDITED AND APPROVED PROGRAMS

I. Sponsorship

A. Sponsoring Institution

The sponsor of an educational program must be one of the following:

1. A post-secondary academic institution accredited by an institutional accrediting agency that is recognized by the U.S. Department of Education and given the authority to provide post-secondary education, which awards a minimum of a certificate at the completion of the program.

2. A hospital, medical center, or laboratory accredited by an applicable recognized agency (see Standards Compliance Guide), which awards a minimum of a certificate at the completion of the program.

3. A non-degree granting post-secondary institution recognized by the state in which it is located. (for Phlebotomy and Clinical Assistant programs only)

4. An institution recognized by the national government or a regional/national accrediting agency for higher education of the

country in which it is located as a post-secondary academic institution with degree granting authority. (for programs outside of the United States)

B. Consortium Sponsor

A separate and distinct entity consisting of two or more members that exists for the purpose of operating an educational program. Where a consortium exists, at least one member of the consortium must meet the requirements of a sponsoring institution specified in I.A. The creation of the consortium must be clearly documented as a formal memorandum of understanding and signed by all members. This document shall contain the following elements:

1. governance of the consortium
2. lines of authority within the consortium for the educational program
3. responsibilities of each member in the delivery of the educational program

C. Multi-location Sponsor

1. A specified campus location of an entity that controls a system of campuses, which is accredited by an institutional accrediting agency that is recognized by the U.S. Department of Education and given the authority to provide postsecondary education. The specified campus location delivers the educational program in its entirety and awards a minimum of a certificate at the completion of the program.
2. A specified location of an entity that controls a system of hospitals, medical centers, or laboratories accredited by an applicable recognized agency (see Standards Compliance Guide), which awards a minimum of a certificate at the completion of the program.

D. Responsibilities of the Sponsor

1. The sponsor has primary responsibility for:
   a) supporting curriculum planning and course selection by program faculty and staff
   b) appointing faculty and staff
   c) maintaining student transcripts permanently
   d) granting the degree and/or certificate documenting satisfactory completion of the educational program
   e) ensuring that appropriate personal safety measures are addressed for students and faculty
   f) ensuring that all provisions of the Standards are met
   g) ensuring that graduates of the program have obtained or

will obtain the minimum degree and/or certificate upon completion of the program

Pathologists' Assistant programs: a master's degree or higher, or a certificate for students who hold or complete the required degree

MLS, DMS, HTL, and CG, programs: a baccalaureate degree or higher, or a certificate for students who hold or complete the required degree

MLT and HT programs: an associate degree or higher, or a certificate for students who hold or complete the required degree

HT programs: a certificate or an associate degree or higher

Phlebotomy and Clinical Assistant programs: a certificate for the student

2. The sponsor must ensure that the activities assigned to students in the clinical setting are educational.

3. There must be documented ongoing communication between the sponsor and its affiliates for exchange of information and coordination of the program.

4. The sponsor must have a formal affiliation agreement with all other entities that are involved in the education of the students, which describes:
   a) the relationship
   b) the roles
   c) the responsibilities of the sponsor and that entity
   d) the assurance for completion of students assigned clinical requirements in the event that an affiliation is discontinued

II. **Assessment and Continuous Quality Improvement**

A. Systematic Assessment
There must be a documented plan for continuous and systematic assessment of the effectiveness of the program.

B. Outcome Measures
A review of the results of the following outcomes measures from at least the last three active years must be documented, analyzed and used in program assessment and continuous quality improvement of the program to include an

annual submission to NAACLS. If outcome measure(s) does/do not meet the stated NAACLS approved benchmarks (see Standards Compliance Guide), then an analysis and action plan must be submitted to correct the deficiency (ies).

1. External certification or licensure results
2. Graduation rates
3. Attrition rates
4. Placement rates (i.e., employment positions in the field of study or pursuit of further education)
5. Other (optional): such as results of capstone projects, faculty feedback, exit or final examinations, exit interviews with graduates, student and graduate professional leadership, impact of the program on local and regional healthcare, etc.

C. Program Assessment and Modification

The results of program outcomes measures and assessment must include findings from graduate and employer feedback and be:

1. Reflected in ongoing curriculum development, resource acquisition/allocation, and program modification.
2. Analyzed to demonstrate the effectiveness of any changes implemented.

