UnityPoint Health
St. Luke's Hospital

Medical Laboratory Science Program

Program Guide

MLS PROGRAM MISSION STATEMENT

To educate and train exceptional Medical Laboratory Science students in a stimulating clinical laboratory setting.

UPH CEDAR RAPIDS-ST. LUKE'S MLS PROGRAM

The Medical Laboratory Science (MLS) Program is committed to providing a strong foundation of qualified laboratory scientists and technologists and has been doing so since 1951. The program is accredited by the National Accreditation Agency of Clinical Laboratory Sciences (NACCLS). The NAACLS accredited Medical Laboratory Science Program is supported by UnityPoint Health-St. Luke's Hospital in Cedar Rapids, Iowa. On successful completion of the course of study, students will be eligible for the Board of Certification (registry), administered by the American Society for Clinical Pathology (ASCP). Upon passing the registry, students become certified Medical Laboratory Scientists.

The MLS Program is a nine-month program that begins in mid-August. The curriculum consists of didactic classroom lectures and clinical instruction by certified medical laboratory professionals in all areas of the laboratory. The didactic curriculum provides theoretical and factual information regarding each department's individual components provided by clinical staff from St. Luke's laboratory. The clinical setting provides the opportunity for students to apply classroom knowledge in a supervised environment with individual instructors for each department and all clinical staff. Each class consists of up to four students.

The curriculum is competency based requiring particular levels of learning for specific tasks in all entry-level skills identified by each clinical instructor. Educational objectives are provided to the students in lecture and in clinical rotations to assist them in studying and identifying important information they need to learn.

All clinical rotations are completed at St. Luke's Hospital. Students also complete educational opportunities with Mississippi Valley Regional Blood Center to observe blood donor collection and blood product processing.

PROGRAM GOALS

1. To attract highly motivated, intellectual students with a positive attitude who are eager to give the health care they'd like their loved ones to receive.
2. To prepare students to pass the ASCP Board of Certification (BOC) examination upon their first attempt.
3. To systematically evaluate all aspects of the program to look for potential areas of improvement and areas of strength.

4. To ensure graduates are outstanding representatives and promoters of the occupation of Medical Laboratory Science including mastering entry-level medical laboratory skills, articulating desirable interpersonal relationships, and understanding ethical/professional behaviors.
5. To retain outstanding students for possible employment opportunities at UnityPoint Health St. Luke's.
6. To encourage continuing education of students and clinical staff within UnityPoint Health St. Luke's laboratory.

ADMISSION REQUIREMENTS

Applicants must possess a baccalaureate degree or have satisfactorily completed 90 semester, or 135 quarter hours of college level courses required for admission to the School of Medical Laboratory Science, and all degree requirements at the college or university affiliate. The successful completion of the 32 semester or 48 quarter hours of courses in the program will qualify the student to receive the baccalaureate degree from the college or university affiliate.

The prerequisite courses must include earning a 'C' letter grade or better for completed courses prior to enrolling. All entrance requirements must be maintained by accepted students until the start date of their internship.

Minimum pre-clinical and credit requirements include:

- A minimum of 16 semester or 24 quarter hours of chemistry, including general chemistry, organic chemistry, and general biochemistry, lecture, and laboratory.
- A minimum of 16 semester or 24 quarter hours of biology, including general biology, microbiology, human anatomy/physiology and genetics/molecular biology, lecture, and laboratory.
- A minimum of one course in college level mathematics and/or statistics.

Recommended courses include:

- Parasitology
- Hematology
- Immunology
- Analytical/instrumental chemistry
- Medical terminology

Applicants must have a minimum cumulative grade point average (GPA) of 2.50 and a minimum science GPA of 2.50. Students who do not meet the minimal GPA

requirements may apply for the program if they so choose. However, if the science GPA is calculated to be less than 2.50 (including Biology and Chemistry courses from all academic institutions), the application will be held for further consideration until all acceptable candidates' applications have been reviewed.

GPA calculations for students who have had to retake courses, due to failing to meet the Program/Academic Institutions set requirements or not receiving a passing grade, will be an average of all grades earned for each course repeated.

Applicants who have met the minimal pre-clinical requirements five or more years before applying to the program must updated their academic preparation in a manner acceptable to NAACLS and the program. For these applicant's current clinical laboratory experience will be taken into consideration.

