

Medical Laboratory Science Program Clinical Practicum Handbook

2022 – 2023 Academic Year



Centenary University
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Hackettstown, NJ 07840

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PURPOSE OF CLINICAL PRACTICUM HANDBOOK

The Clinical Practicum training of the Medical Laboratory Science (MLS) Program encompasses the practical training needed for students to meet or exceed the entry-level competencies of a medical laboratory science professional. The Clinical Practicum training is composed of four different 4-week clinical rotations in specific areas of the clinical laboratory while being supervised by a certified MLS professional.

The purpose of this Clinical Practicum Handbook is to orient students and clinical partners of the clinical practicum policies and procedures in order to meet the programmatic outcomes of the Centenary University Medical Laboratory Science program. This handbook will provide students and preceptors with general guidelines of an off-campus clinical laboratory experience; however, some clinical sites may have more stringent guidelines and requirements, which supersede the guidelines listed in this handbook.

The student is responsible to review and follow all rules and regulations of the University, the University MLS program and any clinical site material received.

University Student Handbook:

<https://www.centenaryuniversity.edu/academics/university-catalog/>

University Catalog:

<https://www.centenaryuniversity.edu/academics/university-catalog/>

Medical Laboratory Science Program handbooks:

<https://www.centenaryuniversity.edu/MedLabScience>

Note: The MLS program director and faculty reserve the right to make changes to the content of this Student Handbook at any time and give public notification of changes as deemed necessary.

MEDICAL LABORATORY SCIENCE PROGRAM FACULTY

MLS Program Director, Director of Health Sciences, Assistant Professor of Health Science:

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Phone: (908) 852-1400 ext. 2409

Clinical Coordinator:

Tammy Quasius, BS, MLT (ASCP)

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Laboratory Manager

Office: Trevorrow T-225

Phone: (908) 852-1400 ext. 2765

Adjunct Instructors:

Vicki Wille, BB(ASCP) SBB(ASCP)

vicki.wille@centenaryuniversity.edu

Blood Bank Supervisor

Hackettstown and Newton Medical Centers, Atlantic Health System

(Immunohematology)

Edwina Cariati, MS, MLS(ASCP)^{CM}

edwina.cariati@centenaryuniversity.edu

Laboratory Outreach Manager

CentraState Medical Center

(Clinical Microbiology)

MEDICAL LABORATORY SCIENCE PROGRAM CLINICAL AFFILIATES

Contact information for these clinical facilities will be provided to the students when they enroll in distance delivered courses or clinical practicums.

Atlantic Health System:

Atlantic Consolidated Laboratory, Morris Plains, NJ
Hackettstown Medical Center, Hackettstown, NJ
Newton Medical Center, Newton, NJ

St. Clare's Health System/Prime Healthcare:

St Clare's Denville Hospital, Denville, NJ
St Clare's Dover Hospital, Dover, NJ

St. Luke's University Health System

St. Luke's Core Lab, Bethlehem, PA

Please note: Each clinical site will determine which rotations are possible for their site. Some sites are able to host all four rotations and other cannot. *Students should not contact clinical sites without direct consent or authorization by the MLS program director.*

Clinical Liaisons and Contact Information

Clinical Affiliate	Clinical Liaison	Contact details
Atlantic Health System Atlantic Consolidated Laboratory Hackettstown Medical Center Newton Medical Center	Drew Minardi	Drew.Minardi@atlantichhealth.org 973-971-5282
St. Clare's Health System St Clare's Denville Hospital St Clare's Dover Hospital	Karen Nelson	knelson4@primehealthcare.com 973-625-6592
St. Luke's University Health System St. Luke's Core Lab	James Marine	James.Marine@sluhn.org

ACCREDITATION STATEMENT

The Medical Laboratory Science program at Centenary University is accredited by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS). Initial accreditation was received in April 2022 for 5 years.

National Accrediting Agency for Clinical Laboratory Sciences (NAACLS)

5600 N. River Road #720 Rosemont, IL 60018

Phone: (773) 714-8880

Fax: (773) 714-8886

E-mail: info@naaccls.org

www.naaccls.org

PROGRAM OVERVIEW

Program Mission

The mission of the Medical Laboratory Science Program at Centenary University is to educate, to develop and to prepare the next generation of laboratory professionals. The curriculum of this program will emphasize foundational and clinical experiences to ensure that these graduates will be able to serve effectively in managerial, educational and research roles within their institution. The overarching theme of this program is to provide a dedicated program for the knowledge and skills for practicing professionals and to promote life-long learning and a culture of service.

Program Goals

The goal of the Medical Laboratory Science Program at Centenary University is to provide a comprehensive undergraduate program, which will prepare technically and scientifically competent graduates to enter the clinical laboratory profession. MLS Program faculty and clinical educators are dedicated to:

- Provide exceptional quality academic and clinical experiences that ensures high quality patient care and respect of patient's rights
- Provide a learning environment to promote service within the community and the profession and to promote a mindset of continuous education and mentorship
- Provide educational and growth opportunities in the classroom, in the laboratory and in the public domain

Program Outcomes

Upon the completion of the Medical Laboratory Science Program at Centenary University, the graduates will be able to:

- Describe and perform appropriate specimen collection and processing, testing and evaluation, appropriate reporting of results and corrective actions, if warranted
- Describe and perform appropriate analytical testing on all body fluids or cells
- Correlate laboratory values with health and disease states, discern testing errors and provide effective corrective measures
- Illustrate quality control and quality assurance measures to determine the validity and reliability of current testing methodology and to evaluate new techniques, instruments, and methodologies
- Demonstrate professional behavior and proper interpersonal skills with patients, laboratory personnel and other health care professionals
- Practice applicable governmental regulations and laboratory procedures to ensure laboratory compliance
- Demonstrate principles of operational, financial, and human resource management
- Appraise research design strategies and published studies
- Discuss the components of educational methodologies and recognize the importance of continual professional development in the role of a laboratory professional

NAACLS Program Assessment Data

- Students are expected to meet or exceed the national pass rate of national MLS certification examination. (ASCP BOC Exam Pass Rate)
- Program graduates are expected to be employed within 12 months of graduation. (Placement Rate)

NAACLS Program Assessment data can be found on the Centenary University Medical Laboratory Science website at: <https://www.centenaryuniversity.edu/MedLabScience>.

ENTRY LEVEL COMPETENCIES OF THE MEDICAL LABORATORY SCIENTIST (NAACLS)

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 of 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.

Details obtained from: <https://www.naacls.org/NAACLS/media/Documents/2012Standards.pdf>

AMERICAN SOCIETY FOR CLINICAL LABORATORY SCIENCE (ASCLS) CODE OF ETHICS

PREAMBLE

The Code of Ethics of the American Society for Clinical Laboratory Science sets forth the principles and standards by which Medical Laboratory Professionals and students admitted to professional education programs practice their profession.

I. DUTY TO THE PATIENT

Medical Laboratory Professionals' primary duty is to the patient, placing the welfare of the patient above their own needs and desires and ensuring that each patient receives the highest quality of care according to current standards of practice. High quality laboratory services are safe, effective, efficient, timely, equitable, and patient-centered. Medical Laboratory Professionals work with all patients and all patient samples without regard to disease state, ethnicity, race, religion, or sexual orientation. Medical Laboratory Professionals prevent and avoid conflicts of interest that undermine the best interests of patients.

Medical Laboratory Professionals are accountable for the quality and integrity of the laboratory services they provide. This obligation includes maintaining the highest level of individual competence as patient needs change, yet practicing within the limits of their level of practice. Medical Laboratory Professionals exercise sound judgment in all aspects of laboratory services they provide. Furthermore, Medical Laboratory Professionals safeguard patients from others' incompetent or illegal practice through identification and appropriate reporting of instances where the integrity and high quality of laboratory services have been breached.

Medical Laboratory Professionals maintain strict confidentiality of patient information and test results. They safeguard the dignity and privacy of patients and provide accurate information to patients and other health care professionals. Medical Laboratory Professionals respect patients' rights to make decisions regarding their own medical care.

II. DUTY TO COLLEAGUES AND THE PROFESSION

Medical Laboratory Professionals uphold the dignity and respect of the profession and maintain a reputation of honesty, integrity, competence, and reliability. Medical Laboratory Professionals contribute to the advancement of the profession by improving and disseminating the body of knowledge, adopting scientific advances that benefit the patient, maintaining high standards of practice and education, and seeking fair socioeconomic working conditions for members of the profession.

Medical Laboratory Professionals accept the responsibility to establish the qualifications for entry to the profession, to implement those qualifications through participation in licensing and certification programs, to uphold those qualifications in hiring practices, and to recruit and educate students in accredited programs to achieve those qualifications.

Medical Laboratory Professionals establish cooperative, honest, and respectful working relationships within the clinical laboratory and with all members of the healthcare team with the primary objective of ensuring a high standard of care for the patients they serve.

III. DUTY TO SOCIETY

As practitioners of an autonomous profession, Medical Laboratory Professionals have the responsibility to contribute from their sphere of professional competence to the general well-being of society. Medical Laboratory Professionals serve as patient advocates. They apply their expertise to improve patient healthcare outcomes by eliminating barriers to access to laboratory services and promoting equitable distribution of healthcare resources.

Medical Laboratory Professionals comply with relevant laws and regulations pertaining to the practice of Clinical Laboratory Science and actively seek, to change those laws and regulations that do not meet the high standards of care and practice.

PLEDGE TO THE PROFESSION

As a Medical Laboratory Professional, I pledge to uphold my duty to Patients, the Profession and Society by:

- Placing patients' welfare above my own needs and desires.
- Ensuring that each patient receives care that is safe, effective, efficient, timely, equitable and patient-centered.
- Maintaining the dignity and respect for my profession.
- Promoting the advancement of my profession.
- Ensuring collegial relationships within the clinical laboratory and with other patient care providers.
- Improving access to laboratory services.
- Promoting equitable distribution of healthcare resources.
- Complying with laws and regulations and protecting patients from others' incompetent or illegal practice
- Changing conditions where necessary to advance the best interests of patients.

I will actively demonstrate my commitment to these responsibilities throughout my professional life.

