VIRGINIA WESTERN COMMUNITY COLLEGE
MEDICAL LABORATORY TECHNOLOGY
PROGRAM HANDBOOK
2021-22

VIRGINIA WESTERN

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WELCOME AND INTRODUCTION

Welcome to the Associate of Applied Science (AAS) Degree Program in Medical Laboratory Technology (MLT) at Virginia Western Community College (VWCC).

This handbook is designed to serve as your guide to general information concerning the program in those areas that directly affect your life as a student in this curriculum. The contents
of the handbook represent a statement of the policies and procedures and are intended to serve as a supplement to the College Catalog and the VWCC Student Handbook.

This health care career program is one that takes time and dedication. The faculty and counselors are available to assist you throughout your training. We wish you success and personal growth through your experiences in this Program.

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I. INTRODUCTION TO THE VIRGINIA WESTERN MLT PROGRAM

I.1 Program Mission

The Medical Laboratory Technology Program strives to provide quality educational experiences that enable students to become effective, professional members of the clinical laboratory team who can respond to the changing nature of the clinical laboratory.

I.2 Program Goals

- To provide selected students the opportunity to obtain knowledge that enables them to become contributing members of the allied health team as competent entry-level medical laboratory technicians.
- To stimulate critical thinking and problem solving skills.
- To retain and prepare students academically to complete the program and successfully pass the MLT ASCP Examination
- To instill in our students a professional work ethic, a desire for life-long learning, and an appreciation for clinical laboratory science as a profession.

1.3 NAACLS Accreditation Statement

The Virginia Western Medical Laboratory Technology Program is fully accredited by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS).
Address: NAACLS
5600 N. River Rd., Suite 720
Rosemont, Il. 60018
info@naacls.org
773-714-8880

II. Program Admission Requirements

Applicants must:

- Have applied to and been accepted by Virginia Western Community College
- Hold a High School Diploma or GED
- Be 18 years of age at the start of the program
- Meet a Minimum Cumulative GPA requirement at the end of the fall semester prior to admission
    - High School Cumulative GPA of at least 2.0
    - College Cumulative GPA of at least 2.0 (with a minimum of 12 hours of college credit in a 12 month timeframe)
    - Applicants holding a GED or with a high school GPA of less than 2.0 will be considered for admission if they have a college cumulative GPA of at least 2.0 (with a minimum of 12 hours of college credit in a 12 month timeframe)
- Complete the following prerequisite college courses with a grade of C or better
    - SDV 101: Orientation to Health Professions
    - ENG 111: College Composition I
    - NAS 2 or BIO 101

All applicants who meet the minimum requirements outlined above will be interviewed by the admissions committee which is comprised of the MLT Program Director and faculty. Based on the interview, the Cumulative GPA and prerequisite grades outlined above, and the result of the
TEAS, the admissions committee will rank the applicants. The top twenty applicants will be accepted into the program. Students accepted into the program must pass a **criminal background check and drug screen.**

Students interested in the program must complete a program application and submit college transcripts. Advanced placement and experiential learning credit may be applied according to the College's Policy on Awarding Credit (I-15). Students who have transfer credit will be evaluated on an individual basis.
Students may also be considered for advanced placement in the program if they have completed MLT courses at another college in the Virginia Community College System (VCCS) within the last five years. Students who have completed MLT courses at colleges outside of the VCCS will be considered on a case by case basis.

II.1 Program Application Process and Clinical/Program Information

Admission to the program is competitive and is based on cumulative GPA, strength of science courses, and interview. The Medical Laboratory Technology Program accepts a new cohort each fall. Deadline for submitting completed application materials is **May 1** for the upcoming academic year. Applicants are responsible for making certain that the following have been submitted to the Health Careers Information Specialist in addition to a current college application: official transcripts from all colleges attended (transcripts from VWCC or other Virginia Community Colleges are not required), official transcripts showing completion of a high school diploma or records showing completion of GED with scores, and a current Medical Laboratory Technology application form. MLT Application forms are available on our website. Early admission is encouraged for advising purposes. Meeting curriculum standards does not guarantee program admission. Applicants will be notified of their program admission status in August.

II.2 Clinical Affiliates

Locations

Quest Diagnostics (Roanoke Memorial Hospital)	1906 Belleview Ave., Roanoke, VA 24014	540-981-7388
Lewis Gale Medical Center	1900 Electric Rd., Salem VA 24019	540-776-4765
Lewis Gale Hospital Montgomery	3700 S. Main St. Blacksburg, VA 24060	540-951-1111

II.3 Clinical Schedules

There are **no** evening or weekend clinical rotations unless requested by the affiliate. Clinical training schedules are arranged to provide maximum exposure, therefore, you must be prepared to arrive at the clinical site at 7:00 AM or earlier. Hours vary depending on the site and may not exactly match those published in the class schedule.

Clinical rotations (on-site training) are scheduled in the fifth semester (summer). Students spend ten weeks, five days per week, eight hours per day at an affiliate site performing Hematology/Coagulation, Clinical Chemistry/Urinalysis, Clinical Microbiology/Virology/ Parasitology, and Blood Bank. Two and a half weeks will be spent in each area of the laboratory. Each area must be successfully completed with a passing grade in order to obtain a passing grade of "C" or better in MDL 290 (Clinical Practicum), the clinical rotation course

II.4 Clinical Placement

All students who are eligible will be guaranteed a clinical slot; however, the Program does not guarantee a particular site. Students will be placed in clinical sites only after completion of all MLT core classes.

Every effort is made to place students locally at the HCA/Lewis Gale Medical Center facility in Salem, VA or the Carilion Roanoke Memorial Hospital/Quest facility in Roanoke. **If either of these facilities cannot accommodate students, students will be able to complete their rotations at the following facilities: Carilion New River Valley Hospital, Carilion Franklin Memorial Hospital, Lewis Gale Hospital Montgomery, and Lewis Gale Hospital Pulaski. If there are not enough clinical sites for students, then students will be placed in clinical site on the basis of GPA, recommendations of the clinical site lab director, and which student is the first to complete their Castlebranch drug screen/background check. Clinical placements may be postponed a semester until sites become available.**

II.5 Provisions for Extended College Closure

If the college facilities are closed for an extended period of time, MLT lecture classes can be administered in a virtual online format. Laboratory classes, where possible can also be administered in a virtual format, however there are laboratory classes that are not suited for a virtual classroom experience. In these cases, students will have to make up missed work when the college facilities reopen.

II.6 Provisions in the Event of Program Closure

In the event the MLT Program is closed by the college, there is a teach-out plan that will allow the currently enrolled students to complete the program, including their clinical rotations and obtain the A.A.S. degree in Medical Laboratory Technology. First-year students will be allowed to complete the remainder of the first year as well as the second year of the program.

II.7 Clinical Admission Requirements

a. Verification of good health and ability to meet essential functions as required of the profession
b. Certification in CPR for health care providers (available at VWCC as HLT 105)
c. Documentation of Immunizations: Hepatitis B, Tuberculin Skin Test
d. Personal health insurance (recommended)

II.8 Immunizations

It is a requirement of all clinical affiliates that health workers (including students) show proof they are free from communicable tuberculosis; therefore, all students are required to show proof of having a recent tuberculin skin test (TST). Students must complete all immunizations prior to the first day of clinical assignment, with the exception of Hepatitis
B. Hepatitis B vaccinations must be begun before the start of clinical rotations, but do not need to be completed before the start of rotations. Students are responsible for the cost of any required vaccinations.

II.9 Background Check and Drug Screen

A 12 panel Random Urine Drugs of Abuse Screening and a Criminal Background Check is required prior to program entry. Background checks and drug screening is performed through Certifiedbackground.com. The Program Director will give students a code that they will need to register online for their Background Check and Drug Screen at the beginning of the semester. Students are responsible for the cost of the background check and drug screening.

II.10 Enrollment and Acceptance

Acceptance letters to the top twenty qualified applicants will be mailed by August 1st. These letters include details regarding program orientation and registration information.

II. 11 Transfer of Credit for Prior College Coursework

If the accepted student has taken prior coursework at another college or university or has taken certain courses as a dual enrollment student, they may receive credit for these courses depending on the course. The Health Careers Information Specialist and the MLT Program Director will look at the student's transcripts and decide which courses can transfer to the MLT Program. General Education Courses such as English 111, Philosophy courses, Sociology courses and Statistics will transfer if taken in the last 5 years. If a student has taken prior Medical Laboratory courses at another college or university, these courses will have to be compared to what is offered in the VWCC MLT Program. Decisions about these specific courses will be made on a case by case basis. The student will have to supply a transcript to the MLT Program Director and the Health Careers Information Specialist for consideration. If the student attended any Virginia Community College, a transcript is not required, as these can be accessed by VWCC employees.

II.12 Tuition, Fees and Expenses

Information on Tuition and Fees is available on the College website at https://www.virginiawestern.edu/pay/tuition/.

It is the responsibility of the student to be aware of registration dates, add/drop period, and graduation application deadlines. This information is available on the Virginia Western Academic Calendar https://www.virginiawestern.edu/academic-calendar/

Estimated additional expenses associated with the program are outlined on the Virginia Western website at https://www.virginiawestern.edu/academics/health-professions/med-lab-technology/cost/

Students are also responsible for any transportation costs, parking fees at affiliate sites and personal health insurance costs (optional).

II.13 Degree Requirements

Individuals are eligible for graduation with an Associate in Applied Science (A.A.S.) degree when they have fulfilled all of the course and credit hour requirements of the degree with at least twenty-five percent of the total semester hours acquired in residence at Virginia Western Community College.

For MLT this includes successfully completing the 71 required credits with a cumulative grade point average (GPA) of 2.0 and each MDL course with a grade of "C" or better. The individual must also:

- Be certificated to graduate by an appropriate college official
- Earn a curricular grade point average (GPA) of at least 2.0 in all courses which are applicable to graduation in the curriculum
- File an application for graduation with the Records Office
- Resolve all financial obligations to the college and return all library and college learning materials

The issuing of the A.A.S. degree in Medical Laboratory Technology is <u>not</u> contingent upon passing any type of external certification or licensure examination.

II.14 Service Work

Students are allowed to perform patient work in a clinical site only while being supervised. Although students are encouraged to help with the work in an assigned clinical site, **they are not to take the place of a paid employee. A laboratory employee must sign off on results produced by students.**
Students may be employed by a clinical affiliate outside of class hours, as long as those work hours do not interfere with didactic class times or clinical times.

MLT Students are advised that they should **not** undertake external service work while in the VWCC MLT Program as this could interfere with their progress in the program.

II.15 Inclement Weather Policy

In the event of inclement weather for classes held on the Virginia Western campus, please refer to the Inclement Weather Policy (I-60).
https://www.virginiawestern.edu/about/legal-and-policies/policies/student-affairs/i-60/

If the college is closed, students do not attend clinical rotations. Extended clinical time missed may require make-up days to be scheduled at the convenience of the clinical affiliate. If the college is closed, it is the responsibility of the student to notify the affiliate prior to start time that they will not be attending. If the college is on a delayed schedule, students are expected to report to their clinical site at the required starting time. However, students should use their judgement when commuting to the clinical sites and should not to attempt to commute if they feel there is a danger in traveling to their clinical site.

