MEDICAL LABORATORY SCIENCES

Halenz Hall, Room

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mls@andrews.edu www.andrews.edu/mls/

Faculty
Marcia A. Kilsby, Chair, MLS Program Director
Aileen Hyde
Tim A. Newkirk
Karen A. Reiner, Graduate Program Coordinator
Richard D. Show

Academic Programs	Credits
BS in Medical Laboratory Science (BSMLS) BS: Allied Health Administration MS in Medical Laboratory Science (MSMLS)	
Emphasis Areas Education	
Laboratory Leadership and Administration Laboratory Mission & Development Laboratory Sciences	

Mission

The mission of the Department of Medical Laboratory Sciences, in harmony with Andrews University and the Seventh-day Adventist Church, is to prepare students for Christian service as medical laboratory scientists.

The MLSdepartment encourages faculty in professional, educational and spiritual growth.

The MLSfaculty educates students to develop excellence in the skills necessary for a life work of service in quality health care and dedication to improving the human condition.

MLSgraduates will minister to the needs of others by practicing and promoting standards of excellence as medical laboratory science professionals.

Medical Laboratory Science

The degree program includes three years of undgraduate (pre-clinical) studies plus one year (semesters) of clinical (professional) education.

Pre-clinical Program. The first three years of undergraduate study include General Education, cognate science, and pre-clinical degree requirements. Program options feature directed elective course work selected in consultation with the faculty advisor according to the student's career goals and interests.

Clinical (Professional) Program. The year of clinical studies is comprised of lectures and student laboratories on the Berrien Springs campus and clinical practica at an affiliated hospital or clinical laboratory site.

with practicing professionals in patient health care during the final portion of the clinical year. Andrews University maintains a number of affiliations with clinical institutions across the country. Student preferences for clinical site assignments are solicited and granted when possible. Final site assignments are made at the discretion of the faculty. Each student is responsible for providing his/her own transportation for the clinical practica. We strongly advice that each student have his/her own car for that purpose.

Clinical Year Admission Requirements. An independent admissions process is required for university students who wish to enter clinical studies. The application form may be obtained from the Department of Medical Laboratory Sciences office. Students should complete the application and return it to the departmental office by January prior to their anticipated clinical-study year.

Admission requires an overall GPA of . . In the admissions process, the GPAs for the cognate science courses and medical

required at the discretion of the Admissions Committee. are final arbiters in determining student continuance.

Professional Certification. Students who complete the degree program are eligible to write the national certification examination sponsored by the ASCP (American Society for Clinical Pathology) Board of Certification.

Program Accreditation. The Andrews University Program for Medical Laboratory Sciences holds accreditation from the National Accrediting Agency for Medical Laboratory Sciences (NAACLS), N River Rd, Suite , Rosemont, IL , () - fax () - , e-mail at info@naacls, or the Web at www.naacls.org.

Academic Calendar 2012–2013

July	Fri	Senior summer term (clinicals) ends
July	Mon	Registry review week begins
August	Sat	Certification ceremony
March May May July July August	Mon Fri Mon Fri Mon Sat	Clinical Practica begins Senior spring semester (clinicals) ends Senior summer semester (clinicals) begins Senior summer term (clinicals) ends Registry review week begins Certification ceremony

Undergraduate Programs

BS in Medical Laboratory Science (124) (BSMLS)

General Education Requirements— See professional program requirements, p. , and note the following specific requirements: Religion: Equivalent of one per year of full-time enrollment at AU. Courses taken at SDA institutions can be used to meet this requirement. Language/Communication: professional degree requirements History or Fine Arts/Humanities: professional degree requirements Life/Physical Sciences: See cognate sciences below Mathematics: Statistics preferred. Students transferring into clinical program—any college level course. Computer Literacy: fulfilled through clinical practica Service: fulfilled through clinical practica Social Sciences: professional degree requirements Fitness Education: courses. Recommend freshmen take HLED Fit for Life and one additional course from personal fitness, outdoor skills or team activity. Transfer students take two from the three categories above. Must also pass a physician-administered physical exam before

advancement to clinical practica.

