

Program of Medical Laboratory Sciences

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This program is run in coordination with the Department of Pathology and Laboratory Medicine at the Faculty of Medicine.

The Medical Laboratory Sciences (MLS) Program graduates committed healthcare professionals to serve and improve the health needs of individuals and communities. Our graduates are highly skilled professionals who perform analytical tests on blood, tissue and body fluids to provide laboratory information for the detection, diagnosis and treatment of diseases. Moreover, our degree guarantees immediate career opportunities and constitutes the foundation for advanced graduate studies in medicine, basic sciences and public health.

Course Description

- MLSP 201 Clinical Hematology I 3.0; 3 cr.**
 This course that introduces students to fundamental concepts in hematology, including the development of blood cell elements, normal physiology of blood cells, and their disorders. This course focuses on anemia, with a special emphasis on diagnosis. It also introduces them to the clotting cascade and coagulation disorders. *First term.*
- MLSP 202 Clinical Hematology II 3.0; 3 cr.**
 This course is intended to introduce students to the various white blood cell anomalies, including numerical and morphologic abnormalities of cells. In addition, students are introduced to the major types of leukemia and Lymphoma as well as to the various tools used in the diagnosis of these malignancies. *Prerequisite: MLSP 201. Second term.*
- MLSP 203 General Microbiology 2.4; 3 cr.**
 This course that covers the structure and morphology of micro-organisms, nutritional requirements and growth, sterilization and disinfection, introduction to microbial genetics, collection and handling of clinical specimens, culture techniques for clinical specimens and expected pathogens, antibiotic *sensitivity testing, and assay. First term.*
- MLSP 204 Systematic Bacteriology 3.4; 4 cr.**
 This course that covers introduces students to the characteristics of clinically significant bacterial agents of medical importance with concentration on the diseases they cause, pathogenesis, mode of transmission, disease dynamics, prevention and control measures and laboratory methods for isolation, identification, and interpretation of results. *Prerequisite: MLSP 203 Second term.*

- LABM 231 Clinical Laboratory Quality Systems 1.0; 1 cr.**
This course is intended to give MLS students a thorough understanding of the quality systems as implemented in clinical laboratories with practical examples in order to relate theory to practice. The course includes all the basic elements and tools required to implement the quality system essentials across all phases of the laboratory workflow: pre-analytical, analytical, post-analytical. *Second term.*
- LABM 233 Genetics and Molecular Biology 2.0; 2 cr.**
A course that includes an introduction to human genetics, comprising the structure and function of DNA and the classification of genetic disorders. Diagnostic techniques in human genetics (cytogenetics, biochemical, and molecular) will be covered, as well as molecular techniques applied in pathology and microbiology. *First term.*
- LABM 235 Medical Mycology 1.0; 1 cr.**
A course that covers the different kinds and types of fungi (yeast and mold). This course discusses their disease spectrum mode of infection, gross requirements, a cultural and non-cultural methods of for identifications as well as antifungal drugs and susceptibility testing of fungi. *First term.*
- LABM 240 Clinical Microbiology 3.20; 4 cr.**
Practical experience in clinical microbiology (aerobic and anaerobic bacteriology, mycobacteriology, mycology, and susceptibility testing). *Six weeks. Prerequisites: MLSP 203 and MLSP 204.*
- LABM 250 Clinical Parasitology and Urinalysis 0.20; 2 cr.**
Practical experience in clinical microscopy pertaining to parasitology, urinalysis, and spermogram. *Three weeks. Prerequisite: MBIM 223.*
- LABM 260 Serology 1.5.20; 2 cr.**
Practical experience in clinical immunology and serodiagnostic techniques. *Three weeks. Prerequisite: MLSP 259.*
- LABM 270 Blood Banking 1.5.20; 2 cr.**
Practical experience in blood banking and transfusion medicine. *Three weeks. Prerequisite: MLSP 207.*
- LABM 280 Cytogenetics, Molecular Diagnostics and Histotechniques 0.20; 2 cr.**
Practical experience in reception, cytogenetics, and histotechniques. *Three weeks. Prerequisite: LABM 210.*
- MBIM 223 Parasitology for MLS Students 2.2; 4 cr.**
The purpose of the course is to provide the basic principles and concepts of parasitic diseases and their laboratory diagnosis. Emphasis is placed on life cycles, pathogenesis, preventive measures and in-depth laboratory identification of the parasites. *Second term.*

Modes of Analysis	Understanding Communication - English and Arabic (9)	Cultures and Histories (9), Human Values (3)	Societies and Individuals (6)	Understanding the World (14), Quantitative Reasoning (3)	Major courses (34+20)	Community-Engaged Learning (3)
Lecture Course (9+12+6+15+29+3)	<ul style="list-style-type: none"> Required Arabic course (3) Required English courses: ENGL 203 (3), 204(3) 	<ul style="list-style-type: none"> Cultures and Histories electives (9) PHIL 205 (3) 	<ul style="list-style-type: none"> HPCH 203(3) Elective (3) 	<ul style="list-style-type: none"> BIOL 201(4) CHEM 208(3) PHYL 246(4) BIOC 255(3) EPHD 203(3) 	<ul style="list-style-type: none"> MLSP 201(3), 202(3), 203(3), 204(4), 207(2), 208(2), 259(1) LABM 201(2), 202(3), 210(2), 231(1), 233(2), 235(1) MBIM 223(4) 	<ul style="list-style-type: none"> HMPD 204 (3)
Lab (4+4)				<ul style="list-style-type: none"> BIOL 201(4) CHEM 209(2) EPHD 203(3) 	<ul style="list-style-type: none"> MLSP 203(3), 204(4) MBIM 223(4) 	
Seminar (1)					<ul style="list-style-type: none"> MLSP 211(1) 	
Practical Training (20)					<ul style="list-style-type: none"> LABM 220(4), 230(4), 240(4), 250(2), 260(2), 270(2), 280(2) 	

MBIM 223 is a major required course in the discipline. However, it is not counted in the major average. Only LABM and MLSP courses count towards major average.