II.16 Advising

Students needing assistance with the application process may work with the Health Careers Information Specialist or the Program Director. Once accepted to the program, each student will be assigned a faculty advisor. Additional information about advising is available on the Virginia Western Advising Resources Website https://www.virginiawestern.edu/advising/prepare-for-advising/ and in the Advising Syllabus: https://www.virginiawestern.edu/advising/resources/ Contact information for MLT advisors is available on page 1 of this handbook.

Advising will be available throughout the duration of the program. Students requiring academic advising can contact the MLT Program Director to make an advising appointment. Students can also meet for advising with any MLT faculty member by contacting the faculty member to set up an appointment.

All advising at VWCC, whether by college advisors or faculty advisors will be carried out with impartiality and confidentiality.

II.17 Non-Discriminatory Practices

Virginia Western Community College is committed to providing opportunities for all applicants and employees, as well as fostering a culture of inclusion, diversity and mutual respect.

Virginia Western Community College is committed to diversity and is an Equal Opportunity/Affirmative Action Institution.

The college does not discriminate in employment on the basis on race, color, sex, gender identity, sexual orientation, religion, military service and/or veteran status, caregiver status, national origin, genetic information, current/past/potential pregnancy, childbirth, lactation, political affiliation, age, hair, hair texture, hair type, protective hair styles (such as braids, locks and twists), child birth and related medical conditions, and persons with or perceived to have disability; or any other basis prohibited by state law relating to discrimination in employment.

The college complies with the non-discrimination directives in the Virginia Public Procurement Act, Title VII of the Civil Rights Act of 1964 as amended, Title 29 Labor, Chapter XIV Equal Employment Opportunity Commission, Part 1608, the Civil Rights Act of 1991, and other applicable federal and state laws. The college also complies with the Uniformed Services Employment & Re-employment Rights Act. Further, the college is committed to complying with the Governor's Executive Order Number One (current year) as declared by the sitting governor.

This policy shall be followed for recruitment, selection, promotion, transfer, demotion, role changes, compensation, benefits, layoff, training programs, purchasing, accessibility and job accommodation without regard to the individual's status protected by law.

The college will reasonably accommodate qualified individuals with disabilities whenever the individual is otherwise qualified to safely perform all essential functions of the position.

Any person employed by Virginia Western Community College who fails to comply with this policy will be subject to disciplinary action.

Non-Discriminatory Practices Additional Information:
References

DHRM Policy 2.05 – Equal Employment Opportunity
Civil Rights Act of 1991
Governor's Executive Order Number One
Title VII of the Civil Rights Act of 1964 as amended
Title 29 Labor, Chapter XIV Equal Employment Opportunity Commission, Part 1608
Uniformed Services Employment & Re-employment Rights Act
U.S. Equal Opportunity Employment Commission
Virginia Public Procurement Act
VCCS Policy Manual, Chapter 3

III. Medical Laboratory Technology Program Essential Functions

Essential Function I: Observation

- Distinguish red, yellow, and blue colors, distinguish clear from cloudy, distinguish and discriminate objects in the range of 1 micron through the microscope; Observe demonstrations and exercises in which biological fluids are tested; Perceive pertinent detail in objects or in pictorial or graphic material; to make visual comparisons and discriminations and see slight differences in shapes and shadings of figures, and widths and lengths of line; to comprehend forms in space and understand relationships of plane and solid objects; the ability to visualize objects of two or three dimensions.

Essential Function II: Communication

- Communicate effectively and sensitively with patients, their families, and members of the health care team.
- Communicate effectively with patients from different social and cultural backgrounds, as well as develop effective professional rapport with patients and co-workers, record diagnostic results clearly, accurately and efficiently.
- Communicate effectively in English with patients, family and other health care professionals in a variety of patient settings; Comprehend English when spoken in person or via the telephone.

Essential Function III: Motor

- Maneuver in the laboratory, around instruments, in confined spaces, and in patient rooms. Movement includes utilizing shoulders, arms, and neck; bending; twisting the body; standing; reaching and grasping overhead, in front of the body, and down; manipulates small objects and control adaptive devices with gloved hands; manipulate instruments, perform manual procedures, perform phlebotomy techniques, and have sufficient eye/hand and eye/hand/foot coordination to perform required duties in a laboratory.

Essential Function IV: Intellectual-Conceptual, Integrative and Quantitative Abilities

- Demonstrate through a variety of modalities including, but not limited to, classroom instruction; small group, team and collaborative activities; individual study; preparation and presentation of reports; and use of computer technology.
- Assimilate a large amount of complex, technical and detailed information.
- Discern abstract and concrete variables, define problems, collect data, establish facts, and draw valid conclusions; interpret instructions furnished in oral, written, diagrammatic, or schedule form.
- Perceive pertinent detail in verbal or tabular material; observe differences in copy, proofread words and numbers, and avoid perceptual errors in arithmetic

computation.

- Synthesize, coordinate, analyze, compile, compute, copy, and compare data.

Essential Function V: Behavioral and Social Attributes

- Function effectively under stress and to adapt to an environment that may change rapidly, without warning, and/or in unpredictable ways.
- Accept responsibility, exercise good judgment, and promptly complete all responsibilities attendant to the diagnosis and care of patients. They must understand the legal and ethical standards of the medical profession.
- Work effectively, respectfully and professionally as part of the healthcare team, and interact with patients, their families, and health care personnel in a courteous, professional, and respectful manner.
- Contribute to collaborative, constructive learning environments; accept constructive feedback from others; and take personal responsibility for making appropriate positive changes.
- Interact with individuals and/or groups from a range of social, cultural, emotional, and intellectual backgrounds.
- Comprehend and follow instructions; perform simple and repetitive tasks; maintain a work pace appropriate to a given work load; relate to other people beyond giving and receiving instructions, perform complex or varied tasks, make generalizations, evaluations or decisions without immediate supervision, accept and carry out responsibility for directions, control and planning, maintain own health and safety, and present a professional appearance.

Essential Function VI: Ethical and Legal Standards

- Comprehend and comply with the legal and ethical standards of the medical profession.

- Possess attributes that include compassion, empathy, altruism, integrity, responsibility, and tolerance, recognize limitations in their knowledge, skills and abilities and to seek appropriate assistance with their identified limitations.

Other Essential Functions:

- Sufficient olfactory (smell) sense to maintain patients' and environment safety.
- Ability to work indoors, be around moving machinery; fumes, gases, odors, irritating particles, possibly be exposed to toxic or caustic chemicals, blood and body fluids, noise, radiation or electrical energy, vibration; work in confined spaces, use a computer monitor; work alone, with others, and/or around others,
- Ability to wear safety glasses, face mask/shield, protective clothing, and protective gloves in the laboratory.

III.1 PROFESSIONALISM AND THE AFFECTIVE DOMAIN

III.1.A American Society for Clinical Laboratory Science Code of Ethics

MLT Students should abide by the American Society for Clinical Laboratory Science (ASCLS) Code of Ethics (http://www.ascls.org/about-u s/code-of-ethics).

III.1.B Character and Professionalism

As you participate in your Medical Laboratory Technology education, you will be expected to demonstrate that you have learned what is required to become a Laboratory Professional. There are three learning domains, all important and interrelated, into which your learning may be categorized: Cognitive, Psychomotor, and Affective.

The most common discussions about education/learning usually refer to the first two domains, cognitive and psychomotor. Students learn the facts and theories (cognitive) then transfer that knowledge into practice using various skills sets to performing tasks (psychomotor).

The affective domain includes objectives that emphasize values, attitudes, and interest.

The following affective objectives will be used to evaluate the student for all student laboratories and all coordinated practice rotations:

AFFECTIVE OBJECTIVES FOR LAB CLASSES

1. Arrives in the laboratory at the expected time.
2. Cooperates with others and responds well to suggestions.
3. Recognizes abnormal test results and verify the results without being prompted.
4. Organizes himself/herself so that he/she performs the test procedure in a timely manner.
5. Utilizes open time constructively.
6. Adheres to the rules and regulations of the laboratory.
7. Follow directions verbally and in writing.
8. Shows good judgment and is self-reliant.
9. Performs tests with few isolated errors.
10. Keeps the work area neat and well supplied.

AFFECTIVE OBJECTIVES FOR CLINICAL ROTATIONS

1. Communicates effectively with patients by demonstrating a concerned and confident approach.
2. Communicates effectively with members of the laboratory and hospital staff.
3. Exhibits the initiative and self-confidence.
4. Demonstrates the ability to work cooperatively with the laboratory staff.
5. Follows verbal instructions.
6. Organizes work to achieve maximum efficiency.
7. Recognizes mistakes or discrepancies and takes appropriate corrective actions including asking questions when appropriate.
8. Accepts constructive criticism and attempts to make appropriate adjustments.
9. Displays professional integrity including the confidentiality of all patient information.

10. Performs work in a manner which instills confidence and trust.
11. Responds to high volume or stat pressures with organization and efficiency.

IV. CURRICULUM

There are 71 required credits in the program. Eight (8) credits must be completed prior to applying to the program. Didactic courses are held in the Fall and Spring semesters of the first and second year. The clinical course (MDL 290) is held in the summer after all didactic courses are complete. The curriculum is available on page 30 of this handbook and is available on the VWCC MLT website https://catalog.virginiawestern.edu/preview_program.php?catoid=20&poid=2643&returnto=2232.

V. PROGRAM POLICIES

V.1 Grading

Medical Laboratory Technology is a profession in which less than adequate performance may result in poor patient care. Standards must be maintained which are high enough to ensure the effectiveness and competency of our graduates. Accordingly, the program grading system may be somewhat different than for other VWCC courses.

Students must obtain a grade of "C" or better in both the lecture and laboratory portions of medical laboratory classes. Grading policies are detailed in the course outlines received at the beginning of each course. All major coursework is graded as follows:

A: 90-100
B: 80-89
C: 70-79
D: 60-69
F: 0-59

All courses must be completed in the sequence outlined in the Virginia Western College Catalog. Withdrawal from, or failure in any of the MDL classes could result in dismissal from the program. It will be up to the discretion of the program director and the program faculty as to whether the student is allowed to continue in the program or is terminated from the program. Additional information on Withdrawals and Readmission is provided in sections G and H below.

Incomplete grades must be resolved prior to taking the next course in the sequence.

Clinical course grading in MDL 290 uses a criteria-based rubric system for final clinical evaluation grading. Students are evaluated in technical and professional areas. All students will be expected to complete a specified list of skills for each clinical rotation. A sheet containing the list of skills as well as a comment area for the clinical specialists will be filled out by the clinical specialists in each area of the laboratory. The clinical grade will be based on the performance of the student in each area of the laboratory and will be assigned by the clinical instructor and Program Director. A failing grade in MDL 290 will result in the student being removed from the MLT Program.

Program faculty and clinical affiliates reserve the right to recommend, through appropriate channels, withdrawal of any student who neither exhibits safe performance nor adheres to prescribed clinical affiliate policies and procedures. If the student is barred from the clinical site due to disciplinary infractions, it will also result in their removal from the MLT Program.

V.2 Attendance

- Students are expected to attend ALL scheduled lectures and labs and arrive on time. The instructor will record class attendance at the beginning of each session.
- There are no make-up labs. If a student must be absent due to illness or emergency, he/she must contact the instructor prior to class or risk an unexcused absence.
- Missed assignments and tests due to absenteeism will be made up at the discretion of the faculty according to the published guidelines in each course syllabus.
- More than one class missed due to illness will require documentation from a health care provider.
- Points will be deducted from the final grade for multiple tardiness and unexcused absences.

