The program leading to the Bachelor of Science in Clinical Laboratory Science prepares graduates to take a national certification examination in this discipline. The program consists of a preprofessional and a professional curriculum. The freshman and sophomore years constitute the preprofessional program comprising courses taught by the faculty of the College of Liberal Arts and Sciences. The professional program begins with the junior year and is taught by the faculty of the Department of Fundamental and Applied Sciences. The senior year consists of didactic course work and clinical experience in the laboratories of one of the affiliated hospitals.

The work of the clinical laboratory scientist involves:

1. Provision of accurate diagnostic information to the physician through performance of a vast array of laboratory tests.
2. Comparative evaluation and utilization of the best possible methods of performance of these tests.
3. Operation of sophisticated laboratory equipment.
4. Effective teaching and supervision of students and auxiliary laboratory personnel.

While the majority of clinical laboratory scientists work in hospitals or other clinical laboratories, graduates are also prepared for positions in federal, state and local public health departments, in industrial or research laboratories and in clinical laboratory science education.

The programs offered in Clinical Laboratory Science utilize the facilities of the Eugene Applebaum College of Pharmacy and Health Sciences, the faculty of the Department of Fundamental and Applied Sciences and the clinical laboratories and pathology departments of hospitals affiliated with the clinical laboratory science (medical technology) program.

Pre-professional Program

Pre-professional Admission: Students seeking admission to the pre-professional program in the College of Liberal Arts and Sciences should refer to the admission requirements (http://bulletins.wayne.edu/undergraduate/general-information/admission) of the University. High school prerequisites for applicants pursuing the Bachelor of Science in Clinical Laboratory Science are:

High school units
- Algebra: 1.5
- Biology: 1
- Chemistry: 1
- Geometry: 1
- Trigonometry: 0.5

Recommended: One to two units of a foreign language, one to two units in advanced English, and computer use skills.

Although the College of Liberal Arts and Sciences does not offer course work in the first unit of algebra, some mathematics deficiencies can be remediated by taking MAT 0993 or MAT 0995. Students with no preparedness in mathematics will have to correct this deficiency at a high school. Before the first course in college chemistry or college mathematics can be taken, the student must pass a placement test in these subjects.

A deficiency of any of the above high school units may extend the time required for completion of the courses prerequisite to beginning the professional curriculum in the junior year, or it may restrict the electives that may be taken. Any entrance deficiencies should be made up as early as possible, preferably in the first year.

Professional Program

Admission

Students are initially admitted to the Bachelor of Health Science with a concentration in laboratory science degree program. Students desiring certification as a clinical laboratory scientist/medical technologist must apply for clinical rotation placement in the summer before the beginning of their senior year. Those accepted for clinical rotation placement will be transferred to the B.S. in Clinical Laboratory Science degree track for their senior/final year. Students who do not receive clinical placement remain in the B.H.S. program and graduate with the Bachelor of Health Science with a concentration in laboratory science degree.

The junior class is admitted to the professional curriculum in the Fall Semester only. All applicants will be admitted to the Bachelor of Health Science laboratory science concentration. After the first year in the professional program, interested students will apply for a clinical position. An application for admission to the program must be submitted to the Clinical Laboratory Science Program by April 1 of the year one wishes to enter the professional curriculum.

The Admissions Committee is composed of clinical laboratory scientists on the faculty and adjunct faculty from clinical affiliates. The Admissions Committee will interview and consider for admission students who have:

1. The following cumulative grade point averages by the end of the second semester of the year preceding admission to the professional program:
   - 2.7 or greater overall average; and
   - 2.7 or greater combined science average (biology, chemistry, computer science, mathematics).
2. A grade of ‘C’ or better in ALL preprofessional courses.
3. No more than two repeats or withdrawals (marks of ‘W’ or ‘WF’) in science courses preferred. (If all courses are withdrawn in a single semester, it counts as one ‘W’.)
4. Completed all preprofessional courses (see above) by the end of the summer semester prior to admission to the professional program.
5. Submitted, in addition to the application, the following:
   - Two references (reference forms available in the CLS application packet) from: one employer and one science faculty member (If there is no employer, two science faculty references may be submitted).
   - If the student has transferred to Wayne State University, submitted official transcripts from all former undergraduate schools.
   - If a Wayne State student, student copy of Wayne State transcripts.

