

ASCP Board of Certification Exam Eligibility and Accredited Programs Near You

Phlebotomy Technician (PBT), Medical Laboratory Assistant (MLA), Medical Laboratory Technician (MLT), and Medical Laboratory Scientist (MLS)

Information is was Retrieved 11-15-17

Please use this document to help locate the appropriate program, in the United States, for you regarding Certification Exam eligibility requirements. *State Licensure* may also be required for laboratorians including the following (California, Florida, Georgia, Hawaii, Louisiana, Montana, Nevada, New York State, North Dakota, Puerto Rico, Rhode Island, Tennessee, West Virginia).

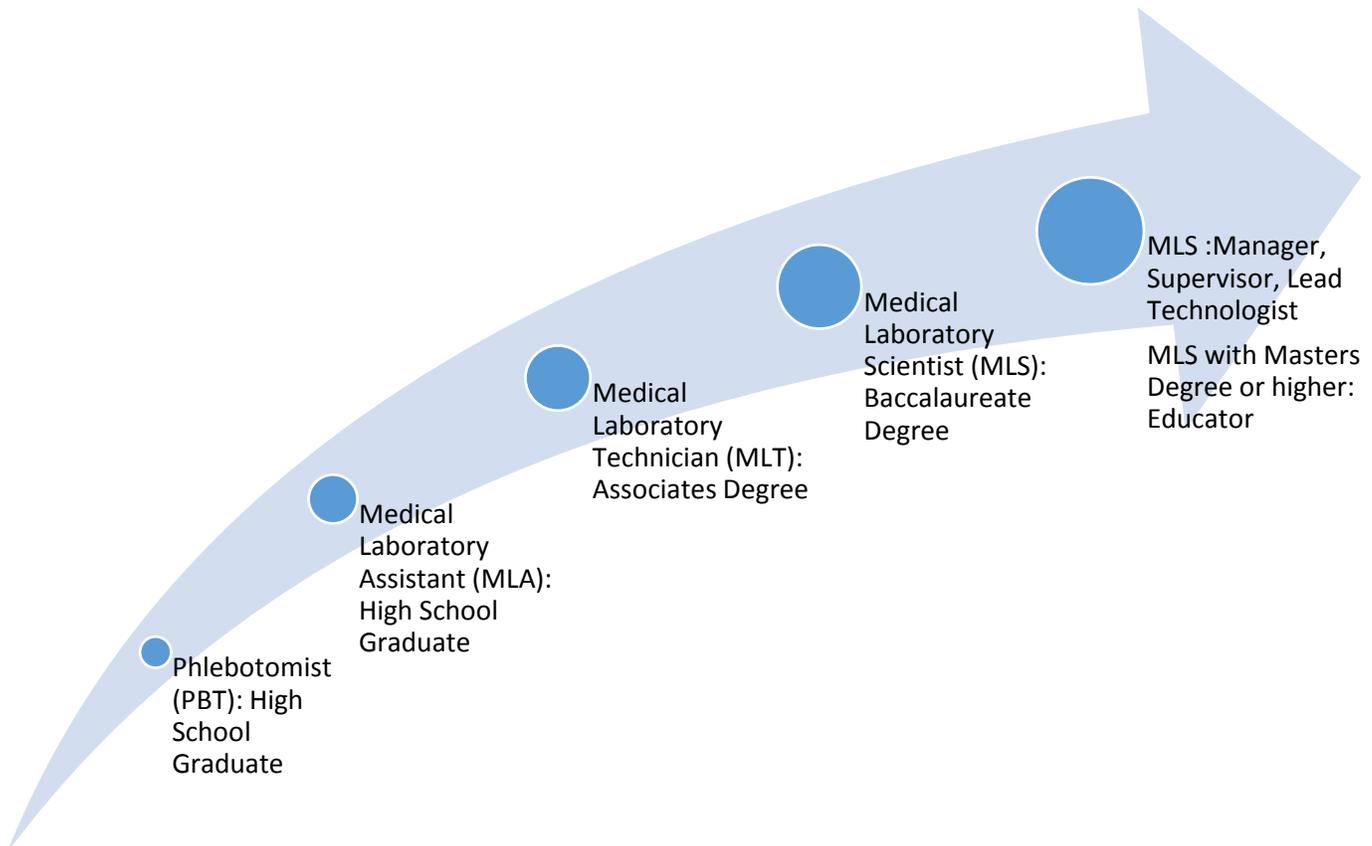
The following information was collected from the ASCP and NAACLS websites.

ASCP Board of Certification (BOC) eligibility requirements <https://www.ascp.org/content/board-of-certification/get-credentialed>

NAACLS Accredited Program Search <https://www.naacls.org/Find-a-Program.aspx>

Places to work:

Hospital laboratory, Reference Laboratory, Research Laboratory, Forensic Laboratory, Public Health Laboratory, University Programs, etc.



Phlebotomy Technician (PBT)

Phlebotomists are responsible for all tasks related to drawing blood for medical procedures. This includes preparing the patient for the procedure by taking vital signs and interviewing them briefly, initiating the venipuncture (needle-drawing) or capillary (finger-prick) puncture technique to draw blood, and cleaning and sealing the area afterwards. They must have all necessary materials (such as tourniquets, needles, bandages, and alcohol) sterile and ready for the patient. Once a sample is taken, phlebotomists are responsible for proper labeling and storage, as well as any additional routing or processing that may be needed. In the case of donations, they may screen blood through testing. They must follow all health, safety, and infection-control guidelines while performing their work.