III. Resources

A. General Resources

1. The sponsor must appoint sufficient faculty and staff with the necessary qualifications to perform the functions identified in documented job description
2. Resources assessment must be part of a continuous program evaluation
3. Resources must be sufficient to allow achievement of program goals

B. Financial Resources

Financial resources for continued operation of the educational program must be sufficient to achieve the program goals.

C. Physical Resources

Physical resources such as facilities, equipment and supplies, information resources, and instructional resources sufficient to achieve the program goals.

IV. Students

A. Publications and Disclosures

1. The following must be defined, published, and readily available to prospective and enrolled students:
    a) program mission statement;

b) program goals and graduate competencies;
c) programmatic accreditation/approval status including the name, address and contact information for NAACLS;
d) results of the program outcome measures as identified in Standard II.B;
e) list of clinical facilities;
f) admission criteria, including essentials functions, advance placement, transfer of credits and credits for experiential learning;
g) list of course descriptions including the number of academic credit hours per course (if appropriate);
h) names and academic rank or title of the program director and faculty; (and medical director for Pathologists' Assistant programs)
i) current tuition and fees including withdrawals and refund policies;
j) policies and processes by which students may perform service work must be published
k) policies and procedures for:
    (1) advising and guiding students through the program while maintaining confidentiality and impartiality
    (2) clinical assignment specifically addressing when placement cannot be immediately guaranteed;
    (3) student grievance and appeals;
    (4) criteria for program completion including probation, suspension, and dismissal; academic calendar
l) rules and regulations governing acceptable personal and academic conduct, including behavior expectations for clinical experience

B. Student Records

1. The program must maintain student records, conforming to any governmental or sponsor regulations. Records example include admission, evaluation, counseling, advising, grades, credits, etc.
2. The student transcript/student record must be retained permanently by the sponsor and contain at least:
    a) legal name;
    b) grades and credits;
    c) dates of admission and completion

C. Health and Safety

1. Health
    a) The program must provide evidence that the health and safety of

students, faculty, and patients during educational activities is safeguarded.

2. Safety
   a) The program must provide evidence that each student enrolled has received biohazard and safety training.

V. Operational Policies

Fair Practices

A. Student recruitment and admission must be non-discriminatory in accordance with existing governmental regulations and those of the sponsor.
B. Faculty recruitment and employment practices must be non-discriminatory in accordance with existing governmental regulations and those of the sponsor.
C. The granting of the degree or certificate must not be contingent upon the student passing any type of external certification or licensure examination.
D. A teach out plan must be developed and submitted to NAACLS within 30 days of the official announcement of the closure of the program.
E. Service work by students in clinical settings outside of academic hours must be noncompulsory.
F. Students may not be substituted for regular staff during their student experiences.

VI. Administrative: Maintaining Accreditation/Approval

Program/Sponsoring Institution Responsibilities

Programs are required to comply with administrative requirements for maintaining accreditation/approval, including:

A. Submitting required documentation, the Self-Study Report, an Application for Continuing Accreditation/Approval, or a required Progress Report as determined by NAACLS by the established deadline;
B. Paying accreditation/approval fees, as determined by NAACLS;
C. Informing NAACLS of relevant administrative and operational changes within 30 days. This includes changes in program official names, addresses or telephone numbers; affiliates, status (e.g. inactivity, closure) or location, and institution name;
D. Submitting the annual online report required by NAACLS by the established deadline;
E. Agreeing to a site visit date before the end of the period for which accreditation/approval is awarded;
F. Submitting an outcomes assessment report on a annual basis to NAACLS addressing major changes, if any, and program assessment standards (Standard II) by the established deadline date;
G. Verifying compliance with these Standards upon request from NAACLS, which may include submitting to an off cycle site visit.

VII. MLT Program Administration

A. Program Director

1. Qualifications

The program director must be a medical laboratory professional who:

a) has an earned master's or doctoral degree;
b) holds ASCP-BOC U.S. generalist certification as a Medical Laboratory Scientist/Medical Technologist.
c) has three years of teaching experience;
d) has knowledge of education methods and administration as well as current NAACLS accreditation procedures and certification procedures.

2. Responsibilities

The program director must:

a) be responsible for the organization, administration, instruction, evaluation, continuous quality improvement, curriculum planning and development, directing other program faculty/staff, and general effectiveness of the program;
b) provide evidence that s/he participates in the budget preparation process;
c) engage in 36 hours of documented continuing professional education over each three years;
d) be responsible for maintaining NAACLS accreditation of the program;
e) have regular and consistent contact with students, faculty, and program personnel.

