HSCI 4079 Clinical Laboratory Operations (2 sem hrs) SUMMER
This course introduces the theory, application, technical performance and evaluation of laboratory skills specific to clinical laboratory science practice. Laboratory safety; microscopy; pipetting; general laboratory equipment; quality control; mathematics; phlebotomy; pre-analytic, analytic and post-analytic processes will be addressed.

HSCI 4089 Introduction to Clinical Hematology (2 sem hrs) SUMMER
This course introduces the theory, practical application, technical performance and evaluation of hematological and hemostasis procedures. Correlation of laboratory data with the diagnosis of erythrocyte, leukocyte, and bleeding/clotting disorders are introduced.

HSCI 4099 Introduction to Clinical Microbiology (2 sem hrs) SUMMER
This course introduces the theory, practical application, technical performance and evaluation of procedures for isolation, identification and susceptibility testing of infectious disease organisms in humans. The course focuses on bacteriology, but will include introductory coverage of parasitology, mycology, and virology.

HSCI 4109 Introduction to Clinical Chemistry and Urinalysis (1 sem hrs) SUMMER
This course introduces clinical chemistry and urinalysis theory, practical application, technical performance and evaluation of laboratory procedures. Clinical laboratory correlation with the detection and monitoring of carbohydrate, hepatic, protein, and renal conditions are emphasized. Enzyme theory is introduced.

HSCI 4119 Introduction to Clinical Immunohematology (1 sem hr) SUMMER
This course introduces theory, practical application, technical performance and evaluation of procedures determining transfusion compatible blood components. Blood component collection, processing, and storage will be presented. The diagnosis and management of hemolytic conditions will be introduced.

HSCI 4139 Clinical Endocrinology and Toxicology (1 sem hr) FALL
This course incorporates advanced theory, practical application and evaluation of clinical laboratory procedures. Correlation of clinical laboratory data with the diagnosis and treatment of endocrine disorders, toxicology disturbances, and therapeutic drug monitoring are emphasized.

HSCI 4149 Clinical Chemistry and Urinalysis I (2 sem hrs) FALL
This course expands on HSCI 4079 and HSCI 4109, including automated methodologies. The interpretation, evaluation and correlation of clinical laboratory data with the diagnosis and treatment monitoring of cardiac, lipid/lipoprotein, electrolyte, enzyme, pancreatic-gastrointestinal and acid-base disorders are emphasized.

HSCI 4169 Clinical Hematology I (2 sem hrs) FALL
This course expands on hematology and hemostasis theory, application, and evaluation of procedures introduced in HSCI 4089 and concepts introduced in HSCI 4079. Correlation of laboratory data with the diagnosis and treatment of erythrocyte, leukocyte, and bleeding/clotting disorders are emphasized.
HSCI 4449 Clinical Core Laboratory Practicum I (1 sem hr) FALL
This course provides practical experience in a clinical laboratory setting for the technical performance and evaluation of clinical hematology/hemostasis, chemistry and urinalysis procedures, and expands on concepts presented in HSCI 4149 and HSCI 4169, including automation and automatic verification techniques.

HSCI 4189 Clinical Microbiology I (2 sem hrs) FALL
This course expands on infectious disease theory (bacteriology, mycology, parasitology, and virology), practical application and evaluation introduced in HSCI 4099 and laboratory concepts and skills introduced in HSCI 4079. Correlation of clinical laboratory data with patient clinical information are emphasized.

HSCI 4489 Clinical Microbiology Laboratory Practicum I (1 sem hr) FALL
This course provides practical experience in a clinical laboratory setting for the technical performance and evaluation of clinical microbiology procedures with the application of infectious disease concepts. Course content builds on HSCI 4189 Clinical Microbiology I.

HSCI 4229 Clinical Immunohematology I (2 sem hrs) FALL
This course expands on the immunohematology theory, practical application, and evaluation of procedures introduced in HSCI 4119 and basic laboratory concepts and skills introduced HSCI 4079. Immunohematology procedures that assist in the diagnosis and management of hemolytic conditions are addressed.

