Description of the Clinical Laboratory Science Profession

The medical laboratory scientist is qualified by academic and applied science education to provide service and research in clinical laboratory science and related areas in rapidly changing and dynamic healthcare delivery systems. Clinical laboratory professionals perform, develop, evaluate, correlate and assure accuracy and validity of laboratory information; direct and supervise clinical laboratory resources and operations; and collaborate in the diagnosis and treatment of patients. The clinical 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. Clinical laboratory professionals possess skills for financial, operations, marketing, and human resource management of the clinical laboratory. Clinical 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

Description of Career Entry of the Clinical Laboratory Technologist/Medical Technologist

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 clinical 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 clinical 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


A Message from the Program Director

Congratulations! If you are considering a career in Medical Technology/Clinical Laboratory Technology, you will be embarking upon an exciting and fulfilling journey. Not only is the job market extremely strong nationwide for those with a clinical 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 MT 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 of technical specialists and 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 ACM Global Laboratories, 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 outpatient laboratory including a large global clinical trials business, 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 Technologists/Clinical Laboratory Scientists have an enormous impact on patient diagnosis, monitoring, and treatment.

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

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ROCHESTER GENERAL HOSPITAL

Clinical Laboratory Technology Program

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Roberto Vargas, MD
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William A. Fricke, MD
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About Rochester Regional Health

Serving the greater Rochester and Finger Lakes region and beyond, Rochester Regional Health System combines the resources, skills and accomplishments of Rochester General Health System and Unity Health System in an integrated network of nationally recognized, community-focused services. The full care continuum includes:

- Five 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 services
- ACM Global Laboratories, a global leader in patient and clinical trials testing, with worldwide locations and lab partnerships

Vision
Lead the evolution of health care to enable every member of the communities we serve to enjoy a better, healthier life.

Mission
To enhance lives and preserve health by enabling access to a comprehensive, fully integrated network of the highest quality and most affordable care, delivered with kindness, integrity, and respect.

Values
Quality – By setting and surpassing higher standards, we will continue to build a smarter, faster, more efficient organization that delivers excellent, appropriate care in the right place at the right time.

Compassion – Our culture of caring will be unmistakable in every personal interaction as we treat individuals, families and colleagues with empathy, honesty and openness.

Respect – We will treat each individual with caring consideration and value the diverse perspectives each one of them can bring.

Collaboration – By working together across disciplines and locations to share knowledge and skills, and through constant communication with those we serve and their families, we will create a unified, integrated approach to care.

Foresight – We will anticipate the challenges tomorrow may bring and develop new and innovative ways to inspire healthier communities.
Program Overview

Our Mission: To provide an excellent education to men and women in the profession of clinical laboratory science/medical technology, enabling them to become valuable members of the health care team and to contribute to high quality patient care. Graduates shall also be able to seek careers in related activities such as research and development, industry, biotechnology, and academia.

The Rochester General Hospital Clinical Laboratory Technology Program was founded in 1934. It is one of the oldest Medical Technology 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 twelve-month Program begins the first Monday in 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 Clinical Laboratory Science, is ten 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 Technology including Clinical Chemistry, Phlebotomy, Microbiology, Parasitology, Transfusion Medicine, Hematology and Coagulation, Urinalysis, and Anatomic Pathology.

Both these portions of the year are held in the modern, well-equipped MT Student Classroom, a 1,032 square foot classroom that is completely devoted to teaching the students. The third phase or section is General Rotation lasting for 40 weeks. The Class is divided into three groups, each rotating throughout all Departments of the clinical laboratory.

Rotations will include experiences at both Rochester General Hospital and ACM Global Laboratories. One group will begin General Rotation in Hematology, which also includes Transfusion Service, Phlebotomy, 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 the 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 40 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 Technologist in the laboratory. The fifth day, usually a Wednesday, is exclusively devoted to lectures in clinical laboratory science and management. All lectures are held in the MT Student Classroom and include 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 ACM Global Laboratories.

