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MEDICAL LABORATORY SCIENCE PROGRAM

Program Catalog Fall 2024

ROCHESTER
REGIONAL HEALTH

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Description of the Medical Laboratory Science Profession

The medical laboratory scientist is qualified by academic and applied science education to provide service and research in medical laboratory science and related areas in rapidly changing and dynamic healthcare delivery systems. Medical laboratory professionals perform, develop, evaluate, correlate and assure accuracy and validity of laboratory information; direct and supervise medical laboratory resources and operations; and collaborate in the diagnosis and treatment of patients. The medical laboratory professional has diverse and multi-level functions in the areas of analysis and clinical decision-making, information management, regulatory compliance, education, and quality assurance/performance improvement wherever laboratory testing is researched, developed, or performed. Medical laboratory professionals possess skills for financial, operations, marketing, and human resource management of the clinical laboratory. Medical laboratory professionals practice independently and collaboratively, being responsible for their own actions, as defined in the profession. They have the requisite knowledge and skills to educate laboratory professionals, other health care professionals, and others in laboratory practice as well as the public.

The ability to relate to people, a capacity for calm and reasoned judgment and a demonstration of commitment to the patient are essential qualities. Communications skills extend to consultative interactions with members of the healthcare team, external relations, customer service, and patient education.

Medical laboratory scientists demonstrate ethical and moral attitudes and principles that are necessary for gaining and maintaining the confidence of patients, professional associates, and the community.¹

In 2022, the American Society of Clinical Pathology (ASCP) transitioned all medical technologist, MT (ASCP) credentials to Medical Laboratory Scientist, MLS (ASCP) credentials. Moving forward the titles of Medical Technologist and Clinical Laboratory Technology are respectfully named Medical Laboratory Scientist.

Reference 1: NAACLS: "NAACLS Standards for Accredited and Approved Programs", Adopted 2013, Revised 4/2014, 10/2022

Description of Career Entry of the Medical Laboratory Scientist

At entry level, the medical laboratory scientist will possess the entry level competencies necessary to perform the full range of clinical laboratory tests in areas such as Clinical Chemistry, Hematology/Hemostasis, Immunology, Immunohematology/Transfusion Medicine, Microbiology, Urine and Body Fluid Analysis and Laboratory Operations, and other emerging diagnostics, and will play a role in the development and evaluation of test systems and interpretive algorithms.

The medical laboratory scientist will have diverse responsibilities in areas of analysis and clinical decision-making, regulatory compliance with applicable regulations, education, and quality assurance/performance improvement wherever laboratory testing is researched, developed or performed.

At entry level, the medical laboratory scientist will have the following basic knowledge and skills in:

- A. Application of safety and governmental regulations and standards as applied to medical laboratory science;
- B. Principles and practices of professional conduct and the significance of continuing professional development;
- C. Communications sufficient to serve the needs to patients, the public and members of the health care team;
- D. Principles and practices of administration and supervision as applied to medical laboratory science;
- E. Educational methodologies and terminology sufficient to train/educate users and providers of laboratory services;
- F. Principles and practices of clinical study design, implementation and dissemination of results. ¹

Reference 1: NAACLS: "NAACLS Standards for Accredited and Approved Programs", Adopted 2013, Revised 4/2014, 10/2022

A Message from the Program Director

Congratulations! If you are considering a career in Medical Laboratory Science (MLS), you will be embarking upon an exciting and fulfilling journey. Not only is the job market extremely strong nationwide for those with a medical laboratory science background, but the choices that can be made within that job market are amazing – clinical labs, research and development, the pharmaceutical industry, large equipment manufacturers and computer companies, biotechnology, forensics labs, environmental labs, and teaching programs. The opportunities are tremendous!

The Program at Rochester General Hospital was founded in 1934 and is the second oldest MLS program in the United States. We consistently provide our students with an outstanding clinical internship year. We offer several million tests per year, state of the art instrumentation and facilities, an outstanding faculty, technical specialists, MD/PhD's, and the opportunity to see and work with both normal and abnormal patient specimens.

Students in the Program will be rotating on General Rotation at both Rochester General Hospital and RGH Elmgrove Laboratory, part of our integrated laboratory system within Rochester Regional Health. This is an exciting development since students will have the opportunity to experience not only a large state of the art inpatient laboratory, but also a large high volume outpatient laboratory, with all the associated testing, expanded faculty, and instrumentation at both sites.

If you are a person who wants to be part of the health care team, enjoys the laboratory environment, is detail oriented, likes to solve problems, and has an inquisitive frame of mind, then this profession may well be just what you are looking for. More than three quarters of all health care decisions are made at least in part on the basis of laboratory data, which means that we as Medical Laboratory Scientists have an enormous impact on patient diagnosis, monitoring, and treatment.

Please feel free to contact me by email or phone or if you have questions about the profession or about our Program!

Beth Karnisky, MHA, MLS (ASCP)

Program Director

Rochester General Hospital Medical Laboratory Science Program

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About Rochester Regional Health

Serving the greater Rochester and Finger Lakes region and beyond, Rochester Regional Health System in an integrated network of nationally recognized, community-focused services.

The full care continuum includes:

- nine full service acute-care hospitals
- hundreds of outpatient specialty, urgent care and primary care practices
- behavioral health and chemical dependency treatment center
- innovative and comforting senior services
- compassionate home care and hospice care programs
- Laboratories, including specialized clinical trial and toxicology testing facilities

Purpose

Uplift humanity through care for our community.

Vision

Become a national model of health and healing.

Values

- **Rooted in our community:** For generations, we've proudly served the communities we live in.
- **Serve as one:** Our work is never done, and it's never done alone.
- **Care like family:** Our care is wholehearted, because the whole person matters.
- **Embrace tomorrow, today:** We're driven to innovate together for a healthier world for all.

