

# **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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## **PROGRAMS OF STUDIES**

The Faculty of Health Sciences encompasses the following academic programs:

•BS in Health Promotion	3 years
•BS in Medical Laboratory Sciences	3 years
•BS in Nursing (offered in English and French)	3 years
•Ladder Program in Nursing (offered in English and French)	3 years
* BT-BSN Program	
* TS-BSN Program	
•BS in Nutritional Sciences	3 years
•BS in Food Science and Quality Assurance	3 years
•BS in Public Health and Development Sciences	3 years
•Dual Degree in Public Health and Development Sciences and Health Promotion, leading to two BS degrees	4 years
•Dual Degree in Medical Laboratory Sciences and Public Health and Development Sciences, leading to two BS degrees	4 years
•Minor in Public Health	1 year
•Premedical Program	

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. In the case of practical training courses in the Nursing Program, each credit is equivalent to 3 hours of training. The letters preceding the course number indicate the area or subject of study to which the course belongs.

<b>Codes</b>	Description	<b>Codes</b>	Description
<b>FHSC</b>	Faculty Courses	<b>ARAB</b>	Arabic Language and Literature Courses
<b>MLAB</b>	Medical Laboratory Sciences Courses	<b>CSPR</b>	Cultural Studies Courses
<b>NURS</b>	Nursing Courses	<b>ENGL</b>	English Language and Literature Courses
<b>NUSC</b>	Nutritional Sciences Courses	<b>FREN</b>	French Language and Literature Courses
<b>PDHP</b>	Public Health and Development Sciences/Health Promotion Courses	<b>LISP</b>	Library and Information Science Courses

Courses are grouped into two categories:

**Major courses:** Students should pass these courses with an average of 65% or 70%. (Refer to respective department curricula). Major courses are flagged in the text by two asterisks (\*\*).

**Non – major courses:** Students should pass these courses with an average of 60%.



# **UNDERGRADUATE PROGRAMS**

The University policies stipulated in the “General Information Section” in this catalogue are followed by the Faculty of Health Sciences unless otherwise stated.

## **1. ADMISSION REQUIREMENTS**

Admission to the undergraduate program in the Faculty of Health Sciences is on a semester basis.

- a. Applications are processed as described in Section I of this catalogue.
- b. Applicants must satisfy University admission requirements as described in this catalogue.

## **2. ADMISSION OF TRANSFER STUDENTS**

See University Rules and Regulations

## **3. ACADEMIC RULES AND REGULATIONS**

See University Rules and Regulations

### **A- ACADEMIC PERFORMANCE**

See University Rules and Regulations

### **B- GRIEVANCE PROCEDURE**

Students may appeal against a decision regarding them taken by the Faculty. The appeal must be submitted in writing. A Grievance Committee structured according to the rules and regulations of the University will evaluate the situation.

## **4. STUDENT HOUSING SERVICES**

Female Students in Achrafieh Campus have access to the St. Georges Hospital dormitory that is located next to the Faculty building. Lodging prices are subsidized. Students at the Main Campus have access to the University dorms (refer to the “General Information Section” in this catalogue). Reservations must be made upon acceptance for admission.

## **5. FINANCIAL AID**

The University offers financial aid. A sponsorship program may be available for qualified nursing students through Saint Georges Hospital University Medical Center.

## **6. TEACHING LABORATORY**

Teaching laboratory sessions are an integral part of many basic as well as clinically oriented courses.

### **A- FACILITIES**

The laboratories in the Faculty of Health Science and the Saint Georges Hospital University Medical Center laboratories are multidisciplinary; designed and equipped to cope with all the experiments that are carried out as part of curricular requirements. The settings meet the needs of basic laboratory research work.

### **B- SUPPLIES**

All laboratory supplies as required by each department must be purchased at the student’s expense. No

charge is made to regular students taking required laboratory work for normal amounts of expendable material used in connection with the laboratory subject.

### **C- DAMAGES**

Students will be charged for damage to instruments caused by neglect. The amount of the charge will be the actual cost of repair, and, if the damage results in total loss of apparatus, adjustments will be made in light of the condition of the instruments. Where there is a danger of costly damage, an instructor should be requested to check the equipment's set-up. When a group does laboratory work, charges for breakage will be divided among the members of the group concerned. The amount of the charge will be stated immediately or as soon as it can be determined.

## **7. TRANSPORTATION**

Achrafieh Campus students are responsible for providing their own transportation. Students at the Main Campus can use the University Shuttle service (refer to the "General Information Section" in this catalogue).

## **8. GRADUATION REQUIREMENTS**

To be eligible for graduation, students who enter as sophomores must complete a minimum number of credits as described in the respective curricula of Health Promotion, Medical Laboratory Sciences, Nursing, Nutritional Sciences and Public Health and Development Sciences. For other graduation requirements refer to the "General Information Section" in this catalogue.

# BACHELOR OF SCIENCE IN MEDICAL LABORATORY SCIENCES

## FIRST YEAR

### SEMESTER 1

<u>Course Code</u>	<u>Course Title</u>	<u>Credit</u>
ENGL 203	English Communication Skills III	3
FHSC 200/BIOL 201	General Biology I	3
FHSC 201/BIOL 202	General Biology I- Laboratory	1
FHSC 222/CHEM 202	Basic Chemistry	3
FHSC 223/CHEM 203	Basic Chemistry Laboratory	1
	Business and Social Sciences - Elective	3
<b>Total</b>		<b>14</b>

### SEMESTER 2

<u>Course Code</u>	<u>Course Title</u>	<u>Credit</u>
ENGL 204	English Communication Skills IV (or its equivalent)	3
FHSC 203	Basic Human Physiology	4
FHSC 225/CHEM 240	Basic Organic Chemistry	
or		
FHSC 226/CHEM 242	Organic Chemistry I	3
FHSC 282	Principles of Epidemiology and Biostatistics	3
LISP 200 <sup>1</sup>	Library Use and Research Methods	1
<b>Total</b>		<b>14</b>

## SUMMER

<u>Course Code</u>	<u>Course Title</u>	<u>Credit</u>
FHSC 227/CHEM 245	Organic Chemistry I Lab	1
MLAB 210	Basic Biochemistry	3
<b>Total</b>		<b>4</b>

## SECOND YEAR

### SEMESTER 3

<u>Course Code</u>	<u>Course Title</u>	<u>Credit</u>
MLAB 211	Clinical Chemistry 1	3
MLAB 213	General Microbiology	3
MLAB 215	Basic & Clinical Hematology	4
MLAB 224	Medical Parasitology & Mycology	2
	General Elective	3
<b>Total</b>		<b>15</b>

**SEMESTER 4**

<b><u>Course Code</u></b>	<b><u>Course Title</u></b>	<b><u>Credit</u></b>
MLAB 214	Basic and Clinical Immunology	3
MLAB 221	Clinical Chemistry II	3
MLAB 223	Clinical Bacteriology	3
MLAB 225	Clinical Bacteriology Lab	1
MLAB 250	Introduction to Medical Laboratory Business and Social Sciences - Elective	1 3
<b>Total</b>		<b>14</b>

**SUMMER**

<b><u>Course Code</u></b>	<b><u>Course Title</u></b>	<b><u>Credit</u></b>
	Clinical Training	4
<b>Total</b>		<b>4</b>

**THIRD YEAR****SEMESTER 5**

<b><u>Course Code</u></b>	<b><u>Course Title</u></b>	<b><u>Credit</u></b>
CSPR <sup>2</sup>	Cultural Studies Courses	3
MLAB 226	Histotechnology Applications	2
MLAB 230	Molecular Biology	3
MLAB 232	Medical Virology	2
	Clinical Training	4
<b>Total</b>		<b>14</b>

**SEMESTER 6**

<b><u>Course Code</u></b>	<b><u>Course Title</u></b>	<b><u>Credit</u></b>
CSPR <sup>2</sup>	Cultural Studies Courses	3
FHSC 271 <sup>1</sup>	First Aid	1
FHSC 288	Research in Health Care Sciences	3
MLAB 233/PDHP 221	Toxicology	2
MLAB 240	Advances in MLS	2
MLAB 350 <sup>3</sup>	Advances in clinical training	4
<b>Total</b>		<b>15</b>
<b>Total Credits</b>		<b>94</b>

**Clinical Training:**

MLAB 251	Chemistry Clinical Training	1
MLAB 252	Hematology Clinical Training	1
MLAB 253	Bacteriology Clinical Training	1
MLAB 254	Parasitology Clinical Training	1
MLAB 255	Immunology Clinical Training	1
MLAB 256	Blood Banking Clinical Training	1

MLAB 257	Anatomic Pathology Clinical Training	1
MLAB 258	Molecular Diagnostics Clinical Training	1

All major courses have a passing grade = 65

All practical training courses including all MLAB 250 and MLAB 350 have a passing grade = 70

1- Required no-fee course

2-Students may choose any C SPR course except C SPR 205 and C SPR 206

3-Directed Elective.

# BACHELOR OF SCIENCE IN MEDICAL LABORATORY

## SCIENCES-PREMEDICAL TRACK

### FIRST YEAR

#### SEMESTER 1

<u>Course Code</u>	<u>Course Title</u>	<u>Credit</u>
ENGL 203	English Communication Skills III	3
FHSC 200/BIOL 201	General Biology I	3
FHSC 201/BIOL 202	General Biology I Laboratory	1
FHSC 222/CHEM 202	Basic Chemistry	3
FHSC 223/CHEM 203	Basic Chemistry Laboratory	1
FHSC 261	Introduction to Psychology	3
LISP 200 <sup>1</sup>	Library Use and Research Methods	1
<b>Total</b>		<b>15</b>

#### SEMESTER 2

<u>Course Code</u>	<u>Course Title</u>	<u>Credit</u>
ENGL 204	English Communication Skills IV or its Equivalent	3
FHSC 203	Basic Human Physiology	4
FHSC 219	Analytical Chemistry I	3
FHSC 226/CHEM 242	Organic Chemistry I	3
FHSC 282	Principles of Epidemiology & Biostatistics	3
<b>Total</b>		<b>16</b>

### SUMMER

<u>Course Code</u>	<u>Course Title</u>	<u>Credit</u>
FHSC 227/CHEM 245	Organic Chemistry I Lab	1
FHSC 228/CHEM 244	Organic Chemistry II	3
MLAB 210	Basic Biochemistry	3
<b>Total</b>		<b>7</b>

### SECOND YEAR

#### SEMESTER 3

<u>Course Code</u>	<u>Course Title</u>	<u>Credit</u>
FHSC 204	Principles of Genetics	2
FHSC 241/PHYS 211	Fundamentals of Physics I	3
MLAB 211	Clinical Chemistry I	3
MLAB 213	General Microbiology	3
MLAB 215	Basic & Clinical Hematology	4
MLAB 250	Introduction to Medical Lab and phlebotomy	1
<b>Total</b>		<b>16</b>

**SEMESTER 4**

<b><u>Course Code</u></b>	<b><u>Course Title</u></b>	<b><u>Credit</u></b>
FHSC 243/ PHYS 213	Fundamentals of Physics II	3
FHSC 260	Introduction to Sociology	3
MLAB 214	Basic and Clinical Immunology	3
MLAB 221	Clinical Chemistry II	3
MLAB 223	Clinical Bacteriology	3
MLAB 225	Clinical Bacteriology Laboratory	1
<b>Total</b>		<b>16</b>

**SUMMER**

<b><u>Course Code</u></b>	<b><u>Course Title</u></b>	<b><u>Credit</u></b>
	Clinical Training	2
<b>Total</b>		<b>2</b>

