

# **FACULTY OF HEALTH SCIENCES**

## **MISSION STATEMENT**

The mission of the Faculty of Health Sciences is to nurture a lively collegial learning environment that would enable students to become caring and capable healthcare professionals and citizens ready to engage effective roles within healthcare systems, families and communities. This entails the continuous development of academic, co-academic, research, and service programs that are integrated, scientifically sound, socially appropriate, multidisciplinary, and impact-directed.

Guided by the principles and policies of the University of Balamand, and working in partnership with St. George Hospital University Medical Center, the Faculty seeks excellence, fosters professionalism, rewards commitment, encourages service, emphasizes professional ethics, nurtures partnerships, values research, and respects intellectual property.

# **FACULTY LIST**

## **OFFICERS OF THE FACULTY**

Salem, Elie	President of the University
Bashour, Tali'	Honorary Vice President for Medical Affairs in the US
Karam, Nadim	Vice President for Health Affairs and Community Development, Dean
Nahas, George	Vice President for Planning and Educational Relations
Najjar, Michel	Vice President for Development Administration and Public Relations
Moubayed, Walid	Dean of Admissions and Registration
Ayoub, Olga	Librarian

## **FACULTY STAFF**

Atallah, David	IT Assistant
Chaddad, Rita	Secretary
Constantine, Catherine	Secretary
Khalil, Mayssa	Secretary
Khamis, Youssef	Office Assistant
Khater, Paul	IT Assistant
Lahoud, Cecile	Secretary
Mardini, Rita	Librarian
Nseir, Micheline	Administrative Assistant

## **FACULTY MEMBERS**

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Abdel Rahman, Annous	M.D. Forensic Medicine University of Vitebsk, Belarus.
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Abdo, Elias	Ph.D., Molecular Biology University of Motpellier II, France
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Abi Khalil, Nancy	DEA, French Literature, Lebanese University, Lebanon.
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## **PROGRAMS OF STUDIES**

The Faculty of Health Sciences encompasses the following academic programs:

- MS in Clinical Laboratory Sciences 2 years
  - o Microbiology and Immunology
  - o Molecular Biology
  - o Laboratory Management
- MPH Master in Public Health 2 years
- MSN Master of Science in Nursing 2 years

The Academic Programs are supported by a wide range of Co-Academic Programs.

## **COURSE CODES**

Each course is assigned a number of credit hours normally equivalent to the number of hours of classroom teaching per week. The letters preceding the course number indicate the area or subject of study to which the course belongs.

<b>CODE</b>	<b>DESCRIPTION</b>
<b>CLAS</b>	Clinical Laboratory Sciences Courses
<b>MPHP</b>	Public Health Courses
<b>MSNU</b>	Nursing Courses

## **GRADUATE PROGRAM**

To earn a Master of Science degree, a student must successfully complete 30 credits of coursework (including the completion of a 6 credits-thesis) approved by the program.

To earn a Professional Master degree, a student must successfully complete 34 credits of coursework (including the completion of 4 credits-internship) approved by the program.

To earn a Master of Public Health degree, a student must successfully complete 42 credits including a practicum.

To earn a Master of Science in Nursing degree, a student must successfully complete 36 credits including thesis or a project.

## **ADMISSION REQUIREMENTS**

1. A-Applicants to the MS in Clinical Laboratory Sciences program must hold a Bachelor of Science degree from a recognized institution of higher learning with a minimum cumulative average as evaluated by the department. Applicants should present the following documents:

- A completed official application form
- A certified copy of the Lebanese Baccalaureate or its equivalent
- Two letters of recommendations
- Three recent passport-size photographs
- A non-refundable application fee.
- Proof of English Proficiency (a minimum score of 600 on the paper-based TOEFL exam or 100 on the student-based TOEFL exam.
- Statement of interest

1.B-Applicants to the MPH program must hold a Bachelor degree from a recognized institution of higher learning with a minimum cumulative average as evaluated by the department. Applicants from non-science backgrounds may be requested to complete pre-requisites. Applicants should present the following documents:

- A completed official application form
- A certified copy of the Lebanese Baccalaureate or its equivalent

- Two letters of recommendations
- Three recent passport-size photographs
- A non-refundable application fee.
- Proof of English Proficiency (a minimum score of 600 on the paper-based TOEFL exam or 100 on the student-based TOEFL exam.
- Statement of interest
- Evidence of work or community experience.

1.C-Regular admission to the program will occur in the Fall semester. However, Spring semester admissions will be considered as well.

- Enrollment eligibility will include holders of BS in Nursing or its equivalent with a minimum grade point average of 3.0 on a 4.0 scale according to the American grading system or what is equivalent in other systems.
- An undergraduate course of statistics.
- A completed official application form and official transcript.
- Two letters of recommendations.
- Proof of English Proficiency for English Section applicants (a minimum score of 527 on the paper-based TOEFEL exam or 197 on the computer-based TOEFEL exam. (Scores remain valid up to 4 years from test date).
- Proof of French Language Proficiency for French Section applicants as required by the University (test of general linguistic knowledge and an essay testing written expression).
- A license to practice nursing from country of residence.
- One year of clinical experience in nursing.

1.D-Graduate acceptance is granted upon recommendation of the Graduate Admission Committee after reviewing the application.

The Graduate Admission Committee may admit students on probationary status based on their presented credentials. A student admitted on probation must achieve a minimum average of 80 in the first semester of graduate study provided that the student enrolls in a minimum of six credits. Failure to satisfy these requirements will result in automatic dismissal from the graduate program.

Students admitted on probation due to unsatisfactory undergraduate achievements may be allowed to enroll in remedial courses to improve their undergraduate cumulative average and reapply for admission to the graduate program.

## **2. ACADEMIC RULES & REGULATIONS**

Refer to the University rules and regulations.