Program Overview

Our mission is to educate and empower future medical laboratory scientists with the knowledge, skills, and ethical principles necessary to excel in their profession and contribute to the advancement of healthcare. Grounded in a deep sense of responsibility to our communities, we strive to uphold the highest standards of integrity, professionalism, and patient-centered care. Our goal is to cultivate leaders who will shape the future of medical laboratory science, driving positive change and improving health outcomes for all.

The Rochester General Hospital Medical Laboratory Science Program was founded in 1934. It is one of the oldest Medical Laboratory Science programs in continuous operation in the United States. Graduates of the Program have established careers in many diverse settings including hospital laboratories, independent clinical laboratories, both commercial and academic research and development facilities, pharmaceutical companies, public health services, professional sales and service, education, supervision, and laboratory administration.

The forty five week program begins in early August and is divided into three basic sections. The first section is Orientation, in which the student becomes familiar with the facility, policies, and various required topics.

The second section, Introduction to Medical Laboratory Science, is seven weeks in length and is focused on teaching the students basic theory, concepts, and techniques not otherwise covered in General Rotation. The student is briefly introduced to all the basic disciplines of Medical Laboratory Science, including Clinical Chemistry, Microbiology, Parasitology, Transfusion Medicine, Hematology, Coagulation, and Urinalysis.

The third phase or section is General Rotation lasting approximately 38 weeks (excluding three weeks' vacation during the year). The Class is divided into three groups, each rotating throughout all Departments of the clinical laboratory.

Instruction will include extensive use of the Medical Laboratory Science classroom and laboratory utilizing actual patient specimens and learning theory and practice regarding actual clinical laboratory techniques. All required personal protective equipment will be utilized, such as surgical face masks, gloves, lab coats, and when working with the respiratory cultures in the Microbiology portion of the year, N95 masks.

Rotations will include experiences at both Rochester General Hospital and RGH Elmgrove Laboratory, our large and extensive outpatient lab facility. One group will begin General Rotation in Hematology, which also includes Transfusion Service and Advanced Coagulation. A second group of students will begin General Rotation in Microbiology. The third group will begin in Clinical Chemistry. While in each of these three major rotations, instruction is mainly one-on-one or in a very small group setting, affording a quality learning experience. Each student during the 36-week General Rotation will rotate through all major divisions of the clinical laboratory using state of the art laboratory instrumentation and methods.

During General Rotation the student will spend four days learning both theory and practice at the bench with a teaching Medical Laboratory Scientist in the laboratory. The fifth day, usually a Wednesday, is exclusively devoted to lectures in clinical laboratory science and management. Lectures will be held in the classroom utilizing heavy involvement by the M.D. /Ph.D. Pathologists and Division Heads within the Department, as well as by technical specialists.

The final two weeks of the Program are devoted to final exams, review sessions, and Graduation.

Clinical Facilities

During General Rotation, students will be rotating through all laboratory divisions at Rochester General Hospital. Students will also be rotating through various laboratory practicum experiences at the RGH Elmgrove Laboratory.

In addition, students will be spending time touring other laboratories within the RRH system as an enrichment experience.

Management Project Module

The faculty believes that a professional Medical Laboratory Scientist must be cognizant of and conversant about many aspects of Laboratory Management, including financials, personnel management, the regulatory environment, ethics, team development, and evaluation of the medical literature.

The Management Module consists of a lecture series devoted to these and other topics as well as two management projects. One project requires a group or individual to tackle a specific management case study and present findings near the end of the year. The other project is completed working in teams of two persons, and focuses on regulatory patient tracers in the laboratory.

American Society of Clinical Pathology (ASCP) Board of Certification (BOC) Exam

Upon successful completion of the Program, the student will be eligible to sit for the American Society of Clinical Pathology (ASCP) Board of Certification (BOC) Exam. Successful completion of this exam is a required element for individuals to obtain a Clinical Laboratory Technology (CLT) license in the state of New York.

A baccalaureate degree is granted by the affiliated or non-affiliated (single student affiliation agreement must be on the file) college upon successful completion of the clinical year. Credit hours for the BS degree are conferred by the student's college and posted on the final college transcript. Number of credits will depend upon the college's syllabus and number of credits granted for the senior clinical year.

Students completing the clinical year that already obtained a Bachelor's degree will be awarded a completion certificate.

As of January 2023, New York State (NYS) has updated their requirements to obtain a CLT license. Once again hospital based programs may accepted students that have a Bachelor's degree in biology, chemistry, or physical science provided they complete the required coursework.

Granting of the completion certificate from the Program is not contingent upon the student's passing any type of external certifying or licensure exam.

Library Resources

The Rochester Regional Health virtual library provides access to health sciences literature, books, databases and patient education. Librarians are available virtually to help students locate, use and organize information. Visit the library at rrhlibraries.org or email the Librarians at library@rochesterregional.org.

Minimum GPA Interview Requirement

A minimum GPA of 2.5 is required in order for an interview to be granted. It is the student's responsibility to submit appropriate transcripts to the Program Director prior to establishing the interview date.

Interviews begin early in the fall semester (usually mid to late September) and this process will continue until the class for the following August is established, usually by early January. Students are urged to submit all application materials as soon as possible in order to receive first consideration.

If a student feels strongly that he/she can demonstrate an adequate reason why an interview should be granted in spite of a GPA lower than 2.5, the student should support this assertion in writing. The summary document should be submitted to the Program Director for consideration.

If a student's advisor feels strongly that a student should be interviewed, the Program will be happy to grant an interview. Advisors should contact the Program Director directly.

Selection Process

The process for selection is based on ranking the applicant in relation to other candidates. The highest-ranking individuals will be granted admission until the entire complement of the class is filled. The Program reserves the right to limit class size during any admissions cycle.

As in any professional program, applicant academic performance will be closely scrutinized during the admissions process. Included in the ranking process are overall grade point average (GPA), science and math grades (science/math GPA), and electives selected.

The second major group of criteria endeavors to evaluate each candidate as a potential entrant into the profession of Medical Laboratory Science. In order to provide input regarding this important human area, data is gathered from letters of recommendation, written personal evaluations, and the interview. The candidate's involvement in extracurricular activities while in high school, college, and during summers is also examined.