**THIRD YEAR****SEMESTER 5**

<b><u>Course Code</u></b>	<b><u>Course Title</u></b>	<b><u>Credit</u></b>
CSPR <sup>2</sup>	Cultural Studies Courses	3
MLAB 224	Medical Parasito & Mycology	2
MLAB 226	Histotechnology Applications	2
MLAB 230	Molecular Biology	3
MLAB 232	Medical Virology	2
	Clinical Training	3
<b>Total</b>		<b>15</b>

**SEMESTER 6**

<b><u>Course Code</u></b>	<b><u>Course Title</u></b>	<b><u>Credit</u></b>
CSPR <sup>2</sup>	Cultural Studies Courses	3
FHSC 271 <sup>1</sup>	First Aid	1
FHSC 288	Research in Health Care Sciences	3
MLAB 233/ PDHP 221	Toxicology	2
MLAB 240	Advanced in Medical Laboratory Sciences	2
	Clinical Training	3
<b>Total</b>		<b>14</b>

**Total Credits** **101**

**Clinical Training:**

MLAB 251	Chemistry Clinical Training	1
MLAB 252	Hematology Clinical Training	1
MLAB 253	Bacteriology Clinical Training	1
MLAB 254	Parasitology Clinical Training	1
MLAB 255	Immunology Clinical Training	1
MLAB 256	Blood Banking Clinical Training	1

MLAB 257	Anatomic Pathology Clinical Training	1
MLAB 258	Molecular Diagnostics Clinical Training	1

All major courses have a passing grade = 65

All practical training courses including MLAB 250 have a passing grade = 70

1- Required no-fee course

2- Students may choose any CSPR course except CSPR205 and CSPR206

## **COURSE DESCRIPTIONS**

### **CSPR CULTURAL STUDIES COURSES**

Refer to the Cultural Studies Program.

### **ENGL 203, 204, 223, 244, 253**

Refer to the Division of English Language & Literature.

### **LISP 200 LIBRARY USE AND RESEARCH METHODS**

Refer to the Department of Library and Information Science.

### **FHSC 200, 201, 203, 204, 219, 222, 223, 225, 226, 227, 228, 240, 241, 242, 243, 244, 260, 267, 268, 271, 280, 282, 288**

Refer to the Faculty of Health Sciences Service Courses.

### **MLAB 210 BASIC BIOCHEMISTRY**

**3.0: 3 cr. E**

This course will introduce students to basic structural and dynamic, chemical and biological processes that occur in living organisms. The subjects of metabolism, energy conversion and usage in biological organisms are discussed in detail. Furthermore, interactions of various catabolic and anabolic pathways are emphasized. The biochemistry of higher organisms is the focus throughout this course.

Pre-requisite: FHSC 225 or FHSC 226 or CHEM 240 or CHEM 242.

### **MLAB 211 CLINICAL CHEMISTRY I**

**3.1: 3 cr. E**

Introductory course intended to familiarize the students with clinical chemistry in laboratory medicine. It covers the chemistry of compounds of clinical interest, their implication in the patho-physiology of related diseases, and finally focuses on the available techniques for their assay. Manual determinations of different parameters are performed during weekly laboratory sessions.

Pre-requisite: FHSC 203

Co-requisite: MLAB 210.

### **MLAB 213 GENERAL MICROBIOLOGY 2.2: 3 cr. E**

The course introduces the basic principles of microbiology. It covers bacterial structure, morphology and techniques of cultivation. The interactions between human and microbial cells are discussed with special emphasis on the disease causation process; it also covers antimicrobial and chemotherapeutic agents. The course introduces the guidelines for collection, handling and processing of clinical specimens.

Pre-requisite: FHSC 200 or BIOL 201.

### **MLAB 214 BASIC & CLINICAL IMMUNOLOGY**

**3.0: 3 cr. E**

The purpose of basic Immunology is to provide fundamental knowledge of the immune response and its involvement in health and disease. Elementary concepts of immunity, structure and function of the immune system, antigens and antibodies, complements, genetic basis of the immune response, humoral and cellular immunity, immunological tolerance, organ and tissue transplantation, allergy and autoimmunity are discussed. The clinical



laboratory part of the course covers topics pertaining to antigen-antibody interactions, precipitation/agglutination techniques, complement fixation pathways and immune-techniques such as RIA, ELISA, immune-fluorescence and their clinical ramifications, in addition to autoimmune/infectious diseases and clinical applications.  
Pre-requisite: FHSC 203.

**MLAB 215: BASIC & CLINICAL HEMATOLOGY 4.0: 4 cr. E**

The course covers principles of blood cell production and functions. The first part introduces the basic practice and procedure with emphasis on normal hematopoiesis, morphology and on peripheral blood and bone marrow, in addition to normal hemostasis. The second part of the course covers hematological anomalies with focus on anemia and leukemia in addition to platelet disorder. Laboratory sessions cover complete CBCD, smearing and staining, determination of erythrocyte sedimentation rate, blood grouping, manual determination of hematocrit and hemoglobin, in addition to introductory blood filming.

Pre-requisite: FHSC 203.

**MLAB 221 CLINICAL CHEMISTRY II 3.1: 3 cr. E**

This course is a complementary course of MLAB 211. It emphasizes on special parameters and techniques used in diagnostic laboratory medicine.

Pre-requisite: MLAB 211.

**MLAB 223 CLINICAL BACTERIOLOGY 3.2 : 3 cr. E**

This course covers characteristics of bacteria of medical importance with a highlighting on the methods for their isolation and identification including advantages, disadvantages, limitations, control and interpretation. It focuses on the clinical implication of these microorganisms in infectious diseases.

Pre-requisite: MLAB 213.

**MLAB 224 MEDICAL PARASITOLOGY AND MYCOLOGY 2.1: 2 cr. E**

The course aims at familiarizing students with the basic concepts of parasitology, types of animal associations, adaptation to parasitic mode of life, evolution of parasitism, introduction to the immune system as well as host - parasite relationships. It encompasses Parasite life cycles - infection, transmission, pathology, symptoms, diagnosis, treatment and control of parasitic protozoa and helminthes.

On the other hand, this course constitutes a study of the medically significant fungi. It offers knowledge necessary to identify clinical signs, symptoms, treatment, and epidemiology associated with human fungal diseases. It explores laboratory methods used to detect and identify pathogenic fungi.

Pre-requisite: FHSC 200 or BIOL 201.

**MLAB 225 CLINICAL BACTERIOLOGY LABORATORY 0.3: 1 cr. E**

The course introduces various test procedures routinely applied in clinical bacteriology with an emphasis on the isolation, identification and antimicrobial susceptibility testing of pathogenic microorganisms isolated from clinical specimens.

Pre-requisite: MLAB 213.

Co-requisite: MLAB 223.

**MLAB 226 HISTOTECHNOLOGY APPLICATIONS 2.1: 2 cr. E**

This course concentrates on the structure of human tissues and organs. Students will study theory and basic techniques in immunohistochemistry. The laboratory component of the course involves the classic microscopic study of different normal and diseased human tissue microscopic specimens.

Pre-requisite: FHSC 200 or BIOL 201.

**MLAB 230 MOLECULAR BIOLOGY 3.0: 3 cr. E**

This course covers the main molecular biology tools and focus on their application in the diagnostic field. Students are introduced to the methods allowing DNA and RNA analysis and quantification (Northern,

Southern, PCR, RT-PCR, Real Time PCR) as well as Cloning and gene therapy.

Pre-requisite: FHSC 200 or BIOL 201.

### **MLAB 232 MEDICAL VIROLOGY**

**2.0: 2 cr. E**

The course introduces the basic principles of virology - definition, structure, nomenclature and classification of viruses - modes of viral infections, viral diseases and viral vaccines. It constitutes a study of the interactions of human and animal viruses and their hosts and of important diseases of humans caused by viruses in different taxonomic groups. The emphasis is on aspects of pathogenesis, epidemiology, immune responses and control. Recent advances in the application of molecular biology to the development of diagnostic tests and vaccines will be included.

Pre-requisite: FHSC 200 or BIOL 201.

### **MLAB 233 TOXICOLOGY**

**2.0: 2 cr. E**

The chemistry and, briefly, the pharmacology of common drugs of abuse and some therapeutics are discussed. Clinical importance of such assays is highlighted accompanied by demonstrations and applications of different techniques used in this field.

Pre-requisite: FHSC 203.

### **MLAB 240 ADVANCES IN MEDICAL LABORATORY SCIENCES**

**2.0: 2 cr. E**

This course provides students with an overview and basic principles on quality management system. The objective is to emphasize on main components of QMS which could affect the accuracy of analytical measurements. Additionally, discussion on requirements from international standard for quality as well as Lebanese standard for accreditation of health care institutes will be discussed which are aiming to prove the credibility and the good performance of an facility.

Pre-requisite: MLAB 250.

### **MLAB 249 PHLEBOTOMY, BLOOD BANK AND TRANSFUSION MEDICINE**

**2.0: 2 cr. E**

This course provides students with an overview of general activities within the different clinical laboratory departmental sections. The course tackles issues such as phlebotomy techniques theoretical and practical, laboratory policies, safety, patient confidentiality, integrity and compliance, emergency preparedness. It also covers guidelines for proper tests, preparation of blood units and performance, and introduces the basic concepts of transfusion Medicine.

Pre-requisite: FHSC 203.

### **MLAB 250 INTRODUCTION TO MEDICAL LABORATORY**

**1 cr. E**

This course provides students with an overview of general activities within the different clinical laboratory departmental sections. The course involves general orientations sessions, and tackles issues such as laboratory policies, safety, patient confidentiality, integrity and compliance, emergency preparedness. It also covers guidelines for proper test preparation and performance, and introduces students to phlebotomy.

Pre-requisite: FHSC 203

### **MLAB 251 APPLIED CLINICAL CHEMISTRY**

**1 cr. E**

Practical experience of 4 weeks duration in clinical chemistry and special procedures allows students to get acquainted with the tests performed in this department and with the special procedures in clinical chemistry. The clinical rotation is complemented by 4 lecture hours covering advanced topics in the respective field.

Pre-requisite: MLAB 211, 250.

### **MLAB 252 APPLIED CLINICAL HEMATOLOGY**

**1 cr. E**

Practical experience in clinical hematology and phlebotomy of 4 weeks duration, offers the students the possibility to get familiar with the majority of procedures performed in the respective sections. The clinical

rotation is complemented by 4 lecture hours covering advanced topics in the respective field.

Pre-requisite: MLAB 215, 250.

**MLAB 253 APPLIED CLINICAL BACTERIOLOGY AND MYCOLOGY 1 cr. E**

Practical experience of 4 weeks in clinical bacteriology provides students with the opportunity to be familiarized with all the tests performed in this department, such as culturing, sensitivity testing and media preparation. The clinical rotation is complemented by 4 lecture hours covering advanced topics in the respective field.

Pre-requisite: MLAB 223, 250.

**MLAB 254 APPLIED CLINICAL PARASITOLOGY AND BODY FLUIDS ANALYSIS 1 cr. E**

This corresponds to a practical experience in urine analysis and clinical microscopy extending over 3 weeks. The clinical rotation is complemented by 4 lecture hours covering advanced topics in the respective field.

Pre-requisite: MLAB 250.

Co-requisite: MLAB 224.

**MLAB 255 APPLIED CLINICAL IMMUNOLOGY AND ENDOCRINOLOGY 1 cr. E**

Practical experience in the Endocrinology (2 weeks) and Serology (2 weeks) departments allows students to perform special procedures. This includes clinical rotation in the respective section of the hospital laboratory. The student is exposed to the different procedures performed in this branch of the Clinical Laboratory. The clinical rotation is complemented by 4 lecture hours covering advanced topics in the respective fields.

