

# CLINICAL & LABORATORY SCIENCES

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BS in Medical Laboratory Science (BSMLS)	124
BS: Allied Health Administration	65
MS in Medical Laboratory Science (MSMLS)	32
Emphasis Areas	
Biomedical	
Business and Management	
Education	

## Mission

The mission of the Department of Clinical & 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 CLS encourages faculty in professional, educational and spiritual growth.

The CLS 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.

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

Medical education is provided in a clinical setting. Students work side-by-side 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 practice. We strongly advise that each student have his/her own car for that purpose.

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 Clinical and Laboratory Sciences office. Students should complete the application and return it to the departmental office by January 31 prior to their anticipated clinical-study year.

Admission requires an overall GPA of 2.50. In the admissions process, the GPAs for the cognate science courses and medical laboratory science content courses are computed together. This combined GPA must also be a minimum of 2.50. Preference is

## Academic Calendar 2010–2011

July 23 Fri Senior summer term (clinical) ends  
July 26 Mon Registry review week begins  
July 31 Sat Certification ceremony

April 29 Fri Senior spring semester (clinical) ends  
May 2 Mon Senior summer semester (clinical) begins  
July 22 Fri Senior summer term (clinical) ends  
July 25 Mon Registry review week begins  
July 30 Sat Certification ceremony

## Undergraduate Programs

BS in Medical Laboratory Science (124)  
(BSMLS)

© —  
BIOL165; BIOL166 or 111; CHEM131, 132, 231, 232, 241, 242  
(Fall clinical) begins

cognate science (chemistry, biology, math and medical laboratory science) courses.

- Applicants must hold United States professional certification and/or licensure in medical laboratory science acceptable to the admissions committee. Certification may be either general or in one of the recognized areas of specialization. Acceptable certification is usually defined as that offered by the ASCP (American Society for Clinical Pathology) Board of Certification.
- The required Graduate Record Examination (GRE) for admission is a minimum of 800 Composite (Verbal + Quantitative). Students who do not achieve 800 on their GRE may be accepted under provisional status.

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 MLSC210, 230, 240, 320, 350, 400, 401, 402, 411, 412, 413, 421, 423, 431, 432, 433, 441, 442, 443, 451, 452, 453, 461, 463, 470, 475 and 493. Students must receive United States professional certification before completing more than 9 graduate credits, and must meet the GPA requirements as stated above. Students may not enroll in MLSC561, MLSC562 or MLSC585 prior to obtaining certification.

### Degree Requirements

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

- Complete a minimum of 32 semester credits including the core of 20 semester credits and 12 semester credits selected from the emphasis chosen.
- Have the graduate program coordinator approve course selections and course sequencing. Students may substitute alternate courses listed in this Bulletin with the consent of the coordinator and the approval of the dean of the College of Arts & Sciences.
- No grade lower than C is acceptable in the graduate portion of the program.
- Maintain a minimum cumulative GPA of 3.00 for the graduate portion of the program.

ACCT500; BSAD500; MLSC501, 502, 561, 562, 585; plus a minimum of 3 graduate religion credits selected in consultation with graduate program coordinator

A minimum of 12 semester credits from one of the following options:

- ... \* ...CE\*\* %| BCHM421, 422, 430; BIOL444, 445, 446, 475, BOT450, 525, ZOO425, 464, 465, 475
- \*† ... ...CE\*\* %| ACCT635 ( ... ), BSAD515, 530, 531, 620
- \* ...CE\*\* %: EDAL520, 635, EDCL545, 547, 607, 610, 637, 650, EDFN500, 607, EDPC514, 520, 554

A relevant course not listed in this emphasis may be selected in consultation with and approved by the MLS Graduate Program Coordinator.

© A student whose cumulative graduate GPA falls below 3.00 in any given semester is placed on academic probation. Academic probation students

are not allowed to register for or continue participation in MLSC585.

In consultation with the graduate program coordinator, the medical laboratory science graduate faculty determines the student's proposed course load for the following semester. The faculty's recommendation is referred to the dean/graduate program coordinator of the College of Arts & Sciences for final approval.

A student who does not raise his/her graduate GPA to 3.00 within one full-time equivalent semester is terminated from the program. Exceptions require the approval of the clinical laboratory science graduate faculty and the dean/graduate program coordinator of the College of Arts & Sciences.

### Courses

(Credits)

See inside front cover for symbol code.

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 ,CE " §§§§§§§§§§§§§§  
 Repeatable in different areas. Prerequisite: permission of program director.

∫  
 \* " ... §§§§§§§§§§§§  
 Prerequisite: permission of program director.

u " " " " \* e \_ n " " " "  
 Lectures and/or demonstrations presented by each of the departmental faculty members covering the major disciplines in clinical laboratory science. A field trip to visit a clinical laboratory is also included. Weekly: one lecture.

\* ... n n †  
 An in-depth study of medical terms and abbreviations relating to diseases, disorders and drugs. (This course is also available to off-campus students through distance learning. Prerequisite: permission of instructor.)

∫  
 ~ \* ... \* n ' ... \* n n † \* ... n \*  
 Introduces the production, maturation, function of normal blood

~ \*... \* "† ..... u,†

Innate and acquired immune systems of the human 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.

~ \*... \* "† ..... u,†

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 CHEM131 or permission of instructor

CE " ... " ... \* "†

Clinical specimen collection and processing; point-of-care testing, professional ethics; phlebotomy practicum. Prerequisite: -ife: of lectures.

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Liver function, renal function, endocrinology, toxicology, and therapeutic drug monitoring. Correlations with normal physiology and selected pathological conditions. Prerequisites: MLSC451 and permission of program director.

"• • ... •" " ...  
Professional health-care laboratory practicum. Emphasis on patient-care applications in clinical chemistry. Prerequisites: MLSC451, 452 and permission of program director.

" -  
" Analysis of various body fluids such as serous fluids, synovial fluids, amniotic fluid, and urine. Correlations with normal physiology and selected pathological conditions. Prerequisites: MLSC451 and permission of the program director.

" - •" " ... (1)  
" - •" " ...  
Professional health-care laboratory practicum. Emphasis in patient-care applications of body fluids. Prerequisites: MLSC461 and permission of program director.

•-• " " " ... • " ...  
Survey of current Laboratory Information Systems (LIS) including database design and maintenance, test requesting, result entry, result reporting, quality control application, peripheral devices and regulatory systems. Prerequisite: permission of the program director.

"• •-• " " ••† ... " CE  
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; and regulatory processes. Prerequisite: permission of the program director.

† \*... \* \*

Students may register for this non-credit continuation course to maintain active status. For additional information on active status, please refer to p. 47 in the bulletin. Registration does not indicate full-time status.

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