School of Medical Laboratory Science

Mission Statement

Rapides Regional Medical Center Laboratory, through the efforts of its associated employees and physicians, will provide high quality, efficient, and compassionate health care services for our patients and community by educating and training MLS and Phlebotomy students in a fast-paced clinical laboratory setting.

Course Description

The RRMC Medical Laboratory Program's 12-month course focuses on didactic and clinical applications. Coursework will include:

Clinical Management/Phlebotomy/Lab Math

This course includes a basic introduction to the theory, practical application, technical performance and evaluation of laboratory skills specific to the practice of medical laboratory science. Laboratory safety; microscopy; pipetting; general laboratory equipment; quality control; mathematics; phlebotomy; pre-analytic, analytic and post-analytic processes, including specimen collection, processing and transport to maintain test result integrity, will be addressed.

Clinical Hematology/Coagulation

A study of the production, maturation, and morphology of normal and abnormal human blood cells. Includes the pathological changes in morphology, cytochemistry, molecular diagnostics, and distribution of cells in peripheral blood and bone marrow. Also includes the theory, practical application, technical performance and evaluation of hematological and hemostasis procedures. Emphasis is on the correlation of clinical laboratory data with the diagnosis and treatment of erythrocyte, leukocyte and bleeding/clotting disorders.

Clinical Hematology/Coagulation Lab

This course provides the experience in an affiliated clinical facility. Students will gain exposure to the clinical environment in a supervised application of learned theory and practice. Students will experience working with patients and performing procedures required of a medical laboratory scientist.
Manual and automated methods for blood counts, hemoglobin measurement and other hematology parameters. Purpose, principle, and clinical value of routine and special procedures. Quality control and quality assurance processes in the hematology and coagulation laboratory. Students perform laboratory procedures pertaining to hematology and hemostasis, correlating results will disease processes and diagnosis of patients.

Clinical Urinalysis

Introduction to the study of urine and body fluid analysis. Includes the anatomy and physiology of the kidney, physical, chemical, and microscopic examination of urine, cerebrospinal fluid, and other body fluids as well as quality control, quality assurance, and safety. Fundamental principles of urine and body fluid analysis with correlation of laboratory methods and practice are covered.

Clinical Urinalysis Lab

This course provides the experience in an affiliated clinical facility. Students will gain exposure to the clinical environment in a supervised application of learned theory and practice. Students will experience working with patients and performing procedures required of a medical laboratory scientist. Supervised practice in a hospital laboratory in the analysis of urine and other body fluids. Includes basic maintenance, patient and QC interpretation and analysis.

Clinical Chemistry

Introduction to the basic principles and procedures of clinical chemistry. Lecture and lab devoted to chemical analysis of blood and other body fluids. Lab safety, specimen collection/handling/storage; lab mathematics, basic lab instrumentation and automation, data management, reference range determination and quality control monitoring will be stressed throughout the course. Methodologies discussed include spectrophotometry, immunodiagnostics and computer generated analyses. Correlation of lab results to normal and abnormal physiology.

Clinical Chemistry Lab

This course provides the experience in an affiliated clinical facility. Students will gain exposure to the clinical environment in a supervised application of learned theory and practice. Students will experience working with patients and performing procedures required of a medical laboratory scientist. Principles of chemical analysis, quality control, lab utilization, and safety. Hands-on performance of laboratory tests and QC. Analysis and interpretation of patient values and QC.

Clinical Immunology

This course offers an overview of the fundamentals of clinical diagnosis and management of disease by immunological and molecular biology laboratory methods. Normal immune function as well as pathological conditions and application to laboratory testing are covered.

Clinical Immunology Lab

This course provides the experience in an affiliated clinical facility. Students will gain exposure to the clinical environment in a supervised application of learned theory and practice. Students will experience working with patients and performing procedures required of a medical laboratory scientist. Analysis and interpretation of immunologic procedures and patient results. Will encompass more than one clinical department.

Clinical Microbiology

Study of bacteria associated with infectious diseases. Includes microbial taxonomy, physiology, genetics, molecular diagnostics and host-parasite relationships as they apply to clinical microbiology. Pathogens of particular organ systems, pathogenesis of infectious disease, clinical manifestations, etiology and epidemiology of disease are covered. Interpretation of test results and clinical relevance utilizing case studies. Study of medical microbiology covering areas of clinical parasitology, mycobacteriology, clinical virology, clinical mycology, and miscellaneous and emerging pathogens.