The ASCLS Code of Ethics can be found at: <https://www.ascls.org/about-us/code-of-ethics>

PROFESSIONALISM

Medical Laboratory Science students will conduct themselves in a manner consistent with the ideals of clinical laboratorians and with professionalism. Examples of this behavior include:

1. Honoring the confidentiality of the patient*
2. Complying with all University and clinical affiliate policies and regulations
3. Willingness to work with others in a positive manner
4. Supporting continuing education
5. Demonstrating ethical and moral attitudes and principles

Because of the nature of laboratory work, laboratory personnel must maintain high ethical standards. If a student is found cheating or conducting himself/herself in a manner, which is not appropriate to the profession, he/she will be terminated from the program.

* All MLS students will be required to complete a training course on The Health Insurance Portability and Accountability Act (HIPAA) of 1996 and be required to follow all regulations under this legislation.

GUIDELINES FOR CLINICAL PRACTICUM

Clinical affiliates of the Centenary University Medical Laboratory Science (MLS) Program provide practical and experiential clinical training for MLS students. These institutions strive to facilitate a variety of legitimate and tangible activities in the clinical laboratory and to provide exposure to professional, academic, and business environments. Clinical affiliates assure that students are not substituted for regular qualified staff in the workplace, and that procedures are performed under the supervision of individuals deemed to be qualified by the clinical affiliate.

During the clinical practicum, MLS students will perform assigned tasks under the direction of a clinical site preceptor in accordance with the policies and procedures of the clinical site. Working with the preceptor, students will develop skills in the laboratory by maintaining instrumentation and performing quality control, performing patient testing, reviewing lab data and patient results, and reporting accurate results.

Students will learn, perform and meet entry-level MLS competencies. This ensured by completing competency checklists, documenting a weekly journal entry, assignment organized by the clinical preceptor, and completing any testing required by clinical sites.

During the clinical practicum, students are expected to seek out opportunities to learn, to gain experience, and to assist scientists/technologists when appropriate. Attendance and activity logs should be kept daily by the student during the practicum. When all checklists are completed, the student is expected to continue their log and participation in all discussions and assignments throughout the remaining portion of the course. It is important to note that not all clinical sites will have the same learning opportunities. The checklists for each area are desirable activities to be completed. If a site is unable to demonstrate or allow you to perform an activity, the student will not be penalized.

Students will share their knowledge in weekly discussions of what has been learned at their respective sites as well as answer questions put forth by the clinical preceptor and/or University instructor.

Students will demonstrate professional attributes of a Medical Laboratory Scientist at all times. This behavior will be evaluated by your preceptor and submitted to the instructor. Students are eligible for a clinical site assignment after successfully completing all didactic courses, including MLS 4800 Clinical Competency Review in the MLS program with a minimum score of 70%. Although every effort is made to match students to their ideal clinical practicum site, students may be placed in an alternate site, if necessary. The alternate site may require relocation or travel. If a student cannot attend the assigned site, the student will be dropped from the clinical course and possibly re-enrolled the next available semester pending availability.

Clinical Rotation Assignments

Upon successful completion of all MLS didactic courses and Hackettstown campus courses, students will be eligible to register for the clinical rotations (practicum) based on MLS Director approval, completion of coursework, availability of rotations, academic standing in the MLS Program, professional behavior and a randomization process. A student survey requesting personal information and the student's employment intent will be submitted to students for completion approximately 2 months prior to the commencement of the clinical practicum. These surveys are used by the Program Director and Clinical Coordinator to match the appropriate clinical site for each student. It is important that students provide accurate and reliable information in this survey process. Once the clinical placements have been assigned, the assignments cannot be modified.

Every opportunity will be taken to provide students with timely clinical assignments to assist students in completing the degree according to the four-year sequence, when possible. If an insufficient number of clinical sites is available, there may be a delay in the clinical experience schedule. Students need to be aware that students could be assigned with any clinical affiliate in the Skylands region, as well as throughout New Jersey, eastern Pennsylvania or southern New York. Every effort will be made to ensure that the clinical rotation will not cause an unreasonable burden or commute for the student. A student must have reliable transportation for the clinical experience. Travel and housing expenses are the responsibility of the student. If a student is needing to secure supplemental funding or financial aid, the student should discuss with the program director, Student Life and the Financial Aid office. Multiple professional organizations provide scholarships for medical laboratory science students.

The MLS Program guarantees that students will be placed in all required clinical rotations as long as the student is in good academic standing and meets professional standards. However, there are a limited number of available slots for clinical rotations and due to the constraints of the clinical labs, there may be a delay in their schedule. Delays or changes in the clinical placements are rare.

Students are *not permitted* to find their own clinical sites. Based on our accreditation standards, all clinical sites must be affiliated with the University and must specify training for the Medical Laboratory Science program.

Clinical Rotation Placement and Disclaimer

Although the MLS Program Director will make every effort to confirm clinical rotations for each and every student for placement no later than two months prior, students should be aware that due to increased workload in the clinical laboratories due to the pandemic, clinical rotations may be modified or delayed, possibly extending into a subsequent semester. Clinical rotations will be planned in advance and will be assigned randomly. Clinical sites may be scheduled out of Hackettstown; students should be aware that these rotations will require travel, and may require housing accommodations. Students are responsible for planning accordingly.

Clinical Grade and Evaluation

The clinical preceptor in each clinical experience will provide feedback about each student to the MLS program director. Students will undergo knowledge and performance assessments. Assessment forms will be used to evaluate student performance, knowledge, behavioral and professional skills during the clinical experience. The clinical preceptor may use the assessment forms to provide individual counseling and employment recommendations for the success of the student.

Students must successfully complete a final assessment for each clinical rotation to demonstrate competency in that particular MLS discipline. Satisfactory performance for each clinical experience will be indicated by a numerical grade; all students must obtain an 80% or greater in all areas to satisfactorily complete the clinical rotation. A grade below 80% will require remediation or potentially repeating the clinical practicum course/clinical experience. A course syllabus for each clinical rotation will have details about its specific topic area.

Practicum Hours

During the clinical rotations, students will be required to attend on a full-time basis at the clinical site and responsible for being punctual, complete daily checklists and participate in any activities as determined by the clinical preceptor. Specific times for arrival and departure will be determined by the clinical site and department-specific practicum preceptors. Most clinical rotations will be Monday through Friday from 7:00 am to 4:00 pm; however, practicum hours may be assigned during any shift at the preceptor's discretion. The student should note that the time for arrival will vary by clinical site and clinical rotation area.

Attendance

Attendance is required for all scheduled days. Students must report to the clinical facility punctually in accordance with the assigned rotation schedule and hours set by the clinical liaison/clinical preceptor. In the event that the student will be absent or late, the student must notify the clinical liaison/clinical preceptor AND University clinical coordinator prior to the scheduled meeting time. The student should also call the preceptor as soon as possible in order to ensure their absence has been noted. Lack of notification will automatically result in an unexcused absence. Absences are only excused under limited circumstances, such as loss of an immediate family member or jury duty. Other circumstances will be addressed on a case-by-case basis. Any student with more than 1 unexcused absence may be dropped from the clinical rotation with a failing grade.

Tardiness is unacceptable. Every arrival greater than 5 minutes past the start time of the shift will be counted as a tardy arrival. All tardy arrivals beyond 2 will be counted as an unexcused absence. Excused and unexcused absences must be made up; arrangements to make-up days missed must be organized by the student with the clinical site. The clinical site has discretion as to when the make-up days are scheduled. In the event that time cannot be made up by the end of the semester, the student may receive an "Incomplete" for the course and may be responsible for making up all or a portion of the days during the following semester at the convenience of the clinical site.

Personal Appearance and Professional Conduct

The appropriate attire is determined by the clinical site and may include:

- Students must wear the appropriate clothing or uniforms as assigned by the clinical site. Scrub tops and bottoms are required.
- Closed-toe, clean, leather shoes.
- Fluid-proof lab coat, which meets OSHA specifications when working in the laboratory (provided by the clinical site).
- Eye protection must be worn when the potential for splash of infectious materials exists (provided by the clinical site).
- Gloves
- Student ID badge must be worn at all times.
- Hair should be clean at all times and must be placed up and pulled off the face and shoulders.
- Hair is a source of cross contamination and must not interfere with the delivery of patient care. Ponytails must be controlled and not drop forward when giving patient care or operating laboratory equipment. Beards and mustaches should not appear in disarray. They should be clean and neatly groomed. Any area requiring the use of N95 masks or similar may require beards and mustaches to be contained within the mask for proper fit.
- Makeup worn in moderation
- Fingernails harbor microorganisms and must be kept reasonably short. No false fingernails are allowed in the clinical area.
- A watch, wedding bands or simple rings, and simple earrings (not hanging) are permitted. No other jewelry or body ornamentation is permitted. This includes piercings! One set of conservative earrings in the lobes are allowed. Additional piercings are NOT allowed.
- Tattoos must be covered – if you have tattoos on the arms, neck, or other areas that could potentially be visible, you must wear undergarments (turtleneck, long sleeves etc.) to insure they are not exposed or visibly noted.
- Good personal hygiene is of the utmost importance when working with other people.
- Undergarments may not be visible through scrubs by pattern or design at any time.
- The student must meet any additional regulations of the clinical affiliate that are not covered in this handbook. Students are not to use cell phones or any other electronic device to receive or place phone calls, text, surf the web, listen to music, read, or check email during clinical hours except during breaks. Preceptors may provide exceptions for emergencies that may arise.

Confidentiality and Health Insurance Portability and Accountability Act (HIPAA)

Students must keep all patient and institutional information strictly confidential. The discussion of any patient information outside of the classroom or practicum setting is not permissible.

Confidential information concerning the institution is not to be discussed with any unauthorized individuals. Students may be required to sign a confidentiality statement and/or complete additional HIPAA training at the clinical sites. A violation of this policy and/or of other

hospital or laboratory policies will result in the dismissal of the student from the hospital and the MLS program.

Accidents and Exposure

The clinical sites do not provide health coverage for students participating in clinical practicum. If an exposure or accident does occur, notify the clinical preceptor immediately. Follow the facility's established policies and protocols and submit a completed incident form to the clinical site responsible party and the MLS program director immediately following any treatment needed.

Communication

Students are responsible for attaining and submitting current contact information to their clinical preceptor and clinical coordinator. This contact information will only be used in the rare event that a student is failing to communicate with their preceptor(s). Students and preceptors should communicate directly with each other and should only involve lab managers/program directors if a professional conduct violation has occurred.