Class selection will be made after each candidate has had the opportunity to be interviewed and after all required documents, as listed below, have been submitted to the Program. Notices of acceptance will be emailed to the student directly usually between late October and early to mid-January. Because class size is limited, the process of rolling admissions is practiced. Therefore, failure to receive an acceptance on the first notification does not preclude subsequent notification of admission as student positions open up.

Candidates may inquire about their admission status at any time by calling the Program at either 585.922.2169 or emailing: Elizabeth.Karnisky@rochesterregional.org.

Required Course Work:

Biological Sciences: a minimum of 16 semester hours or 24 quarter hours

Chemistry: a minimum of 16 semester hours or 24 quarter hours

- Inorganic Chemistry with lab component
- Analytical Chemistry and/or Biochemistry with lab component
- Organic Chemistry with lab component
- Physiology with anatomy content with lab component
- Immunology/Serology
- Molecular Biology/Genetics with lab component
- Microbiology with lab component
- Statistics

The other requirements as listed under Substantial Equivalence (on Form 2 page 2 for New York State licensure) are covered as part of the clinical year (ex., clinical chemistry, immunohematology, etc.).

If questions arise about courses already taken (BA/BS holders) or what may need to be taken, consult with the College advisor or reach out to the program director for guidance.

TOEFL (Test of English as a foreign language) Score Requirements-

English Proficiency Exam Minimum Required Scores:

	Reading	Listening	Speaking	Writing	Overall Score
TOEFL-iBT No grade below 18	≥18	≥18	23-30	≥18	≥80
IELTS No grade below 6.0	≥6.0	≥6.0	≥7.0	≥6.0	≥6.5

How to Apply

Letters of Recommendation

The candidate must select a minimum of two science references and one personal reference (total of three) as part of the application process. Reference forms are included in the application package link. The student is able to send a link to their reference for electronic completion. In addition, the student may email a form to their reference and they can complete it and email it as an attachment back to the program director.

Essential Functions Form

The student must sign and date the Essential Functions form during the application process. The student should read and review it carefully. Consult the Program Director if questions arise.

U.S. Citizenship Status

The Program is not able to accept non US Citizens or non-Permanent Residents as fifth year students.

Interviews

Interviews are a prerequisite for final admissions consideration. No final acceptances to the Program will be made without fulfilling this requirement. Interviews may be scheduled Monday through Friday, during normal business hours. It is the student's responsibility to **assure** that an appointment for the interview is made.

A minimum GPA of 2.5 is required in order for an interview to be granted. It is the student's responsibility to provide the Program Director with appropriate official transcripts before the interview is scheduled. See above policy on minimum GPA interview requirement.

It is the student's responsibility to assure that the documents listed below have been sent to the Program Director **prior to** the interview:

- Completed application for the Medical Laboratory Science Program
- Signed Essential Functions form
- Official transcripts from all colleges attended
- Two science faculty recommendations and one personal recommendation
- Fall grades if applicable

- Transcript evaluation for students with foreign degrees

The Rochester General Hospital Medical Laboratory Science Program does not discriminate because of race, creed, disability, national origin, religion, sex, age, marital status, or any other protected status.

The Program will accept applications before September 1st and urges all students to submit the application, essential functions form, and all transcripts as soon as possible. The student needs to provide his/her references with the appropriate Program form/link.

Interviews and admissions will be carried out on a rolling basis and for first consideration, students are encouraged to apply in a timely fashion.

All requirements for college graduation as well as required coursework must be met before joining the internship. These requirements are those identified by the American Society of Clinical Pathology (ASCP) to sit for the Board of Certification (BOC) exam as well as the NYS Department of Education mandatory requirements for those seeking a license as a professional Clinical Laboratory Technologist.

Teaching Facilities

Rochester Regional Health

Rochester Regional Health is the name of the integrated health system consisting of Rochester General Hospital, Unity Hospital, Newark Wayne Community Hospital, United Memorial Hospital in Batavia, NY, Clifton Springs Hospital, Massena Hospital, Gouverneur Hospital, and Canton-Potsdam Hospital. In summary, RRH includes:

- Nine full service acute-care hospitals
- Comprehensive ambulatory services
- Leading cardiac, orthopedic, neuroscience, oncology, surgery, women's health and medicine programs
- More than 80 primary and specialty medical practices
- Innovative senior care programs, facilities and independent housing
- Wide range of chemical dependency and behavioral health service
- Rochester General Elmgrove Laboratory, a large and comprehensive high volume outpatient lab
- ACM Global Laboratories, a global leader in patient and clinical trials testing, with worldwide locations and lab partnerships.

Rochester General Hospital is a 528 bed tertiary care hospital that has been serving the residents of Rochester region and beyond since 1847. Rochester General Hospital offers primary medical care and a broad range of specialties. Rochester General Hospital's medical staff includes over 1,000 primary care physicians and specialists, many of whom have offices at the hospital and throughout the community. Additional information can be found at the links below.

[Rochester General Hospital Tour on Vimeo](#)

[Rochester General Hospital Information](#)

The RGH Medical Laboratory Science Program is accredited by the National Agency for Accreditation of Clinical Laboratory Sciences (NAACLS), and conforms to the Essentials established by this accrediting body (5600 North River Rd, Suite 720, Rosemont, IL 60018-5119).

Rochester General Hospital Laboratory

Rochester General Hospital Laboratory is located within the acute care flagship organization, Rochester General Hospital, and focuses on acute care laboratory services for all RGH inpatient locations as well as the Lipson Cancer Center, the Dialysis units, and other specific locations such as the Emergency Department. In addition, the Laboratory serves as the Center of Excellence for several services, such as Flow Cytometry, various areas of Molecular Testing, and the Blood Bank serves as the Transfusion Service Reference Laboratory for all serological problems and issues for many of the affiliated labs in the system (antibody panels, eluates, enzyme techniques, and so on). Students therefore have a chance to see and work with highly complex acute care specimens from a huge spectrum of medical specialties and subspecialties. Several million tests per year are performed here.

