

CLINICAL LABORATORY SCIENCES/MEDICAL TECHNOLOGY

Clinical Laboratory Sciences/ Medical Technology

College of Science, Engineering & Technology
Department of Biological Sciences
246 Trafton Science Center S • 507-389-2417
Web site: www.mnsu.edu/dept/biology

Director: Lois Anderson, MA, MT (ASCP)

The four-year clinical laboratory sciences & medical technology curriculum leads to the degree of Bachelor of Science in clinical laboratory sciences & medical technology. The first three years are spent at the university. The fourth year is spent at one of the affiliated hospital schools of clinical laboratory sciences/medical technology. Upon successful completion of this year, the BS degree is awarded by the university and graduates are then eligible to take a certifying examination.

Because the clinical laboratory sciences/medical technology curriculum closely parallels that of other majors, such as biology, students from other majors are encouraged to apply.

Admission to Major is granted by the department. Minimum university admission requirements are:

- a minimum of 32 earned semester credit hours.
- a minimum cumulative GPA of 2.00 ("C").

Contact the department for application procedures.

Students should contact the Department of Clinical Laboratory Sciences & Medical Technology early in their college career for admission to the program, for academic and career counseling, and for information on the process and standards for admission to the professional curriculum, including registration procedures. Because enrollment in the fourth year is limited by the size of classes in the affiliated hospital schools, admission to the program does not ensure admission to the fourth year of the curriculum. Admission into the fourth year hospital clinical internship is competitive.

POLICIES/INFORMATION

Students majoring in Clinical Laboratory Sciences & Medical Technology have an advisor from their area of interest assigned to them. Questions and concerns pertaining to advising and the assignment of advisors can be answered by Angie B. Bomier, student relations coordinator, TR125 Trafton Science Center, telephone 389-1521.

GPA Policy. A GPA of 2.0 is required in both sciences courses and cumulative coursework.

Probation. Refer to the College regarding required advising for students on academic probation.

P/N Grading Policy. No P/N grades are accepted toward the major except BIOL 175.

Agencies and clinical site adjunct faculty participating in the Clinical Laboratory Science / Medical Technology program include, but not limited to: Hennepin County Medical Center, Minneapolis, MN, James Fink, M.D., Ph.D, Roberta Montgomery, BS, MLS, MT (ASCP); Mercy College of Health Sciences, Des Moines, IA, Kyla Deibler, MS, MT (ASCP), CLS (NCA); St. Luke's Hospital, Cedar Rapids, IA, Nadine Sojka, MS, MT (ASCP); University of Minnesota, Minneapolis, MN, Patricia Solberg, CLS (NCA), Carol Wells, Ph.D., MT (ASCP); Fairview Health Services, Minneapolis, MN, David Dexter, M.D., Carol McCoy, MT (ASCP); University of Iowa, Iowa City, IA, Judith Kittleson, MT (ASCP); Sanford USD Medical Center, Sioux Falls, SD, DesiRae M, Muirhead, M.D., Renee Rydell, MBA, MS, MT (ASCP). Internship sites are required by law to do background checks on all students admitted to their medical technology / clinical laboratory science programs.

CLINICAL LABORATORY SCIENCE/MEDICAL TECHNOLOGY BS

Required General Education (9 credits)

CHEM 201	General Chemistry I (5)
Choose one of the following:	
MATH 112	College Algebra (4)
MATH 113	Trigonometry (3)
MATH 115	Precalculus Mathematics (4)
MATH 121	Calculus I (4)

Required Support Courses (18 credits)

CHEM 202	General Chemistry II (5)
CHEM 305	Analytical Chemistry (4)
CHEM 320	Organic Chemistry I (5)
CHEM 360	Principles of Biochemistry (4)

Required for Major (Core 32 credits)

BIOL 105	General Biology I (4)
BIOL 106	General Biology II (4)
BIOL 175	Orientation to Clinical Laboratory Science (1)
BIOL 211	Genetics (4)
BIOL 230	Human Physiology (4)
BIOL 270	Microbiology (4)
BIOL 420	Diagnostic Parasitology (3)
BIOL 430	Hematology/Introduction to Immunology (4)
BIOL 475	Medical Microbiology (4)

Required for Major (Internship, 32-39 credits)

Complete up to 32-39 credits from the following courses:

MEDT 410	MEDT 411	MEDT 412	MEDT 413	MEDT 414
MEDT 415	MEDT 416	MEDT 417	MEDT 418	MEDT 419
MEDT 420	MEDT 499			

Required Minor: None.

Special Requirements. If the internship is at Hennepin County Medical Center, students must complete Biology 380: Blood Banking / Urinalysis (3).

If the internship is at Fairview Health Services, the University of Iowa, or Sanford USD Medical Center, students must complete a course in statistics or biostatistics.

If the internship is at the University of Minnesota, students must complete a second math class either in pre-calculus, calculus, statistics, or biostatistics. The University of Minnesota does not require Biology 420, Biology 430, and Biology 475. These requirements are in addition to degree requirements.

COURSE DESCRIPTIONS

MEDT 410 (1-10) Clinical Hematology I

Theory of blood cell formation; disease states; hemostasis, microscopic examination of blood/bone marrow films; practical experience with instruments and techniques which determine major hematologic and clotting parameters; quality control.

MEDT 411 (1-10) Clinical Immunohematology I

Major blood group systems; principles and procedures for antigen/antibody detection, identification; donor blood collection, preservation, processing; component therapy; transfusion reaction evaluation; Rh immune globulin; quality control.

MEDT 412 (1-10) Clinical Immunology I

Antigen/antibody structure function and interaction; basic principles and procedures of humoral and cellular immunology; performance and clinical correlation of serological testing; quality control.

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MEDT 413 (1-10) Clinical Chemistry I

Identification and quantification of specific chemical substances in blood and body fluids by analytical techniques; clinical correlation with disease states; principles of instrumentation; data processing; toxicology; quality control.

MEDT 414 (1-10) Clinical Microbiology I

Theory and techniques of cultivation, isolation and identification of bacteria, fungi, parasites and viruses; determination of sensitivity to antimicrobial agents; clinical correlation to disease states, asepsis; environmental monitoring; quality control.

MEDT 415 (1-10) Clinical Microscopy I

Theory of renal function in health and disease; renal function tests including chemical and microscopic examination of urine; analysis of fecal specimens, gastric, spinal fluid and other body fluids; quality control.

MEDT 416 (1-10) Clinical Hematology II

A continuation of Clinical Hematology I

MEDT 417 (1-10) Clinical Immunohematology II

A continuation of Clinical Immunohematology I.

MEDT 418 (1-10) Clinical Chemistry II

A continuation of Clinical Chemistry I.

MEDT 419 (1-10) Clinical Microbiology II

A continuation of Clinical Microbiology I.

MEDT 420 (1-10) Clinical Microscopy II

A continuation of Clinical Microscopy I.

MEDT 499 (1-6) Individual Study

Related topics in medical technology.