

# Clinical Laboratory Science Courses

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## Courses

### **CLSC 2111. Molecular Diagnostics Lab.**

This laboratory provides the basic skills necessary for performing and applying molecular techniques used in molecular pathology as described in CLSC 2310. The course will focus on the specific applications of molecular techniques within a variety of disciplines such as infectious disease, hematology, immunology, hemostasis, forensic science, and transplantation immunology. Prerequisites: BIOL 1305, BIOL 1107, BIOL 3320, and CHEM 1306, each with a grade of C or higher. Corequisite: CLSC 2310.

**Department:** Clinical Laboratory Science

**1 Credit Hour**

**3 Total Contact Hours**

3 Lab Hours

0 Lecture Hours

0 Other Hours

**Prerequisite(s):** (BIOL 1107 w/C or better AND BIOL 1305 w/C or better ) AND (BIOL 3320 w/C or better ) AND (CHEM 1306 w/C or better)

**Corequisite(s):** CLSC 2310

### **CLSC 2210. Intro to the Clinical Lab.**

Introduction to the Clinical Laboratory (2-0) Information on the careers available in the clinical laboratory as well as an overview of each department in clinical pathology will be presented. Tours of hospital, reference labs, and specialized clinical laboratories will be arranged. This course includes the principles and practices of quality control and pre-analytical, analytical, and post analytical components of urine and body fluid analysis. Prerequisites: (BIOL 1305 and BIOL 1107) and (CHEM 1306 and CHEM 1106).

**Department:** Clinical Laboratory Science

**2 Credit Hours**

**3 Total Contact Hours**

0 Lab Hours

2 Lecture Hours

1 Other Hour

**Prerequisite(s):** (CHEM 1106 w/C or better AND CHEM 1306 w/C or better ) AND (BIOL 1107 w/C or better AND BIOL 1305 w/C or better)

### **CLSC 2212. Clinical Laboratory Statistics.**

This course encompasses clinical diagnostic computations required in the clinical laboratory setting including clinical chemistry, urinalysis, hematology, immunochemistry, microbiology, and molecular techniques. The course also includes fundamental concepts and techniques which underlie applications to the various clinical laboratory disciplines, including statistical concepts, calculations, quality control, instrument and method assessment/verification, and laboratory emphasis on sampling and applications to include pre-analytical, analytical, and post analytical phases of testing. Prerequisite: MATH 1411, CHEM 1306, and CHEM 1106 each with a grade of C or higher.

**Department:** Clinical Laboratory Science

**2 Credit Hours**

**3 Total Contact Hours**

0 Lab Hours

3 Lecture Hours

0 Other Hours

**Prerequisite(s):** (MATH 1411 w/C or better ) AND (CHEM 1106 w/C or better AND CHEM 1306 w/C or better)

### **CLSC 2310. Molecular Diagnostics.**

This course will encompass diagnostic applications in the clinical laboratory. Areas covered will include genetics, molecular techniques, molecular pathology, principles and practices of quality control and quality assurance including pre- and post-analytical assurance and the application of safety to laboratory practice. Prerequisites: CHEM 1306, BIOL 1305, BIOL 3320, and MATH 1411, each with a grade of C or higher.

**Department:** Clinical Laboratory Science

**3 Credit Hours**

**3 Total Contact Hours**

0 Lab Hours

3 Lecture Hours

0 Other Hours

**CLSC 3150. Medical Terminology.**

Medical Terminology (1-0) The course is designed for students to gain a working knowledge of medical terminology, symbols, abbreviations, roots, prefixes, and suffixes. The course may be taken by any interested students in associated majors or programs or health related fields.

**Department:** Clinical Laboratory Science

**1 Credit Hour**

**1 Total Contact Hour**

0 Lab Hours

1 Lecture Hour

0 Other Hours

**CLSC 3153. Body Fluids Lab.**

Body Fluids Lab (0-3) This laboratory provides the basic laboratory skills necessary for performing urine/body fluids analyses. Several fundamental laboratory methods are performed by the students using common body fluids principles. These laboratory assays provide the basis for most body fluids assays which will be demonstrated in the clinical hospital laboratory rotations. This course includes the principles and practices of quality control and pre-analytical, and post analytical components of microscopy and urinalysis and the application of safety to laboratory practice. Corequisite: CLSC 3252.