Pre-requisite: MLAB 250.

Co-requisite: MLAB 214.

**MLAB 256 APPLIED BLOOD BANKING 1 cr. E**

Practical experience in Blood banking of 4 weeks duration enables students to experience routine and special procedures in Blood Banking. The clinical rotation is complemented by 4 lecture hours covering advanced topics in the respective field.

Pre-requisite: MLAB 215, 250.

**MLAB 257 APPLIED ANATOMIC PATHOLOGY 1 cr. E**

Practical experience in the Pathology department of the hospital of 4 weeks duration offers the student the opportunity to acquaint with histology and cytology procedures. The clinical rotation is complemented by 4 lecture hours covering advanced topics in the respective field.

Pre-requisite: MLAB 250.

Co-requisite: MLAB 226.

**MLAB 258 TECHNIQUES IN MOLECULAR BIOLOGY AND ASSISTED REPRODUCTION 1 cr. E**

Practical experience in the Molecular Biology section of the hospital (2 weeks) and in the Fertility center department (2 weeks) offers the student the opportunity to be trained to the main procedures used in routine. The clinical rotation is complemented by 4 lecture hours covering advanced topics in the respective fields.

Pre-requisite: MLAB 250.

Co-requisite: MLAB 230.

**MLAB 350: Advanced Clinical Practicum 4 cr. E**

This course provides 15 weeks of extended hands-on specialized laboratory training in one of the testing laboratories in the Department of Clinical Laboratory at Saint George Hospital University Medical Center. The training includes a thorough review of procedural methodologies while emphasizing the association between laboratory testing and patient care.

Pre-requisites: MLAB 250.

## **BACHELOR OF SCIENCE IN NURSING**

The Nursing Program is a competency based education program that offers a Bachelor of Science in Nursing in two languages, English & French. This is done in partnership with Saint George Hospital University Medical Center in Ashrafieh- Beirut.

Parallel programs are offered on the main campus of the University and in Souk El Gharb campus.

### **Mission:**

The Nursing Program is dedicated to delivering quality nursing education and influencing the nursing profession and the health care environment in Lebanon and the region. This is achieved, it believes, through embracing innovation in evidence-based health care practice wherever it is underpinned by solid research and sound ethical principles.

The Program aims at providing a positive environment for faculty, staff, and students through fostering leadership qualities, analytical and critical thinking, technical skills, and community involvement. It is founded on the evidence that nursing is a highly disciplined profession based on approved scientific data. It considers health a basic social right where the needs of individuals, families, and communities must be fully met.

### **Vision:**

The Program plans to expand by offering specialized programs at the undergraduate and graduate levels meeting internationally-recognized standards.

### **Program Objectives:**

The Nursing Program provides students with learning opportunities to:

1. Demonstrate competence in the cognitive, affective and psychomotor skills of a Registered Nurse (RN).
2. Apply safe and evidence-based nursing care at the primary, secondary and tertiary levels across the lifespan of individuals and families and in community settings.
3. Act as an advocate for the profession, individuals, families and communities especially for the very young, very old and the disadvantaged.
4. Demonstrate leadership capabilities in health care management and service delivery.
5. Pursue lifelong learning and self-development as well as research activities that widen nursing knowledge.
6. Display ethical and culturally sensitive standards in all activities of health care.
7. Develop and maintain therapeutic relationships with the client (individual, family, community), and collaborate with the health care team members and other stakeholders to deliver health care.

### **Concepts underlying the Nursing Curriculum:**

The basic concepts (Conceptual Framework) of the Nursing Program are the following:

- Critical Thinking
- Community Involvement
- Leadership abilities
- Professionalism

## Profile of the Nursing Program at the University of Balamand



### **Clinical Placements:**

Nursing students are placed in clinical settings that provide them with the opportunities to apply theory to practice at the primary, secondary and tertiary levels of health care.

Saint George Hospital University Medical Center and other acute and community based health care settings in Beirut and the North in addition to Chouf and Jabal Areas serve as a framework for clinical training.

**Table 1- Core Competencies of the Nursing Program, Sub Competencies and Learning Outcomes**

#	Core Competencies	Core Competencies	Nursing Program Learning Outcomes Learning
1	Critical Thinking	1. Have critical thinking, analysis, and synthesis. 2. Identify and resolve problems.	1. Apply safe and evidence-based nursing care at the primary, secondary and tertiary levels across the lifespan of individuals and families and in community settings. 2. Use critical thinking and analytical skills in the delivery of evidence-based practice that integrates physical, psychosocial, and spiritual dimensions. 3. Integrate scientific and evidence-based knowledge in nursing care delivery. 4. Pursue lifelong learning and self-development as well as research activities that widen nursing knowledge.
2	Deliver Quality Care	3. Maintaining evidence based practice. 4. Maintain patient safety. 5. Provide holistic and individualized care.	1. Embody the professional role of a caregiver, patient/family educator, patient/family advocate, and leader in the team work environment. 2. Demonstrate a sense of belonging and accountability to the Nursing profession and a commitment to its advancement. 3. Respond appropriately to individual, family, and community needs at the level of direct care, health promotion, disease prevention, and rehabilitation.
3	Leadership	6. Manage nursing care effectively. 7. Maintain self-development and wellbeing.	1. Embody the professional role of a caregiver, patient/family educator, patient/family advocate, and leader in the team work environment 2. Demonstrate assertiveness by skillfully communicating with the patient and family as well as all the members of the health care team 3. Play a leadership role in problem solving, decision making, planning, time management, and delegation within the healthcare team.
4	Communication	8. Communicate effectively orally and in writing with different audiences.	1. Demonstrate assertiveness by skillfully communicating with the patient and family as well as all the members of the health care team.

5	Ethical Conduct	9.Practice within the respective code of ethics and legal codes. 10.Be culturally sensitive.	1.Deliver health care services taking into consideration cultural differences, human rights, and ethical principles. 2.Act as advocates for individuals, families and communities especially for the very young, the very old and the disadvantaged.
6	Team work & Collaboration	11.Work in an interdisciplinary team	1.Distinguish nurse-initiated, multidisciplinary team- initiated and collaborative nursing interventions in delivering health care. 2.Use cognitive, interpersonal, technical and ethical/legal skills to collaborate with team members while implementing nursing care.
7	Informatics and Technology	12.Integrate informatics and technology in health care. 13.Utilize informatics and technology in education and research.	1.Utilize informatics and technology in education, research, and nursing practice.

**BACHELOR OF SCIENCE IN NURSING**  
**(OFFERED IN ENGLISH AND FRENCH)**

**First Year**

**SEMESTER 1**

<b><u>Course Code</u></b>	<b><u>Course Title</u></b>	<b><u>Credit</u></b>
ENGL 203 <sup>1</sup>	English Communication Skills III	3
FHSC 207/BIOL 205	Principles of Human Biology	3
FHSC 261/PSYC 200	Introduction to Psychology	3
FHSC 280	Information Technology and Health Sciences	2
LISP 200 <sup>2</sup>	Library Use and Research Methods	1
NUSC 209	Basic Nutrition and Diet Therapy	3
NURS 210	Introduction to Professional Nursing	2
		<b>17</b>

**SEMESTER 2**

<b><u>Course Code</u></b>	<b><u>Course Title</u></b>	<b><u>Credit</u></b>
ENGL 204 <sup>1</sup>	English Communication Skills IV or its equivalent	3
FHSC 202	Introduction to Human Anatomy	2
FHSC 203	Basic Human Physiology	4
FHSC 209	Fundamentals of Microbiology	2
NURS 211	Introduction to Nursing Practice	4
		<b>15</b>

**SUMMER**

<b><u>Course Code</u></b>	<b><u>Course Title</u></b>	<b><u>Credit</u></b>
FHSC 264	Human Growth and Development	2
FHSC 271 <sup>2</sup>	First Aid	1
NURS 212	Legislation and Nursing	1
NURS 214	Service Training I <sup>3</sup>	-
NURS 216	Health Assessment	2
		<b>6</b>

**SECOND YEAR**

**SEMESTER 3**

<b><u>Course Code</u></b>	<b><u>Course Title</u></b>	<b><u>Credit</u></b>
FHSC 211	Pathophysiology	3
FHSC 229	Pharmacology	2
NURS 241	Nursing Care of Adults	5
NURS 247	Nursing Care in Perinatology and Gynecology	4
	Elective	3
		<b>17</b>

**SEMESTER 4**

<b><u>Course Code</u></b>	<b><u>Course Title</u></b>	<b><u>Credit</u></b>
FHSC 260	Introduction to Sociology	3
FHSC 282	Principles of Epidemiology and Biostatistics	3
NURS 242	Nursing Care of Adults II	5
NURS 244	Nursing Care of Children	5
NURS 245	Nursing Care of the Elderly	2
		<b>18</b>



**SUMMER**

<b><u>Course Code</u></b>	<b><u>Course Title</u></b>	<b><u>Credit</u></b>
CSPR <sup>4</sup>	Cultural Studies Courses	3
NURS 215 <sup>3</sup>	Service Training II	-
NURS 246	Mental Health and Psychiatric Nursing	4
		7

**THIRD YEAR****SEMESTER 5**

<b><u>Course Code</u></b>	<b><u>Course Title</u></b>	<b><u>Credit</u></b>
CSPR <sup>4</sup>	Cultural Studies	3
FHSC 288	Research in Health Care Sciences	3
NURS 248	Nursing Care of Adults in Critical Condition	4
NURS 249	Nursing in the Community	5
		15

**SEMESTER 6**

<b><u>Course Code</u></b>	<b><u>Course Title</u></b>	<b><u>Credit</u></b>
NURS 250	Leadership and Management in Nursing and Health	5
NURS 251 <sup>5</sup>	Internship	-
		5

**Total number of credits****100**

1. In the French Section, FREN 201 and FREN 202 respectively replace ENGL 203 and ENGL 204

2. Required no-fee course.

3. Service Training I and II are required for graduation. Each is equivalent to 90 hours (2 Credits). Students are evaluated as P= Pass or F= Fail.

4. Students may choose any CSPR course except CSPR205 and CSPR206.

5. Internship is equivalent to 450 hours of clinical training. (10 Credits)

All NURS courses passing grade is 70. Other courses passing grade is 60.

Students are required to take the 1 credit First Aid course (FHSC 271) offered by the Lebanese Red Cross as part of their graduation requirements.

**Nursing Pre-med Track:**

A nursing student may choose the Pre-med track. Requirements are the following courses added to the regular nursing curriculum:

•Biology – 8 credits distributed as follows:

-BIOL 201/FHSC 200 Introduction to Biology I 3cr Instead of BIOL 205 or FHSC 207

-BIOL 201/FHSC 201 Introduction to Biology I Lab 1cr

-BIOL 202/FHSC 203 Introduction to human Physiology 4cr (It is a required Nursing course)

•Chemistry – 12 credits:

-CHEM 202/FHSC 222 Basic Chemistry 3cr

-CHEM 203/FHSC 223 Basic Chemistry Lab 1cr

-CHEM 242/FHSC 226 Organic Chemistry I 3cr

-CHEM 244/FHSC 228 Organic Chemistry II 3cr

-CHEM 245/FHSC 227 Organic Chemistry Lab 1cr  
-FHSC 230 Organic chemistry Lab II 1cr

•Physics – 6 credits:

-PHYS 211/FHSC 241 Fundamentals of Physics I 3cr

-PHYS 213/FHSC 243 Fundamentals of Physics II 3cr

Therefore, a premed nursing student has to take 19 additional credits to his/her basic Nursing curriculum. This is the minimum number of credits needed. However, a student may be advised to take an additional course of chemistry which is FHSC 219/CHEM 222 (Analytical Chemistry I) that gives him/her a better chance. This way the second organic chemistry lab course would be waved.

