

CAREER GUIDE FOR MEDICAL TECHNOLOGIST

SOC Code: 29-2011

Pay Band(s): 4 and 5 ([Salary Structure](#))

Standard Occupational Description: Perform complex medical laboratory tests for diagnosis, treatment, and prevention of disease. May train or supervise staff.

Medical Technologist positions in the Commonwealth are assigned to the following Roles in the [Health Care Technology Career Group](#):

[Health Care Technologist II](#)

[Health Care Technologist III](#)

[Health Care Manager](#)

While Medical Technologists within the Commonwealth are all located within the Health Care Technology Career Group, individuals may want to pursue other opportunities within the Commonwealth depending upon individual training, education, knowledge, skills, abilities, and interests.

Other Career Group(s) that may be of interest are:

[Laboratory and Research Services](#)

[Life and Physical Sciences](#)

[Nursing/Physician Assistance Services](#)

[Physician Services](#)

SKILLS, KNOWLEDGE, ABILITIES AND TASKS

(Technical and Functional Expertise)

Skills

Note: *The technical and functional skills listed below are based on general occupational qualifications for Medical Technologists commonly recognized by most employers. Typically, you will not be required to have all of the skills listed to be a successful performer. Recruitment and selection standards for an individual state job must be based on the specific knowledge, skills, and abilities for that job as indicated in the job announcement and job description in the Employee Work Profile.*

1. Using scientific rules and methods to solve problems.
2. Understanding written sentences and paragraphs in work related documents.
3. Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.
4. Understanding the implications of new information for both current and future problem solving and decision-making.
5. Communicating effectively in writing as appropriate for the needs of the audience.
6. Talking to others to convey information effectively.
7. Monitoring/Assessing performance of yourself, other individuals, or organizations to make improvements or take corrective action.
8. Selecting and using training/instructional methods and procedures appropriate for the situation when learning or teaching new things.
9. Adjusting actions in relation to others' actions.
10. Considering the relative costs and benefits of potential actions to choose the most appropriate one.

Knowledge

Note: The technical and functional knowledge statements listed below are based on general occupational qualifications for Medical Technologists commonly recognized by most employers. Typically, you will not be required to have all of the knowledge listed to be a successful performer. Recruitment and selection standards for an individual state job must be based on the specific knowledge, skills, and abilities for that job as indicated in the job announcement and job description in the Employee Work Profile.

The **Knowledge** of:

1. Plant and animal organisms, their tissues, cells, functions, interdependencies, and interactions with each other and the environment.
2. Chemical composition, structure, and properties of substances and of the chemical processes and transformations that they undergo. This includes uses of chemicals and their interactions, danger signs, production techniques, and disposal methods.
3. Structure and content of the English language including the meaning and spelling of words, rules of composition, and grammar.
4. Information and techniques needed to diagnose and treat human injuries, diseases, and deformities. This includes symptoms, treatment alternatives, drug properties and interactions, and preventive health-care measures.
5. Principles and methods for curriculum and training design, teaching and instruction for individuals and groups, and the measurement of training effects.
6. Arithmetic, algebra, geometry, calculus, statistics, and their applications.

Abilities

Note: The technical and functional abilities listed below are based on general occupational qualifications for Medical Technologists commonly recognized by most employers. Typically, you will not be required to have all of the abilities listed to be a successful performer. Recruitment and selection standards for an individual state job must be based on the specific knowledge, skills, and abilities for that job as indicated in the job announcement and job description in the Employee Work Profile.

The **Ability** to:

1. Communicate information and ideas in writing so others will understand.
2. Arrange things or actions in a certain order or pattern according to a specific rule or set of rules (e.g., patterns of numbers, letters, words, pictures, and mathematical operations).
3. Communicate information and ideas in speaking so others will understand.
4. Listen to and understand information and ideas presented through spoken words and sentences.
5. Read and understand information and ideas presented in writing.
6. Tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing there is a problem.
7. See details at close range (within a few feet of the observer).
8. Combine pieces of information to form general rules or conclusions (includes finding a relationship among seemingly unrelated events).
9. Speak clearly so others can understand you.
10. Match or detect differences between colors, including shades of color and brightness.

Tasks

Note: The following is a list of sample tasks typically performed by Medical Technologists. Employees in this occupation will not necessarily perform all of the tasks listed.

1. Analyze laboratory findings to check the accuracy of the results.
2. Analyze samples of biological material for chemical content or reaction.
3. Conduct chemical analysis of body fluids, including blood, urine, and spinal fluid, to determine presence of normal and abnormal components.
4. Cultivate, isolate, and assist in identifying microbial organisms, and perform various tests on these microorganisms.
5. Enter data from analysis of medical tests and clinical results into computer for storage.
6. Harvest cell cultures at optimum time based on knowledge of cell cycle differences and culture conditions.
7. Obtain, cut, stain, and mount biological material on slides for microscopic study and diagnosis, following standard laboratory procedures.
8. Operate, calibrate and maintain equipment used in quantitative and qualitative analysis, such as spectrophotometers, calorimeters, flame photometers, and computer-controlled analyzers.
9. Prepare slide of cell culture to identify chromosomes, view and photograph slide under photo-microscope, and print picture.
10. Provide technical information about test results to physicians, family members and researchers.

INTERESTED?

Like people, occupations have traits or characteristics. These characteristics give important clues about the nature of the work and work environment, and give you an opportunity to match your own personal interests to a specific occupation. When you choose a job in an occupation that matches your own interests you have taken an important step in planning a successful and rewarding career.

The Medical Technologist occupation has **Investigative** and **Realistic** characteristics as described below:

Investigative — Investigative occupations frequently involve working with ideas, and require an extensive amount of thinking. These occupations can involve searching for facts and figuring out problems mentally.

