The Clinical Laboratory Science (CLS) Program at Texas State provides clinical placements for all CLS students entering the clinical year (senior year / 2nd year of post baccalaureate) in good academic standing. Clinical placements are carefully and methodically assigned while taking into account transportation issues, types of clinical affiliates, and student characteristics. In the event a clinical affiliate is unable to fulfill their prior obligation, alternative clinical rotations will be sought at other affiliate institutions. In the very unlikely event alternative clinical rotations are unable to be secured, affected students will be reassigned to the first available rotation site. The next available clinical rotation will occur as soon as possible but no later than one year from the time the rotation was cancelled. If the clinical rotation cancellation occurs after clinical rotations have commenced, the affected student will be placed first in the queue to receive the first available clinical rotation slot that will occur no later than one year after the cancellation. If the clinical rotation cancellation occurs prior to the start of clinical rotations, affected students will be selected based on GPA calculated from performance in the CLS courses. Students with the lowest GPAs will be required to relinquish their clinical rotation slots which will delay clinical rotations.

**Bachelor of Science in Medical Laboratory Science (B.S.M.L.S.)**

- Major in Medical Laboratory Science (http://mycatalog.txstate.edu/undergraduate/health-professions/clinical-laboratory-science-program/bscls/)

**Courses in Clinical Laboratory Science (CLS)**

**CLS 3305. Introduction to Clinical Laboratory Techniques.**
Clinical Laboratory Science students will be introduced to techniques, procedures, and instrumentation commonly used in clinical laboratories.

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<td>Course Attribute(s):</td>
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<td>Credit Hours:</td>
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<td>Lecture Contact Hours:</td>
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<td>Lab Contact Hours:</td>
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**CLS 3323. Clinical Microscopy and Analysis of Body Fluids.**
Study of body fluids present in the various anatomical compartments of the body as they differ in health and disease. Physical and chemical tests, and microscopic examination of select body fluids are performed.

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**CLS 3326. Medical Parasitology.**
This course includes lecture and laboratory instruction in medically important parasites producing disease in humans with emphasis on epidemiology, life cycles, identifying characteristics, and pathology of these parasites.

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**CLS 3410. Clinical Chemistry I.**
This course is designed to acquaint the clinical laboratory science student with some of the concepts, techniques, procedures, and instrumentation used in clinical chemistry.

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<td>Lab Contact Hours:</td>
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CLS 3412. Hematology/Coagulation I.
This course includes qualitative and quantitative evaluation of formed elements of the blood and studies on coagulation abnormalities.
4 Credit Hours. 3 Lecture Contact Hours. 4 Lab Contact Hours.
Course Attribute(s): Dif Tui- Health Professions Lab Required
Grade Mode: Standard Letter

CLS 3424. Clinical Immunology.
Principles of immune response and underlying immunologic procedures of diagnostic value are discussed. Lectures and laboratory emphasize detection, identification, nature of antigens and antibodies, and the antigen-antibody reactions encountered.
4 Credit Hours. 3 Lecture Contact Hours. 3 Lab Contact Hours.
Course Attribute(s): Dif Tui- Health Professions Lab Required
Grade Mode: Standard Letter

CLS 4177A. Community Health Education through Laboratory Science.
This service learning course is designed to teach students about best practices in community health and community health education from a laboratory science perspective. Students will learn about cultural humility in healthcare, social determinants of health, and how clinical laboratory professionals can be integrated into a variety of public health initiatives.
1 Credit Hour. 1 Lecture Contact Hour. 0 Lab Contact Hours.
Course Attribute(s): Exclude from 3-peat Processing Dif Tui-Health Professions Topics
Grade Mode: Credit/No Credit

CLS 4225. Laboratory Management and Supervision.
Lectures and discussions of general principles of management and supervision of the clinical laboratory and its personnel. (WI).
2 Credit Hours. 2 Lecture Contact Hours. 0 Lab Contact Hours.
Course Attribute(s): Dif Tui- Health Professions Writing Intensive
Grade Mode: Standard Letter

CLS 4241. Molecular Diagnostics.
This course consists of an introduction to the principles, methodologies and applications of molecular diagnostic procedures used in clinical laboratories. Emphasis is placed on the procedures used in the identification of infectious agents that cause human disease, the diagnosis of inherited diseases, and the diagnosis of cancer.
2 Credit Hours. 2 Lecture Contact Hours. 3 Lab Contact Hours.
Course Attribute(s): Dif Tui- Health Professions Writing Intensive
Grade Mode: Standard Letter

CLS 4318. Hematology II.
In-depth study of theoretical and practical aspects of clinical hematology and hemostasis with emphasis on principles, methodology, problems encountered, and clinical applications.
3 Credit Hours. 2 Lecture Contact Hours. 3 Lab Contact Hours.
Course Attribute(s): Dif Tui- Health Professions Lab Required
Grade Mode: Standard Letter