V.3 Appearance/Dress Code

On-Campus Labs

Students must wear a disposable lab coat (a supply of lab coats will be maintained in the lab); closed toed and heeled shoes; hair tied back away from face; non-latex nitrile gloves and protective face shields as needed. Sandals/flip-flops and open toed shoes are strictly forbidden and students wearing these will be barred from entering the lab section without changing to closed toed shoes. Disposable lab coats will be supplied by the program for use on campus as per OSHA regulations.

Clinical Rotations

Clinical attire will consist of scrubs, white shoes (tennis shoes are acceptable) and a white lab coat (tie-dyed or colored lab coats are not acceptable). The color of the scrubs will depend on the clinical rotation site. Lab coats worn on campus will be the disposable type, while the clinical sites will supply students with lab coats.

Appropriate dress must be professional looking and include the VWCC badge. The following may not be worn in any clinical setting at any time: denim of any color or style; clinging pants (leggings or stirrup pants); see-through fabrics (except on arms); T-shirts; sweatshirts or sweatpants; shorts; skorts; cropped pants; capri pants; sundresses;

low necklines; thin shoulder straps; backless shirts, baseball caps; tank tops; novelty clothing; short lengths on skirts or dresses; open-toed shoes or sandals.

1. Students may wear a plain wedding band and one pair of small, plain, post earrings (one per earlobe); no exceptions. Dangling or hoop earrings are not acceptable. No other jewelry is permissible. Other visible, pierced body parts are not allowed in clinical.
2. Tattoos are to be covered whenever feasible.
3. Makeup must be light and unobtrusive.
4. Hair must be clean, off the collar, and styled conservatively. Very long hair should be pulled back.
5. No hair ornaments are to be worn with the uniform. Plain barrettes and clips that match hair color may be worn.
6. White shoes and laces must be clean. Full white socks must be worn with the pants uniform.
7. Nails must be cut short. Nail polish and artificial nails are not permitted.
8. Perfume, cologne, or aftershave lotion must not be worn in the clinical area.
9. No smoking, consumption of alcoholic beverages, or use of smokeless tobacco is permitted while wearing student uniform, or lab coat in any location. Students are not allowed to wear the VWCC uniform into any establishment that could be viewed as unacceptable (bars, clubs, etc.).
10. Students should be clean and well-groomed at all times. Male students must be clean shaven. A clean neatly trimmed beard or mustache is permitted.

V.4 Email

All Virginia Western students are assigned an email address by the Virginia Community College System (VCCS). Students and faculty are required to use this email account for any course-related email communication. Faculty will not accept or respond to email sent from any other email account. Please remember to check your student email daily and regularly deleted unwanted messages so you are able to receive messages.

V.5 Student Conduct Policy

Students in the MLT Program must abide by the Virginia Western Student Conduct Policy (I- 21) https://www.virginiawestern.edu/about/legal-and-policies/policies/student-affairs/i-21/ . In addition to this policy, the following misconduct sanctions and administrative responses are specific to the restricted admissions MLT Program.

V.6 Plagiarism

Plagiarism is defined in the Student Conduct Policy as "the intentional or accidental presentation of another's words or ideas as your own. Students should familiarize themselves with the description of plagiarism found in their English handbooks, their English class syllabi, or in writing manuals available in the library. **Ignorance of what constitutes plagiarism is not a defense for such a serious infraction**."

Information and graphics accessed electronically through the Internet must also be cited, giving credit to the sources. This material includes e-mail (don't cite or forward someone else's e-mail without permission); newsgroup material; and information from Web sites, including graphics. Even if you give credit, you must get permission from the original source to put any graphic that you did not create on your web page, e-mail, or document.

Good academic work must be based on honesty. Plagiarism is dishonest and cannot be tolerated in an academic setting. The consequences of plagiarizing are detailed in the Student Conduct Policy. In short, when such misconduct is established as having occurred, the student faces possible disciplinary actions ranging from warning to dismissal, along with any grade penalty the instructor might impose.

V.7 Electronic Devices in the Classroom and Clinical Environment

Technology use in the classroom is intended to enhance the learning environment for all students. Any use of technology that degrades the learning environment, promotes academic misconduct or illegal activities is prohibited. Failure to adhere to these requirements will result in removal from the classroom, and can result in a failing grade for the course.

1. Classroom Disruptions: Use of electronic devices during class time is disruptive to the learning environment. Cell phones and other electronic devices should be turned off or on silent in the classroom and in labs.

2. Laptops/Tablets/iPads: In the classroom, these devices may only be used to take notes.
3. Cell Phones/Smartphones: Students must not abuse the use of cell phones and Smartphones in class or in clinical. Any phone turned on must be in vibrating mode. If there is a need to receive a call (i.e. emergency), the student must inform the instructor in advance that they may need to be excused from the classroom to take an important call. Use of cell phones in the clinical setting is strictly forbidden in the laboratory areas or patient areas of the facility. Students violating this will face disciplinary action.
4. Text Messaging/E-mailing/Gaming/Accessing Social Media is not permitted in the classroom or in a clinical setting. Students guilty of these infractions in a clinical setting will be asked to leave the clinical site and will face disciplinary action.
5. Photography is not permitted in the classroom without permission of the instructor. Photography in the clinical setting is strictly forbidden.

6. Video/Audio Recording: Students are permitted to video classroom laboratory sessions with consent of the instructor. Students may audio record a lecture with the permission of the instructor. No recording or videos will be allowed in the clinical sites.

VI. Rules and Regulations Regarding Acceptable Personal and Academic Conduct; Behavior Expectations for Students in the Clinical Facilities

Students are expected to maintain a professional behavior not only in the didactic classrooms, but also in the clinical facilities. In the clinical facilities, students are told to act as an employee would be expected to act. The student should be on time to their clinical facility, they should not take extended lunch or break times, they should not leave early unless told to by a supervisor, and they should perform the work that they are expected to perform. Students are also taught that they should abide by HIPAA rules when handling patient information and universal precautions rules when handling patient specimens. Use of personal cell phones is forbidden in the clinical facilities unless it is a personal emergency and approved by the lab supervisor.

Students are also warned against using social media sites to discuss their clinical experiences with their friends or family members. Students should not share their clinical work experiences or experiences with hospital personnel on social media platforms. Violation of this rule could result in program dismissal.

Prior to beginning the clinical rotation component of the program, the supervisors of the 2 major clinical sites will speak to the second-year students about their expectations of students in the clinical sites, and what it means to be a professional laboratory worker.

Listed below are some examples of consequences of breaking program rules and regulations.

GROUNDS FOR DISMISSAL FROM MLT PROGRAM			
Infraction	**Maximum Penalty 1st Offense**	**Maximum Penalty 2nd Offense**	**Maximum Penalty 3rd Offense**
Unexcused Absence	Verbal Warning	Written Warning	Dismissal
Unexcused Tardiness	Verbal Warning	Written Warning	Dismissal
Eating/smoking in unauthorized areas	Verbal Warning	Written Warning	Dismissal
Non-compliance of policy for appearance/dress code/personal hygiene	Verbal Warning	Written Warning	Dismissal
Failure to follow chain of command	Verbal Warning	Written Warning	Dismissal
Use of cell phones, iPads or similar devices at the clinical site	Written Warning	Dismissal	
Use of abusive or obscene language	Dismissal		
Rudeness to patients/staff/faculty	Dismissal		
Threatening or fighting with faculty/employees, patients, or visitors	Dismissal		
Falsifying records and/or non-disclosure of criminal background	Dismissal		
Insubordination or refusal to comply with reasonable instructions from an authorized supervisor/faculty	Dismissal		
Leaks of privileged information and confidentiality (HIPAA violations)	Dismissal		
Report of being in clinical while intoxicated	Dismissal		
Consuming intoxicants or non-prescribed drugs on clinical premises and/or positive random drug screen	Dismissal		
Acting in a manner that endangers patients/staff/faculty	Dismissal		
Incorrect identification of patients or labeling of specimens at clinical sites	Dismissal		
Unethical use of clinical affiliate supplies or equipment	Dismissal		
Failure to comply with OSHA regulations	Dismissal		

VI.1 Student Grievance Policy

The student grievance policy is clearly delineated in the Student Grievance Policy & Procedures (I-19) (https://www.virginiawestern.edu/about/legal-and-policies/policies/student-affairs/i-19/

VI.2 Withdrawal

If a student must voluntarily withdraw from the MLT Program due to personal circumstances, he/she must meet with the Program Director for an Exit Interview. If the student wishes to apply for readmission at a later date, a return plan must be created with the Program Director. The student will have to apply for readmission and readmission to the program is not guaranteed. The Program Director and faculty will ultimately decide if the student will be readmitted to the program.

VI.3 Readmission Requirements

1. Any student who has received a grade of less than "C" in a MDL major course may reapply for readmission to the program. Readmission is not guaranteed,
2. Any student who has voluntarily withdrawn from a major MDL course due to personal circumstances may return the following year provided he/she has the approval of the Program Head and a return program plan on file. A delay of more than one year will require a reapplication to the program.
3. Students, who withdraw from, or fail in (grade of less than "C") two (2) MDL courses are ineligible for readmission to the Medical Laboratory Technology program.
4. Students who have been dismissed in writing from a clinical education site in consult with the Program Head and Division Dean, or who have been administratively withdrawn for ethical or behavioral problems are ineligible for readmission to the Medical Laboratory Technology program.
5. If readmission to the program is granted, an interview and repeat and/or updated immunization records, criminal background check, and drug screen may be required.

VII. SAFETY

Students will be exposed to potentially hazardous materials in the MLT program. Specimens with potential to spread infectious diseases and potentially toxic chemicals will be handled throughout the program. Students will be informed of these hazards and the proper method for safely handling them. Exposure to potential biohazards such as blood and body fluids can be minimized with the proper precautions. Every patient sample in the hospital/clinic should be treated as a potential biohazard (universal precautions).

a. Most accidents can be prevented by careful adherence to the rules of laboratory safety. Following OSHA Guidelines is mandatory. Students are expected to become thoroughly familiar with all safety regulations presented to them and to follow these rules at the college and the affiliates.

b. Any accident occurring while you are a student assigned to a clinical affiliate **MUST** be reported to the laboratory supervisor immediately and to the Program Director by the end of the day.
c. Students are strongly encouraged to carry personal health insurance. Information on low-cost/free health care and short-term medical insurance is available at the Student Activities Office. Hospitals can provide emergency treatment for any incident occurring while you are scheduled in a clinical rotation; however, please be reminded that you will be charged for this service as you are not an employee of the hospital.
d. In addition to documentation of your immunization records, we also highly recommend that you have a baseline HIV test for your own personal records.

VII.1 Laboratory Safety

All students must read and understand the information in this document with regard to laboratory safety and emergency procedures prior to the first laboratory session. **Your personal laboratory safety depends mostly on YOU**. Effort has been made to address situations that may pose a hazard in the laboratory, but the information and instructions provided cannot be considered all-inclusive.

Students must adhere to written and verbal safety instructions throughout the academic term. Since additional instructions may be given at the beginning of laboratory sessions, it is important that all students arrive at each session on time.

With good judgement, the chance of an accident occurring in this program is very small. Nevertheless, research and teaching workplaces (labs, shops, etc.) are full of potential hazards that can cause serious injury and or damage to the equipment. Working alone and unsupervised in laboratories is forbidden if you are working with hazardous substances or equipment. With prior approval, at least two people should be present so that one can shut down equipment and call for help in the event of an emergency.

