

# VA New England Healthcare System (VISN 1) Hospital-based Medical Laboratory Science Program

## VA New England Healthcare System Clinical Laboratory Highlights

VISN 1 clinical laboratories serve the veterans of the US armed forces in the New England Healthcare system (VA Connecticut West Haven, VA Bedford MA, VA Boston MA, VA Central Western MA, VA Maine, VA Manchester NH, VA Providence RI, and White River Junction VA VT).

<https://www.newengland.va.gov/index.asp>

VISN 1 clinical laboratories perform over 9 million tests per year and are accredited by the Joint Commission, College of American Pathologists and CLIA.

VISN 1 National Reference Labs provide flow cytometry, virology, mycobacteriology identification and susceptibility testing, and molecular diagnostics COVID-19 sequencing.

## Program Vision

The vision of the VISN 1 MLS program is to be the primary provider of ethical, highly qualified, certified medical laboratory scientists who will effectively engage with the team delivering exceptional healthcare to the Veterans we serve.

## Program Mission

The mission of the VA New England Healthcare System MLS hospital-based certificate program is to provide a quality clinical and didactic training for students in the profession of medical laboratory science, enabling them to pass national certification examinations and qualify to become part of a highly engaged healthcare team that delivers the highest quality of care to the veterans we serve.

## Program Goals

- To produce highly skilled entry level Medical Laboratory Scientists who can provide accurate and timely laboratory results to aide in the diagnosis and treatment of disease and maintenance of health, in accordance with regulatory compliance and departmental procedures and policies, and who can effectively integrate as part of a high-performance laboratory team.
- To produce Medical Laboratory Scientists committed to providing excellent customer service and high-quality care to veterans within the VHA healthcare system.
- To promote ethical behavior and courteous and professional communication between laboratory staff, students, patients, and all members of the healthcare team.
- To provide a positive, non-discriminatory, supportive learning environment lead by experienced laboratorians.
- To provide future laboratory leaders, subject matter experts and educators.
- To foster the importance of professional development through life-long learning and advocacy for the field.

## Student learning outcomes

Students who successfully complete the VISN1 MLS program will:

- Demonstrate skills related to providing accurate and timely laboratory results in accordance with established clinical lab procedures and policies.
- Demonstrate knowledge required to pass national MLS certification examinations.
- Exhibit effective communication skills, ethical behavior, and the qualities of leadership and professionalism.
- Demonstrate analytical thinking and an understanding of research design and practice applicable to the clinical lab and the improvement of patient care.
- Demonstrate the value of continuing education for growth and maintenance of professional competence.

## Program Structure

The VISN 1 MLS program runs for 11 months beginning in September and ending in July.

Students will receive both didactic and clinical rotation experience in the areas of Microbiology, Hematology, Coagulation, Urinalysis and Body Fluids, Chemistry, Immunohematology, Immunology, Laboratory management and additional specialized topics.

All courses have an online didactic component and a practical component at one of the VISN 1 sites (VA Connecticut West Haven, VA Bedford MA, VA Boston, VA Central Western in Leeds MA, VA Maine, VA Manchester New Hampshire, VA Providence RI, or White River Junction VA Vermont).

Students enrolled in the program will spend eight hours a day, Monday through Friday, in clinical and didactic instructions. Clinical practicum is 1<sup>st</sup> half of the day and didactic lectures are the 2<sup>nd</sup> half of day with 20 clinical hours and 15 didactic hours per week for a total of 43 weeks.

Clinical training rotations are concurrent with classroom lectures; however, clinical rotations may not coincide with lecture/classroom subjects.

**Students are not allowed to perform service work and are never substituted for regular staff during clinical practicum hours.**

After successful completion of the VISN 1 MLS Program, graduates will receive a certificate of completion and will be eligible to take the American Society for Clinical Pathology (ASCP) Medical Laboratory Scientist (MLS) national board certification examination and/or the American Medical Technologists (AMT) certification exam to become certified as a Medical Laboratory Scientist.

## Eligibility Requirements

- United States citizen.
  - Applicants who are permanent residents or otherwise authorized to work in the US may be considered in the absence of qualified American citizens.
- Graduated from an accredited university/college with < 10 years since graduation.
- Completed 3 years or 90 semester hours at affiliated college or university and be eligible for a bachelor's degree upon completion of the MLS certificate program.
- Minimum grade point average: 3.00

- Must pass pre-employment screening and security checks.
- Must be able to complete 11 months of continuous training from September to July.