**Department:** Clinical Laboratory Science

**1 Credit Hour**

**3 Total Contact Hours**

3 Lab Hours

0 Lecture Hours

0 Other Hours

**Corequisite(s):** CLSC 3252

**CLSC 3155. Clinical Chemistry I Lab.**

Clinical Chemistry I Lab (0-3) This laboratory provides the basic skills necessary for performing clinical chemistry laboratory analyses. Several fundamental laboratory methods are performed by the students using common clinical chemistry principles. These laboratory assays provide the basis for most clinical chemistry analyses which will be demonstrated in the clinical hospital laboratory rotations. Corequisite: CLSC 3354. Prerequisites: CHEM 1305, CHEM 1105, CHEM 1306, CHEM 1106 and CHEM 2324 each with a grade of "C" or better and department approval. Restricted to major: CLIN.

**Department:** Clinical Laboratory Science

**1 Credit Hour**

**3 Total Contact Hours**

3 Lab Hours

0 Lecture Hours

0 Other Hours

**Corequisite(s):** CLSC 3354

**CLSC 3161. Serology Lab.**

Serology Lab (0-3) Serological techniques commonly used in the clinical laboratory will be encompassed with emphasis on direct application to the clinical laboratory. Serological testing and interpretation for disease such as: syphilis, mononucleosis, streptococcal infections and others. Corequisite: CLSC 3260 Prerequisite: CLSC 3351 with a grade of "C" or better.

**Department:** Clinical Laboratory Science

**1 Credit Hour**

**3 Total Contact Hours**

3 Lab Hours

0 Lecture Hours

0 Other Hours

**Corequisite(s):** CLSC 3260

**CLSC 3164. Clinical Chemistry II Lab.**

Clinical Chemistry II Lab (0-3) A continuation of CLSC 3155 with an emphasis in therapeutic and abused-drug monitoring, pharmacokinetics, toxicology, hormones, and methods. Corequisite: CLSC 3262. Prerequisites: CLSC 3155, CLSC 3354 each with a grade of "C" or better and department approval. Restricted to major: CLIN.

**Department:** Clinical Laboratory Science

**1 Credit Hour**

**3 Total Contact Hours**

3 Lab Hours

0 Lecture Hours

0 Other Hours

**Corequisite(s):** CLSC 3262

**CLSC 3167. Infectious Dis Lab:Pre-Anal Op.**

Infectious Disease Lab: Pre-Analytical Operation This lab presents the essential and applied pre-analytical operations required in the field of clinical bacteriology. This course presents an overview of laboratory procedures used in pre-analytical bacteriology such as, but not limited to, specimen collection and processing, media selection, specimen inoculation and direct microscopic smears including evaluation and interpretation. Students will learn and understand the importance of communication with health professionals to ensure quality patient specimens for submission and recognize potential errors and resolve according to predetermined criteria. This course is presented as a co-requisite course with CLSC 3168 and CLSC 3366.

**Department:** Clinical Laboratory Science

**1 Credit Hour**

**3 Total Contact Hours**

3 Lab Hours

0 Lecture Hours

0 Other Hours

**Prerequisite(s):** (CLSC 3357 w/C or better ) AND (CLSC 3351 w/C or better ) AND (MICR 2141 w/C or better AND MICR 2340 w/C or better ) AND (CHEM 1106 w/C or better ) AND (CHEM 2324 w/C or better)

**Corequisite(s):** CLSC 3168, CLSC 3366

**CLSC 3168. Infec Dis Lab:Anal/Post-Ana Op.**

Infectious Dis Lab: Analytical/Post-Analytical Operations This lab presents the essential and applied analytical and post-analytical operations required in the field of clinical bacteriology. This laboratory emphasizes practical case- study driven analysis of clinical bacteriology specimens presented in CLSC 3167. Students will learn how to accurately perform appropriate and timely testing in a cost-effective manner (analytical) and provide accurate and timely results to health professionals (post-analytical). This course is presented as a co-requisite course with CLSC 3167 and CLSC 3366.