Background Checks and Drug Testing

Clinical affiliates of the MLS program require criminal background checks and/or drug screen testing to be completed prior to the beginning of the clinical practicum. Students who do not pass the criminal background check and/or drug test may be unable to attend clinical courses and therefore may be unable to complete their program of study. As the clinical practicum assignment is known, the program director will inform the student of the specific details for the completion of the clinical site-approved background check and drug screen testing process for the student. Any fees or cost associated with background checks and/or drug testing are the responsibility of the student.

NOTE: Please be aware that the clinical sites require the background and drug screening to be completed within so many days of the beginning of the clinical practicum. Please do not seek the background check and drug screen testing prior to be directed by MLS program director.

Severe Weather

Severe weather that causes a shutdown of all classes and campus operations at Centenary will also result in cancelation of the clinical practicum for the identical duration of the campus closure. If the student is at a clinical site not in the affected area, then the student will continue their scheduled practicum. Clinical sites located far from Centenary will use the closest public or private university to determine whether the practicum will be canceled for that day. If the closest university closes all operations for inclement weather, the surrounding affected areas will also have a canceled practicum day for the identical duration of school closures. Any days missed due to inclement weather will be excused and rescheduled as make-up days.

Safety

Occupational Safety and Health Administration (OSHA) requirements must be observed at all times for your safety and the safety of your peers and patients. Students will follow these

requirements in the University laboratory and clinical laboratory. Students who fail to follow safety and policy regulations will be asked to leave the laboratory or clinical site. Students who fail to follow safety and policy regulations for a second time will be dismissed from the MLS program at the discretion of the program director.

Immunizations

All students must meet the specific immunization requirements of their clinical internship sites. In most cases the following immunization records will need to be provided to the program director and/or the clinical site:

- Current, annual flu vaccination - vaccination records
- MMR (Measles, Mumps and Rubella) - vaccination records or serologic proof of immunity
- Varicella (chickenpox) – vaccination records or serologic proof of immunity
- Tdap (tetanus, diphtheria and pertussis) - vaccination records
- Hepatitis B - vaccination records, serologic proof of immunity or signed vaccine waiver
- Tuberculosis testing (Tuberculin skin test or site-specific testing for *Mycobacterium tuberculosis*)
- COVID-19 vaccination documentation

This list is not an all-encompassing list, but is a guideline to be instructive about the types of immunizations that are usually requested. Any expense incurred in meeting these requirements is the responsibility of the student.

Many of our clinical partners have notified us that all students must present documentation of full vaccination for COVID-19 to participate in any clinical or practicum experience in their facilities. If you cannot show proof that you are fully vaccinated against COVID-19 at least 30 days prior to starting your clinical practicum, we cannot guarantee that you will be able to find appropriate clinical placement and successfully complete your program of study.

Acceptable Clinical Practicum Progression

At the request of clinical sites or the program director, students may be removed from the rotation if they are failing to progress in a satisfactory manner due to a lack of skill, knowledge, or professionalism. Depending on the severity and validity of the clinical site's request, one of two actions will occur. Either an attempt will be made to find the student another clinical site or the student will be dismissed from the MLS program upon consultation with the Vice President for Academic Affairs and the School Dean. If a second clinical site in the following semester is obtained and the student is asked to be removed from the second site, the student will be dismissed from the MLS program.

Service Work

Any service work performed by students in clinical settings outside of regular academic hours is non-compulsory. Students are not required to work as part of their clinical practicum/rotations. Some students may elect to work outside of the practicum hours; however, this is not

recommended during the clinical rotation. During practicum hours, students will be supervised by a medical laboratory professional and students are not permitted to be used as regular staff during these times. Students are not reimbursed for work during the practicum hours. In special circumstances, some students, who have demonstrated competency, are permitted to perform procedures with supervision.

Other Clinical Experience Policies

Employment During Clinical Rotations

Due to the intense nature of this program and the requirement for students to attend every day during the rotation, students are not recommended to work an outside job during this semester. Centenary University and the clinical sites are not able to accommodate a work schedule not associated with your clinical rotation. No changes will be made in clinical hours to accommodate a student's outside work schedule or personal obligations.

Additional Course Enrollment

The MLS program at Centenary University does not permit enrollment in any non-MLS courses during the clinical rotations. No exceptions will be granted to this policy.

Professional Liability Insurance

Professional liability insurance protects the student during the training in the clinical setting. Centenary University provides coverage to each student according to the signed affiliation agreement for the practicum. Certificates of liability insurance are provided to the clinical site annually.

Student Health Insurance

The student is responsible for their own personal health care insurance coverage during your clinical rotations.

The Medical Laboratory Science (MLS) program and Centenary University do not assume any responsibility for illness or injuries experienced by students in conjunction with student labs or practicum. Students should maintain personal medical insurance while enrolled in the MLS program. The clinical sites require proof of medical insurance coverage; therefore, students are required to maintain personal medical insurance while enrolled in practicum courses. Liability insurance is purchased by Centenary University to cover students during practicum.

Methods of Evaluation

The student's knowledge, skills, and affective behavior will be assessed by written examinations/exercises, task performance, and observation by the clinical preceptors during all areas of the practicum. The final grade for a course will be determined by the scores earned in the categories as described in the clinical practicum course syllabus.

Explanation of Checklists

These are the laboratory tasks and skills that are detailed for each section of the practicum. The student must demonstrate acceptable progress and performance for these tasks in order to

receive a satisfactory grade in the course. Additional tasks may be included as determined by the clinical preceptor. Entry-level competency is expected for each task and students will be evaluated by preceptors as either competent or not competent. These evaluation forms and assessments will be submitted electronically or through Trajecsyst platform by the clinical preceptor or designee.

Performance and Professionalism

A student's performance in the practicum area comprises their technical skills and professional behavior. Both will be evaluated by their practicum preceptor(s) for each rotation area. Practicum preceptor(s) will complete one evaluation at the end of the student's rotation. Some areas of the evaluation have been marked as high importance. Any unsatisfactory assessment in any of these areas may be grounds for probation or dismissal from the MLS program. Students will be evaluated using the following: Unsatisfactory, Satisfactory and Outstanding. These evaluation forms and assessments will be submitted electronically or through Trajecsyst platform by the clinical preceptor or designee.

Daily Logs and Other Documents

Each student must record their daily activities. This includes documentation of instrumentation utilized, test names, abnormal results seen and approximate number either performed or observed and brief description of problem solving and trouble shooting incidents. Time of arrival and departure, special incidents, concerns, problems, instrumentation, and other pertinent items should also be recorded. The log must be submitted in Trajecsyst or another recognized format on a daily basis. In addition to daily logs, the clinical course instructor may pose a question or assignment each week.

Definition of Evaluation Terms

Meets: This applies to tasks, skills, and behaviors in which the student demonstrates acceptable progress and performance. The expected work is normally performed in an accurate, precise and organized manner within a reasonable amount of time, and with adherence to general and laboratory policies and professional conduct.

Does not meet: This applies to tasks, skills, and behaviors in which the student does not meet the minimum criteria. In the judgment of the clinical preceptor and/or clinical liaison, the student's progress or behavior is unacceptable because of inferior quality (accuracy, precision, and organization), quantity of work, performance, and professional conduct. The student needs improvement.

N/A (not applicable): This applies to any tasks or skills that were unable to be performed at the clinical site or assessed due to the availability of the testing procedure, reagents or specimens.

Student Injury at Clinical Site

If a student is injured during their clinical practicum, the clinical facility will provide emergency care. The student will be financially responsible for the emergency care and any follow-up treatment needed. The clinical liaison or clinical preceptor will notify the MLS program director of the injury. The student must also contact the program director directly. The student will

complete both the clinical facility and MLS Department incident report forms. An incident report will be completed by the student and faculty member and the report will be kept on file in the program director's office.

Clinical Site Evaluations

Students are required to evaluate each internship rotation in order to ensure best and effective practicum experiences. Students will evaluate practicum rotations using an online form or submit documentation through Trajecsys.

Assignments

The Instructor may post assignments pertaining to the student's clinical site. Automation reports for each and every instrument are also required to be posted in Trajecsys.

STUDENT RESPONSIBILITIES

Abide by the rules and policies of the clinical sites including:

- Hours of rotation.
- Safety guidelines.
- Proper notification of absences
- Make up of any time missed due to absences
- Abide by the dress code and conduct code of clinical site
- Adhere to the rotational schedule
- Provide own lodging, transportation, food, and other necessary expenses. The clinical rotation sites do not reimburse.
- Adhere to the affective guidelines outlined in the MLS Program student handbook and University catalog and handbook
- Confirm that preceptors completed and submitted professional evaluation forms within one week after finishing the rotation
- Completion of weekly logs and questions
- Complete site evaluations of each department of practicum rotations
- Take notes as clinical preceptors do not have the time to repeat instructions numerous times

The MLS program requires each student to complete 640 hours* in clinical rotations during the practicum experience.

- 24 hrs. Urinalysis
- 160 hrs. Microbiology
- 120 hrs. Hematology
- 136 hrs. Clinical Chemistry
- 40 hrs. Hemostasis
- 120 hrs. Blood Bank
- 40 hrs. Serology/Immunology

*Please note that total number of hours may vary by the specific requirements of the clinical site and student's competency assessment.

CLINICAL SUPERVISOR/PRECEPTOR RESPONSIBILITIES

The clinical supervisor/preceptor is responsible for the following:

- Provide in-service training in the areas where the student is assigned. This includes all employee policies, start times, break times, and lunchtime, the principle of operation for instrumentation, procedures for determining acceptable test results, and the procedures for reporting result. The student should also be instructed in what to do if the test results are not valid.
- Assure that the student is exposed to all techniques and procedures listed in the checklist provided.
- Provide the student with feedback on his/her performance periodically throughout the rotation.
- Counsel the student relative to a poor performance.
- Notify the MLS clinical coordinator as soon as possible if a problem arises. The clinical coordinator and the supervisor should work together with the student to ensure success.
- Complete and submit the evaluation forms online and fill out and return practicum checklists to students.
- The clinical affiliate site reserves the right to terminate a student's clinical experience prematurely if difficulties arise and cannot be resolved after meeting with the student and the MLS Program Director/Clinical Coordinator.

