

Clinical Laboratory Technician

Program Code 105131

Associate Degree - Two Years

Offered at the Green Bay campus. For information: (920) 498-5444.

Toll-free: (800) 422-NWTC, ext. 5444.

Program Description

The Clinical Laboratory Technician is a member of the health care team who provides clinical information for disease prevention, medical diagnosis, and treatment of the patient by processing specimens and performing laboratory tests by manual and automated methods. Clinical Laboratory Technicians may also have responsibilities for information processing, training, and quality control monitoring.

Program Outcomes

- Apply modern clinical methodologies including problem solving and trouble shooting according to predetermined criteria.
- Perform preventative and corrective maintenance of equipment and instruments according to predetermined criteria.
- Collect and process biological and other specimens.
- Perform and report results of clinical laboratory tests.
- Apply laboratory results to diagnosis of clinical conditions and/or diseases.
- Monitor and evaluate quality control in the laboratory.
- Practice laboratory safety and regulatory compliance.
- Communicate with colleagues and patients in a professional manner.
- Perform information processing in the clinical laboratory.
- Model professional behaviors, ethics, and appearance.

Clinical Practicum

Students will be required to purchase a uniform, pay for liability insurance, provide their own transportation to assigned sites, and cover any other expenses related to clinical experiences. Dependent on availability of sites, students may need to travel distances for clinical experiences.

NWTC is required to comply with the Wisconsin Caregiver Law (1997 WISCONSIN ACT 27.) The completion of a caregiver background check includes the review of criminal records for convictions of serious crimes or a history of improper behavior. Students accepted into health programs must complete a background information form disclosing any acts, crimes, or convictions prior to program entry. The information provided in the background information form must be truthful and match any findings on the criminal record check. Students with a criminal history may be denied access to clinical placement at the discretion of the clinical site. Consequently, should a student have a history of convictions of serious crimes or a history of improper behaviors, NWTC cannot guarantee clinical placement, or guarantee graduation within typical program timing.

Students are required to maintain a current CPR card on a one-year renewal cycle to comply with affiliating agency requirements.

Employment Potential

Most Clinical Laboratory Technicians work in hospitals or clinic labs. Some Clinical Laboratory Technicians may choose to work for veterinary laboratories, industrial labs, insurance companies, research facilities, environmental labs, or public health.

Clinical Laboratory Technician: applies knowledge of test procedures and quality control methods in the areas of hematology, chemistry, serology, urinalysis, blood bank, microbiology, and phlebotomy; performs tests accurately and efficiently using both automated and manual methodology; evaluates the clinical significance of test results.

Accreditation

The Clinical Laboratory Technician program is accredited by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS)
8410 W. Bryn Mawr Ave., Suite 670
Chicago, IL 60631, (312) 714-8880

Board/Certification Examinations

Graduates are qualified to take the Board of Registry examination from the American Society for Clinical Pathology as well as the credentialing examination of the National Certification Agency for Laboratory Personnel.

Requirements for Program Admission

- Completed application.
- High school transcript or equivalent (such as an HSED or GED® Transcript).
- Academic Skills Assessment or ACT assessment taken within the last three years.
- Two years of algebra, or one year of algebra and one year of advanced math, with a “C” or better (or attain program benchmark for algebra on the Academic Skills Assessment).
- One year of Biology and Chemistry with a grade of “C” or better. If in high school, “C” in two semesters of each.

Priority Admission

Applicants with documentation of completion of Intro to Biochemistry, with a “B” or better, will receive priority standing amongst that year’s applicant pool.

Requirement for Program Entry

- Meet established Academic Skills Assessment program benchmarks, or achieve a minimum standard composite score of 20 on the ACT with acceptable scores in Math, Reading, and English. Proof of remediation may be demonstrated by an Academic Skills Assessment post-test or completion of an approved course in the content requiring remediation.
- Complete physical examination and provide current immunization information three months prior to entering program.
- Submit Caregiver Background Check paperwork.
- Complete mandatory four-hour job shadow.
- Attend mandatory spring program orientation.

Curriculum

The Clinical Laboratory Technician Associate Degree is a two-year, five-semester program. Upon completion, a student will have completed 66 credits.