**Department:** Clinical Laboratory Science

**1 Credit Hour**

**3 Total Contact Hours**

3 Lab Hours

0 Lecture Hours

0 Other Hours

**Major Restrictions:**

Restricted to majors of CLIN, CLLD

**Prerequisite(s):** (CLSC 3357 w/C or better ) AND (CLSC 3351 w/C or better ) AND (MICR 2141 w/C or better AND MICR 2340 w/C or better ) AND (CHEM 1106 w/C or better ) AND (CHEM 2324 w/C or better)

**Corequisite(s):** CLSC 3167, CLSC 3366

**CLSC 3252. Body Fluids.**

Body Fluids (2-0) This course will cover the chemical, serological, and hematological procedures performed on body fluids. Corequisite: CLSC 3153.

Prerequisite: Department approval. Restricted to major: CLIN.

**Department:** Clinical Laboratory Science

**2 Credit Hours**

**2 Total Contact Hours**

0 Lab Hours

2 Lecture Hours

0 Other Hours

**Major Restrictions:**

Restricted to majors of CLIN

**Corequisite(s):** CLSC 3153

**CLSC 3257. Hematology I Lab.**

Hematology I Lab (0-6) This course is designed to develop the skills and techniques necessary to recognize and identify normal and abnormal components of the hematopoietic system. Restricted to major: CLIN. Corequisite: CLSC 3356. Prerequisite: Admission to the Upper-division. .

**Department:** Clinical Laboratory Science

**2 Credit Hours**

**6 Total Contact Hours**

6 Lab Hours

0 Lecture Hours

0 Other Hours

**Corequisite(s):** CLSC 3356

**CLSC 3260. Serology.**

Serology (2-0) This course emphasizes the detection of disease by the use of serological techniques. Restricted to major: CLIN. Prerequisite: CLSC 3351 with a grade of "C" or better.

**Department:** Clinical Laboratory Science

**2 Credit Hours**

**2 Total Contact Hours**

0 Lab Hours

2 Lecture Hours

0 Other Hours

**Major Restrictions:**

Restricted to majors of CLIN

**CLSC 3262. Clinical Chemistry II.**

Clinical Chemistry II (2-0) A continuation of CLSC 3354 with an emphasis of therapeutic drugs of abuse, toxicology, pharmacokinetics, hormones, and methods. Corequisite: CLSC 3163. Prerequisites: CLIN 3155 and CLIN 3354 each with a grade of "C" or better and department approval.

**Department:** Clinical Laboratory Science

**2 Credit Hours**

**2 Total Contact Hours**

0 Lab Hours

2 Lecture Hours

0 Other Hours

**Major Restrictions:**

Restricted to majors of CLIN

**Prerequisite(s):** (CLSC 3155 w/C or better ) AND (CLSC 3354 w/C or better)

**Corequisite(s):** CLSC 3164

**CLSC 3268. Infectious Diseases Lab.**

Infectious Diseases Lab (0-6) This laboratory courses develops the basic skills and techniques necessary for the isolation, identification, and anti-microbial susceptibility for a variety of pathogens causing diseases. This course includes the principles and practices of quality control and pre-analytical, analytical, and post analytical components of clinical microbiology and the application of safety to laboratory practice. Corequisite: CLSC 3366. Prerequisites: MICR 2440 with a grade of "C" or better and department approval. Restricted to major: CLIN.

**Department:** Clinical Laboratory Science

**2 Credit Hours**

**6 Total Contact Hours**

6 Lab Hours

0 Lecture Hours

0 Other Hours

**Corequisite(s):** CLSC 3366

**CLSC 3269. Immunohematology Lab.**

Immunohematology Lab (0-6) This laboratory course is designed to develop and refine skills in performing antigen and antibody identification techniques, compatibility testing and blood component preparation. Laboratory procedures for processing and selecting blood products, identification of blood group antigens and antibodies, blood storage procedures, quality control and pre-analytical, analytical, and post analytical components of immunohematology and the application of safety to laboratory practice. Restricted to major: CLIN. Corequisite: CLSC 3368.