**MASTER OF SCIENCE IN CLINICAL LABORATORY  
SCIENCES**  
**MICROBIOLOGY AND IMMUNOLOGY TRACK**

**SEMESTER 1**

<b><u>Course Code</u></b>	<b><u>Course Title</u></b>	<b><u>Credit</u></b>
CLAS 303	Applied Molecular Biology	3
CLAS 312	Epidemiology and Biostatistics	3
CLAS 321	Medical Microbiology	3
LISP 400	Master's Thesis/Project Seminar**	—
<b>Total</b>		<b>9</b>

**SEMESTER 2**

<b><u>Course Code</u></b>	<b><u>Course Title</u></b>	<b><u>Credit</u></b>
CLAS 304	Research Methods	3
CLAS 310	Advanced Principles of Immunology	3
CLAS 323	Infection Control in Clinical Practice	2
<b>Total</b>		<b>8</b>

**SEMESTER 3**

<b><u>Course Code</u></b>	<b><u>Course Title</u></b>	<b><u>Credit</u></b>
CLAS 399	Master's Thesis	6
CLAS 326	Mechanism of Microbiology Pathogenesis (Elective)	3
<b>Total</b>		<b>9</b>

**SEMESTER 4**

<b><u>Course Code</u></b>	<b><u>Course Title</u></b>	<b><u>Credit</u></b>
CLAS 301	Laboratory Organization, Management, and Quality Assurance	3
CLAS 311	Selected Topics in Laboratory Medicine	1
CLAS 399	Thesis Continued	-
<b>Total</b>		<b>4</b>

**Total number of credits** **30**

\*\*LISP 400 is a non-fee obligatory 1 credit course for graduation. It should be completed by the end of the first year.

## MOLECULAR BIOLOGY TRACK

### SEMESTER 1

<u>Course Code</u>	<u>Course Title</u>	<u>Credit</u>
CLAS 303	Applied Molecular Biology	3
CLAS 308	Biotechnology	3
CLAS 312	Epidemiology and Biostatistics	3
LISP 400	Master's Thesis/Project Seminar**	—
<b>Total</b>		<b>9</b>

### SEMESTER 2

<u>Course Code</u>	<u>Course Title</u>	<u>Credit</u>
CLAS 304	Research Methods	3
CLAS 336	Genomics	3
CLAS 337	Proteomics	2
<b>Total</b>		<b>8</b>

### SEMESTER 3

<u>Course Code</u>	<u>Course Title</u>	<u>Credit</u>
CLAS 399	Master's Thesis	6
	Elective	3
<b>Total</b>		<b>9</b>

### SEMESTER 4

<u>Course Code</u>	<u>Course Title</u>	<u>Credit</u>
CLAS 301	Laboratory Organization, Management, and Quality Assurance	3
CLAS 311	Selected Topics in Laboratory Medicine	1
CLAS 399	Thesis Continued	-
<b>Total</b>		<b>4</b>

**Total number of credits** **30**

\*\*LISP 400 is a non-fee obligatory 1 credit course for graduation. It should be completed by the end of the first year.

## LABORATORY MANAGEMENT TRACK

### SEMESTER 1

<u>Course Code</u>	<u>Course Title</u>	<u>Credit</u>
CLAS 312	Epidemiology and Biostatistics	3
CLAS 351	Database management & Laboratory Information Systems	3
CLAS 357	Laboratory Set up & Equipment Technology	3
LISP 400	Master's Thesis/Project Seminar**	--
		9
<b>Total</b>		<b>9</b>

### SEMESTER 2

<u>Course Code</u>	<u>Course Title</u>	<u>Credit</u>
CLAS 301	Laboratory Organization, Management, and quality assurance	3
CLAS 353	Laboratory Human Resource Management	3
CLAS 355	Laboratory Marketing Strategies	3
		9
<b>Total</b>		<b>9</b>

### SEMESTER 3

<u>Course Code</u>	<u>Course Title</u>	<u>Credit</u>
CLAS 352	Laboratory Quality management systems	3
CLAS 354	Laboratory Budgeting and Finance	3
	Elective	3
		9
<b>Total</b>		<b>9</b>

### SEMESTER 4

<u>Course Code</u>	<u>Course Title</u>	<u>Credit</u>
CLAS 311	Selected Topics in Laboratory Medicine	1
CLAS 323	Infection Control in Clinical Practice	2
CLAS 350	Internship	4
		7
<b>Total</b>		<b>7</b>

**Total number of credits** **34**

## **COURSE DESCRIPTION**

### **CLAS 301 LABORATORY ORGANIZATION, MANAGEMENT, AND QUALITY ASSURANCE**

**3.0: 3 cr. E**

This course targets clinical laboratory scientists who have an interest or responsibility in technical quality management of laboratory testing processes, as well as managers of healthcare laboratories, clinical QC technologists and specialists, laboratory inspectors, and others. The course enables students to develop managerial skills, to acquire knowledge of total quality management, to be able to assume administrative responsibility in any laboratory setting.

### **CLAS 303 APPLIED MOLECULAR BIOLOGY**

**3.0: 3 cr. E**

This course is designed to introduce major molecular biology techniques used in diagnosis and prediction of risk in clinical laboratories. In addition to an overview of the basic techniques in molecular diagnostics, the course examines advanced techniques in areas such as DNA identity, applications in hematology, applications in infectious diseases, and other diagnostic tools in a number of common genetic disorders. The course includes 1 cr. of hands-on applications of various introduced techniques.

### **CLAS 304 RESEARCH METHODS**

**3.0: 3 cr. E**

This graduate level course introduces the students to the research process. It is designed to equip students with the necessary skills to design and conduct a research project. Emphasis is on techniques of researching, critiquing, writing, and presenting. The various steps, methods, designs, strategies and procedures associated with the research process are explored.

### **CLAS 306 FUNDAMENTALS OF PATHOLOGY & LABORATORY DIAGNOSTICS**

**4.0: 4 cr. E**

This course is divided into 2 sections. Section I covers fundamentals of pathology covering basics of disease etiology, and mechanisms of disease development. Topics covered in this section include cellular injury, cell death, inflammation, tissue repair, and neoplasia. Section II introduces pathology of select organs with a focus on laboratory diagnostic tests and clinical interpretations of Laboratory test results for corresponding diseased organs and organ systems. This sections details clinical findings in chemistry, serology, endocrinology, microbiology, genetics, and body fluid analysis.