First Semester

Catalog No.	Description	Credits
* 10-513-110	Basic Lab Skills	1
* 10-513-111	CLT-Phlebotomy	2
* 10-513-113	QA/Laboratory Math	1
* 10-513-115	Basic Immunology Concepts	2
10-801-196	Oral/Interpersonal Comm	3
* 10-806-177	Gen Anatomy & Physiology	4
* 10-806-186	Intro to Biochemistry	3
Semester Total		16

Second Semester

* 10-513-114	Urinalysis	2
* 10-513-120	Basic Hematology	3
* 10-513-121	Coagulation	1
* 10-513-122	Introduction to Blood Bank	2
* 10-513-123	Advanced Blood Bank	2
10-801-195	Written Communication	3
* 10-806-197	Microbiology	4
Semester Total		17

Summer Semester

10-809-196	Intro to Sociology	3
10-809-198	Intro to Psychology	3
Semester Total		6

Third Semester

* 10-513-130	Advanced Hematology	2
* 10-513-131	Intro-Clinic Chem Diagnostics	3
* 10-513-132	Adv Clinic Chem Diagnostics	2
* 10-513-133	Clinical Microbiology	4
* 10-513-140	Adv Topics in Microbiology	2
Semester Total		13

Fourth Semester

* 10-513-161	Clinical Lab-Practicum 1	5
* 10-513-162	Clinical Lab-Practicum 2	3
* 10-513-163	Clinical Lab-Practicum 3	3
10-809-172	Race Ethnic & Diversity	3
Semester Total		14

* No final grade lower than a “C” is acceptable in any of the courses marked with an asterisk. A student who withdraws or received a grade lower than a “C” in a program course may apply for re-entry into the program. Consideration for re-entry will be at the discretion of the re-entry team and will be dependent on clinical availability.

This program is fully eligible for financial aid.

Please Note

- Some courses have prerequisites (listed at the end of each course description, if applicable) that need to be taken prior to enrolling in those courses.
- Many courses are offered via our Flexible Learning Options (online, accelerated, ITV, video, weekend, and self-paced) and may be taken in any order as long as prerequisites are met. To find out which program courses are offered through Flexible Learning Options, go to www.nwtc.edu or consult a counselor, (920) 498-5444.
- Descriptions of courses not found on this page can be found in the back of this catalog.

Course Descriptions

These courses provide an opportunity for students to develop the knowledge, skills, and understanding required for employment in this field.

10-513-110 BASIC LAB SKILLS ...explores health career options and the fundamental principles and procedures performed in the clinical laboratory. Learners will utilize medical terminology and basic laboratory equipment. Learners will follow required safety and infection control procedures and perform simple laboratory tests. (Prerequisite: Accepted into Clinical Laboratory Technician Program or Phlebotomy Certificate)

10-513-111 CLT-PHLEBOTOMY ...this course provides opportunities for learners to perform routine venipuncture, routine capillary puncture and special collection procedures. (Corequisite: 10-513-110, Basic Lab Skills)

10-513-113 QA/LABORATORY MATH ...focuses on performing the mathematical calculations routinely used in laboratory settings. Learners will explore the concepts of quality control and quality assurance in the laboratory. Learners will review regulatory compliance requirements, and certification and continuing education programs. (Prerequisite: Accepted into the Clinical Laboratory Technician program)

10-513-114 URINALYSIS ...prepares learners to perform a complete urinalysis which includes physical, chemical and microscopic analysis. Learners will explore renal physiology and correlate urinalysis results with clinical conditions. (Prerequisites: 10-513-110, Basic Lab Skills; 10-513-113, QA/Lab Math)

10-513-115 BASIC IMMUNOLOGY CONCEPTS ...provides an overview of the immune system including laboratory testing methods for diagnosis of immune system disorders, viral and bacterial infections. (Corequisite: 10-513-110, Basic Lab Skills)

10-513-120 BASIC HEMATOLOGY ...covers the theory and principles of blood cell production and function, and introduces the learner to basic practices and procedures in the hematology laboratory. (Prerequisites: 10-513-110, Basic Lab Skills; 10-513-113, QA/Lab Math; 10-513-111, Phlebotomy; 10-513-115, Basic Immunology Concepts)