CLINICAL COORDINATOR RESPONSIBILITIES

The clinical coordinator for the medical laboratory sciences practicums is responsible for the following:

- Serve as the contact person for any issues (either site-related or student-related) surrounding the clinical rotation.
- If a problem arises with a rotation schedule the clinical coordinator will work with the student and site to resolve it.
- Ensure that the student has had all the orientation information for the university
- Ensure that the student has satisfactorily met the affective, knowledge, and technical objectives for the rotation.
- Assign the grade for the rotation.

Program and Practicum Safety

These safety rules apply to all students:

- No open-toe shoes or open heeled shoes without a back strap in the laboratory.
- Long hair must be tied back while in the laboratory.
- No eating, drinking, gum chewing, application of cosmetics, lip balm or eye saline is allowed in the laboratory.
- *Recapping of needles and mouth pipetting is prohibited.*
- Use of personal electronic devices is prohibited in the laboratory.
- Lab coats and gloves will be worn while in the laboratory. Additional protective covering such as goggles, face masks and face shields will be provided by the facility, if needed. *Personal protective equipment is never worn outside the laboratory.*
- Wash hands when entering and before leaving the laboratory.
- Laboratory counters must be decontaminated at the end of laboratory session or shift. Spray the towel with the disinfectant not the counter to prevent the creation of airborne particles or to contaminate clean surfaces.
- Distinguish between biohazard trash and regular trash and dispose in the proper containers.
- Backpacks and jackets should be kept in designated areas, not at the work benches or on the floor.
- Minimal jewelry should be worn. Avoid dangling bracelets, necklaces, and earrings.

Program and Practicum Etiquette

The following etiquette practices apply to all students:

- Familiarize yourself with the shelves and drawers in your assigned area. Items used from a shelf or drawer must be returned to the same place at the end of the lab session or shift. If an item is empty refill or replace before returning it to its designated location.
- If you do not know how to use an item or piece of equipment, ask for assistance.
- Microscopes must be cleaned after use.
- Do not pipette from stock bottles unless otherwise instructed.
- Use of printers for personal needs is prohibited.
- Most facilities are fragrance-free. Students will refrain from wearing fragrances, including after-shave, perfume, and scented lotions.
- No ragged clothes, sleeveless shirts or facial jewelry during clinical practicum.
- Students should look neat and clean. Pay special attention to hands and fingernails.
- Comply with the dress code(s) of the clinical site(s) to which the student is assigned.



Confidentiality Statement

During the clinical practicum of the Medical Laboratory Science program at Centenary University, I will have access to patient information on occasion. I understand that this information is private and should be kept confidential in accordance with the Health Insurance Portability and Accountability Act of 1996 (HIPAA). Any unauthorized release of information is punishable by fine and/or imprisonment or dismissal from the program.

Additionally, I will adhere to the ASCLS Code of Ethics. I understand that the release of unauthorized patient information will result in immediate expulsion from the Centenary University Medical Laboratory Science program.

Student Signature

Printed Name

Date

_____ has successfully completed the HIPAA course.

Objectives listed for the course are:

- Define HIPAA.
- Define "covered entities" and "business associates" and list which individuals, groups, or organizations are included in each category.
- Explain what is meant by protected health information, who is authorized to view this information, and safeguards to prevent unauthorized access.
- Be able to apply HIPAA privacy and security requirements to your daily clinical responsibilities.

Faculty Signature

Printed Name

Date



**ACKNOWLEDGEMENT OF RECEIPT
MEDICAL LABORATORY SCIENCE PROGRAM
CLINICAL PRACTICUM HANDBOOK
2021-2022**

I, _____, certify that I have access to the MLS Program Clinical Practicum Handbook 2021-2022. I have reviewed this information carefully and understand that I am accountable for all of the information in this Handbook and all other relevant University policies. I further understand that I am responsible for clarifying with the MLS Program Director any areas that I do not understand.

I have been given the opportunity to ask any questions that I have about the Clinical Practicum Handbook.

I have read, understand, and agree to perform the duties of my clinical practicum as described in the handbook.

I have been advised that the information in the MLS Program Clinical Internship Handbook is valid for the period beginning August 2021 and ending August 2022.

Medical Laboratory Science Program handbooks:
<https://www.centenaryuniversity.edu/MedLabScience>

Student Signature

Date

Clinical Practicum Checklists



MLS 4920 Clinical Practicum Hematology

MLS Program Director: Dr. Craig L. Fuller
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Office: Trevorrow Hall, Room 224

MLS Clinical Coordinator: Tammy Quasius
Email: tammy.quasius@centenaryuniversity.edu
Telephone: 908.852.1400 ext. 2765
Office: Trevorrow Hall, Room 225

Clinical Rotation: **Monday – Friday: 7:00 am – 4:00 pm (assigned by clinical site)**
Four-week rotation at an affiliated clinical site assigned by program director
160 hours of clinical practice (20 days)
Hematology – 120 hours (15 days)
Coagulation – 40 hours (5 days)

COURSE DESCRIPTION

Advanced clinical practice in a hospital hematology laboratory used to apply and build on the knowledge and skills by using both simple and complex analytical procedures to perform hematology and coagulation testing on automated hematology instruments and manual methods. Slide interpretation, quality control, precision and accuracy of testing and providing competent interpretation of clinical data is imperative.

COURSE LEARNING OUTCOMES

Upon completion of this course, students will be able to:

1. Comply with all laboratory protocols for safety and specimen processing and handling
2. Operate, maintain, calibrate and conduct routine performance checks with clinical laboratory instrumentation, including appropriate quality control testing and documentation
3. Perform manual and automated routine and complex analytical procedures in hematology and hemostasis within acceptable limits of accuracy.
4. Identify normal, abnormal, and critical values for various tests, including values that are incompatible with life or demonstrate out-of-control situations
5. Exhibit proper professional conduct and interpersonal communication skills with patients, laboratory personnel and other health care professionals

CENTENARY LEARNING OUTCOMES (CLOs)

In April 2021, the Centenary Faculty adopted the Centenary Learning Outcomes (CLOs). It is very important for assessment purposes that all stakeholders understand the value added that is part of a Centenary education. By the time the students graduate from Centenary University, we expect that in addition to more discipline-specific outcomes, students will be able to:

- CLO1: Communication: Communicate verbally, in writing, and visually in ways that indicate an understanding of diverse audiences, genres, and mediums
- CLO2: Critical thinking: Critically and creatively apply knowledge to evaluate, synthesize, connect, and critique qualitative and quantitative information across disciplines
- CLO3: Information literacy: Locate, evaluate, integrate, and cite properly vetted qualitative and quantitative evidence
- CLO4: Diversity: Integrate and apply knowledge from multiple diverse perspectives using integrity, social responsibility, and ethical behavior
- CLO5: Collaboration: Foster engagement locally and globally by working thoughtfully and respectfully with culturally and socially diverse individuals and groups

COURSE GRADE PERCENTAGES

Complete daily instrument calibration and daily QC	15 %	
Weekly Journal Entries	10 %	
Hematology Practical Exam	50 %	A minimum score of 80% must be achieved on this practical exam, including $\geq 80\%$ on the manual differential component, in order to pass this practicum.
Hemostasis Practical Exam	25 %	A minimum score of 80% must be achieved on this practical exam in order to pass this practicum.
Final Grade	100 %	

CENTENARY GRADING SCHEME

A	93 to 100	Excellent	Superior quality in the mastery of content of the course, demonstrated ability to perceive relationships, initiative in doing work in which quality consistently surpasses that required.
A-	90 to 92		
B+	88 to 89	Good	Good understanding of content of the course, demonstrated ability to recognize relationships, better than average achievement of course objectives and fulfillment of course requirements.
B	83 to 87		
B-	80 to 82		

C+	78 to 79	Average	Average understanding of the content and method of the course, demonstrated ability to recognize obvious relationships, adequate achievement of course objectives and fulfillment of course requirements.
C	73 to 77		
C-	70 to 72		
D+	68 to 69	Below Average	Incomplete understanding of the content and method of the course, inability to demonstrate satisfactory recognition of obvious relationships, unsatisfactory achievement of course objectives and requirements.
D	63 to 67		
D-	60 to 62		
F	59 and below	Failure	Lack of understanding of the content and method of the course, failure to achieve objectives and/or complete requirements of the course.

STUDENT RESPONSIBILITIES:

Students must observe and follow all rules and policies of the clinical sites including:

- Hours of rotation
- Safety guidelines
- Proper notification of absences
- Make up of any time missed due to absences
- Abide by the dress code and conduct code of clinical site
- Adhere to the rotational schedule
- Provide own lodging, transportation, food, and other necessary expenses. The clinical rotation sites do not reimburse for any of these extras.
- Adhere to the affective guidelines outlined in the MLS Student Handbook or syllabus
- Confirm that preceptors completed and submitted professional evaluation forms within one week after finishing the rotation
- Completion of weekly logs and questions in Trajecsys
- Complete site evaluations of each department of practicum rotations
- **Take notes as clinical preceptors do not have the time to repeat instructions numerous times**

REQUIREMENTS FOR THE COMPLETION OF THIS COURSE:

1. **A course grade of 80% is required on all exams.**
2. **All journal entries and daily activities log must be submitted through Trajecsys.**
3. **All skills assigned must be completed satisfactorily.**
4. **A satisfactory affective evaluation must be achieved.**
5. **A student must maintain an acceptable attendance.**

CLINICAL ROTATION ACTIVITIES

Activities	Suggested Number
Multiparameter hematology instrumentation <ul style="list-style-type: none"> Complete Blood Count (CBC) Automated reticulocyte count 	40 5
Manual Differential Counts: <ul style="list-style-type: none"> Preparation and Staining of peripheral blood smears Automated Wright Stain Normal manual differential Abnormal manual differential 	20 20 20 15
Additional Routine Tests: <ul style="list-style-type: none"> Manual Platelet Count (if available) Erythrocyte Sedimentation Rate Sickle Cell Screening (if available) Body Fluids: cell count and differential (all fluids) Blood parasites and Percent parasitemia 	5 4 3 5 2
Hemostasis Procedures: <ul style="list-style-type: none"> Prothrombin time Activated partial thromboplastin time Mixing Studies Fibrinogen, D-Dimer Thrombin Time (if available) Factor assays (if available) 	15 15 2 5 2 4
Special Procedures (if available): <ul style="list-style-type: none"> Special Stains (Leukocyte alkaline phosphatase, Alkali Denaturation Test for HbF) Flow Cytometry Hemosiderin 	5 3 2
Special Hemostasis Tests (if available): <ul style="list-style-type: none"> Protein C and Protein S testing Von Willebrand testing Platelet Function Assays Manual tilt tube method 	2 2 2 1

*These numbers are merely a guideline of how many of each activity to be performed. The Clinical Instructor may modify activities based on student performance.