Rochester General Hospital Elmgrove Laboratory

Located about 20 minutes West of Rochester General, the Elmgrove Laboratory is a large, comprehensive outpatient testing laboratory. Several million tests per year are anticipated to be performed at this site, with a large network of patient service centers located throughout Western NY is appended. A few weeks of General Rotation will be conducted at this Laboratory location primarily in Microbiology and Chemistry.

At All Laboratory Sites

At all sites, the Laboratories are divided into operational divisions headed by M.D. or Ph.D. level professionals, These divisions broadly include Clinical Chemistry, Microbiology, Hematology, Transfusion Service, Urinalysis, Anatomic Pathology, and Cytopathology. These Directors and Managers also serve as members of the faculty of the Medical Laboratory Science Program.

The variety of specimens seen at our affiliated sites is extensive and spans the entire scope of laboratory medicine. Each site performs several million analyses per year. This volume provides the Medical Laboratory Science students ample opportunity to see and perform procedures on a broad spectrum of clinical material, both normal and abnormal.

Each Laboratory site is fully computerized, and operates within a network environment. Soft, the lab information system, consists of modules for all laboratory divisions and is interfaced with all

major pieces of laboratory instrumentation and automated lines as well as electronic medical records systems.

The Transfusion Service at RGH uses the SafeTrace System, which allows for fully computerized patient testing and transfusion records as well as component processing and disposition records and is interfaced with Soft.

The Medical Laboratory Science Program student classroom is computerized and interfaced with the hospital network. In addition, the students have full access to the Rochester Regional Health Library as mentioned above.

Attendance and Sick Time

The internship year prepares students to become professional members of the health care team. The year is very different from being a college student on campus where one may leave the premises and come and go at will.

The student is expected to be present for all lecture and practicum experiences within the Program unless he/she is ill. The student should expect that the day will be a full shift long, and the student will not normally be leaving early. The student should plan on being present until 4 PM or until dismissed.

The student will be present within their laboratory Division until dismissed for the day by their teaching technologist. The technologist will determine if the student has met the teaching goals and activities that need to be completed on that day.

During the year, the student will be granted 3 sick days and 2 personal days. For advanced scheduling of the personal days, the Request for Personal Day form will need to be submitted and signed by the Program Director. The 2 personal days will not be granted to extend vacations or weekends. Any sick time above and beyond the 3 sick days will require a valid physician's slip.

Please note that the student may be required to make up lost hours from rotation, either before 8:30 am, after 4:00 pm, or any free time on Wednesdays following lectures. Each division has objectives of required work that must be completed and should a student fall behind, this may be required.

Should a student be in a division where instrument problems or other impediments occur during the rotational day, he/she can use online educational resources or, do required study questions. There are always myriad activities to be completed in the interim until instrument malfunctions are corrected.

Failure to adhere to attendance expectations may result in dismissal from the Program.

Illness: The student must call the Division they are assigned to, as well as the Program Director, when ill. There are 3 sick days granted in the Program, however if the student is ill he/she must notify as above. A valid physician's slip is required for sick days beyond the three days granted. Work missed while out sick may need to be made up.

Exams: If a student misses an exam because of illness, he/she will be taking the exam immediately upon his/her return.

Timeliness: The student is expected to be here on time in the morning. Exact start times may vary depending on lecture start times and rotation start times. Educational experiences are usually structured in advance, and the technologist cannot wait for a student who is habitually late.

Failure to correct habitual tardiness problems after appropriate counseling has been carried out may result in dismissal from the internship Program.

Personal Days: The student is granted two personal days during the Program and must obtain advance approval for these, using the personal day approval form as described above.

Absence without Notice (No call/No show): Students who are absent without notice to the program director/coordinator and instructor(s) and without subsequent satisfactory explanation will be given an unexcused absence. Three unexcused absences is an adequate reason for the program director to recommend student dismissal to the faculty council.

Snow Days: Snow days as such do not exist. As members of the health care team the student is expected to be present. The student should make every attempt to be present. If this is impossible the student must notify the Program Director.

Doctor's Appointments: Appointments at the doctor, dentist, and the like should be made either first thing in the morning, or last appointment of the day. This minimizes disruption during the internship day.

Interviews/College Graduations: Especially at the end of the year, students may have job interviews scheduled at various times during the day. These absences are usually sanctioned since this allows the student to complete the job application process. Some students may travel to attend their college graduation. The student needs to speak with the Program Director about being absent for these reasons.

Social Events: Social events are not considered valid reasons for being absent. Consult with the Program Director if necessary.

The student must receive the advanced approval of the Program Director for any absence during the internship year. Attempting to obtain time off from the Program from a teaching

technologist or other instructor in the absence of seeking the approval of the Program Director is not sanctioned.

Abuse of the policy will result in counseling by the Program Director and, in the instance of repeat offenses, notification of the home college advisor and Academic Dean if necessary. Dismissal of the student from the internship may take place if the problem behavior is not corrected.

About Transportation/Parking

During the clinical year, students will be completing part of their general clinical rotational year at Rochester General Hospital, and part of their clinical rotational year at the RGH Elmgrove Laboratory in Gates, NY, just east of Rochester (about 20 minutes from Rochester General Hospital).

Students will not be spending the entire clinical rotational year at one site or the other. They will be completing specific portions of a rotation at one site or the other, and students will therefore be traveling to the Elmgrove Laboratory for certain experiences/rotations. Students are responsible for arranging their own transportation between sites.

Transportation options include driving a personal vehicle, or carpooling with a classmate. Please bear in mind that it is not always possible to “pair” students up so that they will be at the same site at the same time at all times.

Public transportation between Rochester General Hospital and the RGH Elmgrove Laboratory in Gates is, unfortunately, not timely. Students are strongly urged to bear in mind the rotational requirements when thinking about transportation.