### **CLAS 308 BIOTECHNOLOGY**

**3.0: 3 cr. E**

The course is an advanced course on biotechnology focusing on the genetic, cell transfection and recombinant DNA technology principles and processes involved in biotechnology. Included are processes involved in cell culture and the bioprocess of prokaryotic/eukaryotic cells. The course also covers important medical applications of biotechnology.

### **CLAS 309 BIOTECHNOLOGY INTERNSHIP**

**3.0: 3 cr. E**

This course offers students the opportunity to participate in an industry connected internship in the field of biotechnology. Students will be required to complete a minimum of 120 hours and will remain under the guidance of an identified industry supervisor during their internship.

### **CLAS 310 ADVANCES IN IMMUNOLOGY**

**3.0: 3 cr. E**

This course provides depth knowledge of the cellular and molecular aspects of immune cells development and its involvement in health and infectious disease and allergy. The course will explore the cellular and molecular aspects of immune cells development, antigen presentation and recognition, cell-cell- interaction, and other aspect of immune system that are required for a functional and effective immune response. Recent advances will be highlighted from current scientific literature, especially experimental discoveries relevant to microbial immune regulatory mechanisms, signalling pathways, as well as activation and function.

**CLAS 311 SELECTED TOPICS IN LABORATORY MEDICINE****1.0: 1 cr. E**

This course focuses on the various laboratory techniques that are performed in the clinical laboratory for the diagnosis of the disease or symptoms.

**CLAS 312 EPIDEMIOLOGY & BIostatISTICS****3.0: 3 cr. E**

The course provides a comprehensive introduction to epidemiologic concepts and their methods. This first part of the course will emphasize on various epidemiologic research methods and study designs and give an overview of data analysis tools. The second part of the course provides an introduction to the use of statistics in applied research. Students will learn how to choose and apply statistical tools in their research in addition to gaining experience in the research field using statistical software for data analysis.

**CLAS 321 MEDICAL MICROBIOLOGY****3.0: 3 cr. E**

This course introduces microbes from a medical and ecological perspective with a focus on the clinical behavior of pathogens to humans. The course is divided into 2 major sections. Section I covers principles of general microbiology with special emphasis on microbial structure, classification, and interaction with the human host. Section II offers an overview of infectious diseases classified by systemic infections, with an emphasis on mechanisms of infectious characteristics of each studied microorganism.

**CLAS 323 INFECTION CONTROL IN CLINICAL PRACTICES****2.0: 2 cr. E**

This course provides a comprehensive guide to the principles and practices of infection control and prevention, in addition to the basic elements of microbiology and epidemiology that underlies them. The course offers an evidence-based overview of routine and latest infection control practices, as well as isolation techniques.

**CLAS 324 CASE STUDIES IN MICROBIOLOGY****3.0: 3 cr. E**

This course deals with the diagnostic and clinical aspects of infectious diseases. It takes the students from the bedside to the lab setting exposing them to both patient examination and laboratory procedures. It entails the involvement of the students in ward visits and lab work. A weekly case presentation and discussion is done and evaluated.

**CLAS 326 MECHANISM OF MICROBIAL PATHOGENESIS****3.0: 3 cr. E**

The course emphasizes on the mechanism of bacterial, viral, protozoan and fungal clinical pathogenesis explored at the molecular, genetic, and cellular levels. This course will familiarize the students with the mechanisms by which pathogens can interact with each other in human or can establish persistence in their host cells. The students can register this course as an elective course.

**CLAS 331 GENOMICS AND PROTEOMICS****3.0: 3 cr. E**

The course introduces research methods used to accumulate genomic data, instruct on how to access major genomic databases, how various nucleotide alignment algorithms work, and how to use them. Topics covered include functional and structural homology, and analysis of gene expression patterns using gene chip technology. In addition, the course introduces and discusses latest proteomics techniques to measure protein activities, modification and localization, and interactions of proteins in complexes.

**CLAS 334 HUMAN GENETICS****2.0: 2 cr. E**

The course material deals with the different aspects of the human genetics through focusing on genotype – phenotype association obtained by applying state of art techniques in genetics, genomics and epigenetics

**CLAS 335 CANCER GENETICS****1.0: 1 cr. E**

The course presents fundamentals of cancer biology and angiogenesis. Understanding of correlations of molecular biology and chromosomal change in human cancer and the role of genetic change in progression and metastasis of cancer.

**CLAS 336 GENOMICS****3.0: 3 cr. E**

The course main objective is to acquire knowledge about gathering and analyzing genomic data. The course introduces research methods used to accumulate genomic data, instruct on how to access major genomic

databases, how various nucleotide alignment algorithms work, and how to use such data. The course is an introduction to theory and methods used for genome-level sequence analysis. It uses public databases and software to extract, analyze and interpret DNA sequences. Topics covered include functional and structural homology, and analysis of gene expression patterns using gene chip technology.

**CLAS 337 PROTEOMICS**

**2.0: 2 cr. E**

The course aims to introduce latest techniques used to analyze proteins and provide the students with comprehensive and practical tools used for this purpose, especially in the ever-growing list of code sequences, patterns, three dimensional structures, and the general flow of information from gene to transcript to protein. The course is designed to provide students with knowledge of bioinformatics as a tool for understanding the biological context of proteins from their structure, homology and function predictions till the experimental linking prediction to true function.

**CLAS 338 CLINICAL GENETICS**

**2.0: 2 cr. E**

The course material deals with the different aspects of the clinical genetics through focusing on genotype-phenotype association obtained by applying state of art techniques in genetics, genomics and epigenetics.

**CLAS 350 LABORATORY MANAGEMENT INTERNSHIP**

**4.0: 4 cr. E**

A supervised professional training and experience in an actual laboratory setting. The internship provides the students with hands-on training in lab finance and budgeting, implementation of quality management, database and information systems, and management skills; as well as developing personal managerial and leadership skills. Each student is expected to complete a minimum of 4 months (8 hours/day), under the supervision of a Faculty advisor. This is an essential course in the major, and students must have the permission of the student's advisor to enroll. This course can be completed over a period of one year.