Clinical Microbiology Lab

This course provides the experience in an affiliated clinical facility. Students will gain exposure to the clinical environment in a supervised application of learned theory and practice. Students will experience working with patients and performing procedures required of a medical laboratory scientist.
This course introduces basic practices and principles of diagnostic microbiology, focusing on pathogenic bacteria encountered in the body (blood, central nervous system, and GI tract). It includes application of common algorithms for identification of clinically significant pathogens including aerobic gram-positive cocci, gram-negative bacilli, gram-negative cocci, gram-positive bacilli, and anaerobes. The course introduces principles and procedures of immunological and molecular diagnostic techniques and their application to the clinical lab.

Clinical Parasitology and Mycology Lecture

A study of the taxonomy, morphology, and pathogenesis of human parasites and fungi, including the practical application of laboratory procedures, quality control, quality assurance, and safety.

Clinical Parasitology and Mycology Lab

This course provides the experience in an affiliated clinical facility. Students will gain exposure to the clinical environment in a supervised application of learned theory and practice. Students will experience working with patients and performing procedures required of a medical laboratory scientist. Introduces the fields of medical mycology and medical parasitology. Focuses on the clinical significant fungi and covers specimen processing and diagnostic procedures for the cultivation and identification of fungal pathogens. Identifies characteristics, life cycles, pathogenicity and testing methods for selected relevant parasites.

Clinical Immunohematology

Fundamentals of blood group immunology. Pre-transfusion testing of patient blood and donor blood for compatibility. Antigens, antibodies and their properties in clinically significant blood group systems. ABO & RH typing, compatibility testing and special tests. Antibody screen and identification. Autoimmune Hemolytic Anemia and Hemolytic Disease of the Newborn. Transfusion therapy, hazards of transfusion and investigation of transfusion reactions. Donor selection, collection of donor blood and testing for infectious agents. Preparation, storage and utilization of blood components. Regulations, medico-legal and ethical aspects of transfusion services.

Clinical Immunohematology Lab

This course provides the experience in an affiliated clinical facility. Students will gain exposure to the clinical environment in a supervised application of learned theory and practice. Students will experience working with patients and performing procedures required of a medical laboratory scientist.
An introduction to the basic theory and concepts of antigen-antibody reaction as they pertain to blood cell transfusions. Blood group antigens and the genetics of their inheritance are covered. Methods are introduced for performing blood grouping, compatibility testing, and component selection.

All clinical and didactic training will be conducted at Rapides Regional Medical Center.

Tuition and Fees

There is no tuition required to attend the medical laboratory science program. The School of Medical Laboratory Science is financially supported by Rapides Regional Medical Center. If students are registering through their university then they will have to pay their universities tuition and fees. Each student is responsible for purchasing his/her textbooks and uniforms, including a white lab jacket.

Upon completion of the program, graduating students are eligible to apply for a national certification exam through the American College of Clinical Pathology (ASCP). The cost for this exam is the responsibility of the student.

Application Requirements

- Signed and completed Medical Laboratory Science School Application for Admission.
- Signed Statement of Understanding for Essential Requirements. (Submit only the signature page.)
- One copy of college transcript (2.5 or higher GPA).
- Two letters of recommendation. Both recommendations MUST be an instructor in a science course. One recommendation should be from your advisor.
- Personal statement explaining your interest in medical laboratory science. One to two paragraphs is sufficient.
- Those students applying to the school that have a degree must have at least 16 hours of biology, including microbiology and immunology (as either a separate course or part of microbiology).
- The student must have completed all pre-clinical MLS classes required by their university and be eligible for a baccalaureate degree on or prior to the start of the clinical program.

Admission Procedures:

1. Applications are accepted throughout the year. Application deadlines for each class are as follows: September 30th (February class), and February 27th (August class).
2. Applications can be downloaded at *www.rapidesregional.com* , or by contacting Laine Reeder, Medical Laboratory Science Program Director, at 318.769.3175 or *laine.poe@hcahealthcare.com*.

3. Completed applications can be delivered to the Laboratory at Rapides Regional Medical Center (1st Floor) or can be mailed to the following:

Rapides Regional Medical Center
ATTN: School of Medical Laboratory Science
211 Fourth Street
Alexandria LA 71301

4. Candidate interviews are determined after all complete applications are reviewed and scored. All applicants will be notified by phone or e-mail of their application status after applications are reviewed. Applicants not selected for the class can request that his/her application be held for consideration in the next class.

