

BACHELOR OF MEDICAL LABORATORY SCIENCE

Admission to Program

Admission to the program is explained in the HCT Admission Policy described in the Academic Policies section of this Catalog.

Program Mission

The Bachelor of Medical Laboratory Science at the Higher Colleges of Technology aims to produce skilled and competence Emirati professionals in medical laboratory sciences who are work ready as medical laboratory science professionals delivering diagnostic care to a wide variety of patients/clients.

Program Description

The Bachelor of Medical Laboratory Science is a four-year professional program. Graduates are trained biomedical scientists who possess a broad range of knowledge in medical laboratory diagnostics with the ability to work proficiently and are culturally competent to deliver care to a wide range of clients/patients. The four years of undergraduate study integrates biomedical science theory, laboratory skills and supervised professional practice in a variety of clinical settings. Medical laboratory scientists are specialized in the area of clinical diagnostics, producing accurate results required by physicians and health care team members for treatment and management of patients and clients. Graduates possess professional knowledge in the areas of haematology, immunology, transfusion science, clinical chemistry, microbiology, molecular and cellular pathology, with the potential to specialize and advance their skills in specialist areas. These skills can be easily transferred to work competently in public health labs, municipality and forensic labs and in the biotechnology industry. Graduates who are successful in their program can take the credentialing exam for the American Society of Clinical Pathologists International (M.T ASCPi), which provides access to society activities and program recognition for those students who wish to advance their education into graduate studies.

Students are eligible for a one year Work Experiential Learning experience during their study. Students can also opt for Diploma graduation (exit) upon completing the required credit hours.

Program Goals

1. Equip medical laboratory students with technical skills and analytical expertise who meet national and international standards.
2. Develop graduates with strong leadership qualities who actively contribute to the implementation and enforcement of health policies in the UAE.
3. Produce trained medical laboratory professionals who effectively comply with all legal, regulatory and ethical requirements.
4. Prepare graduates to demonstrate exceptional innovative thinking, problem-solving skills and excellent communication.
5. Graduate outstanding and competent medical laboratory professionals with a strong commitment to lifelong learning and growth.

Program Learning Outcomes

Bachelor of Medical Laboratory Science (Medical Laboratory Scientist) (NQF Level 7)

On successful completion of this program the graduate will be able to:

1. Apply knowledge, management and decision making aspects to provide quality medical laboratory diagnostic services in variety of healthcare settings.
2. Apply comprehensive knowledge of healthcare regulations, emerging technologies, and evidence-based practices to solve complex problems in laboratory medicine.
3. Apply cognitive and technical competencies to analyze clinical specimens, identify potential risks, and develop informed solutions that contribute to accurate laboratory decision-making and improved clinical outcomes
4. Demonstrate the ability to operate laboratory equipment, apply advanced technologies, and utilize information systems and communication tools to support safe and effective laboratory practice in diverse healthcare settings.
5. Apply clinical research skills to investigate problems in the medical laboratory discipline and to assess and evaluate quality procedures as relevant.
6. Demonstrate professional and technical leadership attribute and be able to lead and work collaboratively within a multidisciplinary team in a diverse range of clinical laboratories to ensure safe medical laboratory practice.
7. Demonstrate the ability to apply entrepreneurship and innovation skills to incorporate new solutions into medical laboratory practice.
8. Demonstrate professional attributes including but not limited to ethics, life-long and independent learning, relevant to their role as medical laboratory technologists in the clinical laboratories.

Requirements

Completion Requirements

Bachelor of Medical Laboratory Science

Students must successfully complete a minimum of 120 credits as follows:

Code	Title	Credit Hours
	Health Science Core Courses	15
	Medical Laboratory Science Core Courses	72
	Medical Laboratory Science Preceptorship Courses	15
	General Studies	18
Total Credit Hours		120

Note : Exit with Diploma

Diploma in Medical Laboratory Science

Students must successfully complete a minimum of 68 credits as follows:

Health Science Core Courses: 15 credits

Medical Laboratory Science Core Courses: 32 credits

Medical Laboratory Preceptorship Courses: 3 credits

General Studies: 18 credits

Bachelor of Medical Laboratory Science

Code	Title	Credit Hours
Health Science Core Courses		
Required Credits: 15		
HML 1023	Medical Terminology	3
HML 1013	Human Biology	3
HML 1033	Work Health and Safety	3
HML 1113	Anatomy and Physiology	3
HML 1123	Chemistry for Health Sciences	3
Medical Laboratory Science Core Courses		
Required Credits: 72		
HML 2303	Clinical Hematology I	3
HML 2301	Clinical Hematology I Lab	1
HML 2403	Clinical Chemistry I	3
HML 2401	Clinical Chemistry I Lab	1
HML 2503	Medical Microbiology	3
HML 2501	Medical Microbiology Lab	1
HML 2603	Immunology	3
HML 2601	Immunology Lab	1
HML 2313	Clinical Hematology II	3
HML 2311	Clinical Hematology II Lab	1
HML 2413	Clinical Chemistry II	3
HML 2411	Clinical Chemistry II Lab	1
HML 2513	Systematic Bacteriology	3
HML 2511	Systematic Bacteriology Lab	1
HML 2613	Histotechnology	3
HML 2611	Histotechnology Lab	1
HML 3303	Hemostasis	3
HML 3301	Hemostasis Lab	1
HML 3403	Parasitology, Virology, Mycology	3
HML 3401	Parasitology, Virology, Mycology Lab	1
HML 3503	Clinical Biochemistry	3
HML 3501	Clinical Biochemistry Lab	1
HML 3313	Transfusion Medicine	3
HML 3311	Transfusion Medicine Lab	1
HML 3413	Applications in Molecular Diagnostics	3
HML 3411	Applications in Molecular Diagnostics Lab	1
HML 3513	Cytotechnology	3
HML 3511	Cytotechnology Lab	1
HML 3153	Laboratory Management	3
HML 4014	Clinical Correlations	4
HML 4223	Pathology of Diseases	3
HML 4013	HML Capstone Project I	3
HML 4113	HML Capstone Project II	3
Medical Laboratory Science Preceptorship Courses		
Required Credits: 15		
HML 2233	Clinical Preceptorship I	3
HML 4106	Clinical Preceptorship II	6