## LADDER PROGRAMS IN NURSING

The Nursing Program offers a Ladder Program that upgrades a TS and BT degree holders in nursing to the level of Bachelor of Science in nursing.

### TS-BSN PROGRAM

The decrees that were issued to regulate technical education and open opportunities for graduates of technical programs to join university education (Decree # 8590 and Decision # 35/2012) are summarized as follows:

- A TS graduate who scores 12/20 in the official final exams may join a university program to pursue a university degree.

- The accepted candidate should successfully complete at least 50% of the total number of required BSN credits.

Accordingly, a TS - BSN student should successfully complete 51 credits to receive a BSN.

The nurse may join the Program after meeting the University admission requirements concerning English or French.

The number of mandatory credits that a student should successfully complete is equal to 25 credits. The remaining 26 credits can be earned by examination i.e. CBE.

Students are capable of completing the requirements within three regular semesters and one summer.

The new curriculum or list of courses:

#### MANDATORY COURSES:

CSPR <sup>1</sup>	Cultural Studies courses	3
CSPR <sup>1</sup>	Cultural Studies courses	3
ENGL 203 <sup>2</sup>	English Communication Skills III	3
ENGL 204 <sup>2</sup>	English Communication Skills IV or its equivalent	3
FHSC 282	Principles of Epidemiology and Biostatistics	3
FHSC 288	Research in Health Care Sciences	3
LISP 200 <sup>3</sup>	Library Use and Research Methods	1
NURS 214	Health Assessment	1
NURS 250	Leadership and Management in Nursing and Health	5
<b>Sub-Total</b>		<b>25 credits</b>

#### CBE (CREDIT BY EXAMINATION) COURSES

FHSC 211	Pathophysiology	3
NURS 238	Pharmacology	2
NURS 241	Nursing Care of Adults I	5
NURS 242	Nursing Care of Adults II	5
NURS 245	Nursing Care of the Elderly	2
NURS 246	Mental Health and Psychiatric Nursing	4
NURS 249	Nursing in the Community	5
<b>Sub-Total</b>		<b>26 credits</b>
<b>(which are equivalent to 7 courses)</b>		

- 1-Students may choose any C SPR course except C SPR205 and C SPR206
- 2-In the French Section, FREN 201 and FREN 202 respectively replace ENGL 203 and ENGL 204
- 3-Required no-fee course.

All other holders of TS in nursing who had scored less than 12/20 in the official exams may join the BSN program after meeting the University admission requirements concerning English or French.

The student has to take at least 90 credits of which 24 are the courses mentioned above mandatory and the rest can be earned by examination. The program is the same as that of the BT-BSN.

## **BT-BSN PROGRAM**

### **A.BT Holders With No Working Experience:**

A holder of a BT in nursing from a government accredited BT program, with no working experience, may join the BSN program after meeting the University admission requirements concerning English or French. The student has to follow the basic program i.e. 99 credits.

### **B.BT Holders With Working Experience:**

A holder of BT in nursing from a government accredited BT program with at least 1 year of experience may join the BSN program after meeting the University admission requirements concerning English or French.

The student has to take at least 90 credits. His/Her credentials will be reviewed and assessed to decide what additional courses he/she should take for eligibility.

The courses are the following:

<b><u>Course Code</u></b>	<b><u>Course Title</u></b>	<b><u>Credit</u></b>
ENGL 203 <sup>1</sup>	English Communication Skills III	3
ENGL 204 <sup>1</sup>	English Communication Skills IV (or its equivalent)	3
C SPR <sup>2</sup>	Civilization Sequence I	3
C SPR <sup>2</sup>	Civilization Sequence II	3
FHSC 202	Introduction to Human Anatomy	2
FHSC 203	Basic Human Physiology	4
FHSC 209	Fundamentals of Microbiology	2
FHSC 211	Pathophysiology	3
FHSC 229	Pharmacology	2
FHSC 260	Introduction to Sociology	3
FHSC 261/PSYC 200	Introduction to Psychology	3
FHSC 264	Human Growth and Development	2
FHSC 280	Information Technology and Health Sciences	2
FHSC 282	Principles of Epidemiology and Biostatistics	3
FHSC 288	Research in Health Care Sciences	3
LISP 200 <sup>3</sup>	Library Use and Research Methods	1
NURS 210	Introduction to Professional Nursing	2
NURS 211	Introduction to Nursing Practice	4
NURS 212	Legislation and Nursing	1
NURS 216	Health Assessment	2
NURS 241	Nursing Care of Adults I	5

NURS 242	Nursing Care of Adults II	5
NURS 244	Nursing Care of Children	5
NURS 245	Nursing Care of the Elderly	2
NURS 246	Mental Health and Psychiatric Nursing	4
NURS 247	Nursing Care in Perinatology and Gynecology	4
NURS 248	Nursing Care of Adults in Critical Condition	4
NURS 249	Nursing in the Community	5
NURS 250	Leadership and Management in Nursing and Health	5
<b>TOTAL</b>		<b>90</b>

1. In the French Section, FREN 201 and FREN 202 respectively replace ENGL 203 and ENGL 204
2. Students may choose any CSPR course except CSPR205 and CSPR206
3. Required no-fee course.

The student can sit for competency examinations to earn credits for the following courses:

<u>Course Code</u>	<u>Course Title</u>	<u>Credit</u>
FHSC 209	Fundamentals of Microbiology	2
FHSC 280	Information technology and Health Sciences	2
NURS 210	Introduction to Professional Nursing	2
NURS 211	Introduction to Nursing Practice	4
<b>Total number of credits</b>		<b>10</b>

## **COURSE DESCRIPTIONS**

### **CSPR CULTURAL STUDIES**

Refer to the Cultural Studies Program.

### **ENGL 203, 204**

Refer to the Division of English Language & Literature.

### **FREN 201, 202**

Refer to the Department of French Language and Literature.

### **LISP 200 LIBRARY USE AND RESEARCH METHODS**

Refer to the Department of Library and Information Science.

### **FHSC 200, 201, 202, 203, 204, 207, 209, 211, 219, 222, 223, 226, 227, 228, 229, 241, 242, 243, 244, 260, 261, 264, 271, 280, 282, 288**

Refer to Faculty of Health Sciences Service Courses.

### **FHSC 211 PATHOPHYSIOLOGY**

**3.0: 3 cr. E/F**

The course addresses the effect of the disease process on the physiological functioning of the adult and the related adaptation process. It highlights on the multi-system interaction of the body to illness or injury, and covers the most common pathophysiological disorders.

Pre-requisites: FHSC 203.

**FHSC 229 PHARMACOLOGY****2.0: 2 cr. E/F**

This course introduces the student to basic concepts in pharmacology. The different groups of drugs are studied in a body systems approach with special emphasis on associated nursing implications.

Pre-requisite: FHSC 203.

**NUSC 209 BASIC NUTRITION AND DIET THERAPY**

Refer to the Nutritional Sciences Program courses.

**NURS 210 INTRODUCTION TO PROFESSIONAL NURSING****2.0: 2 cr. E/F**

This course introduces the framework of the nursing curriculum, concepts related to the profession and discipline of nursing are discussed, as well as the major historical events that have shaped the nursing profession. Issues and moral problems that arise in the practice of delivering health care are addressed within the context of ethical principles.

**NURS 211 INTRODUCTION TO NURSING PRACTICE****6 : 4 cr. E/F**

This course introduces the principles of communication, the components of the nursing process and basic practice issues. In the laboratory, as well as in the clinical setting, students practice basic nursing skills in safety, hygiene, infection control, and communication.

Pre-requisite: NURS 210.

Pre / Co-requisite: FHSC 202/203.

**NURS 212 LEGISLATION AND NURSING****1.0: 1 cr. A**

This course enhances students' awareness and increases students' understanding of the legal aspects of nursing in Lebanon.

**NURS 214 SERVICE TRAINING I\*****6.0: 2cr. E/F**

This clinical training aims at enhancing students' basic nursing skills in a hospital setting.

Pre-requisite: NURS 211.

**NURS 215 SERVICE TRAINING II \*****6.0: 2cr. E/F**

This clinical training aims at enhancing students' nursing skills, clinical judgment, management, and teaching skills, they would have acquired as students in their second year.

Pre-requisite: NURS 242.

**NURS 216 HEALTH ASSESSMENT****2.0: 1 cr. E/F**

This course is designed to build students' competencies in performing physical and health assessment for adult clients. It also develops their skills in interviewing and health and social history taking. The course offers students an understanding of the different examination techniques in an organized and proper fashion for each body system. Practical training on simulated models and live subjects provides students with hands-on experience in head to toe physical examination.

Pre-requisite: NURS 211.

Co-requisite: NURS 214.

**NURS 241 NURSING CARE OF ADULTS I****10: 5 cr. E/F**

This course builds upon the nursing concepts introduced in (NURS 211). It enables students to understand the assessment and management of patients with specific diseases and surgical conditions of the Respiratory, Cardiovascular, Musculo-skeletal, and Immune systems. Practical training provides students with the opportunity to assess, plan, implement and evaluate nursing care of adult patients under clinical supervision, with reference to scientific literature. Holistic nursing care that attends to the physical, psycho-social, spiritual, and palliative care needs of the patient and his/her family is emphasized. Patient teaching that supports the continuing of care as he/she returns to the community is highlighted.

Pre-requisite: NURS 214.

Pre or Co-requisite: FHSC 211.

**NURS 242 NURSING CARE OF ADULTS II****10: 5 cr. E/F**

This course is a continuation of NURS 240/241. It enables students to understand the assessment and management of patients with specific diseases and surgical conditions of the Urinary, Gastrointestinal, Endocrine and Neurological systems. Practical training provides students with the opportunity to assess, plan, implement and evaluate nursing care of adult patients under clinical supervision, with reference to scientific literature. Holistic nursing care that attends to the physical, psycho-social and spiritual needs of the patient and his/her family is emphasized. Patient teaching that supports the continuing of care as he/she returns to the community is highlighted.

Pre or Co-requisite: FHSC 211.

Pre-requisite: NURS 214.

**NURS 244 NURSING CARE OF CHILDREN****10: 5 cr. E/F**

This course provides the student with the opportunity to learn the physical, psychomotor, and social needs of the well and ill child, from infancy through adolescence. The nursing process serves as a framework for study and application. Emphasis is placed on health promotion, restoration, and maintenance during the stages of child development. Clinical practice is planned to provide students with direct observation of the child and application of nursing care. The clinical setup ranges from primary healthcare setting, to outpatient department, to general unit and critical care areas.

Pre-requisites: FHSC 264, NURS 247.

**NURS 245 NURSING CARE OF THE ELDERLY****4: 2 cr. E/F**

This course focuses on developing knowledge and skills in problem-solving and clinical judgment in relation to the aging process and gerontological care. In the practical component students assess, plan, implement and evaluate nursing care of the elderly. Appropriate nursing care of older adults is discussed emphasizing the impact of illness and the aging process on the family.

Pre or Co-requisite: NURS 241, 242.