Phlebotomists work in a variety of settings. They may work exclusively in a single hospital or clinic, or they may travel frequently to patients' homes or a variety of clinics and locations to draw blood. They work part time or full time as needed by their organization. Phlebotomists work directly with patients in a medical setting, and must maintain a professional bedside manner. They work alongside other medical professionals as well, providing samples for testing or blood for transfusions or research.

Phlebotomists must have a high school diploma or equivalent. They are required to be licensed by their state as phlebotomy technicians. In most cases, they must have a valid driver's license and have a clean driving record to perform their duties. They may need to pass a medical screening for tuberculosis and other communicable diseases and maintain current vaccinations. (Copyright 2017 PayScale.com)

ASCP Certification Exam Eligibility

Route 1

- High school graduation (or equivalent),
- AND completion of a NAACLS approved phlebotomy program within the last five years

The education received from a NAACLS approved PBT program is acceptable for a period of five (5) years from the date of completion of that program. After five years, the applicant's eligibility will be based on clinical laboratory experience as stated in the current examination eligibility requirements.

Route 2

- High school graduation (or equivalent),
- AND completion of an acceptable two-part formal structured phlebotomy program in the U.S., Canada or an accredited laboratory within the last five years. This two-part program, to be arranged by the program director, must consist of: 40 clock hours of classroom training, including anatomy and physiology of the circulatory system, specimen collection, specimen processing and handling, and laboratory operations (e.g. safety, quality control, etc.),
- AND 100 clock hours of clinical training and orientation in an accredited laboratory** with a minimum performance of 100 successful unaided blood collections including venipunctures and skin punctures.

***CMS CLIA certificate of registration, compliance, accreditation; OR*

JCI accreditation; OR

Accreditation under ISO 15189.

Route 3

- High school graduation (or equivalent),
- AND completion of one year of full time acceptable work experience as a phlebotomy technician in an accredited laboratory** within the last five years. This experience must include venipunctures and skin punctures. (Full time experience is considered thirty-five hours per week).

***CMS CLIA certificate of registration, compliance, accreditation; OR*

JCI accreditation; OR

Accreditation under ISO 15189.

Route 4

- High school graduation (or equivalent),
- AND successful completion of RN, LPN or other acceptable accredited allied health professional/occupational education which includes phlebotomy training and orientation in an accredited laboratory** with a minimum performance of 100 successful unaided blood collections including venipunctures and skin punctures. Applicants must submit a notarized copy of their current state/provincial license for RN or LPN or notarized copy of a certificate of completion from the accredited allied health program they completed.

***CMS CLIA certificate of registration, compliance, accreditation; OR*

JCI accreditation; OR

Accreditation under ISO 15189.

Route 5

- MT/MLS(ASCP) certification or MLT(ASCP) certification.

Route 6

- DPT(ASCP) certification
- AND a minimum performance of 100 successful unaided non-donor blood collections including venipunctures and skin punctures in an accredited laboratory** within the last five years.

***CMS CLIA certificate of registration, compliance, accreditation; OR*

JCI accreditation; OR

Accreditation under ISO 15189.

Route 7

- High school graduation (or equivalent),
- AND completion of a phlebotomy program approved by the California Department of Public Health* within the last five years.

*If you are a California resident and have completed a California Dept. of Public Health approved phlebotomy program in the State of California, a training documentation form is required. The training documentation form must be completed by your program official and attached to a Letter of Authenticity. The Letter of Authenticity must:

- be printed on original letterhead,
- state that the training documentation form was completed by your program official,
- and include the date and signature of the program official verifying the accuracy of the information on the training documentation form.

If you are applying for California Licensure, a Third Party Verification Request link will be made available on the online examinee score report providing instructions for requesting verification to be submitted to the California state licensing

board. You may also place a third party verification request by going to this link: <http://www.ascp.org/board-of-certification/verify-credentials>. **Do not place a third party verification request until successful completion of the examination and receipt of your score report.** There is a \$16 service fee (payable by credit card) associated with requesting third party verification.



PHLEBOTOMY TECHNICIAN, PBT(ASCP) INTERNATIONAL PHLEBOTOMY TECHNICIAN, PBT(ASCP)¹ EXAMINATION CONTENT GUIDELINE

EXAMINATION MODEL

The PBT(ASCP) and PBT(ASCP)¹ certification examination is composed of 80 questions given in a 2 hour time frame. All exam questions are multiple-choice with one best answer. The certification exam is administered using the format of computer adaptive testing (CAT).

With CAT, when a person answers a question correctly, the next test question has a slightly higher level of difficulty. The difficulty level of the questions presented to the examinee continues to increase until a question is answered incorrectly. Then a slightly easier question is presented. In this way, the test is tailored to the individual's ability level.

Each question in the test bank is calibrated for level of difficulty and is assigned a content area that matches with the subtest area of the content outline for a particular examination. The weight (value) given to each question is determined by the level of difficulty. Therefore, the examinee must answer enough difficult questions to achieve a score above the pass point in order to successfully pass the certification examination.