In addition students will be spending a day at one of the generalist laboratories as an enrichment experience.

Management Project Module

The faculty believes that a professional Medical Technologist 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 rotational group 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.

The New York State Licensing Examination (National Certifying Examination)

Upon successful completion of the Program, the student will be eligible to sit for the New York State Education Department’s licensing examination in order to obtain his/her license to practice Medical Laboratory Technology in New York State. The Board of Certification of the American Society of Clinical Pathology, one of the major certification agencies, is the licensing exam recognized by the NYS Department of Education for this purpose.

A baccalaureate degree is granted by the affiliated or non-affiliated (single student affiliation agreement must be on file) college upon successful completion of the clinical year. As of September 2013 all students must be enrolled in a college or university that will grant them a bachelor’s degree in MT/CLS. In the case of a degree holder who wishes to apply to the internship program, he/she must also be a matriculated student and will receive either a second BS or an advanced certificate of completion at the conclusion of the clinical year. This route is mandated by the New York State Dept. of Education’s licensure law governing our profession. Granting of the certificate of completion from the Clinical Laboratory Technology Program is not contingent upon the student’s passing any type of external certifying or licensure exam.

Credit hours for the BS degree are conferred by the students’ 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.
Library Resources

The Lilie B. Werner Health Sciences Library, an attractive and centrally located facility, provides materials and services to meet the informational, educational, and research needs of students as well as faculty and hospital staff. The Werner Library houses several hundred medical periodicals, over 7,000 books and over 1,500 audiovisual programs in various formats. The Library is directly affiliated with 60 libraries in Central New York State and offers complete interlibrary loan services. Computer literature searches are available either on two ROM systems, or through a live on-line computer literature search with one of the Reference Librarians.

Recruitment and Admissions/Non-Discrimination

The Program has an active recruitment program and a competitive admission policy that do not discriminate because of race, color, religion, creed, sex, sexual orientation, gender identity, national origin, citizenship, age, disability, protected veteran status, pregnancy, domestic violence victim status, marital status, predisposing genetic characteristic or any other Federal or State legally protected classes.

All candidates must meet the Application requirements listed below. The Program reserves the right to change any policy outlined in the catalog without prior notification.

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. Deadline for all materials to be submitted is November 1st.

However, if the 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, and electives selected. Also taken into consideration are SAT scores, results of other achievement tests taken, and academic performance during high school.

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 piece of laboratory instrumentation as well as electronic medical records systems.

The Transfusion Service at RGH utilizes the Wyndgate 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 Clinical Laboratory Technology Program student classroom is computerized and interfaced to the hospital network. In addition, the students have full access to the CD-ROM systems in the Werner Health Sciences Library in order to perform computerized literature searches. The Werner Library is a full service library with full Internet capability and search/interlibrary loan functions.

The second major group of criteria endeavors to evaluate each candidate as a potential entrant into the profession of Clinical Laboratory Technology. 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.

Classrooms and laboratories are provided by the hospital and are well-equipped to meet all curricular requirements. The program faculty is dedicated to the needs of the individual student.

Degree holders wishing to apply to the Program must be enrolled as above, and receive either a second BS or an advanced certificate of completion in clinical laboratory science from their college upon successful completion of a clinical year.

Survey courses are not acceptable.

All requirements for college graduation must be met before joining the internship. These requirements are those identified by NYS Department of Education as mandatory for those seeking a license as a professional Clinical Laboratory Technologist.

Application Requirements

As of September 2013 NYS requires that all candidates for the Program must be enrolled in a college that will grant them the baccalaureate degree upon completion of the clinical year. For 3+1 students this means, as always, that candidates will have completed three years on campus completing their course work requirements for their degree with the exception of the final clinical year. The 4+1 route whereby independent students could be accepted into the Program has thus been eliminated.