Safety training and/or information should be provided by a faculty member, teaching assistant, lab safety contact, or staff member at the beginning of a new assignment or when a new hazard is introduced into the workplace.

VII.1.1 Emergency Response

1. It is your responsibility to read safety and fire alarm posters and follow the instructions during an emergency.
2. Know the location of the fire extinguisher, eye wash, and safety shower in your lab and know how to use them.
3. Notify your instructor immediately after any injury, fire or explosion, or spill.
4. Know the building evacuation procedures.

VII.1.2 Personal and General laboratory safety

1. Never eat, drink, or smoke while working in the laboratory.
2. Read labels carefully.
3. Do not use any equipment unless you are trained and approved as a user by your supervisor.
4. Wear safety glasses or face shields when working with hazardous materials and/or equipment.
5. Wear gloves when using any hazardous or toxic agent.
6. Clothing: When handling dangerous substances, wear gloves, laboratory coats, and safety shield or glasses. Shorts and sandals should not be worn in the lab at any time. Shoes are required when working in the machine shops.
7. If you have long hair or loose clothes, make sure it is tied back or confined.
8. Keep the work area clear of all materials except those needed for your work. Coats should be hung in the hall or placed in a locker. Extra books, purses, etc. should be kept away from equipment, that requires air flow or ventilation to prevent overheating.
9. Disposal - Students are responsible for the proper disposal of used material in appropriate containers.
10. Equipment Failure - If a piece of equipment fails while being used, report it immediately to your lab assistant or tutor. Never try to fix the problem yourself because you could harm yourself and others.
11. If leaving a lab unattended, turn off all ignition sources and lock the doors.
12. Never pipette anything by mouth.
13. Clean up your work area before leaving.
14. Wash hands before leaving the lab and before eating.

VII.1.3 Chemical safety

1. Treat every chemical as if it were hazardous.
2. Make sure all chemicals are clearly and currently labeled with the substance name, concentration, date, and name of the individual responsible.
3. Never return chemicals to reagent bottles. (Try for the correct amount and share any excess.)
4. Comply with fire regulations concerning storage quantities, types of approved containers and cabinets, proper labeling, etc. If uncertain about regulations, contact the building coordinator.
5. Use volatile and flammable compounds only in a fume hood. Procedures that produce aerosols should be performed in a hood to prevent inhalation of hazardous material.
6. Never allow a solvent to come in contact with your skin. Always use gloves.
7. Never "smell" a solvent!! Read the label on the solvent bottle to identify its contents.
8. Dispose of waste and broken glassware in proper containers.
9. Clean up spills immediately.
10. Do not store food in laboratories.

VII.1.4 Additional Safety Guidelines

- **Never do unauthorized experiments.**
- **Never work alone in laboratory.**

- Keep your lab space clean and organized.
- Do not leave an on-going experiment unattended.
- Always inform your instructor if you break a thermometer. Do not clean mercury yourself!!
- Never taste anything. Never pipette by mouth; use a bulb.
- Never use open flames in laboratory unless instructed by TA.
- Check your glassware for cracks and chips each time you use it. Cracks could cause the glassware to fail during use and cause serious injury to you or lab mates.
- Maintain unobstructed access to all exits, fire extinguishers, electrical panels, emergency showers, and eye washes.
- Do not use corridors for storage or work areas.
- Do not store heavy items above table height. Any overhead storage of supplies on top of cabinets should be limited to lightweight items only. Also, remember that a 36" diameter area around all fire sprinkler heads must be kept clear at all times.
- Areas containing lasers, biohazards, radioisotopes, and carcinogens should be posted accordingly. However, do not post areas unnecessarily and be sure that the labels are removed when the hazards are no longer present.
- Be careful when lifting heavy objects.
- Clean your lab bench and equipment and lock the door before you leave the laboratory.

Standard Precautions

VII.1.5 Hand Hygiene

Hand hygiene refers to both washing with plain or anti-bacterial soap and water and to the use of alcohol gel to decontaminate hands. When hands are not visibly soiled, alcohol gel is the preferred method of hand hygiene when providing health care to clients.

Hand hygiene should be performed before and after contact with a client, immediately after touching blood, body fluids, non-intact skin, mucous membranes, or contaminated items (even when gloves are worn during contact), immediately after removing gloves, when moving from contaminated body sites to clean body sites during client care, after touching objects and medical equipment in the immediate client-care vicinity, before eating, after using the restroom, and after coughing or sneezing into a tissue as part of respiratory hygiene.

VII.1.6 Personal Protective Equipment (PPE)

PPE includes items such as gloves, gowns, masks, respirators, and eyewear used to create barriers that protect skin, clothing, mucous membranes, and the respiratory tract from infectious agents. PPE is used as a last resort when work practices and engineering controls alone cannot eliminate worker exposure. The items selected for use depend on the type of interaction a public health worker will have with a client and the likely modes of disease transmission.

Wear gloves when touching blood, body fluids, non-intact skin, mucous membranes, and contaminated items. Gloves must always be worn during activities involving vascular access, such as performing phlebotomies.

Wear a surgical mask and goggles or face shield if there is a reasonable chance that a splash or spray of blood or body fluids may occur to the eyes, mouth, or nose.

Wear a gown if skin or clothing is likely to be exposed to blood or body fluids.
Remove PPE immediately after use and wash hands. It is important to remove PPE in the proper order to prevent contamination of skin or clothing. The CDC has suggested steps for correctly donning and removing PPEs.

If PPE or other disposable items are saturated with blood or body fluids such that fluid may be poured, squeezed, or dripped from the item, discard into a biohazard bag. PPE that is not saturated may be placed directly in the trash. Saturated waste generated from the home should be placed in sealable leak-proof plastic bags before placing in regular trash bags for disposal.

The OSHA PPE Standards and require employers to provide PPE for employees with hazard exposure in the workplace, train employees on the proper use of PPE, and properly maintain, store, and dispose of PPE.

VII.1.7 Needlestick and Sharps Injury Prevention

Safe handling of needles and other sharp devices are components of standard precautions that are implemented to prevent health care worker exposure to blood borne pathogens. This mandates the use of sharps with engineered safety devices when suitable devices exit.

- The safety devices on needles and other sharps should be activated immediately after use.
- Used needles should be discarded immediately after use and not recapped, bent, cut, removed from the syringe or tube holder, or otherwise manipulated.
- Any used needles, lancets, or other contaminated sharps should be placed in a leak-proof, puncture-resistant sharps container that is either red in color or labeled with a biohazard label.
- Do not overfill sharps containers. Discard after 2/3 full or when contents are at the full line indicated on the containers.
- Used sharps containers may be taken to a collection facility such as an area pharmacy, hospital, or clinic that provides this service.

VII.1.8 Cleaning and Disinfection

Benchtops in the laboratory should be wiped down with a proper disinfectant before and after use. Any blood or body fluid spills should be cleaned with a solution of 10% bleach. If spills or spraying of walls in a centrifuge occurs, clean with 10% bleach. All lab equipment can also be cleaned with disinfectant on an as-needed basis.

Housekeeping surfaces such as floors and walls do not need to be disinfected unless visibly soiled with blood or body fluids. They may be routinely cleaned with a detergent only or a detergent/disinfectant product.

Most disinfectants are not effective in the presence of dirt and organic matter, therefore cleaning must occur first before disinfection. Wet a cloth with the disinfectant, wipe away dirt and organic material, then with a clean cloth apply the disinfectant to the item and allow to air dry for the time specified by the product manufacturer.

Some pathogens such as norovirus and Clostridium difficile are not inactivated by commercial disinfectants routinely used in local public health settings. In situations where contamination with these pathogens is suspected, a bleach solution (10%) is recommended for disinfecting contaminated surfaces and items.

Some laboratory items may be damaged or destroyed by certain disinfectants. Consult with the manufacturer of the items before applying disinfectants.

VII.1.9 Waste Disposal

Sharp items should be disposed of in containers that are puncture resistant, leak-proof, closable, and labeled with the biohazard symbol or are red in color. Sharps containers should be replaced when filled up to the indicated full line. Items generated by local public health agencies that should be discarded into sharps containers include contaminated items that may easily cause cuts or punctures in the skin (used needles, lancets, broken glass or rigid plastic vials) and unused needles and lancets that are being discarded. Syringes or blood collection tube holders attached to needles must also be discarded still attached to the needles.

Non-sharp disposable items saturated with blood or body fluids (i.e., fluid can be poured or squeezed from the item or fluid is flaking or dripping from the item) should be discarded into biohazard bags that are puncture-resistant, leak-proof, and labeled with a biohazard symbol or red in color. Such items may include used PPE and disposable rags or cloths.

VII.1.10 The following practices can break the "chain of infection" in the clinical site:

- Proper hand hygiene
- Disinfection
- Use of standard precautions
- Proper use of PPEs
- Sealed sample containers
- Sealed biohazard waste containers
- Immunizations
- Patient isolation

VIII. Campus Safety

Student safety on the VWCC campus is a top priority at the college. There are many resources available for students who have concerns with safety issues. The links to the resources are provided below:

- **Campus Police**: https://www.virginiawestern.edu/police/
- **VWCC Policy on Harassment**: https://www.virginiawestern.edu/about/legal-and-policies/policies/student-affairs/i-46/
- **Student Conduct Policy**: https://www.virginiawestern.edu/about/legal-and-policies/policies/student-affairs/i-21/ that address how we manage behavior that may jeopardize the safety of our others,
- **Title IX (Sexual Harassment, Assault and Discrimination**: https://www.virginiawestern.edu/intervention/title-ix/.
- **Contagious disease policy**: https://www.virginiawestern.edu/about/legal-and-policies/policies/financial-administrative-policies/ii-8/
- **2022 Spring Semester Campus COVID-19 Response Plan**

IX. SUPPORT SERVICES

Students who do not achieve a score of at least 70 on any unit test are required to make an appointment with the instructor for test review.

In addition to faculty office hours, the following support services are available to students:

- Academic Link: https://www.virginiawestern.edu/library/academic-link/
- Brown Library: https://www.virginiawestern.edu/library/
- Intervention Counselor: https://www.virginiawestern.edu/intervention/
- Office of Disability Services: https://www.virginiawestern.edu/disability-services/

Additional resources are available on the Student Resources website.

X. National Accrediting Agency for Clinical Laboratory Sciences (NAACLS) Standards

X.1 Core Module

e. Define the role of the clinical assistant in the healthcare delivery system as it relates to the point-of-care or clinical laboratory environment.
f. Use common medical terminology.
g. Demonstrate knowledge of infection control and safety practices.
h. Follow standard operating procedures to collect specimens.
i. Prepare blood and body fluid specimens for analysis according to standard operating procedures.
j. Prepare/reconstitute reagents, standards and controls according to standard operating procedure.
k. Perform appropriate tests at the clinical assistant level, according to standard operating procedures.
l. Perform and record vital sign measurements.
m. Follow established quality control protocols to include maintenance and calibration of equipment.
n. Communicate (verbally and nonverbally) effectively and appropriately in the workplace.

X.2 Chemistry Module

1. Use common clinical chemistry terminology as it relates to the point-of-care or clinical laboratory environment.
2. Prepare, store and dispose of specimens for chemistry analysis according to standard operating procedures.
3. Determine suitability of specimens for chemistry procedures according to: the test requested; appropriate patient preparation/method of collection; time of collection/processing; storage; Specimen rejection criteria.
4. Assemble/prepare reagents, standards and controls for chemistry tests.
5. Perform appropriate tests at the clinical assistant level.
6. Recognize technical testing errors for each test performed.
7. Report results of procedures using pre-determined criteria.
8. Follow established quality control procedures specific to chemistry tests, including maintenance and instrument calibration.