EXAMINATION SUBTESTS

The PBT certification exam questions encompass the following content areas within Phlebotomy: Circulatory System, Specimen Collection, Specimen Handling, Transport and Processing, Waived and Point-of-Care Testing, Non-Blood Specimens, and Laboratory Operations. Each of these content areas comprises a specific percentage of the overall 80-question exam. The percentages and content areas are described below:

SUBTESTS	DESCRIPTION	EXAM PERCENTAGES
CIRCULATORY SYSTEM	Structure and Function of the Circulatory System, Composition/Function of Blood	5 – 10%
SPECIMEN COLLECTION	Processes Related to the Collection of Blood Specimens (Venipuncture and Skin Puncture)	45 – 50%
SPECIMEN HANDLING, TRANSPORT, AND PROCESSING	Specimen Types/Suitability, Accessioning, Labeling, Specimen Quality Assessment, Transport and Storage, and Equipment	15 – 20%
WAIVED AND POINT-OF-CARE TESTING	Performance/Operation of Rapid Tests: Urinalysis, Hemoglobin and Hematocrit, Coagulation, Glucose, and Kit Tests	5 – 10%
NON-BLOOD SPECIMENS	Physiology, Patient Preparation, Patient Collection, and Specimen Processing and Handling	5 – 10%
LABORATORY OPERATIONS	Quality Control, Quality Improvement, Interpersonal Relations, Professional Ethics, Regulatory Applications, Safety, Infection Control, Coding/Billing, and Patient Confidentiality	15 – 20%

Medical Laboratory Assistant (MLA)

Medical laboratory assistants (MLAs) are responsible for assisting with laboratory duties and completing medical tasks on behalf of their organization. They are in charge of completing administrative tasks, processing laboratory results as required, and interacting with other medical professionals and patients. Medical laboratory assistants also use a computer system to process lab specimens, keep technical records, develop reports, and perform data entry for patients, laboratory results, and other information.

The medical laboratory assistant's main responsibilities also include maintaining laboratory inventory, ordering new supplies as needed, and helping analyze lab results to ensure all necessary steps have been followed before relaying results to the patient. They are also in charge of processing samples and prepares reliable specimen transport. In all tasks, the assistant must follow safety and privacy protocols. These assistants generally report their progress to the medical laboratory supervisor.

A high school diploma or equivalent, as well as laboratory technician certification, is generally required for this position. Previous experience in a medical laboratory is generally required or preferred. Medical laboratory assistants must have strong knowledge of laboratory equipment, procedures, techniques and terminology. They also need to be organized and pay close attention to detail, as well as have strong communication and interpersonal skills. These assistants must work well in a team setting to reach all organizational goals in a timely manner, as well as perform effectively on their own with minimal supervision. (Copyright 2017 PayScale.com)

ASCP Certification Exam Eligibility

Route 1

- High school graduation (or equivalent),
- AND successful completion of a NAACLS approved Clinical Assistant (CA) program within the last five years.

The education received from a NAACLS approved Clinical Assistant (CA) program is acceptable for a period of five (5) years from the date of completion of that program. After five years, the applicant's eligibility will be based on clinical laboratory experience as stated in the current examination eligibility requirements.

Route 2

- High school graduation (or equivalent),
- AND successful completion of a 50 week U.S. military medical laboratory training course* within the last ten years.

**Official or notarized documentation of your military code (NEC, MOS or AFSC code or 68K), certificate verifying completion of training or letter from Program Director documenting program completion date or notarized copy of your DD214 form or ER.B must be mailed to the BOC upon completion of the online application.*

Route 3

- High school graduation (or equivalent),
- AND two years of full time acceptable clinical laboratory** experience as a laboratory assistant within the last five years.

*** CMS CLIA certificate of registration, compliance, accreditation; OR*

JCI accreditation; OR

Accreditation under ISO 15189

Route 4

- Associate degree or at least 60 semester hours (90 quarter hours) of academic credit from a regionally accredited college/university, including 6 semester hours (9 quarter hours) of chemistry and 6 semester hours (9 quarter hours) of biology,
- AND one year of full time acceptable clinical laboratory** experience as a laboratory assistant within the last five years.

*** CMS CLIA certificate of registration, compliance, accreditation; OR*

JCI accreditation; OR

Accreditation under ISO 15189

Route 5

- PBT(ASCP) certification,
- AND one year of full time acceptable clinical laboratory** experience as a laboratory assistant within the last five years.

*** CMS CLIA certificate of registration, compliance, accreditation; OR*

JCI accreditation; OR

Accreditation under ISO 15189

Route 6

- High school graduation (or equivalent),
- AND successful completion of an acceptable two part formal structured medical laboratory assistant program in the U.S., Canada or an accredited laboratory** within the last five years which consists of classroom training and clinical laboratory training,
- AND six months of full time acceptable clinical laboratory** experience as a laboratory assistant within the last five years.

*** CMS CLIA certificate of registration, compliance, accreditation; OR*

JCI accreditation; OR

Accreditation under ISO 15189

MEDICAL LABORATORY ASSISTANT, MLA(ASCP) EXAMINATION CONTENT GUIDELINE

EXAMINATION MODEL

The MLA(ASCP) certification examination is composed of 100 examination questions given in a 2 hour 30 minute time frame. All examination questions are multiple-choice with one best answer. The MLA(ASCP) certification examination is administered using the format of computer adaptive testing (CAT).

With CAT, when a person answers a question correctly, the next test question has a higher level of difficulty. The difficulty level of the questions presented to the examinee continues to increase until a question is answered incorrectly. Then an easier question is presented. In this way, the test is tailored to the individual's ability level.

Each question in the test bank is calibrated for level of difficulty and is classified by content area. The content area aligns with the examination specific content outline. The examinee must answer enough questions correctly to achieve a measure above the pass point in order to successfully pass the certification examination. There is no set number of questions one must answer to pass, nor is there a set percentage one must achieve to pass. If at the end of the exam the examinee's score is above the pass point, then he or she passes the exam.