*Please note that the Medical Laboratory Science Student Handbook contains additional information on the Program grading and make-up exam policy.

Hematology/Hemostasis	Meets	Does Not Meet	N/A	Instructor Signature	Comments
Demonstrate proficiency in the use of automated blood cell counting devices by completing the following:					
Complete start-up procedure for daily operation					
Perform daily quality control and validate results with quality assurance program					
Evaluate Levey-Jennings charts for Westgard Rule violations					
Operate instrument in daily workload within time limits set by supervisor					
Evaluate patient results for validity and acceptability					
Perform routine maintenance procedures					
Perform preliminary function checks for troubleshooting					
Apply knowledge of blood cell morphology and cell differentiation:					
Preparation and staining of blood smears for differential count and morphologic study of blood cells					
Perform differential counts including WBC and platelet estimates on daily workload with results within values determined by hematology department					
List the criteria for slides being reviewed by supervisor and/or pathologist					
Operate Automated Differential Cell Counter within limits set by supervisor					
Perform the following procedures manually (within limits set by Hematology department)					
Platelet counts/estimates					
Reticulocyte counts					
Erythrocyte Sedimentation Rate (ESR)					
Cerebrospinal Fluid (CSF) count					
Other body fluid counts					
WBC counts/estimates					

Hematology/Hemostasis	Meets	Does Not Meet	N/A	Instructor Signature	Comments
Perform the following procedures when possible (within limits set by Hematology department)					
Sickle cell preparation or screening test					
Sugar water test					
Ham's test					
Osmotic fragility					
Serum-free Hemoglobin					
Donath-Landsteiner antibody test					
RBC enzyme screens					
Flow cytometry analysis					
Perform buffy coat preparation and stain					
Leukocyte alkaline phosphates					
Periodic Acid Schiff (PAS)					
Chloroacetate and nonspecific esterase					
Acid phosphates (with tartrate)					
Peroxidase / Sudan black B					
Blood parasites with Percent parasitemia					
Demonstrate understanding of body fluid preparation and differential count					
Explain, either orally or in writing, the procedure for collection of body fluid specimens					
Describe handling of specimens for examination of the marrow					
Perform one (1) body fluid differential with results within range set by hematology department					
Perform one (1) body fluid crystal analysis					
Correlate patient results to possible disease states:					
Discuss the clinical significance of abnormal results obtained					

Hematology/Hemostasis	Meets	Does Not Meet	N/A	Instructor Signature	Comments
Demonstrate proficiency in use of automated coagulation instrument					
Prepare instrument for operation					
Perform and evaluate daily quality control					
Perform daily testing					
Perform the following coagulation/hemostasis procedures:					
Prothrombin time (PT)					
Activated partial thromboplastin time (APTT)					
Thrombin time					
Fibrinogen					
Fibrin degradation products (FDPs)					
Antithrombin III					
PT and APTT correction studies					
Factor assay					
D-dimer					
Platelet aggregation					
Miscellaneous coagulation/hemostasis tests (Please list and evaluate other tests that were performed by this student in this department)					

Affective Behavior and Technical Performance Evaluation

Student Name _____ Practicum Rotation _____

Affective Behavior

Description of Attributes*	Outstanding	Satisfactory	Unsatisfactory
Demonstrates honesty and integrity in work.			
Accepts responsibility for their own actions.			
Maintains confidentiality of patient information/laboratory data.			
Follows policies and procedures of the clinical site.			
Demonstrates ethical conduct in professional endeavors.			
Works effectively under stress.			
Maintains professional demeanor under difficult conditions.			
Influences and contributes to a pleasant work environment.			
Accepts laboratory leadership and provides appropriate feedback respectfully.			
Provides assistance and support to co-workers.			
Communicates well with other health care workers in a professional and courteous manner.			
Organizes and completes work on schedule without sacrificing accuracy and reliability.			
Adheres to dress code, to proper hygiene, and appears professional.			
Shows initiative to improve technical skills and to expand knowledge.			
Arrives timely and remains at work station to perform work.			
Investigates technical and professional information to solve an issue.			

Affective Behavior and Technical Performance Evaluation

Technical Performance

Description of Attributes*	Outstanding	Satisfactory	Unsatisfactory
Adheres to safety guidelines and maintains good laboratory practice.			
Utilizes the appropriate equipment and techniques for all laboratory tests.			
Develops ability to organize and to increase productivity from the first day to the last day in the rotation without sacrificing accuracy of testing.			
Reports all abnormal results as designated by clinical site.			
Repeats or performs confirmatory testing, as indicated.			
Performs quality control procedures according to SOP and notifies supervisor when outside of acceptable limits.			
Performs tasks with minimal supervision by the end of the rotation and adheres to the policies and procedures of the clinical site.			
Records and reports test results in a timely fashion with at least 95% accuracy.			
Processes specimens with 100% accuracy.			
Follows verbal directions.			
Answers verbal questions with at least 80% accuracy and is prepared with background theory and knowledge to the related clinical area.			
Adheres to the established policies and procedures of the clinical site.			

Please provide additional comments to support an "Unsatisfactory" designation.

_____	_____	_____	_____
Evaluator	Date	Student	Date

*Attributes highlighted in gray are considered critical attributes. An unsatisfactory designation may result in probation or dismissal from the clinical site.



MLS 4930 Clinical Practicum Chemistry

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MLS Clinical Coordinator: Tammy Quasius
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Telephone: 908.852.1400 ext. 2765
Office: Trevorrow Hall, Room 225

Clinical Rotation: **Monday – Friday: 7:00 am – 4:00 pm (assigned by clinical site)**
Four-week rotation at an affiliated clinical site assigned by program director
160 hours of clinical practice (20 days)
Chemistry – 136 hours (17 days)
Urinalysis – 24 hours (3 days)

COURSE DESCRIPTION

Advanced clinical practice in a hospital or reference chemistry laboratory used to apply and build on the knowledge and skills by using more complex analytical procedures and cutting-edge instrumentation, practicing good quality assurance for accuracy of testing and providing competent interpretation of clinical data.

COURSE LEARNING OUTCOMES

Upon completion of this course, students will be able to:

1. Follow laboratory protocols for safety and specimen processing and handling
2. Operate, maintain, calibrate and conduct routine performance checks with clinical laboratory instrumentation, including appropriate quality control testing and documentation
3. Perform manual and automated routine and complex analytical procedures in Chemistry and Urinalysis within acceptable limits of accuracy.
4. Identify normal, abnormal, and panic values for various tests, including how these values are reported or when a new specimen is warranted.
5. Exhibit proper professional conduct and interpersonal communication skills with patients, laboratory personnel and other health care professionals

CENTENARY LEARNING OUTCOMES (CLOs)

In April 2021, the Centenary Faculty adopted the Centenary Learning Outcomes (CLOs). It is very important for assessment purposes that all stakeholders understand the value added that is part of a Centenary education. By the time the students graduate from Centenary University, we expect that in addition to more discipline-specific outcomes, students will be able to:

- CLO1: Communication: Communicate verbally, in writing, and visually in ways that indicate an understanding of diverse audiences, genres, and mediums
- CLO2: Critical thinking: Critically and creatively apply knowledge to evaluate, synthesize, connect, and critique qualitative and quantitative information across disciplines
- CLO3: Information literacy: Locate, evaluate, integrate, and cite properly vetted qualitative and quantitative evidence
- CLO4: Diversity: Integrate and apply knowledge from multiple diverse perspectives using integrity, social responsibility, and ethical behavior
- CLO5: Collaboration: Foster engagement locally and globally by working thoughtfully and respectfully with culturally and socially diverse individuals and groups

COURSE GRADE PERCENTAGES

Complete daily instrument calibration and examine QC results	15 %	
Weekly Journal Entries	10 %	
Chemistry Practical Exam	50 %	A minimum score of 80% must be achieved on this practical exam in order to pass this practicum.
Urinalysis Practical Exam	25 %	A minimum score of 80% must be achieved on this practical exam in order to pass this practicum.
Final Grade	100 %	

CENTENARY GRADING SCHEME

A	93 to 100	Excellent	Superior quality in the mastery of content of the course, demonstrated ability to perceive relationships, initiative in doing work in which quality consistently surpasses that required.
A-	90 to 92		
B+	88 to 89	Good	Good understanding of content of the course, demonstrated ability to recognize relationships, better than average achievement of course objectives and fulfillment of course requirements.
B	83 to 87		
B-	80 to 82		

C+	78 to 79	Average	Average understanding of the content and method of the course, demonstrated ability to recognize obvious relationships, adequate achievement of course objectives and fulfillment of course requirements.
C	73 to 77		
C-	70 to 72		
D+	68 to 69	Below Average	Incomplete understanding of the content and method of the course, inability to demonstrate satisfactory recognition of obvious relationships, unsatisfactory achievement of course objectives and requirements.
D	63 to 67		
D-	60 to 62		
F	59 and below	Failure	Lack of understanding of the content and method of the course, failure to achieve objectives and/or complete requirements of the course.