X.3 Donor Room Collection/Screening and Component Processing Module
Performance may be done in a clinical setting or in a simulated lab.

1. Use common donor room, collection, processing, and component preparation terminology as it relates to the point-of-care or clinical laboratory environment.
2. According to standard operating procedures, demonstrate the ability to perform donor screening.
3. Demonstrate the ability to perform unit collection procedures as defined by established regulations.
4. Describe the procedures for the component preparation system
5. Follow established quality control procedures specific to donor room collection/component screening, including maintenance and instrument calibration.
6. Follow pre-determined criteria for unit suitability and lot release.

X.4 Hematology Module

1. Use common hematology terminology as it relates to the point-of-care or clinical laboratory environment.
2. Prepare, store and dispose of specimens for hematology analysis according to standard operating procedures.
3. Determine suitability of specimens for hematology procedures related to: the test requested; appropriate patient preparation/method of collection; time of collection/processing; storage; specimen rejection criteria.
4. Assemble/prepare reagents, standards and controls for hematology tests.
5. Prepare and stain slides for further analysis.
6. Perform hematology procedures at the clinical assistant level.
7. Report results of tests using pre-determined criteria.
8. Recognize technical testing errors for each test performed.
9. Follow established quality control procedures specific to hematology tests, including maintenance and instrument calibration.

X.5 Immunology Module

1. Use common immunology terminology as it relates to the point-of-care or clinical laboratory environment.
2. Prepare, store and dispose of specimens for immunology testing according to standard operating procedures.
3. Determine suitability of specimens for immunology procedures related to: the test requested; appropriate patient preparation/method of collection; time of collection/processing; storage; specimen rejection criteria.

4. Assemble/prepare reagents, standards and controls for immunology tests.
5. Perform immunology tests at the clinical assistant level.
6. Recognize technical testing errors for each test performed.
7. Report results of tests using pre-determined criteria.
8. Follow established quality control procedures specific to immunology tests, including maintenance and instrument calibration.

X.6 Microbiology Module

1. Use common immunology terminology as it relates to the point-of-care or clinical laboratory environment.
2. Follow special safety procedures and aseptic technique required for processing microbiology specimens.
3. Prepare, store, dispose of and properly transport specimens for microbiology testing according to standard operating procedure.
4. Determine suitability of specimens for microbiology procedures related to: the test requested; appropriate patient preparation/method of collection; time of collection/processing; storage; specimen rejection criteria.
5. Assemble/prepare reagents, standards and controls for microbiology procedures.
6. Prepare and stain slides for further analysis.
7. Perform microbiology testing at the clinical assistant level.
8. Recognize technical errors for each test performed.
9. Report results of procedures using pre-determined criteria.
10. Perform pre-determined quality control procedures specific to microbiology testing, including maintenance and instrument calibration.

X.7 Urinalysis Module

1. Use common immunology terminology as it relates to the point-of-care or clinical laboratory environment.
2. Prepare, store, dispose of and properly transport specimens for urinalysis testing according to standard operating procedure.
3. Instruct patients in the proper collection and preservation for various urine samples, including: mid-stream; random clean catch; timed collections; collections for drug screening; urine pregnancy tests.
4. Determine suitability of specimens for urinalysis procedures related to: the test requested; appropriate patient preparation/method of collection; time of collection/processing; storage; specimen rejection criteria.
5. Assemble/prepare reagents, standards and controls for urinalysis testing.
6. Prepare slides for microscopic examination.
7. Perform urinalysis tests at the clinical assistant level.
8. Recognize technical errors for each test performed.
9. Report results of tests using pre-determined criteria.
10. Perform pre-determined quality control procedures for urinalysis tests, including maintenance and instrument calibration.

VWCC MLT Program Curriculum and Course Descriptions

Completed by End of Spring Semester

First Semester

- SDV 101 - Orientation to Health Professions 2 CR [2]
- ENG 111* - College Composition I 3 CR
  NAS 2 Foundations of Life Sciences or BIO 101
  General Biology
- CHM 101* - Introductory Chemistry 4 CR
- MTH 155* - Statistical Reasoning 3 CR
- MDL 101 - Introduction to Medical Laboratory Techniques 3 CR
- MDL 215 - Immunology 2 CR
- BIO 252 -Nucleic Acid Methods

Second Semester

- MDL 125 - Clinical Hematology I 3 CR
- MDL 126 - Clinical Immunohematology/Immunology I 4 CR
- PHI 220 - Ethics 3 CR
- PSY 230* - Developmental Psychology 3 CR
- BIO 251-Protein Applications in Biotechnology

Third Semester

- MDL 140 - Clinical Urinalysis 2 CR
- MDL 225* - Clinical Hematology II 4 CR
- MDL 227* - Clinical Immunohematology/Immunology II 3 CR
- MDL 261 - Clinical Chemistry & Instrumentation I 4 CR

Fourth Semester

- MDL 236 - Parasitology and Virology 2 CR
- MDL 237 - Clinical Bacteriology 4 CR
- MDL 260 - Laboratory Instrumentation 3 CR
- MDL 262* - Clinical Chemistry & Instrumentation II 4 CR
- HLT 105 – Cardiopulmonary Resuscitation 1 CR [2]

Fifth Semester (Summer)

- MDL 290* - Coordinated Internship in Medical Laboratory Technology 5 CR
- MDL 195 – Topics in Medical Laboratory Technology 1 CR

Total Minimum Credits for Degree: 71

[1]Must be completed within five years of beginning the program.

[2]HLT 105 or CPR certification can be used to satisfy this requirement; however, the required CPR certification for Medical Laboratory Technology is American Heart Association Healthcare Provider CPR which includes hands-on training with infant, child, adult and AED. This requirement must be satisfied prior to beginning Clinical Rotations.

** This course has a requisite.*

VWCC MLT Program Course Descriptions

MDL 101 - Introduction to Medical Laboratory Techniques

Introduces the basic techniques including design of the health care system, ethics, terminology, calculations, venipuncture and routine urinalysis.
Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

MDL 125 - Clinical Hematology I

Teaches the cellular elements of blood including blood cell formation, and routine hematological procedures.
Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

MDL 225 - Clinical Hematology II

Teaches advanced study of blood to include coagulation, abnormal bloody formation, and changes seen in various diseases.
Lecture 2 hours. Laboratory 3-6 hours. Total 5-8 hours per week.

MDL 126 - Clinical Immunohematology/Immunology I

Incorporates basic principles of antigen and antibody reactions included in blood grouping and typing, compatibility testing, and serological procedure.
Lecture 2 hours. Laboratory 6 hours. Total 8 hours per week.

MDL 227 - Clinical Immunohematology/Immunology II

Emphasizes ability to apply theories and procedures utilized in immunohematology for routine transfusion and donor services. Correlates theories with practical application in order to assess cellular and immune mechanisms in specific disease states.
Lecture 1 hour. Laboratory 6 hours. Total 7 hours per week.

MDL 140 - Clinical Urinalysis

Focuses on urinalysis studies including physical and chemical properties, microscopic techniques. Emphasizes the significance of abnormal results.
Lecture 1 hour. Laboratory 3 hour. Total 4 hours per week.

MDL 215 - Immunology

Presents the physiological basis of humoral and cell mediated immunity, including the medical and clinical laboratory application of immunological principles.
Lecture 2 hours per week.

MDL 236 - Parasitology and Virology

Teaches identification of the common parasites affecting man. Stresses methods of isolation and identification.
Lecture 1 hour. Laboratory 3 hours. Total 4 hours per week.

MDL 237 - Clinical Bacteriology

Teaches handling, isolation, and identification of pathologic bacteria. Emphasizes clinical techniques and associate bacteria with clinical symptoms.
Lecture 2 hours. Laboratory 6 hours. Total 8 hours per week.
4 credits

MDL 260 - Laboratory Instrumentation

Teaches the theory, principles of operation, methodologies, maintenance, and troubleshooting of the more common instrumentation used in the clinical laboratory.
Lecture 2 hours. Laboratory 0-3 hours. Total 2-5 hours per week.

MDL 261 - Clinical Chemistry and Instrumentation I

Introduces methods of performing biochemical analysis of clinical specimens. Teaches instrumentation involved in a clinical chemistry laboratory, quality control, and the ability to

recognize technical problems. Part I of II.
Lecture 3 hours. Laboratory 3-6 hours. Total 6-9 hours per week.

MDL 262 - Clinical Chemistry and Instrumentation II

Introduces methods of performing biochemical analysis of clinical specimens. Teaches instrumentation involved in a clinical chemistry laboratory, quality control, and the ability to recognize technical problems. Part II of II.
Lecture 3 hours. Laboratory 3-6 hours. Total 6-9 hours per week.

MDL 195 - Topics In

ASCP Board Exam review course taught in Summer Semesters. Variable hours.

MDL 290 - Coordinated Internship

Clinical component of program taught for 10 weeks each Summer Semester at the end of the student's second year in the program.
Credit/practice ratio not to exceed 1:5 hours. May be repeated for credit. Variable hours.

XI. Academic Calendar

The complete Virginia Western Academic Calendar is Posted on the VWCC college webpage: https://www.virginiawestern.edu/academic-calendar/

XII. SIGNATURE PAGES

Signature pages must be signed, detached from the MLT Student Handbook and given to the Program Director.

RECEIPT AND ACCEPTANCE OF RESPONSIBILITY
PROGRAM LIABILITY DISCLAIMER

Student Handbooks for Medical Laboratory Technology have been developed to assist you in successful completion of the MLT AAS degree program. You are expected to become thoroughly familiar with the respective program handbook and keep it available for ready reference. If you have any difficulty understanding anything in this document, please consult the Program Director.

The Handbook is provided as a guide to ensure you understand the academic and conduct expectations the MLT AAS degree program has for you during your enrollment in the program.

There is no mutuality between you and the Program concerning it, and thus your reliance upon the information contained within it when making academic decisions does not constitute, and should not be construed as, a contract with the program. The program reserves the right to make changes to this handbook at any time, unilaterally and without notice; however, students will not be held responsible for any associated conduct expectations contained in such changes until notified of them.

o. Virginia Western Community College and its faculty assume no responsibility for accidents involving property damage, loss or theft, or bodily injury sustained or caused by students in pursuit of the Medical Laboratory Technology Program curriculum requirements.

p. Medical Laboratory Technology Students have responsibility for their personal actions when in contact with patients, even though they are not yet registered. Students are legally and financially responsible if another person is injured or suffers loss as a result of their negligence.

By signing this statement, I acknowledge I have received and read the MLT Student Handbook and accept my responsibility to observe the policies and procedures outlined within.

_____ _____

Student Printed Name Date

_____

Student Signature

MEDICAL LABORATORY

TECHNOLOGY HONOR CODE

To prepare students for the high ethical standards of the Health Professions, the College expects absolute academic integrity both in the classroom and in clinical practice. Therefore, any act of misconduct will subject you to the disciplinary procedures outlined in the Virginia Western Student Conduct Policy. In addition, misconduct at the clinical site may result in dismissal from the restricted admissions MLT Program as defined in the MLT Student Handbook.