10-513-121 COAGULATION ...introduces the theory and principles of coagulation and explores mechanisms involved in coagulation disorders. Emphasis is placed upon laboratory techniques used to diagnose disease and monitor treatment. (Prerequisites: 10-513-110, Basic Lab Skills; 10-513-113, QA/Lab Math; 10-513-115, Basic Immunology Concepts; 10-513-111, Phlebotomy; Corequisite: 10-513-120, Basic Hematology)

10-513-122 INTRODUCTION TO BLOOD BANK ...introduces basic blood banking concepts and procedures including blood typing and compatibility testing. (Prerequisites: 10-513-110, Basic Lab Skills; 10-513-113, QA/Lab Math; 10-513-115, Basic Immunology Concepts)

10-513-123 ADVANCED BLOOD BANK ...focuses on advanced blood banking concepts and procedures including work ups for adverse reaction to transfusions and disease states. (Corequisite: 10-513-122, Introduction to Blood Bank)

10-513-130 ADVANCED HEMATOLOGY ...explores mechanisms involved in the development of hematological disorders. Emphasis is placed upon laboratory techniques used to diagnose disorders and monitor treatment. (Prerequisite: 10-513-120, Basic Hematology)

10-513-131 INTRODUCTION TO CLINIC CHEMISTRY DIAGNOSTICS ...introduces Clinical Chemistry techniques and procedures for routine analysis using photometric, potentiometric and separation techniques. Topics in this course include pathophysiology and methodologies for carbohydrate, lipoids, proteins, renal function and blood gas analysis. (Prerequisites: 10-513-110, Basic Lab Skills; 10-513-113, QA/Lab Math; 10-513-114, Urinalysis; 10-806-177, General Anatomy & Physiology; 10-806-186, Intro to Biochemistry)

10-513-132 ADVANCED CLINICAL CHEMISTRY DIAGNOSTICS ...a continuation of Clinical Chemistry Diagnostics, techniques and procedures for analysis using sophisticated laboratory instrumentation. Topics include pathophysiology and methodologies for hepatic, bone, cardiac markers, tumor markers, endocrine function, fetal function, miscellaneous body fluids, and toxicology. (Corequisite: 10-513-131, Introduction to Clinical Chemistry Diagnostics)

10-513-133 CLINICAL MICROBIOLOGY ...presents the clinical importance of infectious diseases with emphasis upon the appropriate collection, handling and identification of clinically relevant bacteria. Disease states, modes of transmission and methods of prevention and control, including antibiotic susceptibility testing, are also discussed. (Prerequisites: 10-806-197, Microbiology; 10-513-110, Basic Lab Skills)

10-513-140 ADVANCED TOPICS IN MICROBIOLOGY ...overview of acid fast organisms, fungi, parasites, and anaerobic bacteria. The organisms, their pathophysiology, epidemiology, the diseases and conditions that they cause, laboratory methods of handling, culturing and identification will be discussed. (Corequisite: 10-513-133, Clinical Microbiology)

10-513-161 CLINICAL LAB-PRACTICUM 1 ...clinical applications of knowledge and procedures in hematology/coagulation, urinalysis, microbiology, blood bank, chemistry/serology, preparation for MLT certification examinations. (Prerequisite: 10-513-132, Advanced Clinic Chemistry; Corequisites: 10-513-162, Clinical Lab-Practicum 2; 10-513-163, Clinical Lab-Practicum 3)

10-513-162 CLINICAL LAB-PRACTICUM 2 ...clinical applications of knowledge and procedures in hematology/coagulation, urinalysis, microbiology, blood bank, chemistry/serology, preparation for MLT certification examinations. (Prerequisite: 10-513-132, Advanced Clinic Chemistry; Corequisites: 10-513-161, Clinical Lab-Practicum 1; 10-513-163, Clinical Lab-Practicum 3)

10-513-163 CLINICAL LAB-PRACTICUM 3 ...clinical applications of knowledge and procedures in hematology/coagulation, urinalysis, microbiology, blood bank, chemistry/serology, preparation for MLT certification examinations. (Prerequisite: 10-513-132, Advanced Clinic Chemistry; Corequisites: 10-513-161, Clinical Lab-Practicum 1; 10-513-162, Clinical Lab-Practicum 2)