CLS 4321. Directed Study in Clinical Laboratory Science.
An indepth study of a narrow range of topics or a related problem in the clinical laboratory sciences. Topics to be announced; may be repeated for credit when topics vary.
3 Credit Hours. 2 Lecture Contact Hours. 6 Lab Contact Hours.
Course Attribute(s): Exclude from 3-peat Processing Dif Tui- Health Professions Lab Required
Grade Mode: Credit/No Credit

CLS 4333. Bridge to Clinical Practice.
This course includes the study of professional and technical requirements for clinical laboratory science students and their role as part of the healthcare team. Students will demonstrate entry-level technical competency. The student's knowledge of all course material presented from the beginning of the CLS program through the spring semester will be evaluated. (WI).
3 Credit Hours. 2 Lecture Contact Hours. 1 Lab Contact Hour.
Course Attribute(s): Dif Tui- Health Professions Writing Intensive
Grade Mode: Standard Letter

CLS 4340. Clinical Microbiology II.
Study of medically important fungi, viruses, chlamydiae, rickettsiae, and advanced topics in clinical microbiology. Automated identification of microorganisms, database management, and epidemiologic techniques will be discussed.
3 Credit Hours. 2 Lecture Contact Hours. 3 Lab Contact Hours.
Course Attribute(s): Dif Tui- Health Professions Lab Required
Grade Mode: Standard Letter

CLS 4341. Molecular Diagnostics.
This course consists of an introduction to the principles, methodologies and applications of molecular diagnostic procedures used in clinical laboratories. Emphasis is placed on the procedures used in the identification of infectious agents that cause human disease, in the diagnosis of inherited diseases, and the diagnosis of cancer.
3 Credit Hours. 2 Lecture Contact Hours. 3 Lab Contact Hours.
Course Attribute(s): Dif Tui- Health Professions Lab Required
Grade Mode: Standard Letter

Directed independent research covering the principles of research and development of clinical laboratory methodology. (WI).
3 Credit Hours. 2 Lecture Contact Hours. 3 Lab Contact Hours.
Course Attribute(s): Dif Tui- Health Professions Writing Intensive
Grade Mode: Standard Letter
CLS 4364. CLS Clinical Practice II.
This course offers a continuation of CLS Clinical Practice I which includes structured clinical experience assigned on an individual basis for observation, study, and practical application of techniques and methodology in the clinical laboratory.

3 Credit Hours. 0 Lecture Contact Hours. 16 Lab Contact Hours.
Course Attribute(s): Exclude from 3-peat Processing|Dif Tui- Health Professions
Grade Mode: Standard Letter

CLS 4370. Clinical Chemistry II.
A study of the theoretical and practical aspects of clinical chemistry. Manual and automated laboratory procedures for quantitative analysis of various body fluids.

3 Credit Hours. 2 Lecture Contact Hours. 3 Lab Contact Hours.
Course Attribute(s): Dif Tui- Health Professions|Lab Required
Grade Mode: Standard Letter

CLS 4440. Clinical Microbiology I.
Study of pathogenic and nonpathogenic bacteria, fungi, and viruses with special emphasis on methods of isolation from body fluids, cultural and differential biochemical characteristics of body pathogens.

4 Credit Hours. 3 Lecture Contact Hours. 6 Lab Contact Hours.
Course Attribute(s): Dif Tui- Health Professions|Lab Required
Grade Mode: Standard Letter

CLS 4460. Immunohematology.
Study of theoretical and practical consideration of major blood groups with emphasis on grouping and typing, antibody detection and identification, compatibility testing and component therapy in blood transfusion service.

4 Credit Hours. 3 Lecture Contact Hours. 4 Lab Contact Hours.
Course Attribute(s): Dif Tui- Health Professions|Lab Required
Grade Mode: Standard Letter

CLS 4463. CLS Clinical Practice I.
Structured clinical experience assigned on an individual basis for observation, study, and practical application of techniques and methodology in the clinical laboratory.

4 Credit Hours. 0 Lecture Contact Hours. 16 Lab Contact Hours.
Course Attribute(s): Dif Tui- Health Professions
Grade Mode: Standard Letter

CLS 4465. CLS Clinical Practice II.
This course exposes students to structured clinical experiences assigned on an individual basis for observation, study and practical application of techniques and methodology in the clinical laboratory. This course exposes students to real life situations not available in a didactic classroom or student laboratory. In addition, it also provides a review of previously learned didactic courses.

4 Credit Hours. 0 Lecture Contact Hours. 16 Lab Contact Hours.
Course Attribute(s): Dif Tui- Health Professions
Grade Mode: Standard Letter