EXAMINATION SUBTESTS

The MLA(ASCP) certification examination questions encompass five different subtests: Patient Registration and Specimen Collection, Specimen Preparation and Processing, Support for Clinical Testing, Waived and Point-of-Care Testing, and Laboratory Operations. Each of these subtests comprises a specific percentage of the overall 100-question certification examination. The subtests for the MLA(ASCP) examination are described in the following table:

SUBTESTS	DESCRIPTIONS	EXAM PERCENTAGES
PATIENT REGISTRATION AND SPECIMEN COLLECTION	Knowledge of the processes related to patient registration and specimen collection	10 – 15%
SPECIMEN PREPARATION AND PROCESSING	Processes related to the handling, transport, and processing of specimens	30 – 35%
SUPPORT FOR CLINICAL TESTING	Processes associated with the support of clinical laboratory testing	20 – 25%
WAIVED AND POINT-OF-CARE TESTING	Processes associated with rapid test methods	5 – 10%
LABORATORY OPERATIONS	Regulatory applications, equipment maintenance and calibration, and quality control	20 – 25%

For a more specific overview of the five subtest areas on the MLA(ASCP) certification examination, please refer to the **CONTENT OUTLINE** starting on page 2.

Medical Laboratory Technician (MLT)

Medical laboratory technicians perform standard medical lab tests such as blood tests, immunoassays, and cultures. They must be able to work independently to take lab tests and interpret patient results. They also must work with other health care professionals, such as doctors and nurses, to solve medical problems. Additionally, they are responsible for phlebotomy work, which includes the collection and preparation of patient samples, such as blood, urine, or stool. They must observe patient confidentiality protocols, as they are often working with sensitive personal information.

Outside of patient responsibilities, these technicians are also responsible for ensuring the equipment inside the lab works properly by periodically calibrating and testing it. They are also expected to know how to troubleshoot problematic equipment, evaluate new laboratory methods and equipment, and train new assistants and technicians on current operations.

Candidates for medical laboratory technician positions must be able to function in a stressful environment, be prepared to take on shifts at any time of the day or night, and be prepared to work periodic overtime. Flexibility with hours is particularly important at facilities staffed around the clock, such as hospitals. In addition, the candidate must be physically able to remain on their feet for most of the day, and be prepared to lift and carry lab samples or equipment from one location to another. They must also have good interpersonal skills, as they must interact with patients and their families on a day-to-day basis. It is also helpful to have strong leadership skills, as technicians will most likely supervise laboratory assistants and must be comfortable with delegating tasks and organizing work flow.

In most laboratories, an associate's degree is necessary, most preferably in clinical laboratory technology (CLT) or a medical laboratory technology (MLT) program. In addition, candidates must either have, or be willing to obtain, national accreditation. Two appropriate certification options include the American Society of Clinical Pathologists (ASCP) or the National Agency for Laboratory Personnel (NCA). As for experience, the minimum is one to two years in a related field, and three to five years in microbiology or a similar field is preferred. (Copyright 2017 PayScale.com)

ASCP Certification Exam Eligibility

Route 1

- Associate degree or at least 60 semester hours (90 quarter hours) of academic credit from a college/university accredited by a recognized regional or national accreditation agency,
- AND successful completion of a NAACLS or ABHES accredited MLT program within the last five years.

The education received from a NAACLS or ABHES accredited MLT program is acceptable for a period of five (5) years from the date of completion of that program. After five years, the applicant's eligibility will be based on clinical laboratory experience as stated in the current examination eligibility requirements.

Route 2

- Associate degree or at least 60 semester hours (90 quarter hours) of academic credit from a regionally accredited college/university, including 6 semester hours (9 quarter hours) of chemistry and 6 semester hours (9 quarter hours) of biology,
- AND CLA(ASCP)* certification.

**CLA(ASCP) certification was discontinued in 1982. Only applicants previously certified CLA (ASCP) may apply under*

Route 2.

Route 3

- Associate degree or at least 60 semester hours (90 quarter hours) of academic credit from a regionally accredited college/university, including 6 semester hours (9 quarter hours) of chemistry and 6 semester hours (9 quarter hours) of biology,

- AND successful completion of a 50 week U.S. military medical laboratory training course** within the last ten years.

***Official or notarized documentation of your military code (NEC, MOS, or AFSC code or 68K), certificate verifying completion of training or letter from Program Director documenting program completion date or notarized copy of your DD214 form or ER.B must be mailed to the BOC upon completion of the online application.*

Route 4

- Associate degree or at least 60 semester hours (90 quarter hours) of academic credit from a regionally accredited college/university, including 6 semester hours (9 quarter hours) of chemistry and 6 semester hours (9 quarter hours) of biology,
- AND three years of full time acceptable clinical laboratory experience in blood banking, chemistry, hematology, microbiology, immunology, and urinalysis/body fluids in the U.S., Canada or an accredited laboratory*** within the last six years.

****CMS CLIA certificate of registration, compliance, accreditation; OR
JCI accreditation; OR
Accreditation under ISO 15189.*

MEDICAL LABORATORY TECHNICIAN, MLT(ASCP) INTERNATIONAL MEDICAL LABORATORY TECHNICIAN, MLT(ASCP)ⁱ EXAMINATION CONTENT GUIDELINE

EXAMINATION MODEL

The MLT(ASCP) and MLT(ASCP)ⁱ certification examination is composed of 100 examination questions given in a 2 hour 30 minute time frame. All examination questions are multiple-choice with one best answer. The MLT(ASCP) and MLT(ASCP)ⁱ certification examination is administered using the format of computer adaptive testing (CAT).

