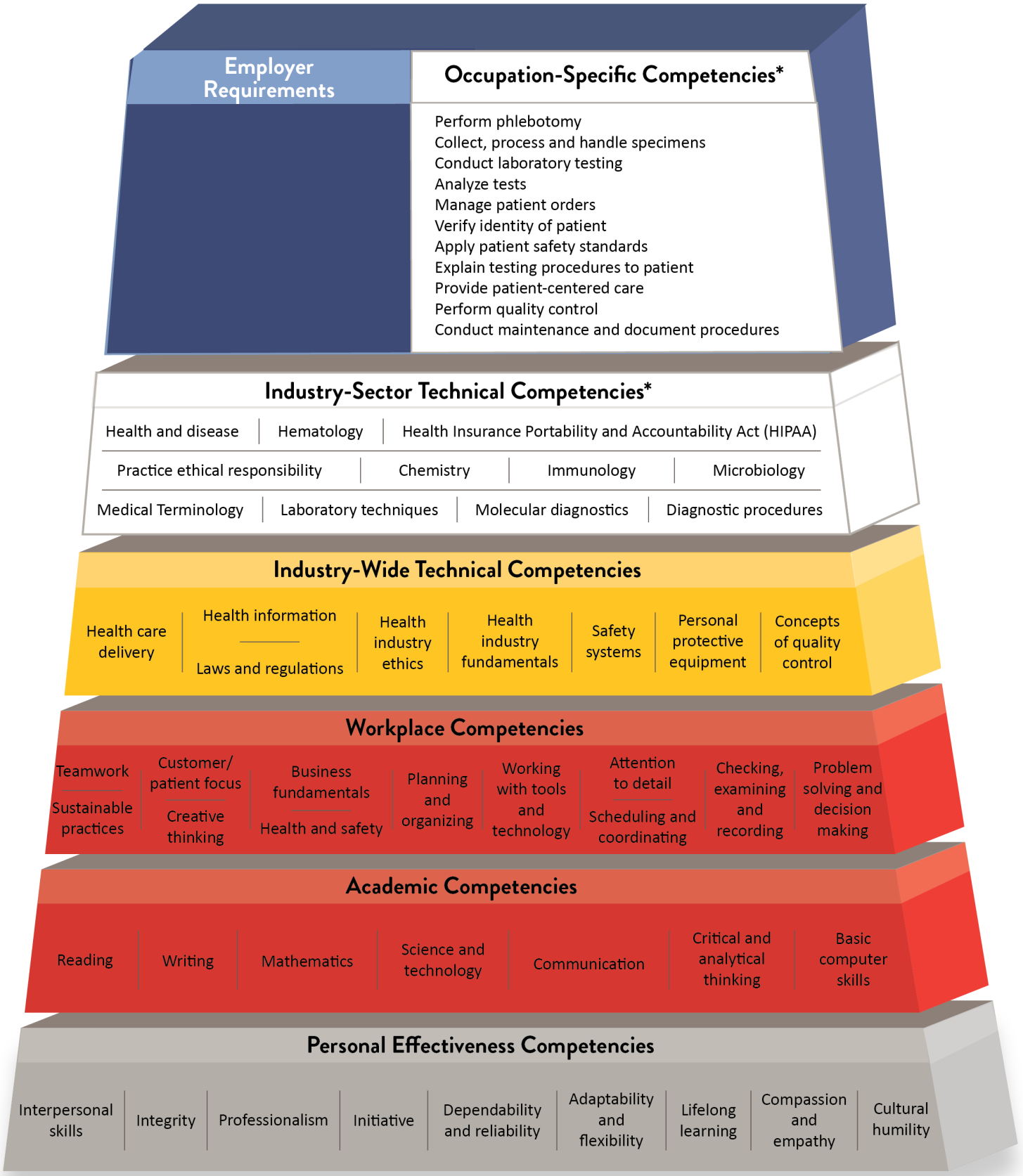
Minnesota Dual-Training Pipeline
Competency Model for Health Care Services
Occupation: Medical Laboratory Technician



Based on: Fundamentals of Health Care Competency Model, Employment and Training Administration, United States Department of Labor, February 2025. For more detailed information about competency model creation and sources, visit dli.mn.gov/business/workforce/health-care-services.