**Department:** Clinical Laboratory Science

**2 Credit Hours**

**6 Total Contact Hours**

6 Lab Hours

0 Lecture Hours

0 Other Hours

**Corequisite(s):** CLSC 3368

**CLSC 3351. Concepts in Immunodiagnostics.**

Concepts in Immunodiagnostics (3-0) This course covers basic clinical immunology and applications in laboratory medicine. Interactions among immune cells and their secretions are examined. The role of the immune system in tumor growth, transplantation and rejection, and autoimmune diseases is covered. Various methods utilized in the clinical laboratory are demonstrated and discussed. This course includes the principles and practices of quality control and pre-analytical, analytical, and post analytical components of clinical immunology. Restricted to major: CLIN. Prerequisite: MICR 2440 with a grade of "C" or better.

**Department:** Clinical Laboratory Science

**3 Credit Hours**

**3 Total Contact Hours**

0 Lab Hours

3 Lecture Hours

0 Other Hours

**Prerequisite(s):** (MICR 2440 w/C or better ) OR (MICR 2141 w/C or better AND MICR 2340 w/C or better)

**CLSC 3354. Clinical Chemistry I.**

Clinical Chemistry I (3-0) This course includes the principles and practices of quality control and pre-analytical, analytical, and post analytical components of clinical chemistry. Basic concepts of laboratory mathematics, colorimetry, spectrophotometry, fluorometry, electrophoreses, chromatography are discussed. Chemical laboratory fundamentals and procedures are presented and related to normal and abnormal human physiology and biochemistry. Restricted to major: CLIN. Corequisite: CLSC 3155. Prerequisites: CHEM 1305, CHEM 1105, CHEM 1306, CHEM 1106, and CHEM 2324 each with a grade of "C" or better and department approval.

**Department:** Clinical Laboratory Science

**3 Credit Hours**

**3 Total Contact Hours**

0 Lab Hours

3 Lecture Hours

0 Other Hours

**Major Restrictions:**

Restricted to majors of CLIN

**Prerequisite(s):** (CHEM 1305 w/C or better ) AND (CHEM 1105 w/C or better ) AND (CHEM 1306 w/C or better ) AND (CHEM 1106 w/C or better ) AND (CHEM 3324 w/C or better ) OR (CHEM 2324 w/C or better)

**Corequisite(s):** CLSC 3155

**CLSC 3356. Hematology I.**

Hematology I (3-0) This course is a comprehensive study of the process of blood formation. It includes morphological and biochemical relationships of red blood cell formation in healthy vs. disease states, as well as the performance and application of current methods in hematologic analysis and technology. This course includes the principles and practices of quality control and pre-analytical, analytical, and post analytical components of hematology. Restricted to majors: CLIN. Corequisite: CLSC 3257. Prerequisite: BIOL 2313 with a grade of "C" or better.

**Department:** Clinical Laboratory Science

**3 Credit Hours**

**3 Total Contact Hours**

0 Lab Hours

3 Lecture Hours

0 Other Hours

**Major Restrictions:**

Restricted to majors of CLIN

**Prerequisite(s):** (BIOL 2313 w/C or better)

**Corequisite(s):** CLSC 3257

**CLSC 3357. Opportunist & Parasitic Infect.**

This course covers the pathogenesis and the epidemiology of opportunistic microorganisms. The isolation, concentration, and identification of mycological and parasitological specimens is reviewed and discussed. This course includes the principles and practices of quality control, the pre-analytical and post-analytical components of clinical microbiology, and the application of safety to laboratory practice. Prerequisite: MICR 2440 (MICR 2340 and MICR 2141) with a grade of C or better AND departmental approval. Restricted to major: CLIN.

**Department:** Clinical Laboratory Science

**3 Credit Hours**

**3 Total Contact Hours**

0 Lab Hours

3 Lecture Hours

0 Other Hours

**Prerequisite(s):** (MICR 2440 w/C or better ) OR (MICR 2141 w/C or better AND MICR 2340 w/C or better)

**CLSC 3364. Hematology II.**

This course emphasizes white-cell formation and function. The etiology and treatment of white blood cell disorders are discussed. It also encompasses hemostasis and laboratory determination of hemostatic disorders, including the study of the interaction of blood vessels and platelets with both the coagulation and fibrinolytic systems. Prerequisites: CLSC 3356 and CLSC 3257 with a grade of C or better. Department approval also required.

Restricted to major: CLIN.