Applicants possessing a foreign baccalaureate degree must have their transcript evaluated by an agency in the U.S. and obtained admission to an accredited graduate program in a college or university within the United States. The course work must meet the prerequisite requirements specified by NAACLS and is subject to review and evaluation.

Students who wish to reapply to the Medical Laboratory Science Program must submit a new application, application fee and technical standards. It is in the best interest of the student to submit new references, but a student may opt to use previous references one year after their initial application. If a student selects to use previous references, the student must allow the Program Admission committee to contact each reference to verify they are willing to recommend the student again. If a reference does not respond or chooses not to endorse the student, a new reference must be selected and turned in for the application to be considered complete. Applications are kept on file for one year in a secure location. After one-year applications are removed and confidentially discarded. If a student would like to reapply and they have either already used their one-year grace period for the references or it has been greater than one year since their last application, all materials submitted must be new.

Meeting the minimum requirements for application does not guarantee admission into the program.

ESSENTIAL REQUIREMENTS

The Essential Requirements provide criteria so that the potential applicants can independently evaluate their own ability to meet, participate in educational activities and

successfully fulfil the expected competencies required of a medical laboratory scientist. Applicants must read and sign the form at the time of application.

APPLICATION PROCEDURE

Applications are processed by the admission committee. Applicants my obtain forms from the college/university advisor, the program website: School of Medical Laboratory Science | Cedar Rapids, Iowa (unitypoint.org) or from: Program Director, Medical Laboratory Science Program, St. Luke's Hospital, 1026 A Ave NE, Cedar Rapids, IA 52402, (319) 369-7428.

Applications are accepted August 1st-October 1st for the class starting the following August. Once the completed application is received an interview will be scheduled. Interviews will be completed in October. If necessary, interviews may be conducted through the first week in November.

Students will be notified of their status in the program by December 1st. Admission is conditional based on:

1. Successful completion of courses in progress and planned at the time of completing the application
2. Acceptable results of a criminal background check and drug screen conducted before the start of the program.

The selection of students will be made on a non-discriminatory basis, without regard to race, color, creed, age, sex, national origin, ancestry, religion, or disability. In compliance with Section 504 of the Rehabilitation Act of 1973, St. Luke's does not discriminate against qualified disabled individuals in the admission or access to, or treatment or employment in any of its programs and activities.

PROCESSING APPLICATIONS

The admission committee is composted of the Program Director and clinical instructors. Each class will have up to four students. Students are ranked numerically according to points generated from evaluation of overall GPA, science GPA, academic progress, references, interview, and essay.

AFFILIATED COLLEGES AND UNIVERSITIES

- Coe College, Cedar Rapids, IA
- Cornell College, Mount Vernon, IA
- Iowa Wesleyan College, Mount Pleasant, IA
- Luther College, Decorah, IA
- Minnesota State University, Mankato, MN
- Mount Mercy University, Cedar Rapids, IA
- North Dakota State University, Fargo, ND
- St. Cloud State University, St. Cloud, MN
- University of Northern Iowa, Cedar Falls, IA
- Wartburg College, Waverly, IA

GRADING REQUIREMENTS

During the program students must maintain a minimum grade of C (70%) or better in each clinical rotation and didactic lecture series. Grading for the didactic portion of the program is based upon written examinations. Grading for the clinical portion of the program is based on lab practical score and written exams during the initial rotation and the review week(s) where applicable and will be determined by the instructor of each individual department. The percent weight of the practical varies from department to department and is listed on the individual grading sheets for each department. The majority of the clinical grade is calculated based on the competency of and initiative by the student in each department, not the examinations.

The grading system used is:

- A=90-100%
- B=80-89%
- C=70-79%
- D=60-69%
- F=59% and below

Once the student has satisfactorily completed all of the requirements of the program, they are eligible to take a national certifying exam. The student will also be awarded a certificate from the program. If the student is completing a degree from an affiliated college/university and official transcript will be sent in order for the student to earn their baccalaureate degree.

RULES AND REGULATIONS

Program policies will be reviewed with students during orientation at the start of the program. These policies go over academic requirements, academic probation, academic and nonacademic grievances and appeal procedures, and disciplinary actions.