**NURS 246 MENTAL HEALTH AND PSYCHIATRIC NURSING****8: 4 cr. E/F**

This course focuses on mental health and illness of individuals, couples, and families throughout the life cycle. Principles of communication and therapy are emphasized, as well as the development of nursing intervention for patients experiencing psychiatric problems. Practical component is designed to offer students hands-on experience in the area of therapeutic modalities including mainly psychotherapy and drug therapy. The focus is on clients with maladjustment patterns ranging from mild to critical. Fieldwork encompasses in-hospital and community-based experience.

Pre-requisite: FHSC 261, NURS 241, 242.

**NURS 247 NURSING CARE IN PERINATOLOGY AND GYNECOLOGY****8: 4cr. E/F**

This course is divided in to two parts. The first part which is related to perinatology provides in-depth understanding of maternal and newborn nursing care. The second part deals with the most prevalent gynecological conditions across women's lifespan. While promoting a holistic and family-centered approach to nursing care, the student focuses in his/her practical training on physical, psychosocial and spiritual needs of the mother and the newborn, as well as the woman with gynecological concerns. Teaching needs are assessed, and individualized education is provided.

Pre-requisite: NURS 214.

Pre or Co-requisite: FHSC 211.

**NURS 248 NURSING CARE OF ADULTS IN CRITICAL CONDITION****8: 4 cr. E/F**

This course introduces the student to the multidisciplinary concepts needed to take care of patients experiencing complex life-threatening problems in acute critical care settings. In the practicum component, the student has the opportunity to focus on correlating scientific body of knowledge with critical analysis to develop collaborative problem solving skills that restore patient and family stability. Focus is on advanced nursing skills integrating,

application of biomedical technology, and compassionate nursing care delivery to patient and family in crisis.  
Pre-requisite: NURS 215.

**NURS 249 NURSING IN THE COMMUNITY**

**10: 5 cr. E/F**

The course provides students with the opportunity to study nursing in multiple setups, outside a hospital setting. It helps the students develop their understanding about health and psychosocial needs of individuals, families and communities on the full health trajectory. In the practical component of the course, students gain hands-on experience in the community. They meet the challenge of transferring their skills and know-how to the client in his/her own milieu.

Pre or co-requisites: NURS 244, 245.

**NURS 250 LEADERSHIP AND MANAGEMENT IN NURSING AND HEALTH**

**10: 5 cr. E/F**

This course enables the student to become knowledgeable and skilled nursing leader within the healthcare team. Both components, theory and practice, constitute a comprehensive resource on the concepts of planning, organizing, directing, communicating, problem solving, decision making, and evaluating. The course prepares the student to become a leader and change agent, who works to promote health and the nursing profession within a constantly changing environment.

Pre-requisite: NURS 248, 249.

**NURS 251 INTERNSHIP\***

Internship gives the student the opportunity to apply nursing practice supported by solid scientific theory, critical thinking, and analysis. It is designed to help the student make the transition from the relatively dependent role as a student to the relatively independent role as a beginning practitioner. He/She is placed in an area according to his/her own interest, aiming at preventing “Reality Shock” after graduation. Multidisciplinary interaction with the health team is emphasized.

Pre or co-requisite: NURS 250.

**NURS 254 PROFESSIONAL ISSUES SEMINARS**

**1.0: 1 cr. E/F**

Current issues and trends, and legal aspects related to the profession in Lebanon are analyzed in this seminar course. Its purpose is to enhance students’ awareness of major areas of concern to the nursing profession as a whole.  
Co-requisite: NURS 250.

\* Staff nurses in the hospital supervise the students in Service Training I and II in collaboration with the nursing faculty members. They are graded as P “Pass” or F “Fail” and are a graduation requirement.



# BACHELOR OF SCIENCE DEGREES IN PUBLIC HEALTH

The Faculty of Health Sciences offers several options in the fields of Public Health. Students may take a multidisciplinary, community-oriented BS degree in Public Health and Development Sciences or in Health Promotion. Either of these can be completed over a minimum period of three academic years.

Qualified students may also complete Premedical requirements with their BS degree, or take a second BS degree in a Dual Degree Program. These options usually need a minimum period of four academic years to be completed.

Students in other majors may complete a Minor in Public Health.

Information concerning the Program Mission, Objectives and Learning Outcomes is available on the Program website: [http://www.balamand.edu.lb/Academics/Faculties/FHS/AcademicPrograms/UndergraduatePublicHealth Dev Sciences/Pages/Introduction.aspx](http://www.balamand.edu.lb/Academics/Faculties/FHS/AcademicPrograms/UndergraduatePublicHealthDevSciences/Pages/Introduction.aspx)

## BACHELOR OF SCIENCE DEGREE IN PUBLIC HEALTH AND DEVELOPMENT SCIENCES

The BS degree in Public Health and Development Sciences emphasizes the complex ways in which the health and wellbeing of individuals, families, groups and communities are affected by the dynamic interaction of social and environmental conditions.

### FIRST YEAR

#### SEMESTER 1

<u>Course Code</u>	<u>Course Title</u>	<u>Credit</u>
ENGL 203	English Communication Skills III	3
FHSC 200 <sup>1</sup> /BIOL 201	Introduction to Biology	3
FHSC 262	Introduction to Business	3
LISP 200 <sup>2</sup>	Library Use and Research Methods	1
PDHP 202 <sup>1</sup> /CHEM 208	Basic Chemistry for Public Health	3
PDHP 203/CHEM 209	Basic Chemistry for Public Health Laboratory	1
<b>Total</b>		<b>14</b>

#### SEMESTER 2

<u>Course Code</u>	<u>Course Title</u>	<u>Credit</u>
ENGL 204	English Communication Skills IV (or its equivalent)	3
FHSC 260	Introduction to Sociology	3
PDHP 200	Microbiology for Health Sciences	3
PDHP 201	Environment, Health and Development**	3
PDHP 219	Introduction to Public Health**	3
<b>Total</b>		<b>15</b>

### SUMMER

<u>Course Code</u>	<u>Course Title</u>	<u>Credit</u>
CSPR <sup>3</sup>	Cultural Studies Courses	3
FHSC 271 <sup>2</sup>	First Aid	1
<b>Total</b>		<b>4</b>

**SECOND YEAR****SEMESTER 3**

<b><u>Course Code</u></b>	<b><u>Course Title</u></b>	<b><u>Credit</u></b>
FHSC 269	Health Care Management and Administration	3
NUSC 208	Public Health Nutrition and Food Hygiene**	3
PDHP 214	Family Health**	3
PDHP 221/MLAB 233	Toxicology for Public Health*	2
PDHP 226	Sanitation & Resource Management for Public Health**	3
<b>Total</b>		<b>14</b>

**SEMESTER 4**

<b><u>Course Code</u></b>	<b><u>Course Title</u></b>	<b><u>Credit</u></b>
FHSC 282	Principles of Epidemiology and Biostatistics	3
FHSC 284	Project Planning and Evaluation**	3
PDHP 227	Occupational Health and Hygiene**	3
PDHP 231	Public Administration and Policy in Lebanon	3
PDHP 247	Economics in Environment, Health and Development**	3
<b>Total</b>		<b>15</b>

**SUMMER**

<b><u>Course Code</u></b>	<b><u>Course Title</u></b>	<b><u>Credit</u></b>
PDHP 260	Student Project Residency Internship**	3
<b>Total</b>		<b>3</b>

**THIRD YEAR****SEMESTER 5**

<b><u>Course Code</u></b>	<b><u>Course Title</u></b>	<b><u>Credit</u></b>
PDHP 229	Epidemiology in Public Health Practice**	3
PDHP 237	Public Health Communication in the Arab World	3
PDHP 238	Environmental Management in Public Health Practice**	3
PDHP 242	Public Health and Urban Environments	3
	Suggested elective	3
<b>Total</b>		<b>15</b>

**SEMESTER 6**

<b><u>Course Code</u></b>	<b><u>Course Title</u></b>	<b><u>Credit</u></b>
CSPR <sup>3</sup>	Cultural studies Program	3
FHSC 266	Anthropology and Health	2
FHSC 288	Research in Health Care Sciences	3
PDHP 239	Health Risk Assessment: Principles & Applications **	1
PDHP 245	Issues in Community Health and Development **	3
	Free Elective	3
<b>Total</b>		<b>15</b>

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**Total Credits** **95**

1. Students from a non scientific background may choose FHSC 207 or BIOL 205, if desired. Otherwise, all students interested in fulfilling pre-medical requirements MUST complete FHSC 200 or BIOL 201.
2. Required no-fee course.
3. Students may choose any CSPR course except CSPR205 and CSPR206.

***Number of Credits in Major: 39 Credits***

\*Students should secure an average of 65 and above.

\*\*Major Course: Students should secure an average of 70 and above.

Students should consult their advisor for suitable “suggested” electives.

**Suggested Elective:**

FHSC 201/BIOL 202	Introduction to Biology Lab I	1
FHSC 202	Introduction to Human Anatomy	2
FHSC 203	Basic Human Physiology	4
FHSC 204	Principles of Genetics	2
FHSC 219/CHEM 222	Analytical Chemistry I	3
FHSC 227/CHEM 245	Organic Chemistry I Laboratory	1
FHSC 228/CHEM 244	Organic Chemistry II	3
FHSC 230	Organic Chemistry Lab II	1
FHSC 231	Seminars in Analytical Chemistry	1
FHSC 241/PHYS 211	Fundamentals Of Physics I	3
FHSC 243/PHYS 213	Fundamentals Of Physics II	3
FHSC 259	Humanitarian Aid and Emergency Response	3
FHSC 261/PHYS 200	Introduction to Psychology	3
FHSC 264	Human Growth and Development	2
FHSC 280	Information Technology and Health Sciences	2
FHSC 286	Financial Management in Health and Development Programs	3
MLAB 210	Basic Biochemistry	3
MLAB 211	Clinical Chemistry I	3
MLAB 230	Molecular Biology	3
PDHP 212	Introduction to Ecology	3
PDHP 213	Marketing, Design and Development of Media Tools	3
PDHP 218	Principles of Health Promotion I	3
PDHP 224	Gender and Development	3
PDHP 232	Educational Strategies in Health Promotion	3
PDHP 243	Stress Management and Health	3
PDHP 244	Human Rights in Health	3
PDHP 246	Illness, Disease and Lifestyles	3
PDHP 250	Themes in Public Health and Development	3
PDHP 255	Global Health	3

# **COURSE DESCRIPTIONS**

## **CSPR CULTURAL STUDIES COURSES**

Refer to the Cultural Studies Program.

## **ENGL 203, 204, 223, 244, 253**

Refer to the Division of English Language & Literature.

## **LISP 200 LIBRARY USE AND RESEARCH METHODS**

Refer to the Faculty of Library and Information Studies.

## **FHSC 200, 207, 222, 223, 259, 260, 261, 262, 263, 266, 269, 271, 280, 282, 284, 285, 286, 288**

Refer to the Faculty of Health Sciences Service Courses.

## **NUSC 208 PUBLIC HEALTH NUTRITION AND FOOD HYGIENE**

Refer to the Nutritional Sciences Program courses.

## **PDHP 200 MICROBIOLOGY FOR HEALTH SCIENCES**

**3.0: 3 cr. E**

This course provides an introduction to the biology of microorganisms emphasizing the microbial structure, metabolism and infectious diseases they cause and the related immune response. Students are introduced to medical and environmental issues related to microbiology.

Pre-requisite: FHSC 200/207, or BIOL 201/205.

## **PDHP 201 ENVIRONMENT, HEALTH AND DEVELOPMENT**

**3.0: 3 cr. E**

The course examines the interactions between the environment and human development, with an emphasis on public health. Students are introduced to current environmental challenges at the local, regional and global level, and efforts to overcome these challenges by introducing potential or alternative solutions and resources.