STUDENT RESPONSIBILITIES:

Students must observe and follow all rules and policies of the clinical sites including:

- Hours of rotation
- Safety guidelines
- Proper notification of absences
- Make up of any time missed due to absences
- Abide by the dress code and conduct code of clinical site
- Adhere to the rotational schedule
- Provide own lodging, transportation, food, and other necessary expenses. The clinical rotation sites do not reimburse for any of these extras.
- Adhere to the affective guidelines outlined in the MLS Student Handbook or syllabus
- Confirm that preceptors completed and submitted professional evaluation forms within one week after finishing the rotation
- Completion of weekly logs and questions in Trajecsys
- Complete site evaluations of each department of practicum rotations
- **Take notes as clinical preceptors do not have the time to repeat instructions numerous times**

REQUIREMENTS FOR THE COMPLETION OF THIS COURSE:

1. **A course grade of 80% is required on all exams.**
2. **All journal entries and daily activities log must be submitted through Trajecsys.**
3. **All skills assigned must be completed satisfactorily.**
4. **A satisfactory affective evaluation must be achieved.**
5. **A student must maintain an acceptable attendance.**

CLINICAL ROTATION ACTIVITIES

Activities
Automated and Manual Chemistry instrumentation <ul style="list-style-type: none">• Quality Control• STAT testing• Point-of-care testing (POCT)
Special Chemistry (if available) <ul style="list-style-type: none">• Immunochemistry• Electrophoresis• Serology
Automated and manual urinalysis <ul style="list-style-type: none">• Test strips• Microscopic analysis
Additional testing (if available): <ul style="list-style-type: none">• Stool Occult Blood• Urine hemosiderin

Note: In situations where there is insufficient tasks to participate, the student should spend additional time in Serology and/or Automated Chemistry Instrumentation.

* The Clinical instructor may modify activities based on student performance.

*Please note that the Medical Laboratory Science Student Handbook contains additional information on the Program grading and make-up exam policy.

Chemistry	Meets	Does Not Meet	N/A	Instructor Signature	Comments
Demonstrate proficiency in the use of automated chemistry analyzers by completing the following:					
Perform QC on routinely used chemistry analyzers					
Evaluate Levey-Jennings charts for Westgard Rule					
Troubleshoot QC violations on all chemistry instruments					
Review and evaluates quality control data					
Perform calibration procedure and protocol of different analytes					
Discuss/observe frequency and procedure for linearity studies of chemistry equipment					
Discuss the reasons and follow-up procedures for rejection of samples according to department protocol					
Identify preanalytical errors and/or physiological conditions which will interfere with specific tests (hemolysis, lipemia, icterus, incorrect tube additive, etc.)					
Organize samples, specimen log, reagents, and equipment.					
Read/discuss principle of the instrument operation or test procedure reaction					
Prepare reagents and standards, as necessary. Maintains equipment in proper working order					
Perform instrument start-up and/or shutdown					
Perform testing procedures					
Respond appropriately to results beyond the linearity and/or reportable range of the instrument					
Discuss and perform dilutions when necessary					
Discuss "critical" or "panic" values and reporting protocol					
Assist in troubleshooting basic procedural problems					
Validate results for reporting and making calculations, when necessary					
Recognize abnormal values, correlate with other laboratory results, and explain the clinical significance					

Miscellaneous chemistry tests not mentioned above: (Please list and evaluate tests that were performed by this student in this department)					
Please list all chemistry analyzers used during this rotation:					
Urinalysis	Meets	Does Not Meet	N/A	Instructor Signature	Comments
Quality Control:					
Perform QC on routinely used analyzers					
Record and evaluate quality control data					
Perform physical and chemical tests of routine urinalysis					
Performance of physical and chemical tests of routine urinalysis:					
Validate clinical specimens, including specimen I.D., preservatives (if necessary), and rejection of inappropriate samples					
Organize samples, reagents, and equipment, utilizing cost containment					
Perform routine physical and chemical tests correctly					
Evaluate the need for confirmatory tests					
Recall the effects of deterioration upon urine specimens					
Microscopic examination of urine:					
Prepare urine sediment for examination					
Identify and enumerate clinically significant particles in the urine by use of stain or bright field, polarized, or phase microscopy					
Correlate the findings of microscopic structures with chemical tests and their significance					
Additional testing performed on urine specimens not mentioned above: (Please list and evaluate tests that were performed by this student in this department)					
Urine pregnancy testing					

Affective Behavior and Technical Performance Evaluation

Student Name _____ Practicum Rotation _____

Affective Behavior

Description of Attributes*	Outstanding	Satisfactory	Unsatisfactory
Demonstrates honesty and integrity in work.			
Accepts responsibility for their own actions.			
Maintains confidentiality of patient information/laboratory data.			
Follows policies and procedures of the clinical site.			
Demonstrates ethical conduct in professional endeavors.			
Works effectively under stress.			
Maintains professional demeanor under difficult conditions.			
Influences and contributes to a pleasant work environment.			
Accepts laboratory leadership and provides appropriate feedback respectfully.			
Provides assistance and support to co-workers.			
Communicates well with other health care workers in a professional and courteous manner.			
Organizes and completes work on schedule without sacrificing accuracy and reliability.			
Adheres to dress code, to proper hygiene, and appears professional.			
Shows initiative to improve technical skills and to expand knowledge.			
Arrives timely and remains at workstation to perform work.			
Investigates technical and professional information to solve an issue.			

Affective Behavior and Technical Performance Evaluation

Technical Performance

Description of Attributes*	Outstanding	Satisfactory	Unsatisfactory
Adheres to safety guidelines and maintains good laboratory practice.			
Utilizes the appropriate equipment and techniques for all laboratory tests.			
Develops ability to organize and to increase productivity from the first day to the last day in the rotation without sacrificing accuracy of testing.			
Reports all abnormal results as designated by clinical site.			
Repeats or performs confirmatory testing, as indicated.			
Performs quality control procedures according to SOP and notifies supervisor when outside of acceptable limits.			
Performs tasks with minimal supervision by the end of the rotation and adheres to the policies and procedures of the clinical site.			
Records and reports test results in a timely fashion with at least 95% accuracy.			
Processes specimens with 100% accuracy.			
Follows verbal directions.			
Answers verbal questions with at least 80% accuracy and is prepared with background theory and knowledge to the related clinical area.			
Adheres to the established policies and procedures of the clinical site.			

Please provide additional comments to support an "Unsatisfactory" designation.

_____	_____	_____	_____
Evaluator	Date	Student	Date

*Attributes highlighted in gray are considered critical attributes. An unsatisfactory designation may result in probation or dismissal from the clinical site.



MLS 4940 Clinical Practicum Immunohematology

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MLS Clinical Coordinator: Tammy Quasius
Email: tammy.quasius@centenaryuniversity.edu
Telephone: 908.852.1400 ext. 2765
Office: Trevorrow Hall, Room 225

Clinical Rotation: **Monday – Friday: 7:00 am – 4:00 pm (assigned by clinical site)**
Four-week rotation at an affiliated clinical site assigned by program director
160 hours of clinical practice (20 days)
Immunohematology (15 days)
Immunology/Serology (5 days)

COURSE DESCRIPTION

Advanced clinical practice in a hospital blood bank and immunology laboratory including performance of regulatory required quality control and patient testing, accurate evaluation and interpretation of test results, and component preparation and selection. Comprehensive knowledge, use of all standard operating procedures and reference materials, evaluation of clinical data, and an understanding of additional tests that may be necessary to evaluate complex patient conditions is essential.

COURSE LEARNING OUTCOMES

Upon completion of this course, students will be able to:

1. Follow laboratory protocols for safety and specimen processing and handling
2. Operate, maintain, calibrate and conduct routine performance checks with clinical laboratory instrumentation, including appropriate quality control testing and documentation
3. Perform, within acceptable limits of accuracy, routine and complex analytical procedures in Immunohematology and Serology.
4. Identify normal, abnormal, and panic values for various tests, including how these values are reported or when a new specimen is warranted.
5. Exhibit proper professional conduct and interpersonal communication skills with patients, laboratory personnel and other health care professionals

CENTENARY LEARNING OUTCOMES (CLOs)

In April 2021, the Centenary Faculty adopted the Centenary Learning Outcomes (CLOs). It is very important for assessment purposes that all stakeholders understand the value added that is part of a Centenary education. By the time the students graduate from Centenary University, we expect that in addition to more discipline-specific outcomes, students will be able to:

- CLO1: Communication: Communicate verbally, in writing, and visually in ways that indicate an understanding of diverse audiences, genres, and mediums
- CLO2: Critical thinking: Critically and creatively apply knowledge to evaluate, synthesize, connect, and critique qualitative and quantitative information across disciplines
- CLO3: Information literacy: Locate, evaluate, integrate, and cite properly vetted qualitative and quantitative evidence
- CLO4: Diversity: Integrate and apply knowledge from multiple diverse perspectives using integrity, social responsibility, and ethical behavior
- CLO5: Collaboration: Foster engagement locally and globally by working thoughtfully and respectfully with culturally and socially diverse individuals and groups

COURSE GRADE PERCENTAGES

Complete patient and unit test worksheets and daily QC results	15 %	
Weekly Journal Entries	10 %	
Immunoematology Practical Exam	50 %	A minimum score of 80% must be achieved on this practical exam in order to pass this practicum.
Serology Practical Exam	25 %	A minimum score of 80% must be achieved on this practical exam in order to pass this practicum.
Final Grade	100 %	

CENTENARY GRADING SCHEME

A A-	93 to 100 90 to 92	Excellent	Superior quality in the mastery of content of the course, demonstrated ability to perceive relationships, initiative in doing work in which quality consistently surpasses that required.
B+ B B-	88 to 89 83 to 87 80 to 82	Good	Good understanding of content of the course, demonstrated ability to recognize relationships, better than average achievement of course objectives and fulfillment of course requirements.
C+ C C-	78 to 79 73 to 77 70 to 72	Average	Average understanding of the content and method of the course, demonstrated ability to recognize obvious relationships, adequate achievement of course objectives and fulfillment of course requirements.
D+ D D-	68 to 69 63 to 67 60 to 62	Below Average	Incomplete understanding of the content and method of the course, inability to demonstrate satisfactory recognition of obvious relationships, unsatisfactory achievement of course objectives and requirements.