With CAT, when a person answers a question correctly, the next test question has a slightly higher level of difficulty. The difficulty level of the questions presented to the examinee continues to increase until a question is answered incorrectly. Then a slightly easier question is presented. In this way, the test is tailored to the individual's ability level.

Each question in the test bank is calibrated for level of difficulty and is assigned a content area that matches with the subtest area of the content outline for a particular examination. The weight (value) given to each question is determined by the level of difficulty. Therefore, the examinee must answer enough difficult questions to achieve a score above the pass point in order to successfully pass the certification examination.

EXAMINATION SUBTESTS

The MLT(ASCP) and MLT(ASCP)ⁱ certification examination questions encompass different subtests within the area of Medical Laboratory Science: Blood Banking, Urinalysis and Other Body Fluids, Chemistry, Hematology, Immunology, Microbiology, and Laboratory Operations. Each of these subtests comprises a specific percentage of the overall 100-question certification examination. The subtests for the MLT examination are described in the following table:

SUBTESTS	DESCRIPTION	EXAM PERCENTAGES
BLOOD BANK (BBNK)	Blood Group Systems, Antibody Screen & Identification, Crossmatch, DAT, Elution/Adsorption, Blood Donation, Transfusion Therapy, Transfusion Reactions, HDFN, Phenotyping/Genotyping, Antibody Titer, Pre-warm Technique	15 – 20%
URINALYSIS AND OTHER BODY FLUIDS (UA)	Physical, Chemical & Microscopic Urinalysis and Body Fluid Analysis (CSF, Amniotic, Synovial, Serous, Semen & Feces)	5 – 10%
CHEMISTRY (CHEM)	Carbohydrates, Acid Base, Electrolytes, Proteins & Other Nitrogen-Containing Compounds, Enzymes, Heme Derivatives, Lipids & Lipoproteins, Endocrinology, Tumor Markers, TDM, Toxicology	20 – 25%
HEMATOLOGY (HEMA)	Erythrocytes & Leukocytes, Reticulocyte Count, ESR, RBC/WBC Morphology & Differentials, Platelets, Hemostasis	20 – 25%
IMMUNOLOGY (IMMU)	Autoimmunity, Immune Responses, Physiology of the Immune System, Immunology of Viral & Microbial Infectious Diseases	5 – 10%
MICROBIOLOGY (MICR)	General Microbiology, Aerobic Gram-positive Cocci, Gram-negative Bacilli, Gram-negative Cocci, Gram-positive Bacilli, Anaerobes, Fungus, Viruses, Mycobacteria, Parasites	15 – 20%
LABORATORY OPERATIONS (LO)	Quality Assessment/Troubleshooting, Safety, Laboratory Mathematics, Instrumentation, Laboratory Information Systems	5 – 10%

For a more specific overview of the subtest areas on the MLT(ASCP) and MLT(ASCP)ⁱ certification examination, please refer to the **CONTENT OUTLINE** on pages 2 – 4.

https://www.ascp.org/content/docs/default-source/boc-pdfs/boc-us-guidelines/mlt_imlt_content_guideline.pdf?sfvrsn=6

Medical Laboratory Scientist (MLS)

Medical laboratory scientists are responsible for performing laboratory tasks related to the medical field for their organization. They are in charge of completing routine medical analysis, quality control testing, and other research activities. Medical laboratory scientists need to pay strong attention to detail to prevent human error, as well as laboratory instrument failure. These professionals also collect specimens, and process them accordingly. In all tasks, the medical laboratory scientists must follow strict privacy and safety protocols to avoid laboratory and material contamination.

One of the scientist's main functions include performing laboratory tool maintenance and organizing laboratory supplies. They also create reports based on their findings and report their progress to the medical laboratory supervisor or administrator in their department. Medical laboratory scientists review procedures and draw conclusions, creating knowledge to use during future projects. They take part in regular training sessions and learn about new technology devices and techniques as applicable.

A bachelor's degree in a science-related field is generally the minimal educational requirement for this job. Extensive laboratory training is also necessary for this position. Previous relevant experience is needed as well. Medical laboratory scientists must possess strong analytical skills, be organized, and have excellent communication skills. They should work well in a team setting, and they should also work well on their own with minimal supervision. Medical laboratory scientists must be proficient with basic office software to create detailed reports and communicate through online means with other medical professionals. (Copyright 2017 PayScale.com)

ASCP Certification Exam Eligibility

Route 1

- Baccalaureate degree from a regionally accredited college/university,
- AND successful completion of a NAACLS accredited Medical Laboratory Scientist program within the last five years.

The education received from a NAACLS accredited MLS program is acceptable for a period of five (5) years from the date of completion of that program. After five years, the applicant's eligibility will be based on clinical laboratory experience as stated in the current examination eligibility requirements.

Route 2

- MLT(ASCP) certification,
- AND a baccalaureate degree from a regionally accredited college/university, including 16 semester hours (24 quarter hours) of biological science (with one semester in microbiology), 16 semester hours (24 quarter hours) of chemistry (with one semester in organic or biochemistry),
- AND two years of full time acceptable clinical laboratory experience in blood banking, chemistry, hematology, microbiology, immunology, and urinalysis/body fluids in the U.S., Canada or an accredited laboratory* within the last four years.