**CLAS 351 DATABASE MANAGEMENT & LABORATORY INFORMATION SYSTEMS**

**3.0: 3 cr. E**

This course provides student with a practical understanding of health care information systems to use and develop in a laboratory setting. The course includes analysis and discussion of actual case examples. In addition, the course emphasizes on developing and evaluating new tools to analyze clinical data resources. Case studies involving the development and assessment of databases for disease management and drug utilization will be covered. Students learn how to collect, summarize, statistically analyze, present, and interpret data.

**CLAS 352 LABORATORY QUALITY MANAGEMENT SYSTEMS**

**3.0: 3 cr. E**

This course provides information on developing quality management systems for laboratory services. Students taking this course will learn to develop resources required for implementing a quality management system. In addition, the course focuses on developing and managing the processes required for producing and communicating examination results.

Prerequisite: CLAS 301

**CLAS 353 LABORATORY HUMAN RESOURCE MANAGEMENT**

**3.0: 3 cr. E**

Human resource management is concerned with effective management and utilization of human resources in organizations. This course introduces concepts in management of human resources with a focus on laboratory. Topics covered include, mainly, analyzing various methods for recruitment, staffing and retention, staff development, and evaluating performance to various job levels in a laboratory.

**CLAS 354 LABORATORY BUDGETING AND FINANCE**

**3.0: 3 cr. E**

This course introduces the students to the principles of accounting, and focuses on the use of accounting data to support managerial decision-making. Students will acquire skills in using spreadsheets to develop and monitor operating budgets in a laboratory setting. Concepts including cost allocation, personnel costs, activity based cost accounting, demand ratios, and fixed and variable costs, are all examined. Techniques for break-even analysis are presented, and budget negotiation skills and basic decision models are introduced.

**CLAS 355 LABORATORY MARKETING STRATEGIES****3.0: 3 cr. E**

This course introduces the student to the principles of marketing, and focuses on the use of marketing plans. Students will acquire skills in customer service, branding and imaging. Concepts including how to develop a marketing strategy and how to organize branding value in laboratory setting are examined. The concept of organizational communication systems is introduced.

**CLAS 356 STRATEGIC PLANNING****3.0: 3 cr. E**

This is a graduate course designed to prepare students to be senior managers for the increasingly competitive business world. The emphasis of this course will be on the strategic analyses, decisions, and actions that organizations take to create sustainable competitive advantages, with the consideration of both the internal condition and the external environment. Through chapters, readings, and case analyses, the course will discuss issues related to laboratory ethical decision making, corporate social responsibility, stakeholder theory, and the relationship of business & government.

**CLAS 357 MANAGING LABORATORY EQUIPMENT AND SET UP****3.0: 3 cr. E**

The “Managing Laboratory Equipement and Set up” course develops the basic concepts and understanding of Laboratory Equipment and its technology. Nowadays, all Laboratory daily activities are processed on Medical Equipment, which makes essential to understand their basics of operations. This will fortify the student practical knowledge and prepare him/her for future challenges in his/her career.

**CLAS 371 INTRODUCTION TO FORENSICS****3.0: 3 cr. E**

The course introduces the students to the basic principle and concepts of forensic science. It mainly emphasizes on the history and development, crime scene investigations, trace evidence, fingerprints, impressions and sample collection. In addition, this course provides an overview of the techniques used on the modern forensic laboratories.

The students can register this course as an elective course.

**CLAS 399 MASTER’S THESIS****6 cr. E**

This course consists of a thorough supervised research project whereby a student formulates a research hypothesis with specific objectives, then develops methods to demonstrate his/her hypothesis. Results from the performed study are submitted in the form of a thesis to an examination committee, and are defended in public.

## **MASTER DEGREE IN PUBLIC HEALTH (MPH)**

The mission of the MPH Program at the Faculty of Health Sciences (FHS) is to prepare graduates and practitioners for effective engagement and leadership in promoting the health of communities, eliminating social and health disparities, and achieving health-sustaining environments in Lebanon and across the Middle East.

The MPH is a 42-credit professional (practicum-based) degree, designed to be completed within a minimum of 20 months for full-time students, and within 4 years on a part-time basis.

\* The Program is structured to have a set of core courses (21 credits), a set of concentration-specific courses (15 credits), and a practicum (6 credits).

\* For full-time Program enrollment, credits are distributed as follows: 12 credits in Fall 1, 12 credits in Spring 1, 12 credits in Fall 2, and 6 credits in Spring 2.

The Program currently offers a MPH degree with one area of concentration in the field of Community Health.

### **Core Courses (21 credits):**

Core courses are designed to provide in-depth training in the 5 core areas of public health knowledge: Biostatistics, Epidemiology, Environmental Health Sciences, Health Services Administration, and Social and Behavioral Sciences. Other courses, identified as important for a career in public health, are also included within the MPH core courses. The total number of “core” credits is 21 as per the below.

- MPHP 301 Biostatistics (3 credits)
- MPHP 302 Epidemiology (3 credits)
- MPHP 303 Environmental Health (3 credits)
- MPHP 305 Social and Behavioral Determinants of Health (3 credits)
- MPHP 308 Public Health Ethics (1 credit)
- MPHP 309 Public Health Policy, Law and Advocacy (2 credits)
- MPHP 312 Health Care Management (3 credits)
- MPHP 315 Research Design (3 credits)

### **Concentration Courses (15 credits):**

These include 12 credits of coursework related to the Community Health area of concentration, in addition to a 3-credit directed elective.

- MPHP 306 Basic Theories of Health Promotion (3 credits)
- MPHP 316 Community Health Assessment (3 credits)
- MPHP 317 Community Program Planning, Implementation, Monitoring and Evaluation (3 credits)
- MPHP 320 Selected topics in Community Health (3 credits)
- Elective (3 credits)

### **Practicum (6 credits):**

The practicum is designed to provide students with hands-on exposure to public health practice, and to allow them to apply competencies acquired through the Program, in a field work that approximates professional practice. Students have the opportunity to apply learned theory, to contribute to addressing a public health issue while contributing to a community’s resources, and to develop personal confidence, skills and ethical behavior as a public health professional.