BS: Allied Health A dministration (65)

This degree is designed for health-care professionals seeking to enhance the knowledge they already have and to help them prepare for future career employment requirements. The degree format features a strong general education and administrative/ business component and provides an academic foundation for health-care administrative positions. It is open only to individuals holding an associate degree or a two-year certificate in an allied-health professional area with earned certification where applicable in such areas as diagnostic ultrasound, nuclear medicine, physician assistant, radiation therapy, radiologic technology, respiratory therapy, and special procedures in radiologic technologyespirhnology1DC (S)Tjt3an<</ActuF000plic8medicine, ph

and one college-level course in mathematics. Deficiencies must be removed prior to admission to the graduate program.

- v \$ S S O L FPDXQWWWDADHOR Y H U \$9\$0R OD VD H DÚV WQ undergraduate courses and at least . in the undergraduate cognate science (chemistry, biology, math and medical laboratory science) courses.
- v \$ S S O L FPDXQWQWQ/8 Q L V6 M/D SWLHR/I H V F LIRUQWQLOL F D W L R Q and/or licensure in medical laboratory science acceptable to the admissions committee. Certification may be either in consul general or in one of the recognized areas of specialization. Acceptable certification is typically defined as that offered by the ASCP (American Society for Clinical Pathology) Board of Certification.
- v 7 K HU D G X5DHMF R(UDGP L Q D W5L(RLOQ RUWH T X LRUUH G admission but is required for GRE Scholarship consideration.

Individuals lacking United States professional certification may request to be admitted on a provisional basis while they pursue the course work required for eligibility to write the national certification examinations. These clinical courses and their prerequisites require a minimum of four academic semesters. The courses include MLSC , , , , , , , ,

credits, and must meet the GPA requirements as stated above.

Degree Requirements

In addition to meeting the general requirements for graduate degree programs, students must meet the following departmental requirements:

- v & R P S ODHP W/OHL P KX ÉP Ý H P H VF W/ H CLIQ WF Ø XWG KFR BR JJ H of semester credits and semester credits selected from the chosen emphasis.
- v + D YM KJHU D G SDWR 出货 R R U G LDCSDSW R 数 X U V H selections and course sequencing. Students may substitute alternate courses listed in this Bulletin with the consent of the graduate program coordinator and the approval of the dean of the School of Health Professions.
- v 1 RJ U D G RI ZWH kJ & QVD F F H S W D E O H
- v 0 D L Q WD D L Q L P KXP P X O D 3N\$R NÚH x I x W KIHU D G X D W H portion of the program.

Core courses—

ACCT; BSAD or BSAD; MLSC,,,,,; plus a minimum of – graduate religion credits selected in consultation with graduate program coordinator. Competency in statistics is required and is determined by the graduate program coordinator.

Emphasis—

A minimum of semester credits from one of the following emphases:

Laboratory Sciences Emphasis*: Required courses are BCHM , , and BIOL . Additional courses to select I U R P% , 2 / \hat{U} \hat{W} \hat{W} \hat{V} \hat{D} \hat{W} \hat{V} \hat{V} \hat{U} \hat{V} \hat

Laboratory Mission & Development Emphasis: Required courses BSAD or , BSAD or MSSN . Additional FRX UW 1811 VOIHURW\$ 17+ Ü 18 18 $\dot{\mathbf{U}}$ Ü Ü Ý Ý Ù $\dot{\mathbf{M}}$ QRW taken as part of the required courses), LEAD , MSSN (if not taken as part of the required courses), PSYC , SOCI ,

\$ U H O HPYRDXQUOXXRBML VILMOUM KBHL RYS K DPVDLVEYHV H O H F W H G in consultation with and approved by the graduate program coordinator.

Enrollment Continuation Requirements. A student may not in Cm1_2d scin

SCHOOL OF HEALTH PROFESSIONS

hemostasis procedures are performed. Weekly: Three lectures and one lab.

MLSC \$()

Fundamentals of Clinical Microbiology

Orientation to clinical microbiology; specimen selection, collection, and transport; microscopic evaluation; stains and sterilization techniques; media and incubation selections; identification of routine and non-routine microorganisms; susceptibility testing; automation and quality assurance. Prerequisite: BIOL . Weekly: Two lectures and two labs.