Pre-requisite: ENGL 101.

## **PDHP 202 BASIC CHEMISTRY FOR PUBLIC HEALTH**

**3.0: 3 cr. E**

This course introduces Public Health students to the basic principles of chemistry, with reference to basic general and organic chemistry, water chemistry, atmospheric chemistry, inorganic and organic pollutants and hazardous wastes.

## **PDHP 203 BASIC CHEMISTRY FOR PUBLIC HEALTH LABORATORY**

**0.3: 1 cr. E**

This is a laboratory course which introduces Public Health students to experiments in basic and applied chemistry.

## **PDHP 212 INTRODUCTION TO ECOLOGY**

**3.0: 3 cr. E**

The course focuses on understanding relationships between living and non-living matter in their environment. Main topics in ecology such as food chains, natural balance, mineral cycles and natural resources are examined. The course also touches upon man-made threats to the global ecology (eco-toxicology).

## **PDHP 213 MARKETING, DESIGN AND DEVELOPMENT OF MEDIA TOOLS**

**3.0: 3 cr. E**

This course covers the design and development of tools used in health promotion initiatives, including: the development of posters, brochures, pamphlets, role model stories, videotapes, health theaters, community affairs, socio-political debates, advocacy positions, press releases, and public announcements. Emphasis is given to methods of selection and tailoring of appropriate tools according to the target group.

## **PDHP 214 FAMILY HEALTH**

**3.0: 3 cr. E**

The course investigates the interrelation between family dynamics and individual and community health. Topics covered include the developmental stages and needs of the growing child, maternal and child health at various stages of the life cycle, family planning, domestic violence and ageing.

Pre-requisite: FHSC 260 or FHSC 261 or PSYC 200.

**PDHP 218 PRINCIPLES OF HEALTH PROMOTION I****3.0: 3 cr. E**

Developing effective health promotion initiatives to reduce risk demands a sound grasp of the principles of health behavior and behavior change. This course examines a wide spectrum of behavior change theories and techniques, including behavior modification, social modeling, social interaction theory, information processing research, and models of behavioral self-regulation and problem solving. Lectures and applications consider different topics, such as substance abuse, hazard control, and behavioral risk factor modification, including diet, exercise, smoking, stress, safe sexual behaviors, and adherence to medical treatment.

Pre or co-requisite: ENGL 203

**PDHP 219 INTRODUCTION TO PUBLIC HEALTH****3.0: 3 cr. E**

This course provides an introduction to the background, concepts and practices associated with public health and the different forces and determinants that affect the health status and behavior of communities. Students are introduced to the scope of practice, ethics, professions, work settings and the role of interdisciplinary teams in public health. The course will host guest speakers and working practitioners in the health sector in Lebanon.

Pre or co-requisite: ENGL101.

**PDHP 221 TOXICOLOGY FOR PUBLIC HEALTH****2.0: 2 cr. E**

This course explores the multidisciplinary nature of the field of toxicology. It introduces the basic principles of human toxicology, including routes of entry, dose-response, and mechanisms of action, internal distribution, metabolism, and elimination. In addition to examining toxicity properties of a selected list of chemical agents, the course addresses the different variables that shape the relationship between exposure to toxic chemicals and adverse effects in humans.

Pre-requisites: PDHP 201/202 or CHEM 202 or FHSC 222.

**PDHP 224 GENDER AND DEVELOPMENT****3.0: 3 cr. E**

This course provides students with a basic understanding of gender relations and the factors that shape the social, political and economic roles of women and men and the ways in which they relate to each other. The course covers a review of development policies aimed at integrating women into development policies and programs, with a focus on Lebanon, the Arab region and developing countries

Pre-requisite: ENGL 203.

**PDHP 226 SANITATION AND RESOURCE MANAGEMENT FOR PUBLIC HEALTH****3.0: 3 cr. E**

This is an introductory course on drinking water, wastewater, and domestic and industrial solid wastes. The course addresses issues of water pollution and water quality and their burden on public and environmental health, including treatment processes and options for environmentally sustainable waste management practices.

Pre-requisites: PDHP 200 and PDHP 202 or PDHP 200 and CHEM202 or PDHP200 and FHSC222

**PDHP 227 OCCUPATIONAL HEALTH AND HYGIENE****3.0: 3 cr. E**

Occupational Health is an integral component of public health. The course explores chemical and physical hazards in the workplace, using the tripod of occupational health & hygiene which are recognition, evaluation and control. Cases from Lebanon and abroad provide hard evidence.

Pre or co-requisite: PDHP 221.

**PDHP 229 EPIDEMIOLOGY IN PUBLIC HEALTH PRACTICE****3.0: 3 cr. E**

The course expands student understandings of the different concepts, methodologies and tools of epidemiology utilized in the practice of public health, with a view towards developing their competencies as future practitioners. Hands-on experience with data sets and public health scenarios are provided.

Pre-requisite: FHSC 282.

**PDHP 231 PUBLIC ADMINISTRATION AND POLICY IN LEBANON****3.0: 3 cr. E**

Students are exposed to the role of governance and politics in the provision and promotion of health care and development of appropriate policies. The course uses selected case studies, taking into consideration current trends in Lebanon and the Middle East.

**PDHP 232 EDUCATIONAL STRATEGIES IN HEALTH PROMOTION** **3.0: 3 cr. E**  
This course introduces students to a variety of educational strategies designed to help improve the health of individuals and communities. Students will become familiar with common theories of learning and principles of pedagogy, approaches to adult education and learning, developing and evaluating educational materials, and teaching styles suitable for various health education settings. Different communication methods, training methods and organizational methods are considered. Students will develop written health education materials for prototypical health promotion interventions.  
Pre-requisite: PDHP 219 or FHSC 261 or PYSC 200.

**PDHP 237 PUBLIC HEALTH COMMUNICATION IN THE ARAB WORLD** **3.0: 3 cr. E**  
Students are introduced to principles and strategies of communication and some of the tools and skills required for public health education and awareness campaigns in the context of the Middle East. Exercises include letter writing, public speaking, PowerPoint presentations, research skills in Arabic databases, report writing and developing educational materials. The course is given in Arabic.  
Pre-requisite: PDHP 219.

**PDHP 238 ENVIRONMENTAL MANAGEMENT IN PUBLIC HEALTH PRACTICE** **3.0: 3 cr. E**  
The course presents an integrated approach to understanding air quality, through the recognition, monitoring, prevention and control of air pollution and its impact on health and the economy. The applied segment of the course discusses real-time global and national environmental issues and their impact on national air quality.  
Pre-requisite: PDHP 227.

**PDHP 239 HEALTH RISK ASSESSMENT: PRINCIPLES & APPLICATIONS** **1.0: 1 cr. E**  
The objective of the course is to provide knowledge and understanding of the methods and principles used in health risk assessment. The course covers the steps in risk assessment, including hazard identification, dose-response, exposure assessment and risk characterization, and introduces students to approaches in risk management. Critical effects, uncertainty in extrapolations, and allocation of exposure limit values are also examined. The student learns how to interpret and evaluate toxicological and epidemiological data from different test systems for risk assessment purposes.  
Pre-requisite: PDHP 221.

**PDHP 242 PUBLIC HEALTH AND URBAN ENVIRONMENTS** **3.0: 3 cr. E**  
The course focuses on the interactions between socio-economic, environmental and spatial features of urban dynamics and their impact on public health. Special reference is made to public health challenges arising out of the processes of urbanization and migration in Lebanon and the Middle East.  
Pre-requisites: FHSC 260, ENGL 203.

**PDHP 243 STRESS MANAGEMENT AND HEALTH** **3.0:3cr.E**  
This course introduces students to a holistic approach to stress and stress management. The impact of stress in modern environments and the relationship between stress and physiological/psychological illnesses are discussed. Fundamental theories and applications of the mind-body-spirit phenomenon are introduced, such as coping strategies, relaxation techniques, etc. Students are encouraged to acquire and apply stress management skills to their personal lives and professional practice.  
Pre or Co-requisite: ENGL 101.

**PDHP 244 HUMAN RIGHTS IN HEALTH** **3.0: 3 cr. E**  
The general concepts and principles of human rights are covered in this course, in relation to their impact on health and the health sector. Emphasis is placed on the role of human rights as empowering of individuals and communities, with specific reference to Lebanon and the Middle East.  
Pre-requisite: ENGL 203.

**PDHP 245 ISSUES IN COMMUNITY HEALTH AND DEVELOPMENT****3.0: 3 cr. E**

This course offers an in-depth examination of selected challenges affecting the health and development of communities locally and worldwide, including poverty, politics, environmental changes, and globalization. The course emphasizes hot topics of current interest in Lebanon and the Middle East, and includes guest speakers, debates and critical discussions.

Pre-requisites: PDHP 201, PDHP 219, ENGL 203.

**PDHP 246 ILLNESS, DISEASE AND LIFESTYLES****3.0: 3 cr. E**

This course introduces students to the biologic and behavioral bases of pathogenesis of the major diseases. Causative agents of chronic diseases are examined, including those illnesses which have been termed psychosomatic and related to stress, and related methods of adaptation and prophylaxis.

Pre-requisite: FHSC 200 or BIOL 201 or FHSC 207 or BIOL 205.

**PDHP 247 ECONOMICS IN ENVIRONMENT, HEALTH AND DEVELOPMENT****3.0: 3 cr. E**

Students are introduced to basic principles and concepts in health economics and theories of development, with a view towards expanding their understandings of the complex interrelationship between environment, health and development. Topics covered include: demand and supply in healthcare systems and insurance; methods of economic analysis such as cost-effectiveness, cost benefit analysis, environmental valuation methods; relationships between the environment and economics; macro-economic policies and their impact on development.

Pre-requisites: ENGL 203.

**PDHP 250 THEMES IN PUBLIC HEALTH AND DEVELOPMENT****3.0: 3 cr. E**

This course gives students the opportunity to explore in-depth a topic of public health relevance and expand their research skills. Students are expected to conduct a literature review, collect data from primary and secondary sources in the community in Lebanon, use electronic software for data analysis, and write an extended paper based on their work.

Pre-requisite: FHSC 288.

**PDHP 255 Global Health****3:0:3 cr. E**

This course introduces students to the topic of global health and examines some of the major global health challenges. These include infectious diseases and global efforts to contain them, non-communicable & chronic diseases, challenges in delivering and managing humanitarian aid in an epoch of increasing refugee populations and other emerging priorities in global health.

Pre-requisite: ENGL 203.

**PDHP 260 STUDENT PROJECT RESIDENCY INTERNSHIP****3.0: 3 cr. E**

This course consists of an individualized project designed, planned, executed, written and presented by the student on a public health topic of their choice. An essential course in the major, each student is expected to complete 2 months under the supervision of a faculty member, within the context of an organization or institution involved with addressing needs related to health, social welfare and development.

Pre-requisites: LISP 200, PDHP 227, Permission of the program.

# BACHELOR OF SCIENCE IN HEALTH PROMOTION

The BS degree in Health Promotion focuses on the importance of prevention, education, and lifestyle as determinants of health and wellbeing within the frame work of Public Health.