Degree holders wishing to apply to the Program must be enrolled as above, and receive either a second BS or an advanced certificate of completion in clinical laboratory science from their college upon successful completion of a clinical year.

Survey courses are not acceptable.

All requirements for college graduation must be met before joining the internship. These requirements are those identified by NYS Department of Education as mandatory for those seeking a license as a professional Clinical Laboratory Technologist.
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 Clinical Laboratory Technology Program
- Signed Essential Functions form
- Official transcripts from all colleges attended
- High school transcripts with SAT and/or CEEB scores
- Two science faculty recommendations and one personal recommendation
- Fall grades if applicable
- Transcript evaluation for students with foreign degrees

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

Deadline
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.

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

How to Apply

Letters of Recommendation
The candidate must select a minimum of two science references and one personal reference as part of the application process. Reference forms are included in the application package, and these forms should be given to the references. These persons should then mail them directly back to the Program.

Essential Functions Form
The student must sign and date the Essential Functions form included in application materials. The student should read and review these carefully. Consult the Program Director if questions arise.

U.S. Citizenship Status
Starting in 2013 all candidates for the Program will be matriculated at a college or university and will be therefore working with their college’s international student officer on campus. The Program is not able to accept non US Citizens or non Permanent Residents as fifth year students; all students must be matriculated as above.

Required Course Work:
- Inorganic Chemistry with lab component
- Analytic Chem and/or Biochemistry with lab component
- Physiology with anatomy content and lab component
- Immunology/serology with lab component
- Molecular biology with lab component
- Microbiology with lab component
- Organic Chemistry with lab component
- Statistics

The other requirements as listed under Substantial Equivalence are covered as part of the clinical year (ex, clinical chemistry, immunohematology, etc).

Should questions arise about courses already taken (BA/BS holders) or what may need to be taken, consult with the College advisor of interest. Students returning to college [degree holders] will also find that their chosen college will have specific requirements in addition to those above in order to earn a degree (physics might be one example.)
Teaching Facilities

Rochester General Hospital

Rochester General Hospital is a 550 bed, acute care health facility located on 53 landscaped acres in Rochester, New York (www.rochestergeneral.org). Since its incorporation in 1847, the Rochester General Hospital has grown into a major regional and teaching hospital serving New York’s beautiful Finger Lakes Region.

Rochester General Hospital’s health care services span the continuum of medical disciplines and subspecialties. The Hospital is home to the Rochester Heart Institute, one of New York State’s largest cardiac surgery programs that has been recognized as one of the U.S.’s top 100 Heart Hospitals, and is a Top 100 Stroke Hospital as well. It is bolstered by comprehensive diagnostic, therapeutic and rehabilitative services for heart patients. The Hospital is the home of one of the largest Cancer Centers in the Rochester region.

The Hospital’s reputation for excellence is reflected in its commitment to education. Affiliated with both The Cleveland Clinic and The Roswell Park Cancer Institute, Rochester General provides training for both undergraduate and postgraduate students in all major medical specialties and subspecialties. Most of its attending physicians hold faculty positions at these major teaching centers. In addition to the Clinical Laboratory Technology Program, the Hospital also maintains multiple affiliations with colleges and universities for many other clinical programs. It has achieved Magnet Hospital Status, a coveted designation.

Rochester General Hospital is accredited by the Joint Commission for the Accreditation of Healthcare Organizations and is a member of the American Hospital Association and the Hospital Association of New York. The Department of Pathology and Laboratory Medicine is additionally accredited by the College of American Pathologists, the New York State Department of Health Division of Laboratories, and the American Association of Blood Banks. The RGH Clinical Laboratory Technology 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).