Causes for Probation or Dismissal

On the Basis of Conduct: Students are required to confirm to existing hospital and laboratory policies. Students will be coached on the behavior, including the following methods, verbal warning, written warning, disciplinary probation, and dismissal.

On the Basis of Grades and Competency: The academic standards for the MLS Program state the student must maintain an average grade of "C" or above in each major course of study and must continue to demonstrate an aptitude and fitness for MLS. This is demonstrated by satisfactorily meeting the standards described on the clinical rotation evaluations. The student must also achieve the minimum level of performance stated on the worksheets and in the objectives for each course, which will be documented by the instructors.

Any student failing to achieve a C average will be counseled and informed of academic status. Dismissal based on grades or competency would be per the decision of the Program Director and Medical Director, with consultation from the program instructors.

EXPENSES

Tuition is $7,500. Tuition is subject to change and reviewed annually. A $300 **non-refundable** deposit is required at the time of acceptance along with a letter of acceptance. This deposit is applied to the tuition. Textbooks are included in the tuition. Students are responsible for their own housing, meals, and transportation.

REFUNDS

In the event a student withdraws or is dismissed during the first twelve weeks of the Program, a proportionate amount of the tuition fee may be returned. The full tuition will be divided by twelve weeks (less the deposit), the number of weeks spent in the program deducted from the total tuition, and the balance returned to the student. The week will start each Monday. Any part of a week will be figured as a whole week, so if a student is here any part of the day Monday, it counts as an entire week. No refunds will be made after the first twelve weeks.

FINANCIAL AID

Students seeking financial assistance are encouraged to work with their college or university. If scholarship information becomes available, it will be shared with the students.

COURSE DESCRIPTIONS

Laboratory Operations

The first two weeks each class is spent in orientation, which involves introduction to the total course program safety issues, learning phlebotomy, specimen processing, laboratory operations and laboratory computer systems.

Clinical Weeks: 2
Credit Hours: 2.5

Clinical Chemistry and Toxicology

Identification and quantization of specific chemical substances in blood and body fluids by analytical methodologies; clinical correlation with disease states; principles of instrumentation; practical experience with instruments; data processing; quality control; statistics.

Lecture Hours: 45 Credit Hours: 4.3
Clinical Weeks: 7 Credit Hours: 3.3

Clinical Hematology/Coagulation/Urinalysis/Body Fluids

Theory of blood cell formation and disease states; hemostasis; microscopic examination of blood films; practical experience with instruments and techniques that determine major hematologic and coagulation parameters; quality control. Theory of renal function in health and disease; renal function tests including chemical and microscopic examination of urine; analysis of spinal fluid and other body fluids; quality control.

Lecture Hours: 57 Credit Hours: 5.3
Clinical Weeks: 10 Credit Hours: 4

Clinical Immunohematology

Major blood group systems; principles and procedures for antigen-antibody detection and identification; donor blood collection, preservation, and processing; component therapy; transfusion reaction evaluation; Rh Immunoglobulin; cross matching donor and patient blood; quality control; genetics.

Lecture Hours: 24 Credit Hours: 2.1
Clinical Weeks: 7 Credit Hours: 3.6

Clinical Microbiology

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; epidemiology; performance and clinical correlation of serological testing; quality control, and microbial PCR.

Lecture Hours: 33 Credit Hours: 3.1
Clinical Weeks: 9 Credit Hours 3.6

Clinical Immunoassay and Immunology

Antigen/antibody structure, function, and interaction; principles and procedures of humoral and cellular immunology; principles and procedures for enzyme immunoassay, including clinical correlation; quality control, and molecular/other testing methodologies.

Lecture Hours: 12 Credit Hours 1.1
Clinical Weeks: Included in various departments

STATEMENT OF POLICY

St. Luke's Hospital MLS Program's education program is and equal opportunity program. Any question of discrimination on the basis of age, sex, race, color, creed, disability, or national origin shall be directed to:

Medical Director St. Luke's Hospital Laboratory 1026 A Ave NE Cedar Rapids IA, 52042 319-369-7311	National Accrediting Agency for Clinical Laboratory Sciences 5600 N River Rd Suite 720 Rosemont, IL 60018-5119 773-714-8880