## Prerequisites

- 16 credit hours of chemistry including organic or biochemistry.
- 16 credit hours of biology including microbiology and immunology.
- One semester of college level math
- One semester of physics, statistics and molecular biology recommended.

\*Survey and introductory courses are not acceptable.

\*\*Only courses with grades of "C" or better will be considered in evaluating the prerequisite requirements listed above.

\*\*\*Completion of prerequisite courses at an affiliated university does not guarantee admission to the VISN 1 MLS program.

## Essential functions

Essential functions represent the technical or non-academic requirements that all students must master to successfully participate in the VA New England Healthcare System MLS Program. Inability to meet any of these requirements will result in ineligibility or dismissal from the program. All students and, thereby, all applicants are expected to:

- Be able to easily recognize and read text, numbers, and graphics in print and on monitor screens.
- Be able to discriminate patterns and colors to identify reagents, media, stained cell preparations and physical properties of various body fluids, as well as delineate fine details of cellular structure and morphology when using a microscope.
- Be able to read, write and communicate in the English language to facilitate effective communication with patients, physicians, and all other members of the health care team.
- Be able to understand the normal speaking voice and discern audible instrument alert signals and timing devices, with or without auditory aids.
- Demonstrate sufficient manual dexterity to perform required tasks such as: performing phlebotomy safely and accurately; operating delicate instruments; manipulating tools; handling small containers of potentially biohazardous specimens, utilizing sample measuring devices; adequately focusing and manipulating a microscope, and using a keyboard.
- Bend, reach, sit and be sufficiently mobile to traverse about the laboratory and hospital corridors, including patient rooms.
- Have sound psychological health and stability, to effectively solve problems and to react effectively in stressful situations.
- Be able to recognize emergency situations and take appropriate action. Be flexible, creative, and adaptable to change.
- Use intellectual skills to calculate, interpret, analyze, reason, evaluate and explain data, solve problems, make critical judgements, and initiate corrective action as necessary.
- Maintain confidentiality and integrity.
- Follow directions, be able to make decisions, prioritize tasks, and work on multiple tasks simultaneously.
- Work independently and in cooperation with others.

- Work with potential biological, chemical, radiological, mechanical, and electrical hazards.
- Maintain personal hygiene and neatness appropriate to the professional workplace.
- Achieve regular, reliable, and punctual attendance at clinical site and lecture sessions.

**Admitted students are also expected to abide by the [Code of Ethics of the American Society for Clinical Laboratory Science \(ASCLS\)](#) to uphold duty to Patients, the Profession and Society.**

The Department of Veterans Affairs (VA) is committed to equal employment opportunity (EEO) and diversity and inclusion (D&I) in the VA workplace. Recruitment and admission procedures for the VA New England Healthcare System MLS program will comply with VA EEO (VHA Directive 1124) and D&I (Executive Order 14035) guidelines and policies, where applicable and consistent with the program's goals and objectives. <https://www.va.gov/ormdi/docs/StrategicPlan.PDF>

## Application process

To Apply submit the following:

- Resume, Cover Letter and Application Form: <https://department.va.gov/integrated-service-networks/wp-content/uploads/sites/24/2024/10/VISN-1-MLS-program-Application-form.pdf>
- Personal statement—300 words “I want to be a Medical Laboratory Scientist because...”
- Official Transcripts-in sealed envelope or email from School sent directly to the Program Director.
- Two letters of support: from college professor/lab instructor/academic advisor (if applicable) and/or current/former employer. Letters should be on official letterhead if applicable.
- Essential Functions form -signed and dated. <https://department.va.gov/integrated-service-networks/wp-content/uploads/sites/24/2024/10/VISN-1-MLS-Essential-Functions-form.pdf>
- Application Deadline: February for Fall cohort.

All application materials should be emailed to [Carleta.Maurice@va.gov](mailto:Carleta.Maurice@va.gov)

Or mailed to: Carleta Maurice  
 Path and Lab Medicine Service 113, Rm C248  
 VA Connecticut Healthcare System  
 950 Campbell Avenue, West Haven, CT 06516-2700

## Admissions

Admissions will be carried out on a rolling basis however, for first considerations applications should be completed in timely fashion. Admission to the program is competitive, with a limited number of student positions available. Attendance at an affiliated university does not guarantee placement in the program.

Evaluation and selection of students will be made by the selection committee based on the eligibility requirements, prerequisites, and all application documents.

The selection committee consists of the Program Director, faculty, and members of the Advisory Board. After reviewing the candidate's completed file. Eligible applicants will be interview by three or more members of the selection committee.