ACM Global Laboratories

ACM Global Laboratories conducts over 15 million tests annually for physicians, hospitals, employers, and other health care providers. The Laboratory offers over 1,700 clinical laboratory assays – from simple blood analysis to complex molecular diagnosis, all analyzed at the central laboratory facility in Gates, New York. To ensure convenient accessibility for patients, a large network of Patient Service Centers throughout Monroe County and Western New York is maintained. The Laboratory includes state-of-the-art instrumentation and data systems enhancing the ability to deliver quality diagnostic service.

At All Laboratory Sites

At all sites, the Laboratories are divided into operational divisions headed by MD or PhD. 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 Clinical Laboratory Technology 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 Clinical Laboratory Technology students ample opportunity to see and perform procedures on a broad spectrum of clinical material, both normal and abnormal.
General Program Information

About Attendance in the Program

This Program is a professional preceptorship. Students are educated in both the theoretical and technical aspects of our profession under the expert tutelage of the technical specialists, MD’s and PhD’s within the Department at both Rochester General Hospital and ACM Global Laboratories. Upon graduation it is expected that students will be excellently prepared clinical laboratory practitioners.

Being a part of such a preceptorship is a very different experience than being in a campus setting. The student is expected to be present each and every day, all day. Students will arrive at the Hospital usually by 8:30 am but possibly earlier, and will be staying until at least 4 pm on a typical day. Please review the following attendance policy as it appears in the Student Handbook provided during Orientation.

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, use the Werner Health Sciences Library, and so on. 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 days approval form as described above.

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 internship year, students will be completing part of their general clinical rotational year at Rochester General Hospital, and part of their clinical rotational year at ACM Global Laboratories in Gates, NY, just east of Rochester (about 20-23 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 ACM Global Laboratories 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 ACM Global Laboratories site 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 ACM Global Laboratories varies with traffic and weather but generally speaking can be accomplished in about 20-23 minutes.

The first ten weeks of the Program, Introduction to Clinical Laboratory Science, begins in early August and will be held entirely at Rochester General Hospital. This portion of the Program concludes in mid-October, at which time the general clinical rotational schedule begins. This is the time when students would begin going to ACM Global Laboratories for specific targeted experiences. Every Wednesday from mid-October through mid-July of the following year is lecture day with all lectures being held at Rochester General Hospital.

**Informational Package**

An informational package will be mailed 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 either the first or second Monday in August (depending upon how the calendar falls) and will continue until Graduation ceremonies fifty-one weeks later, usually the last Friday in July 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 $650.00, or slightly higher depending upon which optional books, if any, the student purchases. 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 August 2018 through July 2019 tuition will stand at $6870.00 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. If the student is a matriculated undergraduate, his/her on-campus advisor must be kept informed of this action as well. If a student withdraws during the first ten weeks of the program (Introduction to CLS), 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 the Hospital Cafeteria or other food venues at the Hospital. 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**

The Program participates in a Pro Forma program with Rittenhouse Book Distributors. The student will be sent an order form directly from Rittenhouse, to be used to purchase both required and optional books directly. Rittenhouse grants the student a 10% discount on book purchases. Students need to have their books purchased, and available, by the first day of the Program.

Students may also save significant cost by purchasing used texts of the correct edition.

A few additional publications will be ordered by the Program and payment for these will be expected the first day of the Program. Exact cost will be provided to the student ahead of time.

**Apparel**

Acceptable clothing includes burgundy scrub outfits or business casual clothing. Denim jeans or 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.

Since students will be coming into contact with patients, families, and visitors within the Hospital, most visible body piercing needs to be removed during the clinical internship day. Consult the Program Director if questions arise.
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 NYS licensing 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 the end of the Introduction to Laboratory Science portion as well as at any point during General Rotation. 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 or a criminal nature such as use of narcotic drugs is adequate non-academic reason for recommending dismissal.