I have read the above and agree to follow the Honor Code.

_____ _____

Student Printed Name Date

_____

Student Signature

Virginia Western Community College

ASSUMPTION OF RISK FORM

I agree that as a participant in the Medical Laboratory A.A.S. degree program, and any courses with the MDL prefix associated with Virginia Western Community College (the "College") scheduled for: Start Date_____to End Date:_____, I am responsible for my own behavior and well-being. I accept this condition of participation, and I acknowledge that I have been informed of the general nature of the risks involved in this activity, including, but not limited to: exposure to blood and body fluids, exposure to infectious disease including bacteria, viruses, and parasites, and exposure to potentially hazardous chemical substances by inhalation or skin exposure.

I understand that in the event of accident or injury, personal judgment may be required by Virginia Western Community College personnel regarding what actions should be taken on my behalf. Nevertheless, I acknowledge that the Virginia Western Community College personnel may not legally owe me a duty to take any action on my behalf. I also understand that it is my responsibility to secure personal health insurance **in advance**, if desired, and to take into account my personal health and physical condition.

I further agree to abide by any and all specific requests by Virginia Western Community College for my safety or the safety of others, as well as any and all of the College's rules and policies applicable to all activities related to this program. I understand that the College reserves the right to exclude my participation in this program if my participation or behavior is deemed detrimental to the safety or welfare of others.

In consideration for being permitted to participate in this program, and because I have agreed to assume the risks involved, I hereby agree that I am responsible for any resulting personal injury, damage to or loss of my property which may occur as a result of my participation or arising out of my participation in this program, unless any such personal injury, damage to or loss of my property is directly due to the negligence of the College. I understand that this Assumption of Risk form will remain in effect during any of my subsequent visits and program-related activities, unless a specific revocation of this document is filed in writing with Martha Sullivan, Dean, School of Health Professions at which time my visits to or participation in the program will cease.

In case an emergency situation arises, please contact_____(name) at_____(Phone number).

I acknowledge that I have read and fully understand this document. I further acknowledge that I am accepting these personal risks and conditions of my own free will.

_____I represent that I am 18 years of age or older and legally capable of entering into this agreement.

_____ _____

Participant's Signature Date

_____

Address

Medical Laboratory Technology Student Direct Supervision Verification

The Medical Laboratory Technology Program at Virginia Western Community College is committed to ensuring a strong educational experience at each clinical site for the student. The learning experience for the student is never to take precedence over patient care and safety. For that reason, students must be directly supervised by a qualified instructor at all times during any procedure where a patient is involved.

As stated by the NAACCLS, Standard VIII-B, 2, "After demonstrating competency, students, with qualified supervision, may be permitted to perform procedures."

Direct supervision is defined as student supervision by a qualified practitioner who:

- is physically present during the conduct of the procedure, and
- reviews and approves the procedure

By signing below, the student agrees to abide by the Direct Supervision policy above:

_____ _____

Student Printed Name Date

_____

Student Signature

SAFETY

1. Students will be exposed to potentially hazardous materials in these courses. Specimens with potential to spread infectious diseases and potentially toxic chemicals will be handled. Students will be informed of these hazards and the proper methods for safely handling them.
2. Most accidents can be prevented by careful adherence to the rules of laboratory safety. Following OSHA guidelines is mandatory. Students are expected to become thoroughly familiar with all safety regulations presented to them and to follow these rules at the college and at the clinical practice.
3. Any accident or injury occurring while you are a student assigned to a clinical affiliate must be reported to the laboratory supervisor immediately, and to the Program Head, Crystal Davis (540) 857- 7211 or CDavis@virginiawestern.edu. If she is not available, leave a message or send an email with a phone number where you can be reached. A college incident form needs to be initiated for documentation. The affiliate can provide medical care, however, please be reminded, you will have to pay the costs as you are not an employee.
4. Hospitals can provide emergency treatment for any incident occurring while you are scheduled in a rotation, however, please be reminded that you will be charged for this service, as you are not an employee of the hospital.
5. In addition to documentation of your immunization records, we also highly recommend that you have a baseline HIV test for your own personal records.

I further agree to abide by any and all specific requests by Virginia Western Community College for my safety or the safety of others, as well as any and all of the College's rules and policies applicable to all activities related to this program. I understand that the College reserves the right to exclude my participation in this program if my participation or behavior is deemed detrimental to the safety or welfare of others.

_____ _____

Student Printed Name Date

_____

Student Signature

Virginia Western Community College
Medical Laboratory Technician Program
Roanoke, Va

Clinical Rotation Student Evaluation

Student: _____ **Laboratory Area:** _____

Evaluation: Clinical Site Staff please evaluate this student's performance during clinical rotation foryour laboratory area Student grade will be calculated from evaluations.

Grade scale: **1=needs improvement/ unacceptable; 2= below average, 3= average, 4=above average, and 5=outstanding. Please elaborate on ratings below 3 in the comments section.**

Evaluation Criteria:	1	2	3	4	5
During this clinical rotation the student demonstrated professionalism as indicated by:					
• Being punctual, dependable and following the schedule					
• Accepting constructive feedback and utilized comments to improve					
• Maintaining calm and rational attitude in stressful situations					
• Communicating in a respectful and cooperative manner					
• Accepting responsibility for his/her actions					
• Interacting respectfully with lab staff/ clients/ patients					
During this clinical rotation the student demonstrated a willingness to increase knowledge.					
• Demonstrating interest (asked questions /taking notes), was attentive and engaged					
• Taking advantage of the learning opportunities presented; utilizing non-busy times efficiently by studying or reading laboratory procedures					
• Seeking direction if assignments are not readily understood; asks appropriate questions					
• Carries on with routine duties in a self-directed manner, when possible					
• Taking initiative by seeking added responsibilities - student demonstrates that they want to grow as a professional					
During this clinical rotation the student demonstrated good laboratory technique and beginner level skills.					
• Always followed applicable safety rules and used PPE while in the laboratory					
• Follows written procedures and verbal instructions					
• Completed assignments in a timely manner					
• Student is able to operate instrumentation and perform routine testing for this area					
• Is able to detect errors with instrumentation /reagents or samples for this lab area					
• Can troubleshoot errors relating to instrumentation / reagents/ other for this lab					
Overall performance - during this clinical rotation the student:					
• Expressed themselves in a professional manner and maintained confidentiality of patient information					
• Communicated clearly and recorded written items legibly and concurrently					
• Demonstrated ability to work independently					
• Performed quality work while in this lab area					
• Demonstrated comprehension and ability to interpret test results					
• Demonstrated abilities consistent with an entry level MLT (by the end of the rotation)					

Comments:

Clinical Rotation Staff/ Supervisor Signature/Date: _____

For VWCC Use	Total:					
	Grade:					

Virginia Western Community College
Medical Laboratory Technician Program
Roanoke, Va

Bacteriology/ Parasitology Laboratory Clinical Rotation Objectives

The student should have the opportunity to:

1. Discuss/observe/perform general laboratory functions to include the following:
   a. Order and receipt of reagents and supplies
   b. Reagent organization, storage and management
   c. Daily start-up and as needed reagent qulaity control
   d. Daily start-up and shutdown of equipment
   e. Verify test requisition(s) and assess sample suitability
   f. Instrument calibration or non-routine maintenance

2. Discuss/observe/perform routine slide preparation and staining, and rapid testing (i.e. rapid strep test):
   a. Perform gram stain and other stains
   b. Interpret slides as an aid in presumptive identification
   c. Perform/ interpret rapid testing

3. Discuss/observe/ perform plating of biological samples to include:
   a. Identifying appropriate media
   b. Identifying the purpose of various selective media
   c. Performing isolation techniques.

4. Discuss/observe/ perform and interpret blood cultures.

5. Discuss/observe/perform identification of bacteria:
   a. Identify bacteria by their colony characteristics and growth on selective media
   b. Identify bacteria by using biochemical testing methods and molecular testing methods such as PCR and DNA fingerprinting, when available
   c. Other tests

6. Discuss/observe/ perform antibiotic sensitivity testing.

7. Discuss/observe/ perform laboratory techniques to isolate / identify parasites from biological samples.

8. Discuss/observe/perform computerized record keeping for bacteriology.

9. Discuss /recognize how pre-analytical, analytical, and post analytical errors can adversely affect results and discuss the consequences of these errors for this lab area.

Virginia Western Community College
Medical Laboratory Technician Program
Roanoke, Va

Bacteriology / Parasitology Laboratory Checklist

Student: _____ **Facility:** _____

Procedure/Objective	Mark at least one of the columns			Instructor Initials/Date
	Discussed	Observed	Performed	
Discuss/ observe/ perform general laboratory functions:				
• Receipt of reagents and supplies				
• Reagent organization, storage and management				
• Daily start-up and as needed reagent quality control				
• Daily start-up/ shutdown of equipment				
• Verify test requisition(s) and assess sample suitability				
• Instrument calibration or non-routine maintenance				
Discuss/ observe/ perform routine slide preparation and staining and rapid testing (i.e. rapid strep test):				
• Perform gram stain				
• Perform other stains (if available)_____				
• Interpret slides as an aid in presumptive identification				
• Perform rapid testing _____				
Discuss/ observe/ perform plating of biological samples to include:				
• Identification of appropriate media to use				
• The purpose of various selective media				
• Performing isolation techniques				
Discuss/ observe/ perform blood cultures:				
• Perform/ observe and interpret blood cultures				
Discuss/ observe/ perform identification of bacteria:				
• Identify bacteria by their colony characteristics and growth on selective media				
• Identify bacteria by using biochemical testing methods and molecular testing methods such as PCR and DNA fingerprinting, when available				
• Other tests:_____				
Discuss/ observe/ perform antibiotic sensitivity testing:				
• Identify antibiotics which may be appropriate				
Discuss/ observe/ perform laboratory techniques to isolate / identify parasites from biological samples:				
• Procedures to isolate parasites.				
• Other testing:_____				
Discuss/ observe/ perform computerized record keeping for bacteriology:				
• Computer test requisitions, test result, search for past results, etc.				
Discuss/ observe errors and their consequences for this lab area.				
• Recognize how pre-analytical, analytical, and post analytical errors can adversely affect results				

Virginia Western Community College
Medical Laboratory Technician Program
Roanoke, Va

Blood Bank Laboratory Clinical Rotation Objectives

The student should have the opportunity to:

1. Discuss/observe/perform general blood bank laboratory functions to include the following:
   a. Order and receipt of reagents and supplies
   b. Reagent organization, storage and management
   c. Daily start-up and as needed reagent qulaity control
   d. Daily start-up and shutdown of equipment
   e. Verify test requisition(s) and assess sample suitability
   f. Serologic centrifuge calibration (button studies)

2. Discuss/observe/perform blood component inventory management
   a. Ordering blood components
   b. Receipt of blood components

3. Discuss/observe computerized record keeping for blood bank test requests, patient results, patient transfusion history, component management and component release for transfusion.

4. Discuss/observe/ perform ABO/Rh typing by test tube and other available methods i.e. Gel, solid phase, etc.

5. Discuss/observe/ perform the detection and resolution of ABO/Rh typing discrepancies (i.e. Technical errors, missing or weak isoagglutinins, Room temperature alloantibodies, Rouleaux, Mixed-field reactions).

6. Discuss/observe/perform direct antiglobulin testing (DAT), using polyspecific and monospecific reagents, and detect mixed-field reactions in the DAT.