Prerequisite: All core and concentration courses must be successfully completed before taking the practicum. The student must obtain approval of the Program before commencing.

## **CURRICULUM**

### **FIRST YEAR**

#### **SEMESTER 1**

<b><u>Course code</u></b>	<b><u>Course Title</u></b>	<b><u>Credit</u></b>
MPHP 301	Biostatistics	3
MPHP 302	Epidemiology	3
MPHP 303	Environmental Health Sciences	3
MPHP 305	Social Behavioral Determinants of Health in a Global World	3
		<hr/>
		<b>12</b>

#### **SEMESTER 2**

<b><u>Course code</u></b>	<b><u>Course Title</u></b>	<b><u>Credit</u></b>
MPHP 306	Basic Theories of Health Promotion	3
MPHP 308	Public Health Ethics	1
MPHP 309	Public Health Policy, Law and Advocacy	2
MPHP312	Health Services and Management	3
MPHP 315	Research Design	3
LISP 400	Master's Thesis/Project Seminar**	1
		<hr/>
		<b>13</b>

### **SECOND YEAR**

#### **SEMESTER 3**

<b><u>Course code</u></b>	<b><u>Course Title</u></b>	<b><u>Credit</u></b>
MPHP 316	Community Health Assessment	3
MPHP 317	Community Program Planning, Implementation, Monitoring and Evaluation	3
MPHP 320	Selected Topics in Community Health	3
	Elective	3
		<hr/>
		<b>12</b>

#### **SEMESTER 4**

<b><u>Course code</u></b>	<b><u>Course Title</u></b>	<b><u>Credit</u></b>
MPHP 340	Practicum	6
		<hr/>
		<b>6</b>
<b>Total number of credits</b>		<b>42 + 1</b>

\*\*LISP400 is a non-fee obligatory 1 credit course for graduation. It should be completed by the end of the first year.

## **COURSE DESCRIPTION**

### **MPHP 301 BIostatISTICS**

**3.0: 3 cr. E**

This course will cover principles of biostatistics in the context of public health applications and evidence based practices. It will include basic and advanced statistical techniques for analysing and investigating public health issues including disparities. Statistical package STATA will be used.

### **MPHP 302 EPIDEMIOLOGY**

**3.0: 3 cr. E**

This course introduces students to the fundamental principles of epidemiology, an interdisciplinary science that seeks to describe the distribution of health-related conditions in human populations, understand their determinants, and find ways to control them during the process of data analysis. The course highlights the role of epidemiology as the basic science of Public Health, and outlines definitions, key concepts, methods, and ongoing debates. Case studies of applied epidemiology will be introduced to expose students to field practices and challenges, and to foster their abilities to critically evaluate Public Health programs

### **MPHP 303 ENVIRONMENTAL HEALTH SCIENCES**

**3.0: 3 cr. E**

This course introduces students to the direct and indirect consequences of exposure to major environmental agents on human health. It explains the principles of identifying and assessing environmental hazards – of physical, chemical and biological environmental factors – and the methods for preventing and controlling them.

### **MPHP 305 SOCIAL BEHAVIORAL DETERMINANTS OF HEALTH IN A GLOBAL WORLD**

**3.0: 3 cr. E**

This course examines key social and behavioral determinants of health and ongoing debates concerning how these determinants are believed to impact population health, with particular reference to global health concerns and limited-resource settings.

### **MPHP 306 BASIC THEORIES OF HEALTH PROMOTION**

**3.0: 3 cr. E**

Health promotion theories underlie public health interventions to change population health behaviors. This course outlines key theories and concepts of behavior change and the processes and mechanisms involved to apply theories to diverse settings and communities. Theories concerning factors and obstacles in achieving individual behavior change, as well as wider cultural and community factors are discussed, with extensive use of relevant case examples.

Pre-requisite(s): MPHP 302/305.

### **MPHP 308 PUBLIC HEALTH ETHICS**

**1.0: 1 cr. E**

This course explores the ethical foundations of public health issues, and their associated controversies, using international examples and local case studies. The objective is to expand students' knowledge of ethics in public health, and enable them to develop skills as advocates for rights-based and ethical approaches in public health.

### **MPHP 309 PUBLIC HEALTH POLICY, LAW AND ADVOCACY**

**2.0: 2 cr. E**

In this course, students are encouraged to engage with policy and legal issues related to health in Lebanon and the Middle East through an examination of policy development change models. The role of politicians, government bureaucrats, advocacy and lobby groups, and citizens in the policy-making process is explored, with a particular focus on the development of media skills and media advocacy methods in achieving health enhancing policy change.

### **MPHP 312 HEALTH SERVICES AND MANAGEMENT**

**3.0: 3 cr. E**

This course provides the students with the essential theories and principles in health care services and management. It focuses on key principles such as organization, financial management, operations management, information systems and quality assessment. The health system in Lebanon at the primary, secondary, and tertiary level is examined. Students are encouraged to reflect critically on comparative health outcomes and the challenges in providing equitable health services for all.

**MPHP 315 RESEARCH DESIGN****3.0: 3 cr. E**

This graduate level course provides students with an advanced understanding of the research process. It equips students with the necessary skills to design a research project and present a viable research proposal. Students will be exposed to quantitative, qualitative and mixed methods designs. Emphasis is placed on developing skills in critical analysis and writing in literature and systematic reviews, and on the ethical dimensions encountered at each stage of the research process.

Pre-requisite(s): LISP 400, MPHP 301, 302 and 305.

**MPHP 316 COMMUNITY HEALTH ASSESSMENTS****3.0: 3 cr. E**

This course explores strategies and methods used to assess health-related needs in the community and to determine priority areas to be targeted with health programs and interventions. The course covers important topics including: systems thinking; coordination of public health activities to achieve community goals; applying critical analysis to data; community mobilization and capacity building; and implementation of evidence based public health practice. Relevant field and applied projects encourage students to consider issues of applied ethics and equitable distribution of benefits in community assessments.