Travel time between Rochester General Hospital and Elmgrove varies with traffic and weather but generally speaking can be accomplished in about 20 minutes.

Informational Package

An informational package will be emailed to each successful candidate in the spring following acceptance, prior to the start of the clinical year. The package will include information regarding start dates, dress codes, apartment rentals, and other forms required before the start of the clinical

internship. Other pertinent material meant to smooth the transition into the Program will also be provided.

Program Length

Classes will begin in early to mid-August and conclude by June of the following year.

Tuition

The tuition figure stands at SUNY undergraduate annual tuition and will mirror any increases therein. Books will usually cost approximately \$700-\$900. The student may save money by purchasing used books of the correct edition.

Tuition Refund/Repayment: If a student withdraws during the Introduction to Laboratory Science portion of the Program, the first half of tuition paid is still due will not be refunded however the balance of tuition will not be due.

Tuition is payable in two installments. The first payment, usually half the tuition balance, is due no later than mid-October. The remaining balance is due no later than mid-March of the following year (second semester).

The Program's **probationary period** is the first three months. Withdrawal from the Program during this three-month probationary period will not entitle the student to any refunds for tuition paid to that point, but the balance of the tuition due will be waived. The first half of tuition is still due should the student withdraw before paying the first half of tuition during that three-month period.

For the Class of Aug 2024 through June 2025 tuition will stand at \$7070.00 in concert with SUNY tuition. Please note: SUNY tuition changes annually or occasionally more frequently. Tuition subsequent years will likely be different.

Withdrawal: Notification of withdrawal at any point in the program requires a formal letter of withdrawal signed by the student him/herself and must include the effective date of withdrawal. The withdrawal letter shall be submitted to the Program Director. The student's on-campus advisor must be kept informed of this action as well. *If a student withdraws during the first half of the Program*, the first half of tuition is still required to be paid and will not be refunded, however the second half of the tuition payment will not be due (as above).

Academic Credit

Officially, credit hours are granted by the student's college for the clinical year. Affiliated colleges and universities typically grant between 30 and 35 hours for successful completion of the internship (per affiliation agreements). In the case of students from non-affiliated colleges, a single student affiliation agreement for the year will spell out the numbers of credits granted by the college at the completion of the internship, to be applied to the bachelor's degree.

Room and Board

Lodging and meals are not furnished by the Hospital. Meals, however, may be purchased at prevailing rates at either the Wolfgang Puck Kitchen Counter or the Hospital Cafeteria. Many students elect to live across the street in apartment complexes within walking distance, although many housing options exist within Rochester. Details will be provided to those students who will be attending the Program.

Books

Textbooks and their editions for the up and coming year will be in the incoming packet emailed to students in the Spring prior to their academic year.

Students may also save significant cost by purchasing used texts of the correct edition or renting or purchasing digital textbooks.

Apparel

Acceptable clothing includes burgundy scrub outfits or business casual clothing. Jumpers, shorts, halter tops, and other leisure attire are not acceptable. Shoes must be closed and protective in nature. The entire dress code will be provided to all incoming students prior to start of the internship.

While handling patient specimens, students will wear laboratory coats provided and washed by the Hospital. The students may also wish to purchase a white laboratory coat to wear while outside the Department in order to present a crisp, professional image.

Attendance

Students are expected to attend all classes unless they are ill or excused by their instructors and Program Director. All missed work, both theoretical and practical, must be made up. Excessive absences result in delayed graduation and delayed eligibility to take the ASCP BOC examination and receive the NYS License. See Attendance Policy at the beginning of this catalog.

Dismissal

Student academic progress is closely monitored and faculty-initiated counseling is practiced. However, academic dismissal may be invoked at any point during the year. A student may be dismissed for gross professional misconduct or non-professional conduct as well as gross academic failure. All such separations will be invoked with consultation with the degree-granting institution. See Student Handbook for further details on this point.

Gross, deliberate professional misconduct such as willfully endangering patients' welfare or conduct of a criminal nature such as use of narcotic drugs is adequate non-academic reason for recommending dismissal.

Weapons Policy

Rochester General Hospital and the Medical Laboratory Science Program have a no-weapons policy. No employee or student is allowed to carry or possess any weapon while on the premises. If found with a weapon, the weapon will be confiscated and disciplinary action will be taken.

Reinstatement

Students who have been dismissed for gross academic failure will not be granted reinstatement for the current academic year. During the course of the highly structured, 45 week internship program no opportunity exists for such a student to repeat any portion of the Program that he/she failed previously.

If a student is dismissed for academic failure, he/she may be extended an appointment in the following year's class upon recommendation of the Faculty Council and Program Officials if there is sufficient reason to believe that the student would do well academically if another opportunity were given.

Deliberate professional misconduct, such as willfully endangering patient welfare or conduct of a criminal nature such as use of narcotic drugs is not in concert with the Program's Professional Code of Conduct. Students dismissed on such a basis will not be reinstated.

Suspensions

Suspensions as such are not invoked in the Program since they remove the student from the required educational experience. This could preclude the individual from meeting the requirements for graduation, taking the ASCP BOC examination, and obtaining the NYS License.

Grievance Procedure

A student who has a grievance is encouraged first to attempt to reach resolution with the individual involved. If such efforts do not yield satisfactory results, the student is provided with an appeals process as outlined in the student Handbook. Each student will receive a copy of the Handbook on the first day of classes and the process will be explained in depth.

Affiliation Agreements

Undergraduate students will be bound by the affiliation agreements held between the Rochester General Hospital and the degree granting institution.

Health Services

The student must be qualified to carry out his/her duties as a medical laboratory scientist. A placement physical examination by the Rochester Regional Health Work Ready team will be required before entering the Program. Clearance letters will be shared with the Program Director prior to the beginning of the program.

Care for serious illness or injury is provided through the Emergency Department. All students are required to carry adequate health insurance coverage. Documentation of such insurance coverage is required before the first day of classes.