MLSC \$()

Fundamentals of Immunohematology

Introduces blood group antigen systems, antibody screening, antibody identification, and compatibility testing. Selected routine procedures are performed. Weekly: Three lectures and one lab.

MLSC ()

Fundamentals of Immunology

Innate and acquired immune systems of the hman organism; immunoglobulin production, structure, function, and diversity; antigen characteristics, variety, and specific red cell groups; tolerance and memory; complement structure and function; cell mediated immunity function and regulation; autoimmune disorders; transplantation and tumor immunology; immunodeficiency disorders; principles and procedures of techniques used in modern immunology lab. Weekly: Three lectures. Prerequisite: BIOL

MLSC \$()

Fundamentals of Clinical Chemistry
Clinical lab procedures, safety, application of statistical
procedures in quality control, and principles of clinical
laboratory instrumentation. Topics include carbohydrates, lipids,
electrolytes, and hepatic function with selected pathologies.
Weekly: Three lectures and one lab. Prerequisites: completed or
currently enrolled in CHEM or permission of instructor

MLSC ()

Specimen Procurement and Processing

Clinical specimen collection and processing; point-of-care testing, professional ethics; phlebotomy practicum. Prerequisite: permission of the instructor.

MLSC \$()

Clinical Year Seminar and Research Methodology Introduction to educational methodology, multicultural communication, professionalism, medical laboratory sciences literature review, research design and practice. Attendance to all sessions is required. A pass/fail grade is assigned. Prerequisite: permission of program director.

MLSC \$()

Clinical Year Seminar and Research Project Introduction to team building, service outreach and professional development. Research in medical laboratory science under the direction of a departmental faculty member. Preparation and delivery of a written report and oral presentation on the research project. Attendance to all sessions is required. Prerequisite: permission of program director.

MLSC ()

Hematology

Cellular elements of the blood, their maturation, functions,

and morphologies; abnormal and disease state hematologies; principles and procedures of routine and special hematology assay methodologies; correlation of patient conditions with results of hematology assay results. Prerequisites: MLSC and permission of program director.

MLSC ()

Hemostasis

Hemostasis systems, their function, interaction, and monitoring; correlation of hemostasis assay results with various disorders; thrombosis and anticoagulant therapy; principles and procedures of routine and special hemostasis assays. Prerequisites: MLSC and permission of program director.

MLSC ()

Clinical Hematology & Hemostasis Practicum
Professional health-care laboratory practicum; emphasis in
patient-care application of hematology and hemostasis procedures.
Prerequisites: MLSC , and permission of program director.

MLSC ()

Clinical Immunology and Molecular Diagnostics
Theory and application of immunologic/serologic and basic
molecular techniques including detection, analyses and
epidemiology. Emphasis on correlation of patient conditions
with test results for viral and bacterial diseases and cancers.
Prerequisites: MLSC and permission of program director.

MLSC ()

Clinical Immunology, Virology, and Molecular Diagnostics Practicum

Professional health-care laboratory practicum: emphasizes patient-care applications of immunology, serology, virology and molecular techniques. Prerequisites: MLSC and permission of program director.

MLSC ()

Clinical Bacteriology

Emphasis on specimen collection, culture, identification and clinical significance of bacterial pathogens. Simulated clinical practice for the separation of normal flora from pathogenic microorganisms encountered in various body sites including this test direction crobial susceptibility test

problem solving; patient clinical state correlations. Prerequisites: MLSC , MLSC and permission of program director.

MLSC ()

Transfusion Medicine

In-depth study of immunohematology testing results, clinical patient manifestations, blood component therapy and blood product requirements. Prerequisites: MLSC and permission of program director.

MLSC ()

Clinical Immunohematology Practicum

Professional health-care laboratory practicum; emphasis in patient-care applications of immunohematology. Prerequisites: MLSC , and permission of program director.

MLSC ()

Clinical Chemistry I

Carbohydrate, lipid, enzyme, electrolyte, acid-base balance, trace element, protein systems, and gastric functions. Correlations with normal physiology and selected pathological conditions. Analysis of relevant blood and body fluids constituents. Prerequisites: MLSC and permission of program director.

