

# MEDICAL LABORATORY (MDL)

## **MDL 100 Intro. to Medical Laboratory Tech. (2 CR.)**

Introduces the basic principles, techniques, and vocabulary applicable to all phases of medical laboratory technology. Lecture 1 hour. Laboratory 3 hours. Total 4 hours per week.

## **MDL 101 Intro to Med Lab Techniques (3 CR.)**

Introduces the basic techniques including design of the health care system, ethics, terminology, calculations, venipuncture, and routine urinalysis. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week. Credit for Prior Learning available for this course. More information at <https://www.nvcc.edu/admissions/cpl.html>.

## **MDL 105 Phlebotomy (3 CR.)**

Introduces basic medical terminology, anatomy, physiology, components of health care delivery, and clinical laboratory structure. Teaches techniques of specimen collection, specimen handling, and patient interactions. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week. Credit for Prior Learning available for this course. More information at <https://www.nvcc.edu/admissions/cpl.html>.

## **MDL 106 Clinical Phlebotomy (4 CR.)**

Focuses on obtaining blood specimens, processing specimens, managing assignments, assisting with and/or performing specified tests, performing clerical duties and maintaining professional communication. Provides supervised learning in college laboratory and/or cooperating agencies. Lecture 2 hours. Laboratory 6 hours. Total 8 hours per week. Credit for Prior Learning available for this course. More information at <https://www.nvcc.edu/admissions/cpl.html>.

## **MDL 125 Clinical Hematology I (3 CR.)**

Teaches the cellular elements of blood including blood cell formation, and routine hematological procedures. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week. Credit for Prior Learning available for this course. More information at <https://www.nvcc.edu/admissions/cpl.html>.

## **MDL 127 Hematology (3 CR.)**

Teaches various blood components, how they are obtained and methods of examination. Includes erythrocyte, leukocyte and platelet counts, hemoglobin and hematocrit determinations, normal and abnormal smears. Introduces coagulation screening studies. Lecture 1 hour. Laboratory 6 hours. Total 7 hours per week.

## **MDL 130 Basic Clinical Microbiology (3 CR.)**

Studies classification, theories, techniques, and methods used in basic bacteriology, parasitology, and mycology. Emphasizes routine identification. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week. Credit for Prior Learning available for this course. More information at <https://www.nvcc.edu/admissions/cpl.html>.

## **MDL 140 Clinical Urinalysis (2 CR.)**

Focuses on urinalysis studies including physical and chemical properties, microscopic techniques. Emphasizes the significance of abnormal results. Lecture 1 hour. Laboratory 3 hour. Total 4 hours per week. Credit for Prior Learning available for this course. More information at <https://www.nvcc.edu/admissions/cpl.html>.

## **MDL 196 On-Site Training (1-5 CR.)**

Career orientation and training program without pay in selected businesses and industry, supervised and coordinated by the College. Credit/work ratio not to exceed 1:5 hrs. May be repeated for credit. Variable hrs.

## **MDL 215 Immunology (2 CR.)**

Presents the physiological basis of humeral and cell mediated immunity, including the medical and clinical laboratory application of immunological principles. Lecture 2 hours per week.

**Corequisite(s)** MDL 101 with a minimum grade of C or program director approval

Credit for Prior Learning available for this course. More information at <https://www.nvcc.edu/admissions/cpl.html>.

## **MDL 216 Blood Banking (4 CR.)**

Teaches fundamentals of blood grouping and typing, compatibility testing, antibody screening, component preparation, donor selection, and transfusion reactions and investigation. Lecture 2 hours. Laboratory 6 hours. Total 8 hours per week.

Credit for Prior Learning available for this course. More information at <https://www.nvcc.edu/admissions/cpl.html>.

## **MDL 225 Clinical Hematology II (3 CR.)**

Teaches advanced study of blood to include coagulation, abnormal bloody formation, and changes seen in various diseases. Credit for Prior Learning available for this course. More information at <https://www.nvcc.edu/admissions/cpl.html>.