For less serious issues, Rochester Regional Health operates an Immediate Care center in the Wilson Building on the campus of Rochester General Hospital. Other sites in the Greater Rochester area are also available.

The cost of insurance co-pays, hospital fees if any, lab tests, radiology exams, cultures, or other procedures is the responsibility of the student.

Documented Need for Accommodation

The student is expected to review, read carefully, and sign the Essential Functions Form which is part of the application paperwork. The student should consult the Program Director if questions arise concerning any item.

Should the student have a documented need for accommodation, the student is urged to notify the Program Director by the specified date in the Letter of Acceptance in order to allow sufficient time for planning for the accommodation.

The Program does not discriminate based on any protected status including disability.

Holidays and Vacations

The Program observes the following:

- Labor Day
- Thanksgiving
- Christmas
- New Year's Day
- Martin Luther King Jr. Day
- Memorial Day
- Independence Day

Two vacations are scheduled during the academic year:

- Two week Holiday break
- One week Spring break

The Program policy will remain consistent with the Rochester General Hospital holiday policy and is subject to change without notice.

Employment Opportunities

A limited number of positions have traditionally been available for qualified students who wish to work on weekends and/or holidays during the MLS internship as a lab assistant or in specimen management. This is a voluntary, compensated work experience under direct supervision, independent of the Program. The employment conditions are that the student must maintain satisfactory academic progress.

If employed by the Laboratories during the internship experience, the student must schedule time off with his/her Supervisor, regardless of the academic calendar maintained by the Program.

Employment Following Graduation

The Program does not maintain a placement bureau and does not guarantee a position to its graduates. Traditionally a number of positions have been available for graduates within our Laboratory system. Notification of positions at other institutions are received by Program Officials and Laboratory Administration. These are referred to the students for consideration. Historically most students are offered positions before graduation. In NYS a graduate must possess a NYS license to practice as a clinical laboratory practitioner within the state.

Liability Insurance

Students are required to purchase a student professional liability policy to cover them during their clinical year if their college does not provide such coverage for them. The Program will provide students in advance with names of companies selling such coverage. Rates are extremely modest. Any student not providing proof of such coverage will not be allowed to continue in the Program.

Graduation

Each student must successfully complete all portions and all required work within the Program to qualify for graduation. Make up examinations and/or repetition of some course material may be required as approved by the Faculty Council. The granting of the certificate of completion is not contingent upon passing any type of external certifying examination.

Grading System

Grades representing the student's progress in each course are given in a grade report form at the end of the Program. Copies of this transcript are given to the student as well as the affiliated college program official. The college will then officially confer the credit hours as determined by the college. The letter grades and quality points (GP) used for all courses are:

A	93-100	4.0 GP
A-	90-92	3.7 GP
B+	87-89	3.3 GP
B	83-86	3.0 GP
B-	80-82	2.7 GP
C+	77-79	2.3 GP
C	73-76	2.0 GP

The quality points for a particular course are found by multiplying the quality points assigned to the letter grade by the number of quarter hours that the course carries. To obtain the total quality points, add the quality points of all courses taken. The grade point average is then determined by dividing the total quality points by the total credit hours.

All students are expected to maintain at least a C average or a 2.0 grade point average. Students failing to maintain a C average may be dismissed from the Program.

An unsatisfactory grade received in any of the following courses will prevent a student from graduating: Clinical Chemistry, Transfusion Service, Hematology, Urinalysis, Microbiology, Anatomic Pathology, and the Management Project. Students must successfully meet all required psychomotor objectives within each rotation.

The student must pass capstone experiences such as rotational practicals, written rotational finals, and so on.

Essential Functions

The following are Essential Functions that the student must meet, with or without reasonable accommodation, in order to be in applied status at the Rochester General Hospital Medical Laboratory Science Program. The applicant must have sufficient:

1. **Visual acuity**, either normal or corrected, in order to safely and accurately perform patient testing. For example, a student must be able to identify microscopic structures, operate analytical instruments safely and accurately, identify organisms, and differentiate fine detail.
2. **Psychomotor skills** with sufficient hand-eye and fine motor coordination/manual dexterity to fulfill the technical requirements of the Program and the profession. For example, the student must be able to obtain and manipulate specimens, reagents, instruments, and analytical equipment, use pipetting equipment, and computers with speed, accuracy, and precision in a manner that does not endanger others.
3. **Intellectual and cognitive abilities** to comprehend, calculate, reason, analyze, synthesize, integrate, and apply information. For example, the student will be required to take written, oral, and practical examinations, complete assignments and exams on time, orally present a formal project presentation, write a project report, use computers, and perform a variety of laboratory activities.
4. **Academic initiative** to work independently, in small groups, and as a member of a team. For example, a student will be expected to take initiative in asking questions, performing required work in the practicum, participating in class discussions, working as a member of a problem-solving team, and performing as colleagues with their professional counterparts in the laboratory.
5. **Ethical standards** to demonstrate adherence to patient confidentiality, the academic and professional code of ethics, and honesty in all his/her work and conduct. This includes adherence to the RGH Drug Free Campus Policy. We are a licensed profession in NYS
6. **Communication skills** to communicate in English effectively and efficiently both verbally and in writing. The student must be able to effectively instruct patients if required. Students

applying whose college course work and/or degree has taken place at other than an accredited American college or university must demonstrate English language competency (see Catalog).