MLSC ()

Clinical Chemistry II

Liver function, renal function, endocrinology, toxicology, and therapeutic drug monitoring. Correlations with normal physiology and selected pathological conditions. Prerequisites: MLSC and permission of program director.

MLSC ()

Clinical Chemistry Practicum

Professional health-care laboratory practicum. Emphasis on patient-care applications in clinical chemistry. Prerequisites: MLSC , and per mission of program director.

MLSC ()

Body Fluids

Analysis of various body fluids such as serous fluids, synovial fluids, amniotic fluid, and urine. Correlations with normal physiology and selected pathological conditions. Prerequisites: MLSC and permission of the program director.

MLSC ()

Body Fluids Practicum

Professional health-care laboratory practicum. Emphasis in patient-care applications of body fluids. Prerequisites: MLSC and permission of program director.

MLSC ()

Medical Laboratory Management Concepts

Discussion in selected areas that include health-care delivery systems; problem solving in the clinical laboratory; human resource management; supply and equipment acquisition; financial management' performance standards and assessment; ethics; laboratory information systems; and regulatory processes. Prerequisite: permission of the program director.

MLSC (-)

Topics in ______
An in-depth study of selected topics in

An in-depth study of selected topics in the clinical laboratory sciences. Repeatable in different specialized areas. Prerequisite: permission of program director.

MLSC \$()

Practicum Project

Designed to be an integral component of the clinical year practica experience. Introduces students to the principles, practices, and performance of clinical laboratory projects expected of practicing professional clinical laboratory scientists.

MLSC (-)

Independent Project

Topics may be from areas relevant to clinical laboratory practice and must be approved by the Program director. Repeatable in a different subject area. Independent readings earn S/U grades. Prerequisite: permission of program director.

MLSC ()

Extended Clinical Practicum

A twelve-week professional health-care labortory practicum.

Emphasis in patient-care applications. Subject/T1_1 1 Tf 30.706OJ /ned tcticum

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program coordinator. Clinical placement depends on clinical site availability.

MLSC (-)

Independent Study/Readings/Research Project

Topics may be from immunology, immunohematology, clinical chemistry, hematology, microbiology and other areas of patient-care science, clinical laboratory science education, management, or applications specially relevant to clinical laboratories. Repeatable in a different subject area for a total of four () credits. Independent readings earn S/U grades. Prerequisite: permission

Project Continuation

of graduate program coordinator.

Student may register for this title while clearing deferred grade (DG) and/or incomplete (I) courses with advisor approval only. Registration for this title indicates full-time status.

Program Continuation

Students may register for this non-credit continuation course to maintain active status. For additional information on active status, please refer to p. in the bulletin. Registration does not indicate full-time status.

NURSING

Marsh Hall (Second Floor)

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nursing@andrews.edu

www.andrews.edu/nrsg/

Faculty

Karen A. Allen, Chair, and Director of Graduate Programs Ruth D. Abbott

Nancy A. Carter, Director of Undergraduate Admissions and Progressions

Henrietta H. Hanna, Director of Undergraduate Curriculum

Gisele D. Kuhn

Mary N. Ngugi

Cynthia J. Papendick, Director of Clinical Practicum

Arlene M. Saliba

Gisela E. Schmidt

Academic Programs	Credits
BS: Nursing (NCLEX-preparatory) BS: Nursing (completion)	
MS: Nursing	
Nurse Education	
Post-MS: Nursing Education Certificate	

Mission

Based on a framework of Seventh-day Adventist precepts and restoration to the image of God, the Andrews University Department of Nursing prepares nurses at the baccalaureate and master's degree levels. This preparation is for life-long Christian work in nursing service, technology, practice, education, leadership and research to the local, national, and international communities.

The faculty create a learning environment within a culturally diverse context, which develops and enhances critical thinking, communication, therapeutic nursing interventions, professional development, and Christian service.

Vision

To prepare professional nurses to reflect Christian spirituality, caring attitudes, clinical excellence, and cultural competence for service in an ever-changing environment.

Program Accreditation

The Andrews University Nursing program is approved by the Michigan Board of Nursing and holds accreditation from the 1 D W L RHQDJJXRHUX U V \$ QEU H G&LRVPLPQLJV V IL RIC\$ &

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