F	59 and below	Failure	Lack of understanding of the content and method of the course, failure to achieve objectives and/or complete requirements of the course.
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STUDENT RESPONSIBILITIES:

Students must observe and follow all rules and policies of the clinical sites including:

- Hours of rotation
- Safety guidelines
- Proper notification of absences
- Make up of any time missed due to absences
- Abide by the dress code and conduct code of clinical site
- Adhere to the rotational schedule
- Provide own lodging, transportation, food, and other necessary expenses. The clinical rotation sites do not reimburse for any of these extras.
- Adhere to the affective guidelines outlined in the MLS Student Handbook or syllabus
- Confirm that preceptors completed and submitted professional evaluation forms within one week after finishing the rotation
- Completion of weekly logs and questions in Trajecsys
- Complete site evaluations of each department of practicum rotations
- **Take notes as clinical preceptors do not have the time to repeat instructions numerous times**

REQUIREMENTS FOR THE COMPLETION OF THIS COURSE:

1. **A course grade of 80% is required on all exams.**
2. **All journal entries and daily activities log must be submitted through Trajecsys.**
3. **All skills assigned must be completed satisfactorily.**
4. **A satisfactory affective evaluation must be achieved.**
5. **A student must maintain an acceptable attendance.**

CLINICAL ROTATION ACTIVITIES

Activities	Number
ABO/Rh and Antibody Screen <ul style="list-style-type: none">• ABO and Rh Typing• Antibody screen• Investigating discrepancies (ABO/Rh)	20 20 5
Antibody Identification	10
Direct Antiglobulin Testing	5
Cord Blood Testing	5
Antigen Typing	5
Crossmatches	10
Elution	1
Rhogam evaluation/ Fetal screen	1
Transfusion service problem solving	2
Serology procedures <ul style="list-style-type: none">• RPR and VDRL• ELISA and EIA techniques• C-Reactive Protein• Tests for Rheumatoid Arthritis• Spot tests for Infectious mononucleosis• Streptococcal antibody slide tests• Cold Agglutinins• Pregnancy testing• Cryptococcal antigen• Anti-nuclear Antibody (ANA) or anti-DNA• Fluorescent microscopy	10

*The Clinical Instructor may modify activities based on student performance.

*Please note that the Medical Laboratory Science Student Handbook contains additional information on the Program grading and make-up exam policy.

Immunohematology	Meets	Does Not Meet	N/A	Instructor Signature	Comments
Quality Control					
Perform QC on routinely used blood bank reagents					
Review QC and preventative maintenance procedures for cell washers, heat blocks, refrigerators, and freezers					
Discuss reasons for rejection of samples by the transfusion service					
Routine Testing					
Perform ABO/Rh testing					
Perform antibody screen testing					
Perform antibody identification testing					
Perform antigen testing					
Perform crossmatches					
Discuss clinically significant alloantibodies and autoantibodies (including antibody class, phase of reactivity, and transfusion requirements)					
Perform Direct Antiglobulin Testing (DAT)					
Discuss and/or perform an elution					
Discuss when the Rh Immune Globulin work up is performed					
Perform and/or discuss the fetal screen testing					
Perform and/or discuss the Kleihauer-Betke stain.					
Discuss how to determine the proper Rh Immune Globulin dosage					
Special Testing					
Discuss appropriate use of enzyme-treated cells, neutralization, and adsorptions					
Observe and perform testing on automated blood bank analyzer.					
Blood Components					
Discuss appropriate utilization of red blood cells, fresh frozen plasma, platelets, cryoprecipitate.					
Discuss patient conditions when special product attributes are necessary (CMV negative, irradiated, sickle negative)					

Discuss and/or observe component processing (irradiation, pooling, aliquoting)					
Discuss expiration times and storage temperature for each blood component					
Discuss and/or perform issuance of blood and blood components					
Miscellaneous immunology/serology tests (Please list and evaluate other tests that were performed by this student in this department)					

Immunology/Serology	Meets	Does Not Meet	N/A	Instructor Signature	Comments
Demonstrate proficiency in the use of automated blood cell counting devices by completing the following:					
Complete start-up procedure for daily operation					
Perform daily quality control and validate results with quality assurance program					
Evaluate Levey-Jennings charts for Westgard Rule violations					
Operates instrument in daily workload within time limits set by supervisor					
Immunologic Detection of Viral and Bacterial Disease					
Validate the sample by ID number, anticoagulant, and follow criteria for rejection of an inappropriate sample					
Produce acceptable results with accuracy and demonstrate basic competence with applied techniques					
List sources of error and implement appropriate corrective actions, when needed					
Perform the appropriate quality control procedures					
Interpret and/or correlate test results to associated clinical states					
Apply appropriate reference values for all tests performed					
Antibody Titer					
Describe the principle of the test					
Validate the proper sample by ID number, anticoagulant, and follow criteria for rejections of an inappropriate sample					
Produce acceptable results within 70% accuracy and demonstrate basic competence with applied techniques					
List sources of error and implement appropriate corrective action					
Perform the appropriate quality control procedures					
Interpret and/or correlate test results to associated clinical states					
Apply appropriate reference values for all tests performed					

Immunology/Serology	Meets	Does Not Meet	N/A	Instructor Signature	Comments
Antinuclear antibodies					
Describe the principle of the test					
Validate the proper sample by ID number, anticoagulant, and follow criteria for rejections of an inappropriate sample					
Produce acceptable results within 70% accuracy and demonstrate basic competence with applied techniques					
List sources of error and implement appropriate corrective action					
Perform the appropriate quality control procedures					
Interpret and/or correlate test results to associated clinical states					
Apply appropriate reference values for all tests performed					
Miscellaneous immunology/serology tests (Please list and evaluate other tests that were performed by this student in this department)					

Affective Behavior and Technical Performance Evaluation

Student Name _____ Practicum Rotation _____

Affective Behavior

Description of Attributes*	Outstanding	Satisfactory	Unsatisfactory
Demonstrates honesty and integrity in work.			
Accepts responsibility for their own actions.			
Maintains confidentiality of patient information/laboratory data.			
Follows policies and procedures of the clinical site.			
Demonstrates ethical conduct in professional endeavors.			
Works effectively under stress.			
Maintains professional demeanor under difficult conditions.			
Influences and contributes to a pleasant work environment.			
Accepts laboratory leadership and provides appropriate feedback respectfully.			
Provides assistance and support to co-workers.			
Communicates well with other health care workers in a professional and courteous manner.			
Organizes and completes work on schedule without sacrificing accuracy and reliability.			
Adheres to dress code, to proper hygiene, and appears professional.			
Shows initiative to improve technical skills and to expand knowledge.			
Arrives timely and remains at workstation to perform work.			
Investigates technical and professional information to solve an issue.			

Affective Behavior and Technical Performance Evaluation

Technical Performance

Description of Attributes*	Outstanding	Satisfactory	Unsatisfactory
Adheres to safety guidelines and maintains good laboratory practice.			
Utilizes the appropriate equipment and techniques for all laboratory tests.			
Develops ability to organize and to increase productivity from the first day to the last day in the rotation without sacrificing accuracy of testing.			
Reports all abnormal results as designated by clinical site.			
Repeats or performs confirmatory testing, as indicated.			
Performs quality control procedures according to SOP and notifies supervisor when outside of acceptable limits.			
Performs tasks with minimal supervision by the end of the rotation and adheres to the policies and procedures of the clinical site.			
Records and reports test results in a timely fashion with at least 95% accuracy.			
Processes specimens with 100% accuracy.			
Follows verbal directions.			
Answers verbal questions with at least 80% accuracy and is prepared with background theory and knowledge to the related clinical area.			
Adheres to the established policies and procedures of the clinical site.			

Please provide additional comments to support an "Unsatisfactory" designation.

_____	_____	_____	_____
Evaluator	Date	Student	Date

*Attributes highlighted in gray are considered critical attributes. An unsatisfactory designation may result in probation or dismissal from the clinical site.



MLS 4950 Clinical Practicum Microbiology

MLS Program Director: Dr. Craig L. Fuller
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Telephone: 908.852.1400 ext. 2409
Office: Trevorrow Hall, Room 224

MLS Clinical Coordinator: Tammy Quasius
Email: tammy.quasius@centenaryuniversity.edu
Telephone: 908.852.1400 ext. 2765
Office: Trevorrow Hall, Room 225

Clinical Rotation: **Monday – Friday: 7:00 am – 4:00 pm (assigned by clinical site)**
Four-week rotation at an affiliated clinical site assigned by program director
160 hours of clinical practice (20 days)

COURSE DESCRIPTION

Advanced clinical practice in a hospital or reference microbiology laboratory used to apply and build on the knowledge and skills by using clinical microbiology procedures and techniques for isolation and identification of pathological bacteria as well as various fungal, viral, protozoan and parasite identification. Quality control, precision and accuracy of testing and providing competent interpretation of clinical data is imperative.

COURSE LEARNING OUTCOMES

Upon completion of this course, students will be able to:

1. Follow laboratory protocols for safety and specimen processing and handling
2. Operate, maintain, calibrate and conduct routine performance checks with clinical laboratory instrumentation, including appropriate quality control testing and documentation
3. Select applicable isolation and identification protocol for each type of specimen/organism
4. Perform automated and manual procedures for the detection, isolation, identification and antimicrobial susceptibility testing of common and selected unusual microbial isolates
5. Identify normal, abnormal, and panic values for various tests, including how these values are reported or when a new specimen is warranted.
6. Exhibit proper professional conduct and interpersonal communication skills with patients, laboratory personnel and other health care professionals.

CENTENARY LEARNING OUTCOMES (CLOs)

In April 2021, the Centenary Faculty adopted the Centenary Learning Outcomes (CLOs). It is very important for assessment purposes that all stakeholders understand the value added that is part of a Centenary education. By the time the students graduate from Centenary University, we expect that in addition to more discipline-specific outcomes, students will be able to:

- CLO1: Communication: Communicate verbally, in writing, and visually in ways that indicate an understanding of diverse audiences, genres, and mediums
- CLO2: Critical thinking: Critically and creatively apply knowledge to evaluate, synthesize, connect, and critique qualitative and quantitative information across disciplines
- CLO3: Information literacy: Locate, evaluate, integrate, and cite properly vetted qualitative and quantitative evidence
- CLO4: Diversity: Integrate and apply knowledge from multiple diverse perspectives using integrity, social responsibility, and ethical behavior
- CLO5: Collaboration: Foster engagement locally and globally by working thoughtfully and respectfully with culturally and socially diverse individuals and groups

COURSE GRADE PERCENTAGES

Complete daily instrument calibration and daily QC	15 %	
Weekly Journal Entries	10 %	
Microbiology Practical Exam #1	25 %	A minimum score of 80% must be achieved on this practical exam in order to pass this practicum.
Microbiology Practical Exam #2	25 %	A minimum score of 80% must be achieved on this practical exam in order to pass this practicum.
Microbiology Practical Exam #3	25 %	A minimum score of 80% must be achieved on this practical exam in order to pass this practicum.
Final Grade	100 %	

CENTENARY GRADING SCHEME

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B+ B B-	88 to 89 83 to 87 80 to 82	Good	Good understanding of content of the course, demonstrated ability to recognize relationships, better than average achievement of course objectives and fulfillment of course requirements.