Program Goals and Entry Level Competencies

The MLS student that completes this course is expected to qualify to work in all phases of the clinical laboratory, exercise a high level of judgement, and be able to supervise other supportive staff. Graduates of our program should be able to meet the following entry-level competencies:

1. Meet the necessary requirements to take the ASCP National Certification Examination for medical laboratory scientists.
2. Develop and establish procedures for collecting, processing, and analyzing biological specimens and other substances.
3. Perform analytical tests of body fluids, cells, and other substances.
4. Integrate and relate data generated by the various clinical laboratory departments while making decisions regarding possible discrepancies.
5. Confirm abnormal results, verify quality control procedures, execute quality control procedures, and develop solutions to problems concerning the generation of lab data.
6. Make decisions concerning the results of quality control and quality assurance measures, and institute proper procedures to maintain accuracy and precision.
7. Establish and perform preventative and corrective maintenance of equipment and instruments as well as identify appropriate sources for repairs.
8. Develop, evaluate, and select new techniques, instruments, and methods in terms of their usefulness and practicality within the context of a given laboratory's personnel, equipment, space, and budgetary resources. Demonstrate proper care and use of phlebotomy equipment.
9. Demonstrate professional conduct and interpersonal skills with patients, laboratory personnel, other health care professionals, and the public.
10. Establish and maintain continuing education as a function of growth and maintenance of professional competence.
11. Provide leadership in educating other health care personnel and the community.
12. Exercise principles of management, safety, and supervision.
13. Apply principles of educational methodologies and current information systems.

Outcomes Measures

The measure of a program's curriculum effectiveness can be evaluated by collecting information from its students and graduates. The following outcomes measures are used in the assessing the curriculum effectiveness of our program:

- ASCP BOC pass rate for first time examinees – 100%
- Graduation rate from RRMC medical laboratory science program – 100%
- Placement rate for graduating medical laboratory scientists – 100%

Completion of the Program

Upon completion of this NAACLS accredited program, graduates are awarded a Certificate of Completion. Graduates are also eligible to apply for the national certification exam through the American Society of Clinical Pathology (ASCP). The awarding of the Certificate of Completion is not contingent upon the graduate passing an external certification or licensure examination.

Criteria for Dismissal

- Any unsuccessful completion of didactic or clinical area.
- Any unexcused or excessive absences or tardies from school.
- Failure to work well with laboratory and other hospital personnel.
- Any breach of confidentiality or failure to adhere to laboratory and/or hospital policies and procedures are grounds for immediate dismissal.
- Failure to make up absences.

Criteria for Appeal of Dismissal

If a student feels a rule, regulation, grade or disciplinary measure is unfair or prejudiced, he/she may make an appeal in written form to their respective Program Director. The Program Director along with the student presents the appeal to the Appeals Committee. The appeals are reviewed and solutions are reached. Written records of the appeals and solutions are kept on file.

If the appeal pertains to rules, regulations, or disciplinary measures, one of the following actions will be taken:

1. The appeal will be disregarded and the student reprimanded.
2. Omissions or revision of the disciplinary measure, rule, or regulation. If appropriate, restitution will be made toward the student.
3. Dismissal of the student from the program.

If the appeal pertains to grades, one of the following actions will be taken:

1. The grade will be allowed to stand as submitted.
2. The student will be permitted re-examination.
3. The student will be required to spend additional time in training and will repeat that section of the rotation.
4. The student may be dismissed from the program.

Note: If the student is dismissed from the program due to grades, then he or she will be allowed to apply to the program again after one year.

Service Work for MLS Students

MLS students after demonstrating proficiency through established competencies may be allowed to work as a part-time/relief employees outside of academic hours, if there is need by the hospital. The student will be paid, supervised, and subject to employee rules and regulations. Part-time/relief work is not required by the RRMC School of Medical Laboratory Science. Students will not be substituted for regular staff in the laboratory during clinical rotations.

Program Administration

Medical Director: Bruce Herrington, M.D.

Program Director: Laine Reeder, BS, MLS(ASCP)^{cm} SC

Advisory Committee: Kim Middleton, MLS(ASCP)^{cm} – Laboratory Director
Amanda Perrotti, BS, MLS(ASCP)^{cm} – Program Director
Laine Reeder, MLS(ASCP)^{cm} – MLS Program Director
Managers from area hospitals.

A complete didactic and clinical faculty list is available upon request.

Program Accreditation

The Rapides Regional Medical Center School of Medical Laboratory Science is accredited by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS).

NAACLS
5600 N. River Road, Suite 720
Rosemont IL 60018-5119
847.939.3597
www.naacls.org