7. **Emotional health and flexibility** to work in a fast-paced, stressful environment. For example, the student may be exposed to instrument noise, emergency situations, several persons working in his/her immediate vicinity, unpleasant odors or sights, pathogens, and blood and body fluids.
8. **Behavioral maturity** to enable him/her to interact with peers, faculty, the public, and other members of the health care team effectively and respectfully. The student must be willing to take instruction from the faculty respectfully. For example, the student will be interacting with fellow students, faculty members both in lecture and on practicum, as well as coming into contact with nurses, physicians, nursing unit technicians, phlebotomists, and others both in person and on the telephone if required. In the Phlebotomy rotation the student will be interacting with the public. Instructors will correct students in order to aid in instruction.
9. **Independent judgment/critical thinking skills** necessary to problem solve, make clinical decisions regarding the flow of testing, recognize critical values, and apply algorithms.
10. **Ability to Adhere to Masking/Face Shields/Social Distancing:** The student is expected to adhere to all COVID related mandates as put forth by Rochester Regional Health (COVID Toolkit on Portal) including masking, use of face shield or N95 mask as required in the Program for specific experiences, and social distancing.

Consumer Information

Graduation and Completion Rates: The graduation and completion rates in the Program are greater than 99%. Attrition is less than 1%.

Facilities Associated: Facilities associated with the Program are the Rochester General Hospital, Rochester General Elmgrove Laboratory, and the following as observational experiences: Newark Wayne Community Hospital Laboratory, Clifton Springs Hospital Laboratory, Unity Hospital Laboratory, and United Memorial Hospital Laboratory in Batavia.

Special Facilities: The Program does not have special dedicated facilities for disabled students.

Faculty Listing: Faculty listing may be found at the beginning of this catalog.

Student Financial Aid: The RGH MLS Program does not participate in the New York state Higher Education Services Corporation Student Loan program or in federal loan programs. Students who wish to obtain financial aid must do so through their college or university.

Accreditation: The Program is accredited by the National Accrediting Agency for Clinical Laboratory Sciences. Interested students may contact NAACLS for information at 5600 North River Rd, Suite 720, Rosemont, IL 60018-5119. Telephone 773-714-8880. Web site is www.naacls.org.

Cost: Tuition is keyed to SUNY undergraduate tuition and will fluctuate in concert with the SUNY tuition figure. Required books are about \$700.00 for the year. Non-institutional costs will vary depending upon where the student lives and other related living expenses. Once ordered, books will not be returned. The student does not order or purchase equipment in the Program.

Degree Programs: The Program does not confer the bachelor's degree; affiliated colleges and universities confer the degree upon 3+1 students once the internship has been successfully completed.

The Rochester General Hospital site of RRH Laboratories does not offer any other concurrent educational programs in the Laboratories.

Other Policies/Publications

Family Educational Rights and Privacy Act of 1974:

Please contact the Program Director if a copy is desired in its entirety. This may also be found on the Internet.

Campus Security Data:

The Hospital Safety and Security division maintains data regarding any incidents on the property. For information about this please contact the Program Director.

Satisfactory Academic Progress:

The student must pass all portions of the clinical year with a “C” (70) or higher. The first major review of academic progress is undertaken at the conclusion of the Introduction to Clinical Laboratory Science portion of the year. Evaluations occur at the end of each of the three major rotations during the remainder of the year, and at the end of the internship.

These must be passed with C or higher:

- All practicum rotations (average of practicals, rotational exams, presentations, study questions, psychomotor objectives, etc.)
- The practical examinations given within each rotational division
- The final weighted average in each discipline. That includes the rotational average, lecture exam average, and final exam score if applicable.
- The Transfusion Service written final exam. This may require a second, revised Final Exam after appropriate review and remediation.

Students must be graded as “high” or “Middle” for all items on the **Affective Domain Objective and Evaluation** form in each discipline. If for some reason an item is graded “low”, the student must work to improve that score in the rotation and be graded as such.

Attendance Policy:

The Program grants 3 sick days and 2 personal days during the Program year. Personal days are not meant to extend vacations or holidays. Students should expect to be in the Laboratory from 8:30 AM – 4 PM daily and possibly later in some instances. See below.

Repeated instances of tardiness, whereabouts unknown, and no-call, no-show behavior despite counseling may result in dismissal from the internship. See Student Handbook for more information.

The student should expect to be present in the Laboratory until at least 4 PM

The exact starting and ending time will be determined by the laboratory division to which the student is assigned. However, in all cases the student should not expect to leave early.

The student needs to see the Program Director in advance about specific requests for any personal time off or personal days off. The instructing technologist is not the person who will be granting these privileges.

Academic Standards:

See above under Satisfactory Academic Progress. In addition the student must adhere to the Professional Code of Ethics of the Program. Interested students may contact the Program Director for specifics. Concrete evidence of cheating on the part of a student may result in immediate dismissal from the Program. The student may invoke the Grievance Policy if desired.

Tuition Refund/Repayment:

If a student withdraws during the first half of the Program, the first half of tuition paid is still due and will not be refunded however the second half of tuition will not be due. See the above catalog for more details, or contact the Program Director.

Drug-Free Environment

The following policy statement shall apply regarding the sale, use, possession or distribution of drugs and alcohol by students.

1. The possession, sale, distribution, or use of drugs or alcohol by any student while on hospital property, or hospital business, will be cause for immediate discharge from the Program. Illegal substances will be confiscated and appropriate law enforcement agencies notified.
2. For reasonable cause the Hospital reserves the right to carry out searches of employees/students and their property, including but not limited to lockers, lunch boxes, and private vehicles if on school or hospital property.
3. Employees/students suspected of drug or alcohol abuse will be required to submit to a drug/alcohol evaluation (Employee Health Services or Emergency Department) and if applicable shall be sent home. If the student is on the hospital campus, the Safety and Security Department will be called to escort the student to Employee Health Services.
4. Employees/students failing to agree to the drug/alcohol evaluation will be suspended pending investigation of the case.
5. Students are to be provided information regarding the dangers of substance abuse in the curriculum.
6. Employees/students are required to report to their employer/director any arrests for substance abuse within 5 days.
7. RRH's Employee Assistance Program is an available service for students who wish to seek counseling.

Weapons

Rochester General Hospital and the Medical Laboratory Science Program have a no-weapons policy. No employee or student is allowed to carry or possess any weapon while on the premises. *If found with a weapon, the weapon will be confiscated and disciplinary action will be taken.*

Student Right to Know/Campus Security Act of 1990

Rochester General Hospital is charged with the responsibility of protecting and keeping safe all the students and employees of the Program.