**Weapons Policy**

Rochester General Hospital and the Clinical Laboratory Technology 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, twelve-month 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 NYS licensing 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 clinical laboratory technologist. A physical examination by a physician is required before entering the Program. Required forms will be sent to the incoming students the spring before the internship begins. 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 several emergicenter/after hour care centers in the greater Rochester area. 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 must notify the Program Director no later than the specified date in the Letter of Acceptance. This will allow sufficient time for planning for such documented 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
• 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 CLT internship in specimen management or phlebotomy. 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 (6 labs). Notification of positions at other institutions are received by Program Officials and Laboratory Administration. These are referred to the students for consideration. Historically many students are offered positions before graduation, and the remainder of the Class is usually employed by late autumn in a variety of settings both in and out of state. 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 twelve-month 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:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Range</th>
<th>Quality Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+</td>
<td>97-100</td>
<td>4.3 GP</td>
</tr>
<tr>
<td>A</td>
<td>93-96</td>
<td>4.0 GP</td>
</tr>
<tr>
<td>A-</td>
<td>90-92</td>
<td>3.7 GP</td>
</tr>
<tr>
<td>B+</td>
<td>87-89</td>
<td>3.3 GP</td>
</tr>
<tr>
<td>B</td>
<td>83-86</td>
<td>3.0 GP</td>
</tr>
<tr>
<td>B-</td>
<td>80-82</td>
<td>2.7 GP</td>
</tr>
<tr>
<td>C+</td>
<td>77-79</td>
<td>2.3 GP</td>
</tr>
<tr>
<td>C</td>
<td>73-76</td>
<td>2.0 GP</td>
</tr>
</tbody>
</table>

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
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 Clinical Laboratory Technology 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 pipeting equipment, and computers with speed, accuracy, and precision in a manner that does not endanger others.
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, ACM Global Laboratories, and Newark Wayne Community Hospital Laboratory, Clifton Springs Hospital Laboratory, United Memorial Hospital Laboratory, and Unity Hospital Laboratory as observational experiences.

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: As of 2013 all students attending the Program will be enrolled in a college or university and as such will need to arrange for all financial aid through their home institutions.

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.

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. BS holding students wishing to apply for and attend the Program must be enrolled in a college that will confer either a second BS in MT/CLS or an advanced certificate.

The Rochester General Hospital site of RRH Laboratories does not offer any other concurrent educational programs in the Laboratories. ACM Global Laboratories occasionally hosts MLT students from the local community college program but will not have students present concurrently with RGH Program students.

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, participate 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.
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, 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 three months 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. RGH’s Employee Assistance Program is an available service for students who wish to seek counseling.

Weapons

Rochester General Hospital and the Clinical Laboratory Technology 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 Werner Library, the Laboratories, and Student Classroom areas for studying whenever these areas are open. At ACM Global Laboratories conference rooms may be utilized.

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 past 3 years, examples of outcome measures tracked by the Program include:

Employment - Position Placement Rates:
Class of 2015: 24/24 in clinical positions
Class of 2016: 24/24 in clinical positions
Class of 2017: 15/15 in clinical positions
Class of 2018: 15/15 in clinical positions

Attrition:
Class of 2015: 0/24 (0%)
Class of 2016: 0/24 (0%)
Class of 2017: 0/15 (0%)
Class of 2018: 0/15 (0%)

Graduation Rates:
Class of 2015: 24/24 graduated
Class of 2016: 24/24 graduated
Class of 2017: 15/15 graduated
Class of 2018: 15/15 graduated

Certification Exam Pass Rates:
Class of 2015: 22/22 100%
Class of 2016: 23/24 95.8%
Class of 2017: 15/15 100%
Class of 2018: 15/15 100%

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 autologous 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, crossmatching, 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. Experience in phlebotomy and capillary puncture techniques are also included.

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.
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 will also work in larger groups 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.

RGH 410/Symposium Week Experience

The student will have the opportunity to be exposed highly unique and specialized laboratory environments at ACM Laboratory during Symposium Week. This is held individually for each of the three rotational groups. The goal of Symposium Week is to expose students to aspects of clinical laboratory science not commonly seen.