**Department:** Clinical Laboratory Science

**3 Credit Hours**

**3 Total Contact Hours**

0 Lab Hours

3 Lecture Hours

0 Other Hours

**Major Restrictions:**

Restricted to majors of CLIN

**Prerequisite(s):** (CLSC 3356 w/C or better ) AND (CLSC 3257 w/C or better)

**CLSC 3365. Clinical Chemistry II.**

Clinical Chemistry II This class is a continuation of Clinical Chemistry I (CLSC 3354) with an emphasis on therapeutic drugs of abuse, toxicology, pharmacokinetics, endocrinology, and the application of clinical methods for assessing physiological markers of disease in multiple organ systems. Pathophysiology of body systems including aspects of pre- analytical, analytical and post analytical analysis.

**Department:** Clinical Laboratory Science

**3 Credit Hours**

**3 Total Contact Hours**

0 Lab Hours

3 Lecture Hours

0 Other Hours

**Major Restrictions:**

Restricted to majors of CLIN

**Prerequisite(s):** (CLSC 3155 w/C or better ) AND (CLSC 3354 w/C or better)

**Corequisite(s):** CLSC 3164

**CLSC 3366. Infectious Diseases.**

Infectious Diseases (3-0) This course covers the pathogenesis and the epidemiology of pathogenic microorganisms. The diagnosis of infectious diseases by various cultivation isolation and identification techniques is discussed. This course includes the principles and practices of quality control and pre-analytical, analytical, and post analytical components of clinical microbiology and the application of safety to laboratory practice. Restricted to major: CLIN. Corequisite: CLSC 3267. Prerequisites: MICR 2440 with a grade of "C" or better and department approval.

**Department:** Clinical Laboratory Science

**3 Credit Hours**

**3 Total Contact Hours**

0 Lab Hours

3 Lecture Hours

0 Other Hours

**Major Restrictions:**

Restricted to majors of CLIN

**Prerequisite(s):** (MICR 2440 w/C or better ) OR (MICR 2141 w/C or better AND MICR 2340 w/C or better)

**Corequisite(s):** CLSC 3267

**CLSC 3368. Immunohematology.**

Immunohematology (3-0) This immuno-chemical reactivity of blood antigens and antibodies, blood grouping, compatibility testing, and hemolytic disease of the newborn are presented. Restricted to major: CLIN. Corequisite: CLSC 3269. Prerequisites: CLSC 3351 and CLSC 3356 each with a grade of "C" or better.

**Department:** Clinical Laboratory Science

**3 Credit Hours**

**3 Total Contact Hours**

0 Lab Hours

3 Lecture Hours

0 Other Hours

**Major Restrictions:**

Restricted to majors of CLIN

**Prerequisite(s):** (CLSC 3351 w/C or better AND CLSC 3356 w/C or better)

**Corequisite(s):** CLSC 3269

**CLSC 4100. Ethics.**

Ethics (1-0) A study of legal and ethical principles in health care and laboratory medicine.

**Department:** Clinical Laboratory Science

**1 Credit Hour**

**1 Total Contact Hour**

0 Lab Hours

1 Lecture Hour

0 Other Hours

**Classification Restrictions:**

Restricted to class of JR,SR

**CLSC 4111. Molecular Diagnosis Laboratory.**

Molecular Diagnosis Laboratory This laboratory provides the basic skills necessary for performing and applying molecular techniques and used in molecular pathology as described in CLSC 4210. The course will focus on the specific applications of molecular techniques within a variety of disciplines such as infectious disease, hematology, immunology, hemostasis, forensic science, and transplatation immunology.

**Department:** Clinical Laboratory Science

**1 Credit Hour**

**3 Total Contact Hours**

3 Lab Hours

0 Lecture Hours

0 Other Hours

**Major Restrictions:**

Restricted to majors of CLIN

**Prerequisite(s):** (CLSC 3364 w/C or better ) AND (CLSC 3365 w/C or better ) AND (CLSC 3366 w/C or better ) AND (CLSC 3368 w/C or better ) AND (BIOL 3320 w/C or better ) AND (MICR 2340 w/C or better ) AND (MICR 2141 w/C or better)

**Corequisite(s):** CLSC 4210

**CLSC 4180. Seminar.**

Seminar (1-0) The student will be given the opportunity to develop a broader understanding of the clinical laboratory scientist's role as a health professional in a variety of learning experiences, including seminars, lectures, and panel discussions. Principles and application of professionalism will be addressed as well as ongoing professional career development. Included in this course are review and practice examination. Restricted to major:

CLIN. Prerequisite: Department approval.