The best candidates will be selected, and notices of acceptance or denial will be communicated by the program director to applicants at least 6 months prior to the start date of the program.

## **Accepted Students**

To qualify for training at the VA Healthcare system each accepted student must provide proof of eligibility, must meet the essential functions (physical and mental) of the training program and must be immunized following current CDC guidelines and VHA policy for healthcare workers to protect themselves, other employees and patients while working in a healthcare facility. All documentation must be received by the Program Director.

Once the required documentation is received and all criteria have been met, an accepted student is onboarded through the VA Account Provisioning and Deprovisioning System (ADPS) process and appointed as a "Without Compensation (WOC) Health Professions Trainee (HPT) of the Veterans Healthcare Administration. Through this process, the student must submit to fingerprinting and a federal employee criminal background check. Any findings that contraindicate admission may result in withdrawal of the appointment to the program.

The student will receive an invitation and instructions for the ADPS process which must be completed before the start of the program.

Federal government regulations mandate a drug free environment. All applicants for government positions may be randomly subject to screens for illegal drugs of abuse. Applicants who refuse to be tested will be denied entrance into VA training programs.

### **Selective Service System:**

All male US citizens, regardless of where they live, and male immigrants, residing in the United States, who are 18 through 25, are required to register with Selective Service. Males for these purposes are those born male on their birth certificate regardless of current gender. If not registered, a Status Information Letter must be provided. Additional information may be found on the Selective Service website. <https://www.sss.gov/>

## **Medical Requirement**

Accepted students must provide evidence of satisfactory physical condition by obtaining a physical examination/evaluation performed in the last year and at their cost.

Accepted students must provide evidence or self-certification of up-to-date vaccinations for healthcare workers as recommended by Centers for Disease Control (CDC) and VA to include, but not limited to Measles, Mumps, Rubella, Hepatitis B, Varicella, Influenza and COVID-19.

<https://www.cdc.gov/vaccines/adults/rec-vac/index.html>;

<https://www.immunize.org/>

All incoming students must provide documentation of Tuberculosis screening or testing as recommended by CDC health care personnel guidelines <https://www.cdc.gov/tb/topic/testing/healthcareworkers.htm>

Failure to provide such proof may result in termination from the Program. Any medical findings that contraindicate admission to the Program may result in withdrawal of the appointment.

Students are strongly encouraged to obtain personal health insurance; there is no hospital group coverage available to the student.

Emergency treatment will be available to the student through the hospital's Employee Health Service.

## **Liability Coverage**

All VA appointed trainees are protected from personal liability while participating in training at a VA healthcare facility. Protection is provided under the Federal Employees Liability Reform and Tort Compensation Act 28 U.S.C.2679 (b)-(d). The liability, if any, of the United States for injury or loss of property, or personal injury or death shall be governed exclusively by the provisions of the Federal Tort Claims Act.

## **Program Costs**

No application fee required.

There is no tuition charged for 4+1 students (those with a bachelor's degree prior to program admission)

Tuition for 3+1 students (those completing their final year at an affiliated university) will be paid directly to the university which the student attends.

Students will be responsible for housing, and transportation and for all additional fees for textbooks, other study resources and professional society dues.

## **Curriculum**

### **Introduction to the Clinical Laboratory**

This course will discuss the role of the medical laboratory scientist in today's healthcare environment, laboratory staffing and functions, laboratory departments, laboratory safety, phlebotomy and sample processing, medical terminology, and an intro to quality assessment and quality control. This course will introduce the pre-analytical components of laboratory services.

### **Clinical Chemistry**

This course will address analytical biochemistry as applied to pathologic states, methodology and instrumentation including the pre-analytical, analytical, and post-analytical variables that can affect testing. Emphasis on the interpretation, evaluation, and correlation of clinical laboratory data as it relates to the diagnosis, treatment and monitoring of Carbohydrates, lipids, heme derivatives, enzymes, proteins and other nitrogen-containing compounds, acid-base determinations (including blood gases), electrolytes, endocrinology, vitamins and nutrition, therapeutic drug monitoring, toxicology. Clinically significant calculations and reference ranges, the statistics applied to result determination and quality control, and laboratory mathematics as applied to reagent preparation will also be included.

### **Clinical Hematology**

Study of the origin, development, morphology, physiology, & pathophysiology of the formed elements of the blood and bone marrow. Manual & automated methods of cell counting, differentiation & other special hematological procedures on blood & body fluids used in disease diagnosis. Will include the pre-analytical, analytical, and post-analytical variables that can affect testing.