3. Faculty Appointments

The program director must have a faculty appointment at the sponsoring institution or must have a faculty appointment in each affiliated academic institution. In the case of a clinically based program, the program director's appointment at affiliated academic institutions may be a regular one, a non-salaried clinical or courtesy appointment, or an adjunct appointment, depending upon the regulations of the academic institution.

Program Directors who have been approved as a program director of a NAACLS accredited MLT program prior to October 1, 2013 remain eligible as a program director.

B. Site Program Coordinator (required for multi-location programs only; assigned to each participating site)

1. Qualifications

The site program coordinator must:

a) have an academic degree appropriate to the program level;
b) hold the same level certification required of a program director;

c) have at least one year of experience in medical laboratory science education.

2. Responsibilities

The site program coordinator, when required, is responsible for:

a) coordinating teaching and clinical education;
b) evaluating program effectiveness;
c) maintaining appropriate communications with the program director.

C. Faculty

1. Didactic Instructor Appointments

The program must have qualified faculty/instructors who hold appointments within the educational program (e.g., certified professionals in their respective or related fields). The program must ensure and document ongoing professional development of the program faculty/instructors.

a) Qualifications

Faculty/instructors designated by the program must:

(1) demonstrate adequate knowledge and proficiency in their content areas;
(2) demonstrate the ability to teach effectively at the appropriate level.

b) Responsibilities

The responsibilities of the faculty/instructors must include:

(1) participation in teaching courses;
(2) evaluation of student achievement;
(3) development of curriculum, policy and procedures;
(4) assessment of program outcomes.

2. Clinical Liaison

At least one clinical liaison, who is employed by the clinical site, must be designated at each clinical site affiliated with the program to coordinate clinical experience for students.

3. Qualifications

The clinical liaison must:

a) be a medical laboratory professional who holds discipline appropriate certification and professional licensure (if required by the state) in the program discipline;
b) demonstrate proficiency in and adequate knowledge of the program discipline;
c) have at least one year experience as a practicing professional in the program discipline.

4. Responsibilities

The clinical liaison must be responsible for:

a) coordinating and ensuring effectiveness of clinical instruction at the site;
b) evaluating effectiveness of clinical instruction;

c) monitoring and evaluating students' clinical performance;
d) maintaining effective communication with the program director.

D. Advisory Committee

There must be an advisory committee composed of individuals from the community of interest (e.g., practicing professionals, academic professionals, scientific consultants, administrators, pathologists and other physicians, public member) who have knowledge of clinical laboratory science education.

1. Responsibilities

a) The advisory committee of the program shall have input into the program/curriculum to maintain current relevancy and effectiveness.

VIII. MLT Curriculum Requirements

A. Instructional Areas

1. Prerequisite content in biological sciences, chemistry and mathematics that provides the foundation for course work required in the laboratory science program

2. The curriculum must address pre-analytical, analytical and post-analytical components of laboratory services. This includes collecting, processing, and analyzing biological specimens and other substances, principles and methodologies, performance of assays, problem-solving, troubleshooting techniques, significance of clinical procedures and results, principles and practices of quality assessment, for all major areas practiced in the contemporary clinical laboratory. The program curriculum must include the following scientific content:

a) Clinical Chemistry
b) Hematology/Hemostasis
c) Immunology
d) Immunohematology/Transfusion medicine
e) Microbiology
f) Urine and Body Fluid Analysis
g) Laboratory Operations

3. Application of safety and governmental regulations compliance
4. Principles and practices of professional conduct and the significance of continuing professional development
5. Communications sufficient to serve the needs of patients, the public and members of the health care team

B. Learning Experiences

1. Learning experiences (courses, practical, other required activities) must be properly sequenced and include necessary content and activities to enable students to achieve entry level competencies in each major discipline as listed in Standard VIII.A.2.
2. After demonstrating competency, students, with qualified supervision, may be permitted to perform procedures.

C. Evaluations

Evaluation systems must relate to course content and support program competencies. If there is evidence that competencies are not adequately achieved (through feedback mechanisms as described in Standard II.B) then course objectives will be examined in detail to assure that the objectives are behavioral, include all domains and relate directly to the evaluations used.

1. These evaluation systems must be employed frequently enough to provide students and faculty with timely indications of the students' academic standing and progress.
2. The evaluation systems must serve as a reliable indicator of the effectiveness of instruction and course design.

NAACLS
5600 N. River Road Suite 720
Rosemont IL, 60018 http://www.naacls.org