Competency Model for Medical Laboratory Technician

Medical Laboratory Technician – A healthcare professional who performs chemical, hematological, immunologic, histopathological, cytopathological, microscopic and bacteriological diagnostic analyses on body fluids such as blood, urine, sputum, stool, cerebrospinal fluid, peritoneal fluid, pericardial fluid and synovial fluid, as well as other specimens. This person works in clinical laboratories at hospitals, reference labs, and biotechnology labs.

*Pipeline recommends the Industry-Sector Technical Competencies as formal training opportunities (provided through related instruction) and the Occupation-Specific Competencies as on-the-job (OJT) training opportunities.

Industry-Sector Technical Competencies

Related Instruction for dual training means the organized and systematic form of education resulting in the enhancement of skills and competencies related to the dual trainee's current or intended occupation.

- **Health and disease** – Understand the overall condition of an organism at a given time and that a disease is a disorder or malfunction of the mind or body, which destroys good health.
- **Hematology** – Understand the science or study of blood, blood-forming organs and blood diseases.
- **Health Insurance Portability and Accountability Act (HIPAA)** – Understanding of legislation that provides data privacy and security provisions for safeguarding medical information.
- **Practice ethical responsibility** – Know that medical ethics allow for people, regardless of race, gender, or religion to be guaranteed quality and principled care.
- **Chemistry** – Understand the science that addresses composition, structure, and properties of substances and the changes that those substances can take place.
- **Immunology** – Understand the study of the human body's built-in defense system, which protects from infection.
- **Microbiology** – Understanding of the science that deals with microscopic forms of life.
- **Medical terminology** – Understand language used to precisely describe the human body including its components, processes, conditions affecting it, and procedures performed upon it.

- **Laboratory techniques** – Be able to perform acts on patient specimens to detect biomarkers and diagnose diseases.
- **Molecular diagnostics** – Understand a collection of techniques used to analyze biological markers in the genome and proteome, the individual's genetic code and how their cells express their genes as proteins, by applying molecular biology to medical testing.
- **Diagnostic procedures** – Be able to do an examination to identify an individual's specific areas of weakness and strength to determine a condition, disease or illness.

Occupation-Specific Competencies

On-the-Job Training is hands-on instruction completed at work to learn the core competencies necessary to succeed in an occupation. Common types of OJT include job shadowing, mentorship, cohort-based training, assignment-based project evaluation and discussion-based training.

- **Perform phlebotomy** – Know how to conduct a procedure in which a needle is used to take blood from a vein, usually for laboratory testing.
- **Collect, process and handle specimens** – Understand an integral part of obtaining a valid and timely laboratory result. Specimens must be obtained in the proper containers, correctly labeled, and then promptly transported to the laboratory.
- **Conduct laboratory testing** – Understand established protocols, perform waived, moderate or highly complex testing and report results.
- **Analyze tests** – Know that any combination of the following areas may be included for testing analysis: Hematology, coagulation, microbiology, serology, immunology, immunohematology, chemistry, urinalysis, phlebotomy, and electrocardiogram (EKG).
- **Manage patient orders** – Be able to oversee patient orders which includes any documentation required for the diagnosis, treatment, and follow-up with patient, and is typically more specific to an individual's physical and mental well-being.
- **Verify identity of patients** – Be able to prevent instances of misidentification and near-miss error. Requirement of two identifiers – such as the patient's full name, date of birth and/or medical identification number at every patient encounter.
- **Apply patient safety standards** – Understand the system of care delivery that prevents errors, learns from the errors that do occur and is built on a culture of safety that involves health care professionals, organizations, and patients.

- **Explain testing procedures to patient** – Understand how to share information with patients about testing procedures in a manner geared to gain their confidence and cooperation and relieve anxiety about the test.
- **Provide patient-centered care** – Know how to provide patient care by adjusting approaches to reflect developmental level and cultural differences.
- **Perform quality control** – Understanding accuracy of results and knowing specimen quality and acceptability.
- **Conduct maintenance and document procedures** – Know how to do maintenance and also be able to obtain adequate supplies and perform documentation.

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