### **Blood Hemostasis and Coagulation**

This course will include the physiology, disease states, and laboratory determinations of the platelet, vascular, coagulation, & fibrinolytic systems. Emphasis on the testing procedures & the application of the principles of hemostasis as related to disease states & therapeutic monitoring. Will include the pre-analytical, analytical, and post-analytical variables that can affect testing.

### **Urinalysis and Body Fluids**

Theory and practice of physical and chemical testing, microscopic analysis, physiology, and disease states of urine and other body fluids. Includes clinical significance of lab data. Will include the pre-analytical, analytical, and post-analytical variables that can affect testing.

### **Clinical Immunology and serology**

Application of immunological and serological theories and principles in the clinical lab using current immunologic techniques and instrumentation to correlate lab results to disease processes. Discusses immune detection, immunodeficiency disorders, autoimmune diseases, hypersensitivity, and tumor and transplant immunology. Describes the pre-analytical, analytical, and post-analytical variables that can affect testing.

### **Immunohematology and Transfusion Medicine**

Study of red cell antigen-antibody systems, antibody screening & identification, compatibility testing & immunopathologic conditions. Also included are donor requirements & blood component preparation & hemotherapy. Will include the pre-analytical, analytical, and post-analytical variables that can affect testing.

### **Clinical Microbiology I**

Theory and practice of the isolation and identification of pathogenic bacteria and mycobacteria in clinical specimens through cultures, morphology, biochemical and/or serological reactions, and their drug susceptibility. The relation of clinical testing to disease states is also included. Will include the pre-analytical, analytical, and post-analytical variables that can affect testing.

### **Clinical Microbiology II**

Theory and practice of the isolation and identification of fungi, parasites and viruses utilizing morphological, cultural, biochemical, and serological methods. The relation of clinical testing to disease states and epidemiology as it applies to microbiology is also included. Will include the pre-analytical, analytical, and post-analytical variables that can affect testing.

### **Clinical Laboratory Management and Education principles**

An introduction to the principles and theory of management and education related to the clinical laboratory including laboratory information systems. The course will include professionalism, medical ethics, and continuing education as they relate to laboratory personnel.

### Special Topics in Medical Laboratory Science

Will include an overview of point of care testing, molecular diagnostics, clinical case studies and interprofessional relationships. This course will also address the principles and practices of clinical study design, implementation, and dissemination of results to prepare students for a Capstone project. Other relevant topics may also be added as appropriate.

### Review Seminar

This course will prepare students for national certification exams. Students will be provided with testing strategies and practice exams using various materials.

### Primary Faculty

Carleta B Maurice MS, MLS (ASCP)	Intro to Clin Lab Sci, Special Topics, Review Course
Alicia Wettergreen MLS (ASCP) <sup>CM</sup>	Sample processing and Phlebotomy, Clinical Chemistry
Arthur Mcgee MS, MLS (ASCP) <sup>CM</sup>	Clinical Chemistry, Lab Management
Noland Raymond MLS (ASCP) <sup>CM</sup>	Clinical Hematology, Urinalysis and Body Fluids
Krysti Cabana MLS (ASCP)	Clinical Hematology
Ashley Bemis MLS (ASCP)	Urinalysis and Body Fluids
Jean McElreavy MHA, MLS (ASCP)	Coagulation and Hemostasis, Microbiology II
Charlene Boucher MLS (ASCP)	Microbiology I, Microbiology II
Jarret Pendl MLS (ASCP) <sup>CM</sup>	Immunohematology & Transfusion Med
Holly Charpentier MLS(ASCP) <sup>CM</sup>	Immunohematology & Transfusion Med
Jacqueline Hite MLS (ASCP) <sup>CM</sup>	Clinical Immunology and serology
Jacqueline LaCroix DLM, MB, MLS (ASCP)	Special Topics

### Evaluation and Grading

Progress of all students is subject to periodic review and is based on test scores as well as evaluation of overall attitude & laboratory performance.

Exams are administered weekly during each lecture series.

Comprehensive examinations are given at end of each course and must be passed with a minimum of 75%.

Grades submitted for student's official transcript will be reflective of combined didactic and laboratory performance and will be defined by the following domains:

1. **Cognitive:** written or computerized tests, quizzes, worksheets, homework, case studies, presentations, and/or reports used to assess knowledge of the subject area. Passing grade is 75%.
2. **Psychomotor:** observable performance of skills or technical skills judged by performance on practicum checklists and/or competency assessments for each department. Passing grade requires that all goals indicated on each checklist are met. Goals not met will be considered unsuccessful performance and grounds for dismissal.
3. **Affective:** evaluation of behaviors like attendance and participation as well as formal evaluation on the Affective Evaluation form. Successful performance requires that the student mostly demonstrates the required behavior on a consistent basis, with minimal supervision, appropriate for entry level expectations. Performance level is considered unsuccessful and grounds for dismissal if any final performance level is rated "N" for "never" or if overall attitude, values, and behavior are not consistent with entry level expectations.