Pre-requisite(s): MPHP 301, 302 and 305

**MPHP 317 COMMUNITY PROGRAM PLANNING, IMPLEMENTATION, MONITORING AND EVALUATION****3.0: 3 cr. E**

This course provides a foundation for the understanding and application of health program planning. The course encompasses a range of program planning models, methods and applications, and takes students through the processes of how to plan, implement, and evaluate health programs.

Pre-requisite(s): MPHP 301, 302 and 306

**MPHP 320 SELECTED TOPICS IN COMMUNITY HEALTH****3.0: 3 cr. E**

This course highlights special and current topics in community health, including infectious diseases, non-communicable diseases, maternal and child health, school health, human rights, sexual and reproductive health, and substance abuse.

Pre-requisite(s): MPHP 305 and 306

**MPHP 333 CURRENT ISSUES IN PUBLIC HEALTH****3.0: 3 cr. E**

This course covers a selection of contemporary topics related to current public health issues. It prepares students to address public health challenges through planning, prevention, research, monitoring, and evaluation.

**MPHP 340 PRACTICUM****6.0: 6 cr. E**

The practicum is designed to provide students with hands-on exposure to public health practice. This will include field work and interaction with the staff of the practicum site. The deliverables of the practicum include an extended written report and oral presentation. This course can be completed over a period of one year.

# MASTER OF SCIENCE IN NURSING (MSN)

## **Mission of the Nursing Program**

The Nursing Program is dedicated to fostering quality nursing education, and influencing the nursing profession and the health care environment in Lebanon and the region. This is done through embracing innovation in the delivery and management of evidence-based health care education underpinned by research and ethics.

The Program aims at providing a positive environment for faculty, staff, and students through enhancing leadership abilities, clinical judgment, technical skills and community involvement.

The Nursing Program believes that Nursing is both a scientific discipline based on scientific knowledge, values and ethics; and a profession which aims at practicing the discipline. It also believes that Health is a basic social right where the needs of individuals, families, and communities are respected and attended to.

The Program intends to expand by offering specialized programs at the undergraduate and graduate levels complying with internationally recognized standards.

Based on the Mission stated above that emanates from the mission of the University of Balamand, and in response to the priorities identified by FHS -UOB through the SWOT analysis done during the development of its “Ten Year Plan” in 2010, the Nursing Program at FHS- UOB proposes the launching of a Master of Science in Nursing in English and French. The MSN program includes two specialties: Neonatal and Child Care and Adult Care aiming at preparing advanced qualified professionals to work in those specialized areas.

## **1.Educational Objectives**

- Advancing nurses abilities as members of an inter-disciplinary health care team, in practice and research.
- Fostering excellence and innovation in the delivery and management of evidence-based health care education.
- Responding to the perceived needs of nurses in enhancing their professional capacities and promoting their career development, in addition to fostering their individual satisfaction.
- Enhancing nurses considerations of ethical issues in health care practice and research.
- Meeting the health care institutions needs for highly qualified professional nurses who are able to continuously respond to the emerging health care challenges.
- Expanding academic programs that aim at meeting the health care priorities of the health care system in the Country.
- Fostering nurses capacities and skills in advocating for the nursing profession, nurses, and clients (individuals, families and communities).
- Contributing to the improvement of the image of the nursing profession by further developing capacities of professional nurses in advanced practice, leadership and research.

## **2.MSN Specialties: Neonatal and Child Care; Adult Care**

### **•Curriculum Description**

The MSN curriculum with its two specialties, Neonatal and Child Care and Adult Care, is composed of 36 credits. It is an advanced clinical training or research based degree designed to be completed within two years for full time students, and within 4 years on a part time basis. The student is given the option to choose thesis (6cr.) or project (3cr.) + elective (3cr.).

The program that follows the American credit system is structured to have a set of core courses (9 cr.), specialty courses (18cr.), one or two electives (3 or 6cr.), and thesis (6 cr.) or project (3cr.). A detailed description of these courses is attached.

**o Core courses**

Core courses are designed to help students develop their knowledge and skills in the areas of Research Methods and Applied Statistics, and Role Development in Leadership and Healthcare Management.

**o Specialty courses**

Specialty courses are designed to equip students with advanced competencies in theory and clinical practice in the areas of Neonatal and Child Care, and Adult Care. Two courses (7cr.) in every specialty are clinical.

**o Elective Course**

Elective courses can be chosen from the list of graduate courses offered by the University.

**o Training or internship**

Two 8 credit clinical courses (Clinical Decision Making and Management I & II) are offered in each specialty. These courses are mandatory irrespective of the previous clinical experience of the candidate. They are equivalent to 480 hours in a clinical setting identified by the Program

**o Thesis**

The thesis should address an original and relevant topic in the area of specialty of the MSN. It aims at developing students' capacities in conducting and disseminating research.

**o Project**

The project should address a specific clinical concern in the area of specialty of the MSN. It aims at improving the standards of care.