HML 4206 Clinical Preceptorship III 6

General Studies

Required Credits: 18

AES 1003	Emirati Studies	3
LSC 1103	Professional Written Communication	3
LSM 1113	Statistical Mathematics	3
BUS 2403	Innovation and Entrepreneurship	3
CIS 2603	Artificial Intelligence Foundations	3
LSS 1133	Critical Thinking and Research Skills	3

Diploma Exit Option - Diploma in Medical Laboratory Science

Code	Title	Credit Hours
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Health Science Core Courses

Required Credits: 15

HML 1023	Medical Terminology	3
HML 1013	Human Biology	3
HML 1033	Work Health and Safety	3
HML 1113	Anatomy and Physiology	3
HML 1123	Chemistry for Health Sciences	3

Medical Laboratory Science Core Courses

Required Credits : 32

HML 2303	Clinical Hematology I	3
HML 2301	Clinical Hematology I Lab	1
HML 2403	Clinical Chemistry I	3
HML 2401	Clinical Chemistry I Lab	1
HML 2503	Medical Microbiology	3
HML 2501	Medical Microbiology Lab	1
HML 2603	Immunology	3
HML 2601	Immunology Lab	1
HML 2313	Clinical Hematology II	3
HML 2311	Clinical Hematology II Lab	1
HML 2413	Clinical Chemistry II	3
HML 2411	Clinical Chemistry II Lab	1
HML 2513	Systematic Bacteriology	3
HML 2511	Systematic Bacteriology Lab	1
HML 2613	Histotechnology	3
HML 2611	Histotechnology Lab	1

Medical Laboratory Science Preceptorship Courses

Required Credits : 3

HML 2233	Clinical Preceptorship I	3
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General Studies

Required Credits : 18

AES 1003	Emirati Studies	3
LSC 1103	Professional Written Communication	3
LSM 1113	Statistical Mathematics	3
BUS 2403	Innovation and Entrepreneurship	3
CIS 2603	Artificial Intelligence Foundations	3
LSS 1133	Critical Thinking and Research Skills	3

Description	Data
Total Required Credits	120
Maximum Duration of Study	6 years

Minimum Duration of Study	4 years
Cost Recovery Program	No
Program Code	BHMLU
Major Code	HML

Ideal Study Plan Recommended Sequence of Study

Year 1		Credit Hours
Semester 1		
LSC 1103	Professional Written Communication	3
AES 1003	Emirati Studies	3
HML 1033	Work Health and Safety	3
HML 1013	Human Biology	3
HML 1023	Medical Terminology	3
Credit Hours		15
Semester 2		
CIS 2603	Artificial Intelligence Foundations	3
BUS 2403	Innovation and Entrepreneurship	3
LSM 1113	Statistical Mathematics	3
HML 1123	Chemistry for Health Sciences	3
HML 1113	Anatomy and Physiology	3
Credit Hours		15
Year 2		
Semester 3		
HML 2601	Immunology Lab	1
HML 2603	Immunology	3
HML 2501	Medical Microbiology Lab	1
HML 2503	Medical Microbiology	3
HML 2401	Clinical Chemistry I Lab	1
HML 2403	Clinical Chemistry I	3
HML 2301	Clinical Hematology I Lab	1
HML 2303	Clinical Hematology I	3
Credit Hours		16
Semester 4		
HML 2611	Histotechnology Lab	1
HML 2613	Histotechnology	3
HML 2511	Systematic Bacteriology Lab	1
HML 2513	Systematic Bacteriology	3
HML 2411	Clinical Chemistry II Lab	1
HML 2413	Clinical Chemistry II	3
HML 2311	Clinical Hematology II Lab	1
HML 2313	Clinical Hematology II	3
Credit Hours		16
Summer		
HML 2233	Clinical Preceptorship I	3
Credit Hours		3
Year 3		
Semester 5		
HML 3501	Clinical Biochemistry Lab	1
HML 3503	Clinical Biochemistry	3
HML 3401	Parasitology, Virology, Mycology Lab	1
HML 3403	Parasitology, Virology, Mycology	3
HML 3301	Hemostasis Lab	1
HML 3303	Hemostasis	3
LSS 1133	Critical Thinking and Research Skills	3
Credit Hours		15
Semester 6		
HML 3153	Laboratory Management	3
HML 3511	Cytotechnology Lab	1

HML 3513	Cytotechnology	3
HML 3411	Applications in Molecular Diagnostics Lab	1
HML 3413	Applications in Molecular Diagnostics	3
HML 3311	Transfusion Medicine Lab	1
HML 3313	Transfusion Medicine	3
Credit Hours		15

Year 4		Credit Hours
Semester 7		
HML 4014	Clinical Correlations	4
HML 4013	HML Capstone Project I	3
HML 4106	Clinical Preceptorship II	6
Credit Hours		13

Semester 8		Credit Hours
HML 4123	Pathology of Diseases	3
HML 4113	HML Capstone Project II	3
HML 4206	Clinical Preceptorship III	6
Credit Hours		12
Total Credit Hours		120

Faculty and Academic Staff

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