7. Discuss/observe/perform antibody detection and antibody identification techniques, using available techniques (i.e. different potentiators: LISS, PEG,GEL, etc.; Pre-warmed testing; Saline replacement; any special testing/ chemical/ adsorption/ elution techniques). Perform phenotyping of patient red cells.

8. Discuss/observe/perform crossmatching and labeling of units. Perform phenotyping of donor red cells.

9. Discuss/observe investigation of HDFN, Rh immune globulin workup, workup for neonatal transfusion, and preparing products for transfusion.

10. Discuss /recognize how pre-analytical, analytical, and post analytical errors can adversely affect results and discuss the consequences of these errors for this lab area.

Virginia Western Community College
Medical Laboratory Technician Program
Roanoke, Va

Blood Bank Laboratory Checklist

Student: _____ **Facility:** _____

Procedure/Objective	Mark at least one of the columns			Instructor Initials/Date
	Discussed	Observed	Performed	
Discuss/observe/perform general laboratory functions:				
• Receipt of reagents and supplies				
• Reagent organization, storage and management				
• Daily start-up and as needed reagent quality control				
• Daily start-up/ shutdown of equipment				
• Verify test requisition(s) and assess sample suitability				
• Serologic centrifuge calibration (button studies)				
Discuss/observe/perform blood component inventory management:				
• Ordering blood components				
• Receipt of blood components				
Discuss/observe/perform computerized record keeping for blood bank:				
• Test requisitions, test result entry/ editing, search for past results/ transfusion history, other: _____				
Discuss/observe/ perform ABO/Rh typing:				
• Test tube, Other method(s) _____				
• Detection/resolution of typing discrepancies: Technical errors, Missing / weak isoagglutinins, Room temperature allo-antibodies, Rouleaux, Mixed-field reactions				
Discuss/observe/perform direct antiglobulin testing (DAT)				
• Using polyspecific reagents and monospecific reagents				
• Detect mixed-field reactions				
Discuss/observe/perform antibody detection (screen) and antibody identification techniques:				
• Potentiators (i.e. LISS, PEG), Gel and/ or solid phase testing				
• Pre-warmed testing, Saline replacement, other techniques				
• Special Testing/ Chemical/ Adsorption/ Elution Techniques performed by the blood bank.				
• Phenotyping Patient or Donor red cells				
Discuss/observe/perform crossmatching and labeling of units for transfusion:				
• Crossmatch procedure(s), labeling and issue of red cell products				
• Issue/ labeling for other products:_____				
Discuss/observe any other testing performed:				
• Testing for HDFN, RhIg workup, other:_____				
Discuss/observe errors and their consequences for this lab area.				
• Recognize how pre-analytical, analytical, and post analytical errors can adversely affect results				

Virginia Western Community College
Medical Laboratory Technician Program
Roanoke, Va

Clinical Site Preceptor(s), Clinical Supervisor(s) or student may write any comments on the rotation in the space below.

Comments:

Clinical Competency Statement:

The Student *atests that the clinical rotation was satisfactory, that all questions and concerns were answered and they have a basic understanding of the duties, procedures, and objectives addressed duuring this clinical rotation.*

Student Signature/Date:

The Clinical Rotation Supervisor *atests that the clinical rotation was completed as documented in the above checklist, that the student had opportunity to ask questions and voice concerns during this clinical rotation, and that the student demonstrated proficiency at an entry medical laboratory technician level.*

Clinical Rotation Supervisor Signature/Date:

Virginia Western Community College
Medical Laboratory Technician Program
Roanoke, Va

Chemistry Clinical Rotation Objectives

The student should have the opportunity to:

1. Discuss/observe/perform general laboratory functions to include the following:
   a. Order and receipt of reagents and supplies
   b. Reagent organization, storage and management
   c. Daily start-up and as needed reagent qulaity control
   d. Daily start-up and shutdown of equipment
   e. Verify test requisition(s) and assess sample suitability

2. Discuss/observe/perform required specimen and solution preparations and dilutions for laboratory testing.

3. Discuss/observe/perform testing using automated analyzers for various endogenous chemicals in the human body, such as glucose, urea, amino acids, proteins, and electrolytes:
   a. Routine chemistry profiles BMP, MI panels, liver function panels, etc.
   b. Individual tests
   c. Recognize normal and abnormal values

4. Discuss/observe/perform hormone levels in blood samples:
   a. Routine hormone profiles
   b. Individual tests
   c. Recognize normal and abnormal values

5. Discuss/observe/perform testing of blood gases:
   a. Recognize normal and abnormal values

6. Discuss/observe/perform therapeutic drug monitoring (TDM):
   a. Clinical use/ importance
   b. Measuring drug metabolites

7. Discuss/observe/perform assays for cancer/ tumor markers.

8. Discuss/observe/perform any available secondary/ special/ back-up methods for chemistry analytes.

9. Discuss correlation of the results of chemistry lab tests to specific disease conditions.

10. Discuss/observe/perform computerized record keeping for chemistry.

11. Discuss /recognize how pre-analytical, analytical, and post analytical errors can adversely affect results and discuss the consequences of these errors for this lab area.

Virginia Western Community College
Medical Laboratory Technician Program
Roanoke, Va

Chemistry Laboratory Checklist

Student: _____ **Facility:** _____

Procedure/Objective	Mark at least one of the columns			Instructor Initials/Date
	Discussed	Observed	Performed	
Discuss/ observe/ perform general laboratory functions:				
• Receipt of reagents and supplies				
• Reagent organization, storage and management				
• Daily start-up and as needed reagent qulaity control				
• Daily start-up/ shutdown of equipment				
• Verify test requisition(s) and assess sample suitability				
• Instrument calibration or non-routine maintenance				
Discuss/ observe/ perform required specimen and solution preparations and dilutions for laboratory testing				
• Sample and/ or reagent preparations				
• Dilution preparations				
Discuss/ observe/ perform testing using automated analyzers for various endogenous chemicals in the human body, such as glucose, urea, amino acids, proteins, and electrolytes:				
• Routine chemistry profiles BMP, MI panels, liver function panels, etc.				
• Individual tests				
• Recognize normal and abnormal values				
Discuss/ observe/ perform hormone levels in blood samples:				
• Routine hormone profiles and any individual tests				
• Recognize normal and abnormal values				
Discuss/ observe/ perform testing of blood gases:				
• Specimen handling and testing				
• Recognize normal and abnormal values				
Discuss/ observe/ perform therapeutic drug monitoring (TDM):				
• Tests:_____				
• Clinical use/ importance of TDM and testing of drug metabolites				
Discuss/ observe/ perform assays for cancer/ tumor markers.				
• Tests:_____				
Discuss/ observe/ perform any available secondary/ special/ back-up methods for chemistry tests.				
• Tests/ Methods:_____				
Discuss test results and management of test results.				
• Recognize normal and abnormal values				
• Correlation of results to specific disease conditions				
• Panic values				
Discuss/ observe/ perform computerized record keeping for chemistry:				
• Discuss correlation of the results of chemistry lab tests to specific disease conditions				
• Computer test requisitions, test result, search for past results, etc.				
Discuss errors and their consequences for this lab area.				
• Recognize how pre-analytical, analytical, and post analytical errors can adversely affect results				

Virginia Western Community College
Medical Laboratory Technician Program
Roanoke, Va

Clinical Site Preceptor(s) or student may write any comments on the rotation in the space below.

Comments:

Clinical Competency Statement:

The Student *atests that the clinical rotation was satisfactory, that all questions and concerns were answered and they have a basic understanding of the duties, procedures, and objectives addressed duuring this clinical rotation.*

Student Signature/Date:

_____

The Clinical Rotation Supervisor *atests that the clinical rotation was completed as documented in the above checklist, that the student had opportunity to ask questions and voice concerns during this clinical rotation, and that the student demonstrated proficiency at an entry medical laboratory technician level.*

Clinical Rotation Supervisor Signature/Date:

_____

Virginia Western Community College
Medical Laboratory Technician Program
Roanoke, Va

Hematology/ Coagulation Laboratory Clinical Rotation Objectives

The student should have the opportunity to:

1. Discuss/observe/perform general laboratory functions to include the following:
   a. Order and receipt of reagents and supplies
   b. Reagent organization, storage and management
   c. Daily start-up and as needed reagent qulaity control
   d. Daily start-up and shutdown of equipment
   e. Verify test requisition(s) and assess sample suitability
   f. Instrument calibration or non-routine maintenance

2. Discuss/observe/perform routine CBC and Differential:
   a. Perform CBC and differentials by automated methods
   b. Interpret histograms
   c. Perform CBC and differentials by other methods (i.e. flow cytometry)
   b. Prepare and stain slides for manual differentials
   c. Recognize normal red and white blood cells

3. Discuss/observe abnormal CBC and Differential results:
   a. Identify abnormal red and white blood cells in a peripheral blood smear
   b. Recognize red and white blood cell inclusions such as Howell-Jolly bodies, iron deposits and basophilic stippling
   c. Identify morphological abnormalities of mature granulocytes
   e. Distinguish leukemias, lymphomas and myelomas
   f. Distinguish between the types of acute leukemias

4. Discuss/observe/perform special tests for hematology:
   a. Erythrocyte sedimentation rate
   b. Other tests (i.e. PIFA- HIT, FFN, Verify Now (Plavix)

5. Discuss/observe/perform coagulation testing:
   a. PT, PTT, Fibrinogen, D-Dimer, Heparin Xa.
   b. Other tests (i.e. PROT C, PROT S, AT3, Lupus Profile)

6. Discuss/observe testing relating to different hematologic diseases:
   a. Anemias: Iron and folic acid deficiency, hemolytic anemia, anemia associated with disease and anemia caused by inherited genetic conditions
   b. Thalassemia, Sickle cell anemia, Hemophilia, etc.

7. Discuss/observe/perform computerized record keeping for hematology.

8. Discuss /recognize how pre-analytical, analytical, and post analytical errors can adversely affect results and discuss the consequences of these errors for this lab area.

Virginia Western Community College
Medical Laboratory Technician Program
Roanoke, Va

Hematology/ Coagulation Laboratory Checklist

Student: _____ **Facility:** _____

Procedure/Objective	Mark at least one of the columns			Instructor Initials/Date
	Discussed	Observed	Performed	
Discuss/observe/perform general laboratory functions:				
• Receipt of reagents and supplies				
• Reagent organization, storage and management				
• Daily start-up and as needed reagent qulaity control				
• Daily start-up/ shutdown of equipment				
• Verify test requisition(s) and assess sample suitability				
• Instrument calibration or non-routine maintenance				
Discuss/observe/perform CBC and Differential:				
• Perform CBC by automated methods				
• Perform differential by automated methods				
• Interpretation of histograms				
• Prepare and stain slides for manual differentials				
• Recognize normal red and white blood cells				
Discuss/observe/perform abnormal CBC/ Differential test results:				
• Identify abnormal red and white blood cells in a peripheral blood smear				
• Recognize red and white blood cell inclusions such as Howell-Jolly bodies, iron deposits and basophilic stippling				
• Identify morphological abnormalities of mature granulocytes				
• Distinguish leukemias, lymphomas and myelomas				
• Distinguish between the types of acute leukemias				
Discuss/observe/perform special tests for hematology:				
• Erythrocyte sedimentation rate, other tests:_____				
Discuss/observe/ perform coagulation testing:				
• PT, PTT, Fibrinogen, D-Dimer, Heparin Xa				
• Other tests (i.e. PROT C, PROT S, AT3, Lupus Profile)				
Discuss/observe other testing relating to different hematologic diseases:				
• Anemias: Iron and folic acid deficiency, hemolytic anemia, anemia associated with disease and anemia caused by inherited genetic conditions				
• Thalassemia, Sickle cell anemia, Hemophilia, etc.				
Discuss/observe/perform computerized record keeping for hematology:				
• Computer test requisitions, test result, search for past results, etc.				
Discuss errors and their consequences for this lab area.				
• Recognize how pre-analytical, analytical, and post analytical errors can adversely affect results				

Virginia Western Community College
Medical Laboratory Technician Program
Roanoke, Va

Clinical Site Preceptor(s), Clinical Supervisor(s) or student may write any comments on the rotation in the space below.