## FIRST YEAR

### SEMESTER 1

<u>Course Code</u>	<u>Course Title</u>	<u>Credit</u>
ENGL 203	English Communication Skills III	3
FHSC 200/BIOL 201 <sup>1</sup>	Introduction to Biology	3
FHSC 262	Introduction to Business	3
or		
FHSC 226/CHEM 242	Organic Chemistry I	3
LISP 200 <sup>1</sup>	Library Use and Research Methods	1
PDHP 202/CHEM 208	Basic Chemistry for Public Health	3
<b>Total</b>		<b>13</b>

### SEMESTER 2

<u>Course Code</u>	<u>Course Title</u>	<u>Credit</u>
ENGL 204	English Communication Skills IV (or its equivalent)	3
FHSC 260	Introduction to Sociology	3
PDHP 200	Microbiology for Health Sciences	3
PDHP 201	Environment, Health and Development **	3
PDHP 219	Introduction to Public Health**	3
	Suggested Elective	2
<b>Total</b>		<b>17</b>

## SUMMER

<u>Course Code</u>	<u>Course Title</u>	<u>Credit</u>
CSPR <sup>3</sup>	Cultural Studies	3
FHSC 261/PSYC 200	Introduction to Psychology	3
FHSC 271 <sup>2</sup>	First Aid	1
<b>Total</b>		<b>6</b>

## SECOND YEAR

### SEMESTER 3

<u>Course Code</u>	<u>Course Title</u>	<u>Credit</u>
FHSC 269	Health Care Management and Administration	3
NUSC 208	Public Health Nutrition and Food Hygiene **	3
PDHP 211	Kinesiology in Health Promotion**	2
PDHP 214	Family Health **	3
PDHP 218	Principles of Health Promotion I**	3
	Suggested Elective	3
<b>Total</b>		<b>17</b>



#### **SEMESTER 4**

<b><u>Course Code</u></b>	<b><u>Course Title</u></b>	<b><u>Credit</u></b>
FHSC 282	Principles of Epidemiology and Biostatistics	3
FHSC284	Project Planning and Evaluation	3
PDHP 213	Marketing, Design and Development of Media Tools	3
PDHP 228	Principles of Health Promotion II**	3
PDHP 246	Illness, Disease and Lifestyle**	3
<b>Total</b>		<b>15</b>

#### **SUMMER**

<b><u>Course Code</u></b>	<b><u>Course Title</u></b>	<b><u>Credit</u></b>
PDHP 270	Student Project Residency Internship**	3
<b>Total</b>		<b>3</b>

#### **THIRD YEAR**

#### **SEMESTER 5**

<b><u>Course Code</u></b>	<b><u>Course Title</u></b>	<b><u>Credit</u></b>
PDHP 247	Economics in Environment, Health and Development**	3
PDHP 229	Epidemiology in Public Health Practices**	3
PDHP 232	Educational Strategies in Health Promotion**	3
PDHP 237	Public Health Communication in the Arab World	3
<b>Total</b>		<b>15</b>

#### **SEMESTER 6**

<b><u>Course Code</u></b>	<b><u>Course Title</u></b>	<b><u>Credit</u></b>
CSPR <sup>3</sup>	Cultural Studies Courses	3
FHSC 266	Anthropology and Health	2
FHSC 288	Research in Health Care Sciences	3
PDHP 234	Health Communications**	3
PDHP 244	Human Rights in Health	3
PDHP 245	Issues in Community Health and Development**	3
	Elective	3
		<b>17</b>
<b>Total credit</b>		<b>104</b>

***Number of Credits in Major: 41 Credits.***

\*\* Major course: students should secure an average of 70 and above.

1. Students from a non scientific background may choose FHSC207 or BIOL205, if desired. Otherwise, all students interested in fulfilling pre-medical requirements MUST complete FHSC200 or BIOL201.
2. Required no-fee course.
3. Students may choose any CSPR course except CSPR 205 and CSPR 206.

Students should consult their advisor for suitable “suggested” electives.

**Suggested Elective:**

FHSC 201/BIOL 202	Introduction to Biology Lab I	1
FHSC 202	Introduction to Human Anatomy	2
FHSC 203	Basic Human Physiology	4
FHSC 204	Principles of Genetics	2
FSSC 219/CHEM 222	Analytical Chemistry I	3
FHSC 227/CHEM 245	Organic Chemistry I Laboratory	1
FHSC 228/CHEM 244	Organic Chemistry II	3
FHSC 230	Organic Chemistry Lab II	1
FHSC 231	Seminars in Analytical Chemistry	1
FHSC 241/PHYS 211	Fundamentals Of Physics I	3
FHSC 243 /PHYS 213	Fundamentals Of Physics II	3
FHSC 259	Humanitarian Aid and Emergency Response	3
FHSC 264	Human Growth and Development	2
FHSC 280	Information Technology and Health Sciences	2
FHSC 286	Financial Management in Health and Development Programs	3
MLAB 210	Basic Biochemistry	3
MLAB 211	Clinical Chemistry I	3
MLAB 230	Molecular Biology	3
PHYS 211	Fundamentals of Physics I	3
PHYS 213	Fundamentals of Physics II	3
PDHP 212	Introduction to Ecology	3
PDHP 221/MLAB 233	Toxicology for Public Health	2
PDHP 224	Gender and Development	3
PDHP 226	Sanitation & Resource Management for Public Health	3
PDHP 227	Occupational Health and Hygiene	3
PDHP 231	Public Administration and Policy in Lebanon	3
PDHP 242	Public Health and Urban Environments	3
PDHP 243	Stress Management and Health	3
PDHP 250	Themes in Public Health and Development	3
PDHP 252	Themes in Health Promotion	3
PDHP 255	Global Health	3

**COURSE DESCRIPTIONS**

**CSPR CULTURAL STUDIES COURSES**

Refer to the Cultural Studies Program.

**ENGL 203, 204, 223, 244, 253**

Refer to the Division of English Language & Literature.

**LISP 200 LIBRARY USE AND RESEARCH METHODS**

Refer to the Faculty of Library and Information Studies.

**FHSC 200, 207, 222, 259, 260, 261, 262, 263, 266, 269,271, 282, 284, 288**

Refer to the Faculty of Health Sciences Service Courses.

**NUSC 208 PUBLIC HEALTH NUTRITION AND FOOD HYGIENE**

Refer to the Nutritional Sciences Program courses.

**PDHP 200 MICROBIOLOGY FOR HEALTH SCIENCES****3.0: 3 cr. E**

This course provides an introduction to the biology of microorganisms emphasizing the microbial structure, metabolism and infectious diseases they cause and the related immune response. Students are introduced to medical and environmental issues related to microbiology.

Pre-requisite: FHSC 200/207 or BIOL 201/205.

**PDHP 201 ENVIRONMENT, HEALTH AND DEVELOPMENT****3.0: 3 cr. E**

The course examines the interactions between the environment and human development, with an emphasis on public health. Students are introduced to current environmental challenges at the local, regional and global level, and efforts to overcome these challenges by introducing potential or alternative solutions and resources.

Pre-requisite: ENGL 101.

**PDHP 202 BASIC CHEMISTRY FOR PUBLIC HEALTH****3.0: 3 cr. E**

This course introduces Public Health students to the basic principles of chemistry, with reference to basic general and organic chemistry, water chemistry, atmospheric chemistry, inorganic and organic pollutants and hazardous wastes.

**PDHP 211 KINESIOLOGY IN HEALTH PROMOTION****2.0: 2 cr. E**

Kinesiology in Health is an introduction to the mechanical, physiological, and anatomical bases of human movement. The purpose of the course is to provide meaningful information concerning the physiological and biomechanical aspects of movement in order to improve health. Basic concepts related to physical fitness, body composition and training principles are discussed.

**PDHP 213 MARKETING, DESIGN AND DEVELOPMENT OF MEDIA TOOLS****3.0: 3 cr. E**

This course covers the design and development of tools used in health promotion initiatives, including: the development of posters, brochures, pamphlets, role model stories, videotapes, health theaters, community affairs, socio-political debates, advocacy positions, press releases, and public announcements. Emphasis is given to methods of selection and tailoring of appropriate tools according to the target group.

**PDHP 214 FAMILY HEALTH****3.0: 3 cr. E**

The course investigates the interrelation between family dynamics and individual and community health. Topics covered include the developmental stages and needs of the growing child, maternal and child health at various stages of the life cycle, family planning, domestic violence and ageing.

Pre-requisite: FHSC 260 or FHSC 261 or PSYC 200.

**PDHP 218 PRINCIPLES OF HEALTH PROMOTION I****3.0: 3 cr. E**

Developing effective health promotion initiatives to reduce risk demands a sound grasp of the principles of health behavior and behavior change. This course examines a wide spectrum of behavior change theories and techniques, including behavior modification, social modeling, social interaction theory, information processing research, and models of behavioral self-regulation and problem solving. Lectures and applications consider different topics, such as substance abuse, hazard control, and behavioral risk factor modification, including diet, exercise, smoking, stress, safe sexual behaviors, and adherence to medical treatment.

Pre or co-requisite: ENGL 203

**PDHP 219 INTRODUCTION TO PUBLIC HEALTH****3.0: 3 cr. E**

This course provides an introduction to the background, concepts and practices associated with public health and the different forces and determinants that affect the health status and behavior of communities. Students are introduced to the scope of practice, ethics, professions, work settings and the role of interdisciplinary teams in public health. The course will host guest speakers and working practitioners in the health sector in Lebanon.

Pre or co-requisite: ENGL101.

**PDHP 228 PRINCIPLES OF HEALTH PROMOTION II****3.0: 3 cr. E**

In this course, the interrelationships between theory, research and practice in health promotion are explored. Students will expand their knowledge of basic health promotion theories to become familiar with advanced and

new emerging theories. These are considered in relation to the planning models used for applied interventions, and in relation to theories and models that focus on behavior change. Specific health promotion applications using a settings approach to schools, patient care settings, small groups, and the community-at-large will be presented through case studies, discussions, and readings.

Pre-requisite: PDHP 218.

**PDHP 229 EPIDEMIOLOGY IN PUBLIC HEALTH PRACTICE** **3.0: 3 cr. E**

The course expands student understandings of the different concepts, methodologies and tools of epidemiology utilized in the practice of public health, with a view towards developing competencies as future practitioners. Hands-on experience with data sets and public health scenarios are provided.

Prerequisite: FHSC 282.

**PDHP 232 EDUCATIONAL STRATEGIES IN HEALTH PROMOTION** **3.0: 3 cr. E**

This course introduces students to a variety of educational strategies designed to help improve the health of individuals and communities. Students will become familiar with common theories of learning and principles of pedagogy, approaches to adult education and learning, developing and evaluating educational materials, and teaching styles suitable for various health education settings. Different communication methods, training methods and organizational methods are considered. Students will develop written health education materials for prototypical health promotion interventions

Pre-requisite: PDHP 219 or FHSC 261 or PSYC 200.

**PDHP 234 HEALTH COMMUNICATIONS** **3.0: 3 cr. E**

This senior level course covers the principles and theories of health communications and their application in health promotion programs. Models of effective health communications addressing a range of health problems, contexts, target audiences, and delivery systems are discussed in depth. Students learn to apply health communication frameworks in a step-by-step approach covering processes related to the development, implementation, management and evaluation of integrated health promotion campaigns.

Pre-requisites: PDHP 213, PDHP 228.

**PDHP 237 PUBLIC HEALTH COMMUNICATION IN THE ARAB WORLD** **3.0: 3 cr. E**

Students are introduced to principles and strategies of communication and some of the tools and skills required for public health education and awareness campaigns in the context of the Middle East. Exercises include letter writing, public speaking, power point presentations, report writing; research skills in Arabic databases and developing educational materials. The course is given in Arabic.

Pre-requisite: PDHP 219.