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F	59 and below	Failure	Lack of understanding of the content and method of the course, failure to achieve objectives and/or complete requirements of the course.

STUDENT RESPONSIBILITIES:

Students must observe and follow all rules and policies of the clinical sites including:

- Hours of rotation
- Safety guidelines
- Proper notification of absences
- Make up of any time missed due to absences
- Abide by the dress code and conduct code of clinical site
- Adhere to the rotational schedule
- Provide own lodging, transportation, food, and other necessary expenses. The clinical rotation sites do not reimburse for any of these extras.
- Adhere to the affective guidelines outlined in the MLS Student Handbook or syllabus
- Confirm that preceptors completed and submitted professional evaluation forms within one week after finishing the rotation
- Completion of weekly logs and questions in Trajecsys
- Complete site evaluations of each department of practicum rotations
- **Take notes as clinical preceptors do not have the time to repeat instructions numerous times**

REQUIREMENTS FOR THE COMPLETION OF THIS COURSE:

1. **A course grade of 80% is required on all exams.**
2. **All journal entries and daily activities log must be submitted through Trajecsys.**
3. **All skills assigned must be completed satisfactorily.**
4. **A satisfactory affective evaluation must be achieved.**
5. **A student must maintain an acceptable attendance.**

CLINICAL ROTATION ACTIVITIES

Activities
Specimen handling and processing protocols
Inoculation and staining <ul style="list-style-type: none">• Gram stain, AFB (if available), spore stain (if available)• Proper technique• Streak plate isolation• Auto-plating (if available)
Cultures from various sources: review of plates for pathogens versus normal flora <ul style="list-style-type: none">• Urine• Upper/Lower Respiratory Tract• Genital• Stool• Wound• Other Body Fluids• Fungal (if available)• AFB (if available)
Organism identification <ul style="list-style-type: none">• Gram stain• Manual identification methods• Automated identification methods• Biochemical testing or latex agglutination
Susceptibility testing <ul style="list-style-type: none">• Manual susceptibility testing (Kirby Bauer, E-test)• Automated susceptibility testing
Molecular Biology (if available)

*Please note that the Medical Laboratory Science Student Handbook contains additional information on the MLS Program grading and make-up exam policy.

Microbiology	Meets	Does Not Meet	N/A	Instructor Signature	Comments
Demonstrate proficiency in the use of automated microbial identification devices by completing the following:					
Perform quality assurance (QA) procedures on equipment, media, & tests					
Discuss molecular techniques and their use and perform testing on available techniques.					
State the principle, perform & interpret operation of any automated equipment used in the specific laboratory (Example: Vitek®, Microscan, MALDI-TOF, BioFire)					
Assist and advise in proper specimen collection and handling					
Demonstrate knowledge of procedures for handling improper/inappropriate specimens					
Demonstrate knowledge of atmospheres (define ambient, anaerobic, increased CO ₂ , and microaerophilic)					
Determine appropriate media for initial isolation for each specimen/source					
State principles of biochemical tests used in identification of bacterial isolates					
Demonstrate safe work practices such as autoclave, disposal of biohazards, universal precautions, etc.					
Discuss bioterrorism and detection of possible agents of bioterrorism					
Demonstrate proper inoculation, isolation, incubation, and quantitation techniques for the following:					
Clean catch urine					
Catheterized urine					
Swabs					
Urine					
Sputum					
Stool					
Blood					
CSF/Other sterile body fluids					

Microbiology	Meets	Does Not Meet	N/A	Instructor Signature	Comments
Discuss appropriate specimen collection from various sources					
Discuss the necessity of sterility to prevent contamination during culture set-ups					
Review culture results and interpretations					
Analyze cultures for cross contamination					
Perform quality control procedures					
Perform environmental testing for contamination					
Perform and interpret gram stain from a given source including:					
Sputum gram stain:					
Suitability for culture					
Urethral smear for GC					
Blood					
Wounds					
Sterile Body Fluids					
Identify colony characteristics of normal flora and pathogens from a given source including:					
Urine					
Stool					
Respiratory					
Genital					
Wound					
Sterile body site					
Other					
Identify colony characteristics of normal flora and pathogens from a given source:					
<i>Staphylococcus aureus</i>					
Coagulase-negative staphylococci					
Beta-hemolytic streptococci					
Alpha-hemolytic streptococci					
<i>Enterococcus</i>					
<i>Enterobacteriaceae</i>					

Microbiology	Meets	Does Not Meet	N/A	Instructor Signature	Comments
Non-fermentative Gram-negative bacilli					
<i>Neisseria</i>					
<i>Haemophilus</i>					
Serotype bacteria based on serological procedures to include:					
Serotype bacteria based on serological procedures to include:					
<i>Salmonella/Shigella/E. coli</i>					
Beta-hemolytic streptococci					
State principle, perform, and interpret antimicrobial susceptibility tests:					
Kirby Bauer					
E-test					
Beta lactamase test/screen					
Other methodologies					
Anaerobes					
Discuss proper specimen, collection, and transport of anaerobic cultures					
Select proper media selection for anaerobic cultures					
Establish anaerobic environment for culture (GasPak, BioBags, Anoxomat, etc.)					
Recognize microscopic and colonial morphology of normal flora and potential pathogens					
Discuss proper specimen, collection, and transport of anaerobic cultures					
Select proper media selection for anaerobic cultures					
Mycology (if applicable)					
Discuss proper specimen, collection, transport & processing					
Perform wet mounts (KOH, India Ink, or LPCB)					
Perform and read slide culture					
Identify morphological features of clinically significant fungi					
Identify and select proper fungal media for a given source					

	Meets	Does Not Meet	N/A	Instructor Signature	Comments
Discuss clinical significance of fungal isolates from a given source and patient					
Identify molds and yeast following the procedures used in the lab					
Examine department study slides					
Parasitology					
Discuss proper specimen, collection, and processing					
Perform a concentration procedure					
Prepare fecal smears (direct smear, iodine prep, concentrated smears, & permanent smears)					
Prepare thick and thin blood smears for hemoflagellates					
Examine departmental study slides					
Recognize diagnostic stages of the following intestinal protozoa:					
Hemoflagellates					
Malaria					
Helminths					
Coccidian					
Virology					
Discuss proper specimen, collection, transport & processing					
Describe clinically significant viruses					
Perform and/or discuss identification methods (culture, serology, molecular methods, etc.)					
Miscellaneous microbiology tests (Please list and evaluate other tests that were performed by this student in this department)					

Molecular Techniques	Meets	Does Not Meet	N/A	Instructor Signature	Comments
Molecular detection of genetic or infectious disease					
Explain the purposes of each component in reactions, cycle, and methods for ensuring adequate stringency					
Perform amplification and probe assay of amplification					
Observe sequencing of amplification product					
Discuss issues of contamination					
Discuss use of controls for accurate interpretation of results					
Discuss interpretation of the results of amplification					
Compare different methods for amplifying nucleic acids					
Report approved results according to laboratory policy.					
Help perform preventive maintenance.					
Calibrate a procedure as available.					
Explain the principle of measurement of the instrument.					
Miscellaneous molecular techniques (Please list and evaluate other tests that were performed by this student in this department)					

Affective Behavior and Technical Performance Evaluation

Student Name _____ Practicum Rotation _____

Affective Behavior

Description of Attributes*	Outstanding	Satisfactory	Unsatisfactory
Demonstrates honesty and integrity in work.			
Accepts responsibility for their own actions.			
Maintains confidentiality of patient information/laboratory data.			
Follows policies and procedures of the clinical site.			
Demonstrates ethical conduct in professional endeavors.			
Works effectively under stress.			
Maintains professional demeanor under difficult conditions.			
Influences and contributes to a pleasant work environment.			
Accepts laboratory leadership and provides appropriate feedback respectfully.			
Provides assistance and support to co-workers.			
Communicates well with other health care workers in a professional and courteous manner.			
Organizes and completes work on schedule without sacrificing accuracy and reliability.			
Adheres to dress code, to proper hygiene, and appears professional.			
Shows initiative to improve technical skills and to expand knowledge.			
Arrives timely and remains at workstation to perform work.			
Investigates technical and professional information to solve an issue.			

Affective Behavior and Technical Performance Evaluation

Technical Performance

Description of Attributes*	Outstanding	Satisfactory	Unsatisfactory
Adheres to safety guidelines and maintains good laboratory practice.			
Utilizes the appropriate equipment and techniques for all laboratory tests.			
Develops ability to organize and to increase productivity from the first day to the last day in the rotation without sacrificing accuracy of testing.			
Reports all abnormal results as designated by clinical site.			
Repeats or performs confirmatory testing, as indicated.			
Performs quality control procedures according to SOP and notifies supervisor when outside of acceptable limits.			
Performs tasks with minimal supervision by the end of the rotation and adheres to the policies and procedures of the clinical site.			
Records and reports test results in a timely fashion with at least 95% accuracy.			
Processes specimens with 100% accuracy.			
Follows verbal directions.			
Answers verbal questions with at least 80% accuracy and is prepared with background theory and knowledge to the related clinical area.			
Adheres to the established policies and procedures of the clinical site.			

Please provide additional comments to support an "Unsatisfactory" designation.

_____	_____	_____	_____
Evaluator	Date	Student	Date

*Attributes highlighted in gray are considered critical attributes. An unsatisfactory designation may result in probation or dismissal from the clinical site.



**Attendance Sign-In Sheet – Clinical Rotation
Centenary University Medical Laboratory Science Program**

Lab site: _____

Department: _____

Student: _____

Student Signature: _____

Date	Time In	Time Out	Preceptor/Manager Signature



Attendance Sign-In Sheet – Clinical Rotation
Centenary University Medical Laboratory Science Program

Lab site: _____

Department: _____

Student: _____

Student Signature: _____

Date	Time In	Time Out	Preceptor/Manager Signature



**Attendance Sign-In Sheet – Clinical Rotation
Centenary University Medical Laboratory Science Program**

Lab site: _____

Department: _____

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Date	Time In	Time Out	Preceptor/Manager Signature