## **NEONATAL AND CHILD CARE:**

### **CURRICULUM**

#### **FIRST YEAR**

##### **SEMESTER 1**

<b><u>Course code</u></b>	<b><u>Course Title</u></b>	<b><u>Credit</u></b>
MSNU301	Advanced Physiology & Pathophysiology of the Neonate and Child	3
MSNU302	Advanced Pediatric Pharmacology & Therapeutics in Nursing	2
MSNU303	Advanced Health Assessment of the Neonate & Child	2
MSNU304	Management of Children with Acute & Chronic Conditions Within a Family Centered Approach	3
		<hr/>
		<b>10</b>

##### **SEMESTER 2**

<b><u>Course code</u></b>	<b><u>Course Title</u></b>	<b><u>Credit</u></b>
CLAS304	Research Methods	3
MSNU305	Clinical Decision Making & Management in Neonatal & Child Care I	4*
MSNU307	Management of High Risk Neonate Within a Family Centered Approach	3
		<hr/>
		<b>10</b>

#### **SECOND YEAR**

##### **SEMESTER 1**

<b><u>Course code</u></b>	<b><u>Course Title</u></b>	<b><u>Credit</u></b>
MSNU306	Clinical Decision Making & Management in Neonatal & Child Care II	4*
	Elective	3
		<hr/>
		<b>7</b>

##### **SEMESTER 2**

<b><u>Course code</u></b>	<b><u>Course Title</u></b>	<b><u>Credit</u></b>
MSNU300	Role Development in Leadership & Health Care Management	3
MSNU399	Thesis	6
Or		
MSNU398	Project	3
	+	
	Elective	3
		<hr/>
		<b>9</b>

## **ADULT CARE:**

### **CURRICULUM**

#### **FIRST YEAR**

##### **SEMESTER 1**

<b><u>Course code</u></b>	<b><u>Course Title</u></b>	<b><u>Credit</u></b>
MSNU311	Advanced Physiology & Pathophysiology in Adult Care	3
MSNU312	Advanced Adult Pharmacology and Therapeutics in Nursing	2
MSNU313	Advanced Health Assessment of the Adult	2

MSNU314	Management of Adult with Acute & Chronic Conditions	4
		11

**SEMESTER 1**

<b><u>Course code</u></b>	<b><u>Course Title</u></b>	<b><u>Credit</u></b>
CLAS304	Research Methods	3
MSNU315	Clinical Decision Making & Management in Adult Care I	4*
MSNU317	Therapeutic Communication and Palliative / End of Life Care	2
		9

**SECOND YEAR**

**SEMESTER 1**

<b><u>Course code</u></b>	<b><u>Course Title</u></b>	<b><u>Credit</u></b>
MSNU316	Clinical Decision Making & Management in Adult Care II	4*
	Elective	3
		7

**SEMESTER 1**

<b><u>Course code</u></b>	<b><u>Course Title</u></b>	<b><u>Credit</u></b>
MSNU300	Role Development in Leadership & Health Care Management	3
MSNU399	Thesis	6
Or		
MSNU398	Project	3
	+	
	Elective	3
		9

NB: LISP 400 will be mandatory once it will be offered by the University.

\*1 credit is equivalent to 60 clinical hours

**•Graduation requirements**

oCompleted the 36 credits

oPassed all courses with a minimum average of 70 per course

oAchieved a cumulative average of 80

## **COURSE DESCRIPTION**

### **CLAS 304 RESEARCH METHODS**

**3.0: 3 cr. E**

This course enables students to develop their knowledge in quantitative and qualitative research methods. It also develops their competencies in evaluating research results for applicability in practice and studies. It will cover topics that relate to the research process, information management, formulation of research questions, quantitative and qualitative study designs, meta-analysis and synthesis, sampling strategies, methods of data collection, management and analysis and dissemination of results that aim at promoting evidence-based nursing practice. The course addresses statistical principles, methods and tools as applied in the field of health. It emphasizes ethical issues in relation to the Internal Review Board, informed consent, confidentiality and security of data.

### **MSNU 300 ROLE DEVELOPMENT IN LEADERSHIP & HEALTHCARE MANAGEMENT**

**3.0: 3 cr. E**

This course enables students to understand different aspects of leadership and management that are relevant to nursing role development and practice. Students will gain an understanding of the health care system and multidisciplinary team working to meet the growing healthcare challenges. Key principles of the concepts, theories and processes of leadership and management will be discussed. Focus will be on role development in strategic planning and decision-making, accountability, responsibility, autonomy, prioritizing nursing care services. Management of human resources, time and change, budgetary control, quality assurance, legal and ethical aspects in relation to nursing practice will also be tackled. Students are required to submit project applying the learnt principles.

### **MSNU 301 ADVANCED PHYSIOLOGY AND PATHOPHYSIOLOGY OF THE NEONATE AND CHILD**

**3.0: 3 cr. E**

This course provides in-depth discussion of human embryology, physiological and pathophysiologic processes and their effect on the body systems' equilibrium and function across the lifespan of the neonate and child. The focus will be on an in-depth understanding of these processes as a basis for advanced nursing practice. Building on a foundation of normal physiology, students will critically analyze and interpret complex pathophysiologic mechanisms of the major diseases that affect the neonate and child and their impact on normal growth and development.

### **MSNU 302 ADVANCED PEDIATRIC PHARMACOLOGY AND THERAPEUTICS IN NURSING**

**2.0: 2 cr. E**

This course includes advanced pharmacological and alternative / complementary therapeutic modalities that are used in caring for a neonate and child in various conditions and diseases. It focuses on knowledge about clinical pharmacology including medication handling, preparation, administration, and monitoring. Problems inherent to medication errors will also be addressed.

### **MSNU 303 ADVANCED HEALTH ASSESSMENT OF THE NEONATE AND CHILD**

**2.1: 2 cr. E**

This course is designed to help students develop advanced knowledge and skills in physical assessment using case studies and hands-on practice in the laboratory and clinical settings. The emphasis will be on the impact of the health conditions and psychosocial factors on child growth and development in a variety of well-child clinic and hospital settings. Data collection using advanced assessment techniques and clinical diagnostic reasoning will serve to make culturally sensitive clinical decisions.

### **MSNU 304 MANAGEMENT OF CHILDREN WITH ACUTE AND CHRONIC CONDITIONS WITHIN A FAMILY CENTERED APPROACH**

**3.0: 3 cr. E**

This course discusses advanced knowledge of the common acute and chronic health problems from infancy through adolescence within the family context. It emphasizes critical thinking in synthesizing biological, behavioral, nursing, and medical knowledge that are essential for the delivery of primary, secondary and

tertiary care in a holistic approach that is culturally, and developmentally sensitive. Theories and concepts of therapeutic communication taking into consideration child and family developmental needs will be discussed. Prerequisite: MSNU 301 and MSNU 303.