**CMS CLIA certificate of registration, compliance, accreditation; OR*

JCI accreditation; OR

Accreditation under ISO 15189.

Route 3

- CLA(ASCP)** certification,
- AND a baccalaureate degree from a regionally accredited college/university, including 16 semester hours (24 quarter hours) of biological science (with one semester in microbiology), 16 semester hours (24 quarter hours) of chemistry (with one semester in organic or biochemistry), one semester (one quarter) of mathematics,

- AND four years of full time acceptable clinical laboratory experience in blood banking, chemistry, hematology, microbiology, immunology, and urinalysis/body fluids in the U.S., Canada or an accredited laboratory* within the last eight years; OR

**CMS CLIA certificate of registration, compliance, accreditation; OR*

JCI accreditation; OR

Accreditation under ISO 15189.

***CLA(ASCP) certification was discontinued in 1982. Only applicants previously certified as CLA(ASCP) may apply under Route 3.*

Route 4

- Baccalaureate degree from a regionally accredited college/university, including 16 semester hours (24 quarter hours) of biological science (with one semester in microbiology), 16 semester hours (24 quarter hours) of chemistry (with one semester in organic or biochemistry),
- AND five years of full time acceptable clinical laboratory experience in blood banking, chemistry, hematology, microbiology, immunology, and urinalysis/body fluids in the U.S., Canada or an accredited laboratory* within the last ten years.

**CMS CLIA certificate of registration, compliance, accreditation; OR*

JCI accreditation; OR;

Accreditation under ISO 15189.

MEDICAL LABORATORY SCIENTIST, MLS(ASCP) INTERNATIONAL MEDICAL LABORATORY SCIENTIST, MLS(ASCP)¹

EXAMINATION CONTENT GUIDELINE

EXAMINATION MODEL

The MLS(ASCP) and MLS(ASCP)¹ certification examination is composed of 100 examination questions given in a 2 hour 30 minute time frame. All examination questions are multiple-choice with one best answer. The MLS(ASCP) and MLS(ASCP)¹ certification examination is administered using the format of computer adaptive testing (CAT).

With CAT, when a person answers a question correctly, the next test question has a slightly higher level of difficulty. The difficulty level of the questions presented to the examinee continues to increase until a question is answered incorrectly. Then a slightly easier question is presented. In this way, the test is tailored to the individual's ability level.

Each question in the test bank is calibrated for level of difficulty and is assigned a content area that matches with the subtest area of the content outline for a particular examination. The weight (value) given to each question is determined by the level of difficulty. Therefore, the examinee must answer enough difficult questions to achieve a score above the pass point in order to successfully pass the certification examination.

EXAMINATION SUBTESTS

The MLS(ASCP) and MLS(ASCP)¹ certification examination questions encompass different subtests within the area of Medical Laboratory Science: Blood Banking, Urinalysis and Other Body Fluids, Chemistry, Hematology, Immunology, Microbiology, and Laboratory Operations. Each of these subtests comprises a specific percentage of the overall 100-question certification examination. The subtests for the MLS examination are described in the following table:

SUBTESTS	DESCRIPTION	EXAM PERCENTAGES
BLOOD BANK (BBNK)	Blood Group Systems, Antibody Screen & Identification, Crossmatch, DAT, Elution/Adsorption, Blood Donation, Transfusion Therapy, Transfusion Reactions, HDFN, Phenotyping/Genotyping, Antibody Titer, Pre-warm Technique	17-22%
URINALYSIS AND OTHER BODY FLUIDS (UA)	Physical, Chemical & Microscopic Urinalysis and Body Fluid Analysis (CSF, Amniotic, Synovial, Serous, Semen & Feces)	5 – 10%
CHEMISTRY (CHEM)	Carbohydrates, Acid Base, Electrolytes, Proteins & Other Nitrogen-Containing Compounds, Enzymes, Heme Derivatives, Lipids & Lipoproteins, Endocrinology, Tumor Markers, TDM, Toxicology	17 – 22%
HEMATOLOGY (HEMA)	Erythrocytes & Leukocytes, Reticulocyte Count, ESR, Sickle Cell Test, Hemoglobin Electrophoresis, RBC Enzymes, RBC/WBC Morphology & Differentials, Platelets, Hemostasis	17 – 22%
IMMUNOLOGY (IMMU)	Autoimmunity, Immune Responses, Physiology of the Immune System, Immunology of Viral & Microbial Infectious Diseases	5 – 10%
MICROBIOLOGY (MICR)	General Microbiology, Aerobic Gram-positive Cocci, Gram-negative Bacilli, Gram-negative Cocci, Gram-positive Bacilli, Anaerobes, Fungus, Viruses, Mycobacteria, Parasites	17 – 22%
LABORATORY OPERATIONS (LO)	Quality Assessment/Troubleshooting, Safety, Management, Laboratory Mathematics, Instrumentation, Molecular Techniques, Education & Communication, Laboratory Information Systems	5 – 10%

For a more specific overview of the subtest areas on the MLS(ASCP) and MLS(ASCP)¹ certification examination, please refer to the **CONTENT OUTLINE** on pages 2 – 4.

https://www.ascp.org/content/docs/default-source/boc-pdfs/boc-us-guidelines/mls_ims_content_guideline.pdf?sfvrsn=6