1. Students in the Program have access to the Laboratories, and Student Classroom areas for studying whenever these areas are open.
2. The Hospital participates in the OPE Crime Survey on an annual basis and information may be obtained from that website. Specific questions regarding crime statistics may be directed to the RGH Director of Safety and Security.

Rules of the NYS Board of Regents

Clinical Laboratory Technology is a licensed profession in the State of New York. As such we must abide by the rules of conduct as set forth by the NYS Board of Regents:

Professional misconduct is defined in Education Law and in the Rules of the Board of Regents.

Professional misconduct includes the following:

- Engaging in acts of gross incompetence or gross negligence on a single occasion, or negligence or incompetence on more than one occasion
- Permitting or aiding an unlicensed person to perform activities requiring a license
- Refusing a client or patient service because of race, creed, color, or national origin
- Practicing beyond the scope of the profession
- Releasing confidential information without authorization
- Being convicted of a crime
- Failing to return or provide copies of records on request
- Being sexually or physically abusive
- Abandoning or neglecting a patient in need of immediate care
- Performing unnecessary work or unauthorized services
- Practicing under the influence of alcohol or other drugs

Rochester General Hospital takes a firm stance regarding any employee or student who is found to be on the premises under the influence of alcohol or drugs.

See the Drug Free Environment Policy on the previous pages.

Outcome Measures

For the most current outcome measures please reference the website at the link listed below.

<https://www.rochesterregional.org/medical-education/other-programs/clinical-laboratory-technology-program/program-outcomes>

Course Descriptions

RGH 400/Transfusion Service

4 Semester Hours

The course in Transfusion Service (Immunohematology) includes theoretical material concerning red cell, leukocyte, and platelet antigens and antibodies. Methods of blood component preservation and storage, handling of donors and reactions to blood components are covered. In addition, up to date topics such as autogenic transfusions, use of computers in the Transfusion Service, and use of special components and procedures such as apheresis products and irradiation are included. The practicum includes a full knowledge of routine transfusion service procedures involved in preparing blood for transfusion including typing, pre-and post-analytical factors, cross matching, antibody screening, and identification. Special procedures including mother/baby problems, eluates, and other techniques are included. Lecture background material and demonstration methods for HLA (Human Leukocyte Antigen) typing are included as well as recent techniques and theory such as gel technology.

RGH 401/Clinical Chemistry

9 Semester Hours

The course is designed to acquaint the student with a variety of techniques and determinations utilizing an array of laboratory instrumentation and techniques. Topics covered include current instrumentation, pre-and-post analytical factors, computerization and interface, acid-base balance, proteins, steroids, enzymes, RIA and special chemistry, toxicology, carbohydrates, lipids, electrophoresis, and immunochemistry as well as other general topics in Clinical Chemistry.

RGH 402/Hematology

7 Semester Hours

This course includes background material through lecture and reading assignments on the theory of blood cell development and a variety of hematologic disorders. There is practical laboratory work done in the Hematology Laboratory under the supervision of experienced, registered medical technologists, covering current instrumentation and computerization, pre-and-post analytical factors, routine hematological procedures, both routine and specialized coagulation tests, bone marrow aspiration techniques, examination and preparation of blood smears, and special hematological stains and procedures.

RGH 403/Microbiology/Molecular Diagnostics

9 Semester Hours

This is a comprehensive course covering important theoretical considerations and practical applications in the Laboratory diagnosis of infectious diseases. Diagnostic bacteriology, mycology, virology, parasitology, molecular diagnostics, mycobacteriology, immunoserology, and antibiotic susceptibility testing are presented in depth. Basic principles of pre-and-post analytical factors, asepsis, disinfection, and sterilization are presented. The student becomes familiar with both manual methods and current state-of-the-art Microbiology instrumentation and infection prevention.

RGH 404/Urinalysis

2 Semester Hours

The structure and physiology of the kidney are studied in relation to the formation of urine and its characteristics. Chemical and microscopic analysis of urine are performed using instrumentation as well as manual techniques. Results are correlated with various renal disease entities. Pre-and-post analytical factors are also included.

RGH 406/Management Module

2 Semester Hours

In addition to the Management lecture series, the students shall participate in two projects meant to highlight aspects of laboratory management and regulatory compliance. Working in pairs the students shall complete a regulatory tracer and submit their findings in writing. The students may work individually on a particular disease state or in teams to explore and solve a “real life” management problem and present their findings orally near the end of the Program. The lecture series in RGH 406 includes:

- Application of safety and governmental regulations and standards
- Principles and practices of professional conduct and significance of continuing professional development
- Communications sufficient to serve the needs of patients, public, and members of the healthcare team.
- Principles and practices of administration as applicable
- Educational methodologies and terminology sufficient to train and educate users and providers of lab services

- Principles and practices of clinical study design, implementation, and dissemination of results

RGH 407/Generalist Laboratory

Enhancement Experience

The student will experience a generalist environment at one of the community hospital laboratories within the RRH system. Emphasis will be placed on the pre-and post-analytical phases, such as specimen acquisition, accessioning, processing, and handling, as well as result reporting.

RGH 408/Anatomic Pathology

2 Semester Hours

The student will study the essential functions of a busy Histology laboratory including fixation, processing and embedding, microtomy, and staining. Lectures and microscope sessions by

Pathologists will emphasize structure and function and correlation with disease states.

Immunohistochemistry and handling of biopsies of many varieties are also included. Factors such as pre-analytical and post-analytical topics are discussed.

APPLICATION

The current forms required for application which include the application form, essential functions attestation, and reference forms can all be found on the MLS Program Website. The link is listed below. Also on the website is the link to apply. The link is open from the end of August to the beginning or middle of December depending on the year.

<https://www.rochesterregional.org/medical-education/other-programs/clinical-laboratory-technology-program/how-to-apply>