**MSNU 305 CLINICAL DECISION MAKING AND MANAGEMENT IN NEONATAL AND CHILD CARE I** **4.0: 4 cr. E**

This clinical course focuses on the care of the ill and growing infants, children, and adolescents within the context of the family. Applications of nursing, biological and behavioral science are emphasized in clinical assessment, decision making and management within the multidisciplinary team. Clinical experiences in NICU and PICU provide students with opportunities to develop their role and capacities in offering specialized and safe care. These experiences will expand their competencies in assessing educational healthcare needs of the individuals and families and providing educational interventions, technical and psychosocial support for better health management and promotion.

Pre-requisite: MSNU303

**MSNU 306 CLINICAL DECISION MAKING AND MANAGEMENT IN NEONATAL AND CHILD CARE II** **4.0: 4 cr. E**

This clinical course focuses on the care of the ill and growing infants, children, and adolescents within the context of the family. Applications of nursing, biological and behavioral science are emphasized in clinical assessment, decision making and management within the multidisciplinary team. Clinical experiences in NICU and PICU provide students with opportunities to develop their role and capacities in offering specialized and safe care. These experiences will expand their competencies in assessing educational healthcare needs of the individuals and families and providing educational interventions, technical and psychosocial support for better health management and promotion.

Pre-requisite: MSNU 305

**MSNU 307 MANAGEMENT OF HIGH-RISK NEONATE WITHIN A FAMILY CENTERED APPROACH** **3.0: 3 cr. E**

This course focuses on the health problems of the critically ill neonate within the context of the family unit. The biological, pharmacological and nursing knowledge are utilized as basis for nursing practice taking into consideration the psychosocial context of ill and high-risk neonate. Theoretical analysis of the role of the student will be emphasized with the aim of decreasing mortality and morbidity rates and improving the quality of life of high-risk newborns and infants. Theories and concepts of therapeutic communication taking into consideration child and family developmental needs will be discussed.

Pre-requisite: MSNU 301

**MSNU 311 ADVANCED PHYSIOLOGY & PATHOPHYSIOLOGY IN ADULT CARE** **3.0: 3 cr. E**

This course provides advanced knowledge in pathophysiology processes and their impact on the body systems and their functions. In depth understanding of the pathophysiological mechanisms underlying acute and chronic human illness will guide in patient focused assessment, analysis, management and evaluation.

**MSNU 312 ADVANCED ADULT PHARMACOLOGY AND THERAPEUTICS IN NURSING** **2.0: 2 cr. E**

This course includes advanced pharmacological and alternative / complementary therapeutic modalities that are used in caring for the adult in various conditions and diseases. It focuses on knowledge about clinical pharmacology including medication handling, preparation, administration, and monitoring. Problems inherent to medication errors will also be addressed.

**MSNU 313 ADVANCED HEALTH ASSESSMENT OF THE ADULT** **2.1: 2 cr. E**

This is a theory and clinical course designed to help students develop advanced knowledge and clinical skills in health assessment. The course focuses on history taking, physical examination, diagnostic reasoning, clinical

judgment and decision making for the collaborative management of acute and chronic adult patient centered care, and evaluation.

**MSNU 314 MANAGEMENT OF ADULT WITH ACUTE AND CHRONIC CONDITIONS 4.0: 4 cr. E**

This course provides students with the theoretical basis of the common adult acute and chronic health problems. Emphasis is on understanding the epidemiology, assessment, diagnosis of these problems. It highlights the interplay between pathophysiology and the manifestation of the disease. Nursing and medical management including pharmacologic and non-pharmacologic modalities is discussed using evidence-based approach. The importance of individualized and holistic care of the older person taking into consideration psychosocial and cultural principles is foremost.

Prerequisite: MSNU 311,313

**MSNU 315 CLINICAL DECISION MAKING AND MANAGEMENT IN ADULT CARE I 4.0: 4 cr. E**

This practicum course focuses on the evidence-based advanced adult nursing practice. It gives students the opportunity to enhance their critical thinking and clinical performance in the delivery of specialized and safe care. Students use their knowledge and skills for assessment, diagnosis, and management of acute and chronic patients considering psychosocial and cultural diversity, in collaboration with the members of the healthcare team. Using a creative approach, the students will establish with the patient/client and family a therapeutic relation based on their physical, psychosocial and educational needs, to empower them to restore, maintain and promote health and become self-carers.

Pre-requisite: MSNU 313

**MSNU 316 CLINICAL DECISION MAKING AND MANAGEMENT IN ADULT CARE II 4.0: 4 cr. E**

This practicum course focuses on the evidence-based advanced adult nursing practice. It gives students the opportunity to enhance their critical thinking and clinical performance in the delivery of specialized and safe care. Students use their knowledge and skills for assessment, diagnosis, and management of acute and chronic patients considering psychosocial and cultural diversity, in collaboration with the members of the healthcare team. Using a creative approach, the students will establish with the patient/client and family a therapeutic relation based on their physical, psychosocial and educational needs, to empower them to restore, maintain and promote health and become self-carers.

Pre-requisite: MSNU 315

**MSNU 317 THERAPEUTIC COMMUNICATION AND PALLIATIVE / END OF LIFE CARE**

**2.0: 2 cr. E**

This course focuses on theories and concepts of therapeutic communication with the adult patient in acute, chronic, palliative and end of life situations. It will also focus on understanding of the dying process. Various communication tools in planning, implementing, and evaluating nursing care of the patient and family that are culturally and spiritually sensitive will be addressed. It also addresses the significance of networking and referral to existing resources for promoting and maintaining health.

**MSNU 398 PROJECT**

**3.0: 3 cr. E**

The project provides the student with the opportunity to address a nursing enquiry relevant to his/her area of specialty. The student will be mentored and evaluated by qualified expertise in that area, aiming at improving health care delivery.

**MSNU 399 THESIS**

**6 cr. E**

Thesis is a direct application of the Research Methods and Applied Statistics course. The student is mentored by a faculty member to conduct an empirical study that is relevant to his/her area of specialty. The thesis is submitted to an examination committee and defended in public