## Program Policies

MLS Program policies regarding academic advisement, confidentiality, grievances, criteria for program completion, academic dismissal, and service work, and explanation of program structure and current academic calendar may be requested from the program director.

## Certification and licensing

Certification is a voluntary process. However, most employers require medical laboratory scientists to obtain certification through an accrediting body.

We encourage graduates to seek certification as soon as possible after graduation and within twelve months of graduation.

Graduation from the VISN 1 MLS program is not contingent upon certification.

The VISN 1 MLS program prepares graduates to sit for the following certification exams:

- The American Society for Clinical Pathology (ASCP) Board of Certification (BOC)  
<https://www.ascp.org/content/board-of-certification/get-credentialed#>
- The American Medical Technology (AMT) certification  
<https://americanmedtech.org/>

After passing the credentialing exam, medical laboratory scientists (MLS) can practice under the credentials of MLS(ASCP)<sup>CM</sup> or MLS (AMT)

Licensure may be required by the following states: CA, NY, FL, HI, LA, MT, NV, ND, TN, WV, PR. Students are responsible for eligibility for licensure.

## Medical Laboratory Science Scholarships

<https://va-ams-info.intelliworxit.com/>

<https://www.cola.org/medical-laboratory-scholarships/>

<https://ascls.org/alpha-mu-tau-scholarships/>

<https://www.ascp.org/content/about-ascp/ascp-foundation/providing-scholarships#>

<https://ascls.org/edward-c-dolbey-graduate-and-undergraduate-scholarships/>

<https://americanmedtech.org/Blog/Blog-Post/apply-for-an-amt-scholarship>

## Employment outlook for Medical Laboratory Scientists

Career opportunities for MLS graduates include but not limited to hospitals, reference and doctors' office laboratories, clinics, forensic laboratories, veterinary clinics, medical, biotechnology or industrial research, public health, cytogenetics, cytotechnology, and histology laboratories, and academic institutions.

There has been an overall increase in the demand for Medical Laboratory Scientists because of the high vacancy rate and an increase in the need for laboratory diagnostic tests due the aging population, and the development of new types of tests especially in molecular diagnostics.

The increased need for Medical Laboratory Scientist has resulted in an increase in the salary rate. The [Medical Laboratory Observer's \(MLO\) 2023 annual survey](#) published an annual salary of up to \$106,938 for some laboratory professionals and an average salary of \$82,269.

The [US Bureau of Labor Statistics](#) projects that the employment of clinical laboratory technologists (another name for medical laboratory scientists), and technicians is projected to grow by 5 percent from 2022 to 2032, which is faster than the average for all occupations. That translates to about 24,000 openings for clinical laboratory technologists/medical laboratory scientists and technicians projected each year, on average, over the decade.

## Outcome measures

The National Accrediting Agency for Clinical Laboratory Sciences (NAACLS) requires that all programs provide outcome measures for the past 3 years to prospective students. The outcome measures include completion rates, placement rates and the Certification Exam pass rates.

*This is a new program so, there is no data available.*

*The program is applying for the National Accreditation Agency for Clinical Laboratory Sciences (NAACLS) accreditation. Eligibility to take some certification examinations may depend on whether the program achieves "serious applicant status".*

Inquiries about accreditation status can be directed to:

**National Accrediting Agency for Clinical Laboratory Sciences (NAACLS)**

5600 N. River Rd., Suite 720, Rosemont, IL 60018-5119, Phone: 773-714-8880

FAX 773-714-8886

Email: [info@naacls.org](mailto:info@naacls.org)

## Program Contact

**Program Director**

Carleta B. Maurice, MS, MLS(ASCP), VHA-CM

VISN 1 Laboratory Education Program Manager

Path and Lab Medicine Service 113, Rm C248

VA Connecticut Healthcare System

950 Campbell Avenue West Haven, CT 06516-2700

Phone 475-731-9430

[Carleta.maurice@va.gov](mailto:Carleta.maurice@va.gov)

Please make phone calls Monday through Friday 7:30a-2:30p.

**VISN 1 Network Consolidated Lab Team** [VISN1LABNCL@va.gov](mailto:VISN1LABNCL@va.gov)