Since clinical positions are limited, the Admissions Committee must consider each applicant individually. A sound academic background, and a familiarity with the profession and its demands, together with a desire to advance the field of clinical laboratory science through research, teaching or service are important factors for consideration. Emotional stability, maturity and the ability to communicate are among the criteria used in considering students.
All requests for additional information should be addressed to the Department of Fundamental and Applied Sciences, Clinical Laboratory Science Program, Eugene Applebaum College of Pharmacy and Health Sciences.

Professional courses and/or professional program admission requirements are subject to change without notification. The curriculum is subject to change due to adjustments in requirements for entry into professional practice, which may be separate from academic requirements. It is the student's responsibility to obtain current information regarding the Clinical Laboratory Science Program.

Pre-professional Curriculum
Preprofessional science courses must be completed within the six years just prior to admission to a professional program. Exceptions to this policy may be made on a case-by-case basis at the discretion of the program faculty. Documentation of competency must be provided by the applicant requesting the exception. There is no appeal for an exception request of this policy.

These courses are taken under direction of the College of Liberal Arts and Sciences.

Pre-professional Courses
BIO 1510 (LS) Basic Life Mechanisms  4
BIO 2200 (LS) Introductory Microbiology  5
BIO 2870 Anatomy and Physiology  5
CHM 1220 (PS) General Chemistry I  4
CHM 1230 General Chemistry I Laboratory  1
CHM 1240 Organic Chemistry I  4
CHM 1250 Organic Chemistry I Laboratory  1
CHM 2220 Organic Chemistry II (recommended)  3
  or CHM 2280 General Chemistry II: Analytical Chemistry
CHM 2230 Organic Chemistry II Laboratory  1.2
  or CHM 2290 General Chemistry II: Analytical Chemistry Laboratory
CLS 2080 Clinical Laboratory Science Seminar  1
CLS 3330 Medical Terminology  1
COM 1010 (OC) Oral Communication: Basic Speech  3
ENG 1020 (BC) Introductory College Writing  3
ENG 3010 (IC) Intermediate Writing (or any Intermediate Composition (IC) course)  3
  or ENG 3050 (IC) Technical Communication I: Reports
MAT 1800 Elementary Functions  4
STA 1020 Elementary Statistics  3
University General Education Requirements:
American Government (AI) course  3-4
Critical Thinking (CT) competency  3
Foreign Culture (FC) course  3-4
Historical Studies (HS) course  3
Philosophy and Letters (PL) course  3-4
Social Science (SS) course  3-4
Visual and Performing Arts (VP) course  3
Total Credits  67-72

Candidates for the Bachelor of Science in Clinical Laboratory Science degree must complete 120-134 credits in course work, including sufficient credits to fulfill the University General Education Requirements (http://bulletins.wayne.edu/undergraduate/general-information/general-education) not satisfied by either required courses or the student's choice of electives in the pre-professional program. The distribution of the total credits for the degree will be between the pre-professional program and the following professional program.

CLS Professional Curriculum
Science courses in this program are taken under the direction of the faculty of Clinical Laboratory Science in cooperation with the faculty of the Department of Fundamental and Applied Sciences and the staff of affiliated clinical institutions.

Third and Fourth Years
CLS 3020 Hematology Lecture and Laboratory  4
CLS 3040 Immunohematology Lecture and Laboratory  4
CLS 3080 Instrumentation Lecture and Laboratory  4
CLS 3090 Introduction to Professional Practice  2
CLS 3100 Basic Techniques: Microscopy  3
CLS 3280 Clinical Chemistry Lecture and Laboratory  4
CLS 4040 Laboratory Operations  3
CLS 4210 Hemostasis Lecture and Laboratory  2
CLS 4230 Hematology II  2
CLS 4990 Professional Directed Study (if needed)  1
CLS 5070 Clinical Pathology Correlation  2
CLS 5500 Immunology and Serology  3
CLS 5510 Diagnostic Microbiology I  4
CLS 5520 Diagnostic Microbiology II  4
CLS 5530 Microbiology Simulation Laboratory  3
CLS 5993 (WI) Writing Intensive Course in Clinical Laboratory Science  0
CLS 5020 Pathophysiology for the Clinical Laboratory  3
HS, VP, FC, SS, AI, or PL General Education Requirements (if needed)  3-4
Total Credits  51-52

Six-Month Clinical Experience
(Second Semester/Senior Year):
CLS 4000 Clinical Hematology  5
CLS 4010 Clinical Chemistry  3
CLS 4020 Clinical Blood Bank  2
CLS 4030 Clinical Microbiology  5
CLS 4050 Clinical Immunology  1
Total Credits  16

Courses are completed at a clinical laboratory affiliated with the Eugene Applebaum College of Pharmacy and Health Sciences.