**Department:** Clinical Laboratory Science

**1 Credit Hour**

**1 Total Contact Hour**

0 Lab Hours

1 Lecture Hour

0 Other Hours

**Major Restrictions:**

Restricted to majors of CLIN

**CLSC 4190. Special Problems.**

Special Problems (0-0-1) Independent study in clinical laboratory research. Limit six credits. Prerequisite: Department approval. .

**Department:** Clinical Laboratory Science

**1 Credit Hour**

**1 Total Contact Hour**

0 Lab Hours

0 Lecture Hours

1 Other Hour

**Classification Restrictions:**

Restricted to class of JR,SR

**CLSC 4210. Molecular Diagnostics.**

Molecular Diagnostics This course will encompass diagnostic applications in the clinical laboratory. Areas covered will include genetics, molecular techniques, molecular pathology, principles and practices of quality control and quality assurance including pre-and post- analytical assurance and the application of safety to laboratory practice. The course will focus on applications of molecular diagnostics within a variety of disciplines such as infectious disease, hematology, immunology, hemostasis, forensic science, and transplantation immunology.

**Department:** Clinical Laboratory Science

**2 Credit Hours**

**2 Total Contact Hours**

0 Lab Hours

2 Lecture Hours

0 Other Hours

**Major Restrictions:**

Restricted to majors of CLIN

**Prerequisite(s):** (CLSC 3364 w/C or better ) AND (CLSC 3365 w/C or better ) AND (CLSC 3366 w/C or better ) AND (CLSC 3368 w/C or better ) AND (BIOL 3320 w/C or better ) AND (MICR 2340 w/C or better ) AND (MICR 2141 w/C or better)

**CLSC 4273. Clinical Education.**

Clinical Education (2-0) This course will cover basic education techniques and terminology to train/educate users and providers of laboratory services, including the development of continuing education programs, curriculum design, program and student assessments, and test development. Restricted to major: CLIN. Prerequisite: Department approval.

**Department:** Clinical Laboratory Science

**2 Credit Hours**

**2 Total Contact Hours**

0 Lab Hours

2 Lecture Hours

0 Other Hours

**Major Restrictions:**

Restricted to majors of CLIN

**CLSC 4274. Clinical Investigation.**

Clinical Investigation (2-0) This course will cover research in medical/clinical settings with a focus on research planning, design, data collection and dissemination, and evaluation of published studies. Students will design and perform research to include proposal writing. Correlation of disease states and changes in laboratory values will also be included as case studies. Restricted to major: CLIN. Prerequisite: Department approval.

**Department:** Clinical Laboratory Science

**2 Credit Hours**

**2 Total Contact Hours**

0 Lab Hours

2 Lecture Hours

0 Other Hours



**CLSC 4275. Clinical Lab Mgmt/Supervision.**

Clinical Laboratory Management and Supervision (2-0) Introductory course in the principles and techniques used in the supervision and management of the clinical laboratory in the health professions. The course includes human resource management, management and motivational theories, communication skills, interviewing, performance appraisals, accreditation agencies, federal and state regulations, budget and strategic planning, evaluation instruments, and the implementation of a laboratory quality improvement program. Financial management is covered including profit and loss, cost/benefit reimbursement requirements, and materials/inventory management. Restricted to major: CLIN. Prerequisite: Department approval.

**Department:** Clinical Laboratory Science

**2 Credit Hours**

**2 Total Contact Hours**

0 Lab Hours

2 Lecture Hours

0 Other Hours

**Major Restrictions:**

Restricted to majors of CLIN

**CLSC 4290. Special Problems.**

Special Problems (0-0-2) Independent study in clinical laboratory research. Limit six credits. Prerequisite: Department approval. .