HSCI 4429 Clinical Immunohematology Laboratory Practicum I (1 sem hr) FALL
This course provides practical experience in a clinical laboratory setting for the technical performance and evaluation of clinical immunohematology procedures and preparation of blood components. Course content builds on HSCI 4229 Clinical Immunohematology I.

HSCI 4209 Clinical Immunology and Molecular Diagnostics (2 sem hrs) FALL
This course includes the theory, practical application, and evaluation of human immunological components and infectious disease serology. Laboratory assessment of immunologically related disorders and infectious diseases are emphasized. The theory and application of molecular diagnostic methodologies are addressed.

HSCI 4309 Clinical Laboratory Management I (2 sem hrs) FALL
This course introduces the theory, application and evaluation of clinical laboratory management principles, including research, educational methodology, quality control, ethics, point-of-care testing, scope of practice, and job application processes. Opportunities for building critical thinking, communication, and leadership skills are provided.

HSCI 4159 Clinical Chemistry and Urinalysis II (2 sem hrs) SPRING
This course expands on HSCI 4149 and HSCI 4449 content. Correlation of clinical laboratory data with the diagnosis and treatment monitoring of trace element, and inborn errors of metabolism disorders; and tumor markers are emphasized.

HSCI 4179 Clinical Hematology II (2 sem hrs) SPRING
This course expands on hematological and hemostasis content presented in HSCI 4169 and HSCI 4449, including body fluid analysis (e.g., cerebrospinal, synovial, serous). Correlation of laboratory data with the diagnosis and treatment of erythrocyte, leukocyte, and bleeding/clotting disorders are emphasized.
HSCI 445 Clinical Core Laboratory Practicum II (1 sem hr) SPRING
This course provides practical experience in a clinical laboratory setting for the technical performance and evaluation of clinical hematology/hemostasis, chemistry and urinalysis procedures. Course content builds on HSCI 4159 and HSCI 4179, including automation and automatic verification techniques.

HSCI 4199 Clinical Microbiology II (2 sem hrs) SPRING
This course builds on the infectious disease theory (bacteriology, mycology, parasitology and virology), practical application and evaluation of the procedures introduced in HSCI 4189 and HSCI 4489. Correlation of clinical laboratory data with patient clinical information are emphasized.

HSCI 4499 Clinical Microbiology Laboratory Practicum II (1 sem hr) SPRING
This course provides practical experience in a clinical laboratory setting for the technical performance and evaluation of clinical microbiology procedures with application of infectious disease concepts. Course content builds on HSCI 4199 Clinical Microbiology II.

HSCI 4239 Clinical Immunohematology II (2 sem hrs) SPRING
This course builds on immunohematology theory, practical application and evaluation of the procedures introduced in HSCI 4229 and HSCI 4429. Resolving complex immunohematology problems, hemolytic disorder diagnosis and management, blood product management, and adverse effects of transfusion are emphasized.

HSCI 4439 Clinical Immunohematology Laboratory Practicum II (1 sem hr) SPRING
This course provides practical experience in a clinical laboratory setting for the technical performance and evaluation of clinical immunohematology procedures and preparation and management of blood product components. Course content builds on HSCI 4239 Clinical Immunohematology II.

HSCI 4129 Clinical Laboratory Science Theory, Application, and Correlation (5 sem hrs) SPRING
This course includes the application, evaluation and correlation of laboratory procedures used in the diagnosis and treatment of common disease states. Opportunities for building critical thinking, oral communication, professional behavior and teamwork skills are provided in small group case discussions.

HSCI 4319 Clinical Laboratory Management II (3 sem hrs) SPRING
This course builds on HLCI 4309, and includes the theory, application and evaluation of laboratory management principles in compliance and regulatory issues, test utilization, human resource management, written and oral communication, method evaluation, professionalism, quality improvement and financial resource management.