Realistic — Realistic occupations frequently involve work activities that include practical, hands-on problems and solutions. They often deal with plants, animals, and real-world materials like wood, tools, and machinery. Many of the occupations require working outside, and do not involve a lot of paperwork or working closely with others.

LICENSURE, REGISTRATION, OR CERTIFICATION REQUIREMENTS

The Department of Labor provides the following information:

Some States require laboratory personnel to be licensed or registered. Information on licensure is available from State departments of health or boards of occupational licensing. Certification is a voluntary process by which a nongovernmental organization, such as a professional society or certifying agency, grants recognition to an individual whose professional competence meets prescribed standards. Widely accepted by employers in the health industry, certification is a prerequisite for most jobs and often is necessary for advancement. Agencies certifying medical and clinical laboratory technologists and technicians include the Board of Registry of the American Society for Clinical Pathology, the American Medical Technologists, the National Credentialing Agency for Laboratory Personnel, and the Board of Registry of the American Association of Bioanalysts. These agencies have different requirements for certification and different organizational sponsors.

Individuals interested in an occupation as a medical technologist must pass a national certification examination. Certification information can be obtained from the National Credentialing Agency for Laboratory Personnel: <http://www.nca-info.org/>.

Certification information may also be obtained from the American Medical Technologists <http://www.amt1.com/>.

EDUCATIONAL, TRAINING, AND LEARNING OPPORTUNITIES

The Department of Labor provides the following information:

Clinical laboratory testing plays a crucial role in the detection, diagnosis, and treatment of disease. Clinical laboratory technologists, also referred to as clinical laboratory scientists or medical technologists, and clinical laboratory technicians, also known as medical technicians or medical laboratory technicians, perform most of these tests.

The usual requirement for an entry-level position as a clinical laboratory technologist is a bachelor's degree with a major in medical technology or in one of the life sciences; although it is possible to qualify through a combination of education, on-the-job, and specialized training. Universities and hospitals offer medical technology programs.

The Virginia Area Health Education Centers Program provides a listing of all Virginia Educational Institutions that offer educational programs for individuals interested in careers in medical technology on their website: <http://www.ahec.vcu.edu/vhc/radio.pdf>.

COMMONWEALTH COMPETENCIES

Competencies are a set of identified behaviors, knowledge, skills, and abilities that directly and positively impact the success of employees and the organization. Competencies can be observed and measured. When consistently demonstrated, competencies make employees particularly effective in their work. Competencies help lay out a road map to career success.

You can use the Commonwealth Competencies to help improve your individual performance by adopting behaviors that make high performing employees successful in their jobs. In this way, you can use the Commonwealth Competencies for your further professional development.

The Commonwealth Competencies are:

1. Technical and Functional Expertise
2. Understanding the Business
3. Achieving Results
4. Serving the Customer
5. Teamwork
6. Interpersonal and Communication Skills
7. Leadership and Personal Effectiveness

The above competencies may be applied to employees throughout the Commonwealth of Virginia. They can be rank-ordered by agencies and hiring managers to represent the needs of a specific job. The rank ordering will change depending upon the occupation, an organization's priorities, the actual job requirements, and the supervisor's preferences.

Career success is both about what you do (applying your technical knowledge, skills, and ability) and how you do it (the consistent behaviors you demonstrate and choose to use) while interacting and communicating with others. Hopefully, by studying the Commonwealth competencies, identifying your developmental opportunities, and working to refine your own competence, you can take charge of your career!

For additional information about the **Commonwealth Competencies** go to: http://jobs.state.va.us/cc_planningctr.htm. For the competencies, we first list the competencies and then define each. Finally, we list competency indicators; to describe what successful performance looks like.

COMMONWEALTH CAREER PATH

Career opportunities in the Commonwealth are not limited to moving “up” to the next highest role and pay band, changing positions, or to becoming a supervisor. That’s because most roles describe a broad group of occupationally related positions that perform a range of work that requires increased knowledge and skills. For that reason, Commonwealth roles describe the career paths within the same or higher-level role for the same or different Career Group. The broad salary range and the Commonwealth’s pay practices provide flexibility in recognizing career development and advancement. ([Salary Structure](#))

For example: **Medical Technologist**

PAY BAND	PRACTITIONER ROLES
4	Health Care Technologist II
5	Health Care Technologist III

PAY BAND	MANAGER ROLES
5	Health Care Manager

Sample Career Path

Health Care Technologist II

This Health Care Technologist II role provides a career track for medical technologists that perform responsibilities ranging from entry-level to advance-level. The medical technologists perform a range of duties requiring experience and expertise in sample collection techniques, microbiology, hematology, clinical chemistry, immunology, immunohematology, histology, or cytology and tissue and slide preparation.

Health Care Technologist III

This Health Care Technologist III role provides a career track for medical technologists who serve as supervisors of a full service clinical laboratory or a sub-unit or shift in a major hospital. Responsible for quality control, quality improvement, training, and safety in the medical laboratory.

Health Care Manager

This Health Care Manager role provides career tracks for managers responsible for management, administration, and operation of a clinical laboratory or for the development, organization, and administration of a medical technology educational program.

ADDITIONAL OCCUPATIONAL INFORMATION CAN BE FOUND AT:

O*NET (Occupational Information Network)

http://online.onetcenter.org/gen_search_page

Virginia Employment Commission

<http://www.alex.vec.state.va.us/>

Career One Stop

<http://www.careeronestop.org/>

Virginia Career Resource Network <http://www.vacrn.net/>

Professional Organizations

American Medical Technologists

<http://www.amt1.com/>

American Society for Clinical Laboratory Science

<http://www.ascls.org/>

Virginia Society for Clinical Laboratory Science

<http://www.vscls.vavalleyweb/>