**Department:** Clinical Laboratory Science

**2 Credit Hours**

**2 Total Contact Hours**

0 Lab Hours

0 Lecture Hours

2 Other Hours

**CLSC 4390. Special Problems.**

Special Problems (0-0-3) Independent study in clinical laboratory research. Limit six credits. Prerequisite: Department approval. .

**Department:** Clinical Laboratory Science

**3 Credit Hours**

**3 Total Contact Hours**

0 Lab Hours

0 Lecture Hours

3 Other Hours

**Major Restrictions:**

Restricted to majors of CLIN

**CLSC 4471. Preceptorship I.**

Instruction and practice of techniques and their applications in the clinical laboratory setting (practicum) in hematology, immunohematology, clinical chemistry, clinical microbiology, coagulation, body fluid analysis, and serology. This course includes the principles and practices of quality control and pre-analytical, analytical, and post-analytical components of laboratory science and the application of safety to laboratory practice. Corequisite: CLSC 4472.

**Department:** Clinical Laboratory Science

**4 Credit Hours**

**32 Total Contact Hours**

0 Lab Hours

0 Lecture Hours

32 Other Hours

**Corequisite(s):** CLSC 4472

**CLSC 4472. Preceptorship II.**

Instruction and practice of techniques and their applications in the clinical laboratory setting (practicum) in hematology, immunohematology, clinical chemistry, clinical microbiology, coagulation, body-fluid analysis, and serology. This course includes the principles and practices of quality control and pre-analytical, analytical, and post-analytical components of laboratory science and the application of safety to laboratory practice. Corequisite: CLSC 4471. Prerequisite: CLSC 3368 with a grade of C or better.

**Department:** Clinical Laboratory Science

**4 Credit Hours**

**32 Total Contact Hours**

0 Lab Hours

0 Lecture Hours

32 Other Hours

**Corequisite(s):** CLSC 4471

**CLSC 4476. Preceptorship III.**

A continuation of CLSC 4471 and 4472. The student will also be given the opportunity to demonstrate (1) the ability to apply knowledge, attitudes, and skills to the clinical laboratory practices and procedures; (2) the ability to integrate previous knowledge and skills with more sophisticated instrumentation and advanced methodology; (3) an attitude of cooperation and concern in interpersonal relationships and interdisciplinary communication and team building with patients and healthcare workers; and (4) an appreciation of the ethical foundations of clinical laboratory sciences. This course includes the principles and practices of quality control and pre-analytical, analytical, and post-analytical components of laboratory science and the application of safety to laboratory practice. Corequisite: CLSC 4478. Prerequisites: CLSC 4471 and CLSC 4472, each with a grade of C or higher.

**Department:** Clinical Laboratory Science

**4 Credit Hours**

**32 Total Contact Hours**

0 Lab Hours

0 Lecture Hours

32 Other Hours

**Major Restrictions:**

Restricted to majors of CLIN

**Classification Restrictions:**

Restricted to class of SR

**Prerequisite(s):** (CLSC 4471 w/C or better ) AND (CLSC 4472 w/C or better)

**Corequisite(s):** CLSC 4478

**CLSC 4478. Preceptorship IV.**

A continuation of CLSC 4471 and 4472. The student will also be given the opportunity to demonstrate (1) the ability to apply knowledge, attitudes, and skills to the clinical laboratory practices and procedures; (2) the ability to integrate previous knowledge and skills with more sophisticated instrumentation and advanced methodology; (3) an attitude of cooperation and concern in interpersonal relationships and interdisciplinary communication and team building with patients and healthcare workers; and (4) an appreciation of the ethical foundations of clinical laboratory sciences. This course includes the principles and practices of quality control and pre-analytical, analytical, and post-analytical components of laboratory science and the application of safety to laboratory practice. Corequisite: CLSC 4476. Prerequisites: CLSC 4471 and CLSC 4472, each with a grade of C or higher.

**Department:** Clinical Laboratory Science

**4 Credit Hours**

**32 Total Contact Hours**

0 Lab Hours

0 Lecture Hours

32 Other Hours

**Major Restrictions:**

Restricted to majors of CLIN

**Classification Restrictions:**

Restricted to class of SR

**Prerequisite(s):** (CLSC 4471 w/C or better ) AND (CLSC 4472 w/C or better)

**Corequisite(s):** CLSC 4476