Comments:

Clinical Competency Statement:

The Student *atests that the clinical rotation was satisfactory, that all questions and concerns were answered and they have a basic understanding of the duties, procedures, and objectives addressed duuring this clinical rotation.*

Student Signature/Date:

_____

The Clinical Rotation Supervisor *atests that the clinical rotation was completed as documented in the above checklist, that the student had opportunity to ask questions and voice concerns during this clinical rotation, and that the student demonstrated proficiency at an entry medical laboratory technician level.*

Clinical Rotation Supervisor Signature/Date:

_____

Virginia Western Community College
Medical Laboratory Technician Program
Roanoke, Va

Immunology and Special Testing Clinical Rotation Objectives

The student should have the opportunity to:

1. Discuss/observe/perform general laboratory functions to include the following:
   a. Order and receipt of reagents and supplies
   b. Reagent organization, storage and management
   c. Daily start-up and as needed reagent qulaity control
   d. Daily start-up and shutdown of equipment
   e. Verify test requisition(s) and assess sample suitability

2. Discuss/observe/perform specimen receipt, suitability, and processing. Preparation of solutions and dilutions.

3. Discuss/observe/perform tests representative of the following methodologies, when available:
   a. EIA/ ELISA
   b. IFA
   c. Agglutination
   d. Chemilluminiscent,
   e. Nephlometry / Turbidometry (Optional)
   f. Diffusion (Optional)
   g. Others

4. Discuss/observe/perform tests for:
   a. Strep
   b. ASO
   c. HCG
   d. RPR
   e. Rapid HIV screen
   f. Infectious Mono
   g. Influenza
   h. CRP
   i. RA
   j. Cold Agglutinin
   k. Others

5. Discuss management of test results:
   a. Recognize normal and abnormal values
   b. Interprets acute and convalescent results
   c. Interprets the significance of a positive test for IgM versus a positive test for IgG

6. Discuss/observe/perform computerized record keeping.

7. Discuss /recognize how pre-analytical, analytical, and post analytical errors can adversely affect results and discuss the consequences of these errors for this lab area.

Virginia Western Community College
Medical Laboratory Technician Program
Roanoke, Va

Immunology and Special Testing Laboratory Checklist

Student: _____ **Facility:** _____

Procedure/Objective	Mark at least one of the columns			Instructor Initials/Date
	Discussed	Observed	Performed	
Discuss/ observe/ perform general laboratory functions:				
• Receipt of reagents and supplies				
• Reagent organization, storage and management				
• Daily start-up and as needed reagent qulaity control				
• Daily start-up/ shutdown of equipment				
• Verify test requisition(s) and assess sample suitability				
• Instrument calibration or non-routine maintenance				
Discuss/ observe/ perform specimen receipt, suitability, and processing. Preparation of solutions and dilutions.				
• Sample and/ or reagent preparation and dilution preparation				
Discuss/ observe/ perform tests representative of the following methodologies, when available:				
• EIA/ ELISA				
• IFA				
• Agglutination				
• Chemilluminiscent				
• Optional tests: Nephlometry / Turbidometry and Diffusion				
• Others _____				
Discuss/ observe/ perform tests for:				
• Strep				
• ASO				
• HCG				
• RPR				
• Rapid HIV screen				
• Infectious Mono				
• Influenza				
• CRP				
• RA				
• Cold Agglutinin				
• Others_____				
Discuss/ observe testing of blood gases:				
• Recognize normal and abnormal values				
Discuss/ observe/ perform computerized record keeping for chemistry:				
• Computer test requisitions, test result, search for past results, etc.				
Discuss errors and their consequences for this lab area.				
• Recognize how pre-analytical, analytical, and post analytical errors can adversely affect results				

Virginia Western Community College
Medical Laboratory Technician Program
Roanoke, Va

Clinical Site Preceptor(s) or student may write any comments on the rotation in the space below.

Comments:

Clinical Competency Statement:

The Student *atests that the clinical rotation was satisfactory, that all questions and concerns were answered and they have a basic understanding of the duties, procedures, and objectives addressed duuring this clinical rotation.*

Student Signature/Date:

The Clinical Rotation Supervisor *atests that the clinical rotation was completed as documented in the above checklist, that the student had opportunity to ask questions and voice concerns during this clinical rotation, and that the student demonstrated proficiency at an entry medical laboratory technician level.*

Clinical Rotation Supervisor Signature/Date:

Virginia Western Community College
Medical Laboratory Technician Program
Roanoke, Va

Urinalysis/ Body Fluids Clinical Rotation Objectives

The student should have the opportunity to:

1. Discuss/observe/perform general laboratory functions to include the following:
   a. Order and receipt of reagents and supplies
   b. Reagent organization, storage and management
   c. Daily start-up and as needed reagent qulaity control
   d. Daily start-up and shutdown of equipment
   e. Verify test requisition(s) and assess sample suitability

2. Discuss/observe/perform required specimen receipt, processing, preservation and physical analysis:
   a. Evaluates urine volume, color and clarity
   b. Specific gravity using refractometer

3. Discuss/observe/perform automated routine urinalysis.

4. Discuss/observe/perform manual urine testing:
   a. Chemistry strip (dipstick)
   b. Confirmatory/ supplemental tests (i.e. Clinitest, Acetest, Ictotest, SSA etc.), if applicable

5. Discuss/observe/perform microscopic examination of specimens
   a. Preparation of specimen
   b. Identify, differentiate, and grade microscope sediment including the following:
      - WBC
      - RBC
      - casts
      - crystals
      - bacteria
      - yeasts
      - mucus
      - epithelial cells
      - parasites
      - spermatozoa
   c. Distinguishes common microscopic artifacts from urinary formed elements

6. Discuss/observe/perform urine pregnancy testing.

7. Discuss/observe/perform screening and/ or quantitative tests, as available, to include:
   a. Porphyrins
   b. Fat
   c. Urobilinogen
   d. Amino acids and metabolites

8. Discuss management of test results:
   a. Recognize normal / abnormal and Panic values
   b. Correlation of macroscopic and microscopic findings

9. Discuss/observe/perform microscopic examination and/or biochemical analysis of other fluids, as available, to include:
   a. Cerebrospinal
   b. Synovial
   c. Seminal
   d. Cavity Effusion
   e. Cyst fluid
   f. Other: specify

10. Discuss /recognize how pre-analytical, analytical, and post analytical errors can adversely affect results and discuss the consequences of these errors for this lab area.

Virginia Western Community College
Medical Laboratory Technician Program
Roanoke, Va

Urinalysis/ Body Fluids Laboratory Checklist

Student: _____ **Facility:** _____

Procedure/Objective	Mark at least one of the columns			Instructor Initials/Date
	Discussed	Observed	Performed	
Discuss/observe/perform general laboratory functions:				
• Receipt of reagents and supplies				
• Reagent organization, storage and management				
• Daily start-up and as needed reagent qulaity control				
• Daily start-up/ shutdown of equipment				
• Verify test requisition(s) and assess sample suitability				
• Instrument calibration or non-routine maintenance				
Discuss/observe/perform required specimen receipt, processing, preservation and physical analysis:				
• Evaluates urine volume, color and clarity				
• Specific gravity using refractometer				
Discuss/observe/perform automated routine urinalysis.				
• Routine automated urinalysis.				
Discuss/observe/perform manual urine testing:				
• Chemistry strip (dipstick)				
• Confirmatory/ supplemental tests (i.e. Clinitest, Acetest, Ictotest, SSA etc.), if applicable. Tests: _____				
• Recognize normal and abnormal values				
Discuss/observe/perform microscopic examination of specimens:				
• Preparation of specimen				
• Identify, differentiate, and grade microscope sediment				
• Distinguishes microscopic artifacts from urinary formed elements				
Discuss/observe/perform urine pregnancy testing.				
• Pregnancy test				
Discuss/observe/perform screening and/ or quantitative tests:				
• Tests _____				
Discuss/observe/perform microscopic examination and/or biochemical analysis of other fluids:				
• Cerebrospinal				
• Synovial				
• Seminal				
• Other: (specify) _____				
Discuss management of test results.				
• Recognize normal / abnormal and panic values				
• Correlation of macroscopic and microscopic findings				
Discuss errors and their consequences for this lab area.				
• Recognize how pre-analytical, analytical, and post analytical errors can adversely affect results				

Virginia Western Community College
Medical Laboratory Technician Program
Roanoke, Va

Clinical Site Preceptor(s) or student may write any comments on the rotation in the space below.

Comments:

Clinical Competency Statement:

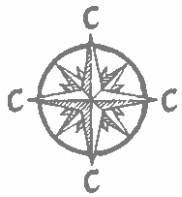
The Student *atests that the clinical rotation was satisfactory, that all questions and concerns were answered and they have a basic understanding of the duties, procedures, and objectives addressed duuring this clinical rotation.*

Student Signature/Date:

The Clinical Rotation Supervisor *atests that the clinical rotation was completed as documented in the above checklist, that the student had opportunity to ask questions and voice concerns during this clinical rotation, and that the student demonstrated proficiency at an entry medical laboratory technician level.*

Clinical Rotation Supervisor Signature/Date:

Code of Excellence Acknowledgment



We sign an acknowledgement that demonstrates our commitment to our Code of Excellence.

Carilion Clinic Code of Excellence
Code of Excellence Acknowledegment

I acknowledge the following to demonstrate my commitment to our Code of Excellence:

» I understand the Code of Excellence ("the Code") is posted on Inside Carilion, the Carilion Clinic Intranet, and public website, CarilionClinic.org.

» I understand that it is my responsibility to review, and be familiar with, the Code's contents and related policies and procedures.

» I agree to comply with the standards contained in the Code and related policies and procedures as part of my continued employment or association with Carilion Clinic.

» I am aware of my obligation to seek guidance when unsure of the proper course of action and report in a timely manner any integrity and compliance concerns, including possible non-compliance with the Code or other policies.

» I understand that I am not permitted to retaliate against another person for raising a concern or reporting a suspected violation in good faith.

» I am aware that any breach of the Code or other policies applicable to me may subject me to corrective actions, up to and including termination of employment or other relationship with Carilion Clinic.

» I understand that while associated with Carilion Clinic, I am not permitted to be excluded from participation in Medicare, Medicaid or any health care program at a federal or state level. It is my responsibility to immediately disclose to the Organizational Integrity and Compliance Department any current or future federal or state program exclusions.

» I understand that I am expected to seek clarification and pre-approval of any potential conflicts of interest that I may encounter so that they may be properly managed. If I become aware of a potential conflict of interest that impacts me, I will disclose the matter immediately per Carilion Clinic policies and procedures.

Name _____ Date _____

Signature _____