NAACLS Accredited Programs By State or Territory

	Phlebotomy Technician (PBT)	Medical Laboratory Assistant (MLA)	Medical Laboratory Technician (MLT)	Medical Laboratory Scientist (MLS)
District of Columbia (DC)	None	None	None	<p><u>George Washington University</u> School of Medicine and Health Sciences, Medical Laboratory Science Program Washington DC 20037-</p> <p>Program Director Carol Rentas PHD, MEd, MT(ASCP) (202) 994-5219</p> <p><u>Howard University</u> Division of Allied Hlth Scis, Annex 1, Rm 307 Washington DC 20059</p> <p>Program Director Dr. Marguerite Neita PhD, MT(ASCP) (202) 806-5632</p>
Maryland (MD)	None	None	<p><u>Allegheny College of Maryland</u> 12401 Willowbrook Road, SE Cumberland MD 21502</p> <p>Program Director Ms. Stacy Rohrbaugh MEd, MLS(ASCP)CM (301) 784-5547</p> <p><u>Anne Arundel Community College</u> 101 College Parkway Arnold MD 21012-</p> <p>Program Director Ms. Lorraine Doucette MS, MLS(ASCP)CM (410) 777-7107</p> <p><u>College of Southern Maryland</u> 8730 Mitchell Rd. PO Box 910 La Plata MD 20646-0910</p> <p>Program Director Ms. Tiffany Gill MA, MLS(ASCP)CM (301) 539-4822</p> <p><u>Community College of Baltimore County</u> 7201 Rossville Blvd. Baltimore MD 21237-</p> <p>Program Director Ms. Candice Grayson MS, MA, MT(ASCP) (443) 840-1029</p> <p><u>Fortis College - Landover</u> 4351 Garden City Drive Landover MD 20785-</p> <p>Program Director Mr. Brady Rogers MS, MT (301) 459-3650</p> <p><u>Howard Community College</u> 10901 Little Patuxent Parkway Columbia MD 21044-</p> <p>Program Director Ms. Nancy Calder MAEd, MT(ASCP), PBT(ASCP) (443) 518-3048</p>	<p><u>Morgan State University</u> 1700 E. Cold Spring Lane, G-67 Key Hall Baltimore MD 21251</p> <p>Program Director Diane Wilson PhD, MT(ASCP) (443) 885-3611</p> <p><u>Salisbury University</u> Medical Laboratory Science Program Salisbury MD 21801-6860</p> <p>Program Director Dr. Diane Davis PhD, MLS(ASCP)SC, SLS(ASCP)CM (410) 548-4787</p> <p><u>Stevenson University</u> Medical Laboratory Science Program Stevenson MD 21153-6041</p> <p>Program Director Ms. Vivi-Anne Griffey MS, MLS(ASCP)cm (410) 601-1113</p> <p><u>University of Maryland</u> Department of Medical & Research Technology Baltimore MD 21201-3214</p> <p>Program Director Deirdre DeSantis Parsons MS, MT(ASCP)SBB (410) 706-1829</p> <p><u>Walter Reed National Military Medical Center</u> Department of Pathology Bethesda MD 20889-5600</p> <p>Program Director Patricia Jarrett MA, MT(ASCP) (301) 295-8606</p>

Virginia (VA)	None	None	<p>Centra Health Systems, Inc 3300 Rivermont Avenue Lynchburg VA 24501-1104</p> <p>Program Director Ms. Robin Levandoski MEd, MT(ASCP)SC (434) 200-4551</p> <p>J. Sargeant Reynolds Community College PO Box 85622 Richmond VA 23285-5622</p> <p>Program Director Ms. D. Gayle Melberg MS, MT(ASCP) (804) 523-5763</p> <p>Northern Virginia Community College Medical Education Center Springfield VA 22150-</p> <p>Program Director Ms. Karen Gordon MS, MLS(ASCP), CMSLS (703) 822-6551</p> <p>Tidewater Community College 1700 College Crescent Virginia Beach VA 23453-</p> <p>Program Director Ms. Angela Bell MS, MLS(ASCP)sm, DLM (757) 822-7276</p> <p>Wytheville Community College 1000 East Main Street Wytheville VA 24382-3308</p> <p>Program Director Mr. James Gibberson MS, MT(ASCP) (276) 223-4827</p>	<p>Augusta Health School of Clinical Laboratory Science Fishersville VA 22939</p> <p>Program Director Misty Turner MT(ASCP) (540) 332-4498</p> <p>Augusta Health School of Clinical Laboratory Science Fishersville VA 22939</p> <p>Program Director Ellie Coggins MSHA, MLS(ASCP)cm (540) 332-4539</p> <p>Inova Fairfax Hospital Medical Laboratory Science Program Falls Church VA 22046</p> <p>Program Director Ms. Amy Shoemaker MBA, MT(ASCP)DLM (703) 776-2891</p> <p>Jefferson College of Health Sciences Medical Laboratory Science Program 101 Elm Avenue Roanoke VA 24013-</p> <p>Program Director Laura Link MS, MLS(ASCP) (540) 224-4668</p> <p>Norfolk State University Department of Nursing and Allied Health Norfolk VA 23504</p> <p>Program Director Pamela Lonergan MS, MT(ASCP)SC (757) 560-0230</p> <p>Old Dominion University School of Medical Diagnostics and Translational Sciences Norfolk VA 23529-</p> <p>Program Director Dr. Barbara Kraj PhD, MLS(ASCP)cm, MBcm (757) 683-6039</p> <p>Sentara RMH School of Medical Laboratory Science Sentara RMH School of Medical Laboratory Science Harrisonburg VA 22801-</p> <p>Program Director Ms. Sue Lawton MS, MA, MLS(ASCP) (540) 564-7232</p> <p>Virginia Commonwealth University MCV Campus Richmond VA 23298-0583</p> <p>Program Director Teresa Nadder PhD, MLS(ASCP)cm (804) 828-9469</p>
---------------	------	------	--	--

