



# Clinical Laboratory Sciences

College of Health Sciences

The mission of the Division of Clinical and Reproductive Sciences is to help the College of Health Sciences achieve its mission through creative leadership and productivity in clinical laboratory science education, research, and service.

The undergraduate Clinical Laboratory Sciences (CLS) program at the University of Kentucky prepares Clinical Laboratory Scientists who perform laboratory tests that aid in the prevention, diagnosis and treatment of disease. CLS graduates receive training in four major disciplines of the clinical laboratory: immunohematology (blood-banking), clinical chemistry, hematology, and microbiology. Additional course work includes phlebotomy, CLS education or clinical education, and laboratory management. CLS graduates are employed in a variety of health care settings including hospital and private laboratories, clinics, pharmaceutical companies, research institutions, the armed forces, public health centers, and veterinary clinics. In addition to performing clinical laboratory tests, CLS graduates also serve as consultants, managers, sales and technical representatives, and educators.

### Admission

Admission into the Clinical Laboratory Sciences professional program requires:

- minimum cumulative grade-point average of 2.75 for all courses taken at institutions of higher education;
- three professional letters of recommendation;
- personal interview scores based on interviews with two CLS faculty members. The interview will focus on identifying the applicant's strengths, commitment to, and knowledge of the profession;
- completion of the preprofessional requirements.

The **application deadline** for the 3 + 1 Program is April 1.

### Preprofessional Requirements

The preprofessional program consists of (1) courses that fulfill the University Studies Program and (2) prerequisite courses required by the CLS professional program. The University Studies Program (USP) is a program of required subjects that all students enrolled at the University of Kentucky must complete in order to receive a baccalaureate degree. See "University Studies Program" on pages 83-87 of the 2009-2010 UK Bulletin for the complete University Studies requirements.

### Prerequisite Course Requirements

- 2 semesters of general chemistry with laboratory
- 1 semester general microbiology with laboratory
- 1 semester of human physiology (or combined course in physiology and anatomy)
- 1 semester of statistical methods
- 1 semester of biochemistry (may take CLS 822 to fulfill this requirement)
- 1 semester of immunology (may take CLS 835 to fulfill this requirement)

### Professional Course Requirements

CLS 832 Basic Clinical Chemistry .....	1
CLS 833 Basic Hematology .....	1
CLS 836 Laboratory Organization and Management .....	3
CLS 838 Basic Immunohematology .....	1
CLS 843 Advanced Clinical Hematology and Body Fluid Analysis .....	3
CLS 844 Advanced Clinical Chemistry .....	3
CLS 848 Molecular Techniques and Advanced Immunohematology .....	3
CLS 851 Basic Clinical Microbiology .....	1

CLS 856 Advanced Clinical Microbiology .....	4
CLS 860 Blood Collection .....	1
CLS 881 Immunohematology Practicum .....	5
CLS 882 Practicum in Clinical Chemistry .....	5
CLS 883 Practicum in Clinical Hematology .....	5
CLS 884 Practicum in Clinical Microbiology .....	5
CLS 890 Laboratory Investigation .....	3
CSC 528 Laboratory Techniques for Clinical Sciences Students .....	2
<b>Subtotal: Professional Course Hours .....</b>	<b>46</b>

### 3 + 1 Program

The 10-month CLS professional program is offered on the Lexington campus of the University of Kentucky and encompasses the fourth year of study in the baccalaureate degree program. The program provides sequential instruction in laboratory medicine for the student who has been well prepared in science and mathematics during the first three years of university study. Through lecture, laboratory, demonstrations and clinical practica, students are prepared for clinical practice in the modern, automated laboratory. Graduates are eligible to take national certification examinations as Clinical Laboratory Scientists/Medical Technologists.

The program begins in the summer prior to the final year of study. During the summer session, students are introduced to the clinical laboratory, and practice basic level clinical laboratory techniques in student laboratories. Students complete intense courses in the principles and practices of basic hematology and clinical chemistry. Students then complete practica in clinical chemistry and hematology laboratories while supported by faculty lectures and demonstrations in advanced topics in these disciplines. Clinical practica are structured to sequentially present increasingly complex tasks. Students take a management course in the fall that introduces them to laboratory structure and regulations.

Following winter break, students complete intense courses in the principles and practices of immunohematology and clinical microbiology. After completing lectures which cover basic practice in immunohematology and clinical microbiology, students complete practica in microbiology and immunohematology laboratories while supported by CLS faculty lectures and demonstrations. Concurrent with presentation of didactic materials and skills instruction, students integrate the knowledge that has been gained throughout the professional year by participating in an exploration of critical pathways and evidenced-based decision-making in the clinical laboratory.

Clinical practica may be completed at the University of Kentucky Hospital clinical laboratories and/or clinical laboratories throughout the state that have a current clinical affiliation agreement with the CRS Division in the College of Health Sciences. Throughout the year, students must attend classes on the Lexington campus, including all basic level instruction. Web courses for advanced level didactic courses that coincide with the clinical practica may also include some on-campus meetings.

Students holding baccalaureate degrees in a health-related science including biology, chemistry, biochemistry, medical biology, immunology, anatomy, physiology, nutritional sciences or health sciences education may enroll in the CLS professional program and earn a CHS certificate of completion. The required prerequisites must be completed before applying for admission. Upon successful completion of the 10-month professional program the student will receive a CHS Certificate of Completion in CLS and be eligible for a national registry examination.

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For additional information, refer to: [www.mc.uky.edu/cls/](http://www.mc.uky.edu/cls/). Or contact:

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## **Graduate Degrees in Clinical Sciences**

The Clinical Sciences graduate programs offer a unique multidisciplinary masters and doctorate programs that address the rapidly changing health care environment and selected evolving clinical science disciplines. This program of study provides the opportunity for advanced education and career enhancement for health professionals in the clinical sciences. The master's degree provides a foundation in advanced clinical sciences. Students may specialize in Reproductive Laboratory Sciences.

For additional information, refer to: [www.mc.uky.edu/cls/](http://www.mc.uky.edu/cls/). Or contact:

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