## **MDL 236 Parasitology and Virology (2 CR.)**

Teaches identification of the common parasites affecting man. Stresses methods of isolation and identification. Lecture 1 hour. Laboratory 3 hours. Total 4 hours per week.

## **MDL 243 Introduction to Clinical Molecular Diagnostics (2 CR.)**

Prerequisite is division approval. Provides the fundamentals of genetics and inheritance along with an overview of the basic principles of clinical molecular diagnostics. Discusses the use of common molecular techniques in the diagnosis of disease. Lecture 2 hours per week. Total 2 hours per week.

Credit for Prior Learning available for this course. More information at <https://www.nvcc.edu/admissions/cpl.html>.

## **MDL 251 Clinical Microbiology I (3 CR.)**

Teaches handling, isolation, and identification of pathogenic microorganisms. Emphasizes clinical techniques of bacteriology, mycology, parasitology and virology. For MDL 251: Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week. For MDL 252: Lecture 1 hour. Laboratory 3 hours. Total 4 hours per week. Credit for Prior Learning available for this course. More information at <https://www.nvcc.edu/admissions/cpl.html>.

**MDL 260 Laboratory Instrumentation (2 CR.)**

Teaches the theory, principles of operation, methodologies, maintenance, and troubleshooting of the more common instrumentation used in the clinical laboratory. Lecture 2 hours Laboratory 1 hour. Total 3 hours per week.

Credit for Prior Learning available for this course. More information at <https://www.nvcc.edu/admissions/cpl.html>.

**MDL 263 Clinical Chemistry and Instrumentation III (3 CR.)**

Emphasizes application of chemical theories and principles to perform routines and special chemistries on various types of instrumentations, to evaluate quality control programs, and to associate test results with clinical significance. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

Credit for Prior Learning available for this course. More information at <https://www.nvcc.edu/admissions/cpl.html>.

**MDL 265 Advanced Clinical Chemistry (2 CR.)**

Presents principles of current special chemistry techniques. Lecture 2 hours per week.

**MDL 266 Clinical Chemistry Techniques (3 CR.)**

Prerequisite is completion of MDL 261 with a grade of C or better and be enrolled in the first year, third semester summer term, of the Medical Laboratory Technology A.A.S. Includes performing of clinical chemistry methodologies and operation of typical instrumentation in a clinical laboratory. Clinical 9 hours per week.

Credit for Prior Learning available for this course. More information at <https://www.nvcc.edu/admissions/cpl.html>.

**MDL 276 Clinical Hematology Techniques (3 CR.)**

Prerequisite is completion of MDL 127 with a grade of C or better and be enrolled in the first year, third semester summer term, of the Medical Laboratory Technology A.A.S. Stresses performing hematological and coagulation methods and operation of typical instrumentation in a clinical laboratory. Clinical 9 hours per week.

Credit for Prior Learning available for this course. More information at <https://www.nvcc.edu/admissions/cpl.html>.

**MDL 277 Clinical Blood Banking Techniques (4 CR.)**

Provides training in techniques, procedures, and interpretations in Blood Banking in a clinical laboratory or simulated laboratory setting. Clinical 12 hours per week.

Credit for Prior Learning available for this course. More information at <https://www.nvcc.edu/admissions/cpl.html>.

**MDL 278 Clinical Microbiology Techniques II (4 CR.)**

Includes performing of techniques, procedures, and identification of microorganisms in a clinical laboratory. Clinical 12 hours per week.

Credit for Prior Learning available for this course. More information at <https://www.nvcc.edu/admissions/cpl.html>.

**MDL 281 Clinical Correlations (1 CR.)**

Teaches students to apply knowledge gained in courses offered in the MDL curriculum using primarily a case history form of presentation. Emphasizes critical thinking skills in the practice of laboratory medicine. Lecture 1 hour per week.

Credit for Prior Learning available for this course. More information at <https://www.nvcc.edu/admissions/cpl.html>.