<p>Pennsylvania</p>	<p><u>Community College of Beaver County</u></p> <p>One Campus Drive Monaca PA 15061-2588</p> <p>Program Director Ms. Brenda Siddall (724) 480-3478</p> <p><u>Community College of Philadelphia</u></p> <p>1700 Spring Garden Street Philadelphia PA 19130</p> <p>Program Director Ms. Robin Gaynor Krefetz MEd, MLS(ASCP)cm PBT (215) 751-8511</p> <p><u>Geisinger Health System</u></p> <p>100 North Academy Avenue Danville PA 17822-5006</p> <p>Program Director Terri McElhattan MT HEW, PBT(ASCP) (570) 214-7209</p> <p>Harcum College</p> <p>750 Montgomery Ave Bryn Mawr PA 19010-</p> <p>Program Director Ms. Donna Broderick MS, MT(ASCP) (610) 526-6662</p> <p><u>Montgomery County Community College</u></p> <p>Montgomery County Community College Blue Bell PA 19422-0796</p> <p>Program Director Ms. Kathleen Perlmutter MBA, MT(ASCP) (215) 641-6465</p>	<p><u>Community College of Allegheny County</u></p> <p>1750 Clairton Road West Mifflin PA 15122-</p> <p>Program Director Ms. Jane Coughanour MEd, MT(ASCP) (412) 469-6280</p>	<p><u>Community College of Allegheny County</u></p> <p>South Campus West Mifflin PA 15122-3097</p> <p>Program Director Ms. Jane Coughanour MEd, MT(ASCP) (412) 469-6280</p> <p><u>Community College of Philadelphia</u></p> <p>1700 Spring Garden Street Philadelphia PA 19130-3991</p> <p>Program Director Ms. Ekaterina Mashkina MS MLS(ASCP) (215) 751-8511</p> <p><u>Harcum College</u></p> <p>750 Montgomery Avenue Bryn Mawr PA 19010-3476</p> <p>Program Director Ms. Donna Broderick MS, MT(ASCP) (610) 526-6662</p> <p><u>Harrisburg Area Community College</u></p> <p>Select Medical 114B Harrisburg PA 17110-</p> <p>Program Director Ms. Georgeann Laughman MBA, MT(ASCP), SM, CIC, CPHRM, HEM (717) 780-1953</p> <p><u>Laurel Technical Institute</u></p> <p>200 Sterling Avenue Sharon PA 16146-</p> <p>Program Director Ms. Kristin Forsberg MEd, MLS(ASCP)cm (724) 983-0700</p> <p><u>McCann School of Business & Technology - Allentown</u></p> <p>McCann School of Business & Technology MLT Consortium Allentown PA 18109-</p> <p>Program Director Ms. Dawn Allen Hauser MS, MT(ASCP) (507) 556-4227</p> <p><u>McCann School of Business & Technology - Lewisburg</u></p> <p>McCann School of Business & Technology Lewisburg PA 17837-</p> <p>Program Director Ms. Dawn Allen Hauser MS, MT(ASCP) (507) 556-4227</p> <p><u>Mercyhurst University</u></p> <p>16 W. Division St. North East PA 16428-</p> <p>Program Director Ms. Amy Erickson MS, MT(ASCP) (814) 725-6344</p> <p><u>Montgomery County Community College</u></p> <p>340 DeKalb Pike, PO Box 400 Blue Bell PA 19422-1412</p> <p>Program Director Ms. Debra Lynn Eckman MS, MT(ASCP) (215) 641-6487</p> <p><u>Mount Aloysius College</u></p> <p>7373 Admiral Peary Highway Cresson PA 16630-</p>	<p><u>Susquehanna Health: Williamsport Regional Medical Center</u></p> <p>700 High Street Williamsport PA 17701-1995</p> <p>Program Director Ms. Christine Wheary MS, MT(ASCP) (570) 321-2367</p> <p><u>Thomas Jefferson University</u></p> <p>Jefferson School of Health Professions, Dept. Medical Laboratory Sciences Philadelphia PA 19107-5233</p> <p>Program Director Jennifer Slodysko MS, MLS(ASCP)cm (215) 503-7438</p> <p><u>UPMC Altoona</u></p> <p>School of Medical Technology/Medical Laboratory Science Altoona PA 16601-4899</p> <p>Program Director Deborah Pallas-Riley Med, MT(ASCP) (814) 889-2835</p> <p><u>York Hospital</u></p> <p>Allied Health Education York PA 17405</p> <p>Program Director Edwin Beitz MHA, MT(ASCP), MT(HHS) (717) 851-2473</p>
---------------------	--	---	---	---

			<p>Program Director Ms. Kathleen Hoyne MS, MT(ASCP) (814) 886-6522</p> <p><u>Pennsylvania State University - Hazleton</u></p> <p>76 University Drive Hazleton PA 18202-</p> <p>Program Director Ms. Patricia Ferry MS, MLS(ASCP) (570) 450- 3090</p> <p><u>Reading Area Community College</u></p> <p>10 South 2nd St, PO Box 1706 Reading PA 19603-1706</p> <p>Program Director Ms. Alayne Fessler MEd, MT(ASCP) (610) 372-4721</p>	
--	--	--	--	--