



BACHELOR OF SCIENCE IN CLINICAL LABORATORY SCIENCES

The Clinical Laboratory Sciences program prepares students to perform a full range of laboratory analyses that are essential for the diagnosis, monitoring and treatment of disease. These laboratory analyses are applicable to the fields of human and veterinary medicine, forensics, drug development and research. Graduates are eligible for national certification through the American Society of Clinical Pathology as well as licensure in the state of New York as Clinical Laboratory Technologists. The curriculum in Clinical Laboratory Sciences is designed to assure that all students are able to:

- Perform Clinical Laboratory Testing
 - Evaluate appropriateness and quality of laboratory specimens and handle them safely
 - Accurately and efficiently perform analytic analyses in all areas of the clinical laboratory
 - Evaluate test results to assure accuracy of analyses and correlate with medical history and diagnosis
- Participate in the Daily Management of the Clinical Laboratory
 - Apply and properly follow all safety requirements within the laboratory and health care facility
 - Evaluate new testing methods and instrumentation for accuracy, precision, specificity, sensitivity and appropriateness to patient care
 - Explain the principles of human resources management
- Promote Public Health
 - Promote public awareness of health and disease
 - Recognize the role of the laboratory in disaster management
- Provide Laboratory Information and Education
 - Demonstrate professional conduct and interpersonal communication skills with patients, laboratory personnel, other health care professionals and the public
 - Establish and maintain continuing education for self and others to maintain lifelong learning and professional competence
 - Provide leadership in educating other health care professionals on issues related to the clinical laboratory
 - Read and evaluate published professional literature for its pertinence and reliability and explain the basic principles of the scientific method
- Understand Health Care System and the Role of the Medical Laboratory
 - Explain the role of the regulatory agencies that oversee the clinical laboratory and of the regulations pertinent to the laboratory and the healthcare organization in which the laboratory resides
 - Explain the organizational structure of healthcare organizations and the role of the clinical laboratory in the provision of patient care

BS CLINICAL LABORATORY SCIENCES REQUIRED COURSES

Communications: 6 required credits¹

COM 115: Principles of Communication (3)

BHS 230: Sophomore Seminar (3)

¹All incoming students are assessed for their writing ability. The assessment is designed to direct students to the courses for which they are best prepared in the first year of the curriculum.

Humanities, Culture and Health: 18 required credits

HUM 101, 102 and 201: The Pre-Modern World, The Modern World, The Contemporary World (3, 3, 3)

ETH 310: Bioethics (3)

PSY 101: General Psychology (3)

Social Science Elective (3)

Basic Sciences: 39 required credits

BIO 101 and 102: General Biology I and II (4, 4)

BIO 213 and BIO 214: Anatomy and Physiology I and lab (3, 1)

BIO 215 and BIO 216: Anatomy and Physiology II and Lab (3, 1)

BIO 235: Cell Biology (3)

BIO 236: Cell Biology Laboratory (1)

CHE 101 and 102: General Chemistry I and II (4, 4)

CHE 245: Survey of Organic Chemistry (4)

CHE 311: Biochemistry I (3)

CLS 348 Clinical Biochemical Techniques (1)

MAT 145: Elementary Statistics (3)

Biomedical Sciences: 7 required credits

BHS 201: Medical Terminology (3)

BHS 740 G: Genetics and Molecular Basis of Disease (4)

Clinical Sciences: 50 required credits

CLS 327 and 329: Clinical Microbiology I and II (3, 3)

CLS 328 and 330: Clinical Microbiology I and II Lab (1, 1)

CLS 317: Clinical Hematology (3)

CLS 318: Clinical Hematology Lab (1)

CLS 307: Urinalysis and Body Fluids (1)

CLS 308: Urinalysis and Body Fluids Lab (1)

CLS 337: Clinical Immunology (3)

CLS 338: Clinical Immunology Lab (1)

CLS 339: Immunohematology (3)

CLS 340: Immunohematology Lab (1)

CLS 346: Clinical Chemistry (3)

CLS 347: Clinical Chemistry Lab (1)

CLS 400: Laboratory Management and Education (3)

CLS 410: Clinical Correlations (3)

CLS 401 and 402: Clinical Practicum I and II (9, 9)

Electives: 9 elective credits

Free electives (9)

Total Credits: 129 credits

BS IN CLINICAL LABORATORY SCIENCES SAMPLE SCHEDULE

Year 1						
Fall Semester			Credits	Spring Semester		Credits
BIO 101	General Biology I		4	BIO 102	General Biology II	4
CHE 101	General Chemistry I		4	CHE 102	General Chemistry II	4
HUM 101	Pre-Modern World		3	MAT 145	Elementary Statistics	3
COM 115	Principles of Communication		3	HUM 102	Modern World	3
PSY 101	General Psychology		3		Elective	3
	Total		17		Total	17

Year 2						
Fall Semester			Credits	Spring Semester		Credits
HUM 201	Contemporary World		3	BHS 230	Sophomore Seminar	3
BIO 213	Anatomy and Physiology I		3	BIO 215	Anatomy and Physiology II	3
BIO 214	Anatomy and Physiology I Lab		1	BIO 216	Anatomy and Physiology II Lab	1
BHS 201	Medical Terminology		3	BIO 235	Cell Biology	3
	Social Science Elective		3	BIO 236	Cell Biology Lab	1
	Elective		3	CHE 245	Survey of Organic Chemistry	4
					Elective	3
	Total		16		Total	18

Year 3						
Fall Semester			Credits	Spring Semester		Credits
CLS 327	Clinical Microbiology I		3	CLS 329	Clinical Microbiology II	3
CLS 328	Clinical Microbiology I Lab		1	CLS 330	Clinical Microbiology II Lab	1
CHE 311	Biochemistry I		3	CLS 346	Clinical Chemistry	3
CLS 348	Clinical Biochemical Techniques		1	CLS 347	Clinical Chemistry Lab	1
CLS 317	Clinical Hematology		3	CLS 339	Immunohematology	3
CLS 318	Clinical Hematology Lab		1	CLS 340	Immunohematology Lab	1
CLS 307	Urinalysis and Body Fluids		1	CLS 337	Clinical Immunology	3
CLS 308	Urinalysis and Body Fluids Lab		1	CLS 338	Clinical Immunology Lab	1
ETH 310	Bioethics		3			
	Total		17		Total	16

Year 4						
Fall Semester			Credits	Spring Semester		Credits
BHS 740	Genetics and Molecular Basis of Disease		4	CLS 410	Clinical Correlations	3
CLS 400	Laboratory Management and Education		3	CLS 402	Clinical Practicum II	9
CLS 401	Clinical Practicum I		9			
	Total		16		Total	12

Updated August 2018