**PDHP 243 STRESS MANAGEMENT AND HEALTH** **5.0: 5 cr. E**

This course introduces students to a holistic approach to stress and stress management. The impact of stress in modern environments and the relationship between stress and physiological/psychological illnesses are discussed. Fundamental theories and applications of the mind-body-spirit phenomenon are introduced, such as coping strategies, relaxation techniques, etc. Students are encouraged to acquire and apply stress management skills to their personal lives and professional practice.

**PDHP 244 HUMAN RIGHTS IN HEALTH** **3.0: 3 cr. E**

The general concepts and principles of human rights are covered in this course, in relation to their impact on health and the health sector. Emphasis is placed on the role of human rights as empowering of individuals and communities, with specific reference to Lebanon and the Middle East.

Pre-requisite: ENGL 203.

**PDHP 245 ISSUES IN COMMUNITY HEALTH AND DEVELOPMENT** **3.0: 3 cr. E**

This course offers an in-depth examination of selected challenges affecting the health and development of

communities locally and worldwide, including poverty, politics, environmental changes, and globalization. The course emphasizes hot topics of current interest in Lebanon and the Middle East, and includes guest speakers, debates and critical discussions.

Pre-requisites: PDHP 201, PDHP 219, ENGL 203.

**PDHP 246 ILLNESS, DISEASE AND LIFESTYLES** **3.0: 3 cr. E**

This course introduces students to the biologic and behavioral bases of pathogenesis of the major diseases. Causative agents of chronic diseases are examined, including those illnesses which have been termed psychosomatic and related to stress, and related methods of adaptation and prophylaxis.

Pre-requisite: FHSC 200 or BIOL 201 or FHSC 207 or BIOL 205.

**PDHP 247 ECONOMICS IN ENVIRONMENT, HEALTH AND DEVELOPMENT** **3.0: 3 cr. E**

Students are introduced to basic principles and concepts in health economics and theories of development, with a view towards expanding their understandings of the complex interrelationship between environment, health and development. Topics covered include: demand and supply in healthcare systems and insurance; methods of economic analysis such as cost-effectiveness, cost benefit analysis, environmental valuation methods; the relationship between the environment and economics; macro-economic policies and their impact on development.

Pre-requisites: ENGL 203.

**PDHP 252 THEMES IN HEALTH PROMOTION** **3:0: 3 cr. E**

This course gives students the opportunity to expand their research skills while exploring in depth a topic of relevance to health promotion. Students are expected to conduct a literature review, collect data from primary and secondary sources in the community in Lebanon, use electronic software for data analysis, and write an extended paper based on their work.

Pre-requisite: FHSC 288.

**PDHP 255 Global Health** **3:0:3 cr. E**

This course introduces students to the topic of global health and examines some of the major global health challenges. These include infectious diseases and global efforts to contain them, non-communicable & chronic diseases, challenges in delivering and managing humanitarian aid in an epoch of increasing refugee populations and other emerging priorities in global health.

Pre-requisite: ENGL 203.

**PDHP 270 STUDENT PROJECT RESIDENCY INTERNSHIP** **3:0: 3 cr. E**

This course consists of an individualized project designed, planned, executed, written and presented by the student on a public health topic of their choice. An essential course in the major, each student is expected to complete two months under the supervision of a faculty member, within the context of an organization or institution involved with addressing needs related to health, social welfare and development.

Pre-requisites: LISP 200, PDHP 218, Permission of the faculty.

# BS DEGREE IN PUBLIC HEALTH AND DEVELOPMENT SCIENCES OR IN HEALTH PROMOTION, WITH PREMEDICAL REQUIREMENTS

The Public Health and Development Sciences Program (PD) offers qualified students the opportunity to take 32 credits of courses that enable them to sit for entrance to Medical School at the same time as a BS degree in PD. The pre-medical courses consist of:

<u>Course Code</u>	<u>Course Title</u>	<u>Credits</u>
FHSC 200/BIOL 201	Introduction to Biology I	3
FHSC 201/BIOL 202	Introduction to Biology I Lab	1
FHSC 203	Introduction to human Physiology	4
		<hr style="width: 100%; border: 0.5px solid black;"/>
		<b>8</b>
FHSC 219/CHEM 222	Analytical Chemistry I	3
FHSC 222/CHEM 202	Basic Chemistry	3
FHSC 226/CHEM 242	Organic Chemistry I	3
FHSC 228/CHEM 244	Organic Chemistry II	3
		<hr style="width: 100%; border: 0.5px solid black;"/>
		<b>12</b>
FHSC 241/PHYS 211	Fundamentals of Physics I	3
FHSC 243/PHYS 213	Fundamentals of Physics II	3
		<hr style="width: 100%; border: 0.5px solid black;"/>
		<b>6</b>
FHSC 260	Sociology	
FHSC 261/PSYC 200	Psychology	
Total humanities/ Social sciences		<b>6</b>
<b>Total Pre-Med number of credits</b>		<b>32</b>

The PD BS curriculum with premed requirements may be completed within three years, provided students begin the program with a level of ENGL 203.

The PD BS with premed requirements consists of 109 credits, of which 32 fulfill premed requirements and 95 fulfill PD requirements. For PD purposes, FHSC 261 and FHSC 228 may be considered as fulfilling 6 credits of PD “electives”.

NB: Pre Med students are required to register in at least one major or required PD course each semester, with the exception of summer 1 and excluding English and CS courses.

## FIRST YEAR

### SEMESTER 1

<u>Course Code</u>	<u>Course Title</u>	<u>Credits</u>
ENGL 203	English Communication Skills III	3
FHSC 200/BIOL 201	Introduction to Biology*	3
FHSC 201/BIOL 202	Introduction To Biology I - Laboratory	1

FHSC 222/CHEM 202	Basic Chemistry*	3
FHSC 223/CHEM 203	Basic Chemistry Laboratory	1
FHSC 271 <sup>1</sup>	First Aid	1
LISP 200	Library Use and Research Methods	1
PDHP 219	Introduction to Public Health**	3

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### **SEMESTER 2**

<b><u>Course Code</u></b>	<b><u>Course Title</u></b>	<b><u>Credits</u></b>
ENGL 204	English Communication Skills IV (or its equivalent)	3
FHSC 203	Basic Human Physiology	4
FHSC 226/CHEM 242	Organic Chemistry I	3
PDHP 201	Environment, Health and Development**	3
PDHP 200	Microbiology for Health Sciences	3

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### **SUMMER**

<b><u>Course Code</u></b>	<b><u>Course Title</u></b>	<b><u>Credits</u></b>
FHSC228/CHEM 244	Organic Chemistry II*	3
FHSC 261/PSYC 200	Introduction to Psychology*	3

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### **SECOND YEAR**

#### **SEMESTER 3**

<b><u>Course Code</u></b>	<b><u>Course Title</u></b>	<b><u>Credits</u></b>
FHSC 219/CHEM 222	Analytical Chemistry I	3
FHSC 241/PHYS 211	Fundamentals Of Physics I	3
FHSC 269	Health Care Management and Administration	3
NUSC 208	Public Health Nutrition and Food Hygiene**	3
PDHP 226	Sanitation & Resource Management for Public Health**	3
PDHP 221/MLAB 233	Toxicology for Public Health**	2

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#### **SEMESTER 4**

<b><u>Course Code</u></b>	<b><u>Course Title</u></b>	<b><u>Credits</u></b>
FHSC 243/PHYS 213	Fundamentals Of Physics II	3
FHSC 260	Introduction to Sociology*	3
FHSC 282	Principles of Epidemiology and Biostatistics	3
FHSC 284	Project Planning and Evaluation**	3
PDHP 227	Occupational Health and Hygiene**	3
PDHP 231	Public Administration and Policy in Lebanon	3

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**SUMMER**

<b><u>Course Code</u></b>	<b><u>Course Title</u></b>	<b><u>Credits</u></b>
PDHP 260	Student Project Residency Internship**	3
		3

**THIRD YEAR****SEMESTER 5**

<b><u>Course Code</u></b>	<b><u>Course Title</u></b>	<b><u>Credits</u></b>
CSPR <sup>2</sup>	Cultural Studies Course	3
PDHP 214	Family Health**	3
PDHP 229	Epidemiological in Public Health Practice**	3
PDHP 237	Public Health Communication in the Arab World	3
PDHP 238	Environmental Management in Public Health Practice**	3
PDHP 242	Public Health and Urban Environments	3
		18

**SEMESTER 6**

<b><u>Course Code</u></b>	<b><u>Course Title</u></b>	<b><u>Credits</u></b>
CSPR <sup>2</sup>	Cultural Studies Courses	3
FHSC 266	Anthropology and Health	2
FHSC 288	Research in Health Care Sciences	3
PDHP 239	Health Risk Assessment: Principles & Applications**	1
PDHP 245	Issues in Community Health and Development**	3
PDHP 247	Economics in Environment, Health and Development**	3
		15
<b>Total number of credits</b>		<b>109</b>

\* These courses fulfill both PD and premed requirements

\*\* Major PD courses with a passing grade of 70

1. Required no-fee course.

2. Students may choose any CSPR course except CSPR 205 and CSPR 206.

Other recommended, but not required, courses to prepare for the MCAT are:

FHSC 204	Genetics
FHSC 227/CHEM 245	Organic Chemistry I Laboratory
MLAB 210	Biochemistry
MLAB 211	Clinical Chemistry
MLAB 230	Molecular Biology



# DUAL BS DEGREE PROGRAM IN PUBLIC HEALTH AND DEVELOPMENT SCIENCES & HEALTH PROMOTION

Students interested in gaining a broader perspective of the fields of Public Health can choose to take both a degree in Public Health and Development Sciences and a degree in Health Promotion in sequence over a four year period, in a Dual Degree program. This permits them to graduate with two BS degrees.

In order to fulfill University and Faculty requirements for the Dual Degree program, students should complete all credit requirements for the first degree (either Health Promotion or Public Health and Development Sciences).

Following completion of the first degree, an additional 36 credits (HP) or 38 credits (PD) are then taken for the second degree. This is done over a minimum period of an additional three full semesters (including summer). Notwithstanding, students may take up to 6 credits during the first degree and have them count towards the second degree. This is providing that these credits are in addition to credit requirements for the first degree, and that they satisfy requirements for the second degree.

The second degree may be taken on a fulltime or a part-time basis. Students are advised to consult with their advisor.

## COURSES TO BE TAKEN BY HEALTH PROMOTION GRADUATES REGISTERED FOR A SECOND DEGREE IN PUBLIC HEALTH AND DEVELOPMENT SCIENCES (36 credits)

### FIRST YEAR

#### SEMESTER 1

<u>Course Code</u>	<u>Course Title</u>	<u>Credit</u>
FHSC 286	Financial Management in Health and Development**	3
PDHP 203/CHEM 209	Basic Chemistry for Public Health Lab	1
PDHP 221	Toxicology for Public Health **	2
PDHP 226	Sanitation and Resource Management for Public Health**	3
PDHP 242	Public Health and Urban Environments	3
	Elective	3
<b>Total</b>		<b>15</b>

#### SEMESTER 2

<u>Course Code</u>	<u>Course Title</u>	<u>Credit</u>
PDHP 227	Occupational Health and Hygiene**	3
PDHP 231	Public Administration and Policy in Lebanon	3
PDHP 238	Environmental Management in Public Health Practice**	3
PDHP 239	Health Risk Assessment: Principles and Applications**	1
	Suggested Elective	3
	Elective	2
<b>Total</b>		<b>15</b>

**SEMESTER 3**

<b><u>Course Code</u></b>	<b><u>Course Title</u></b>	<b><u>Credit</u></b>
PDHP 250	Themes in Public Health and Development**	3
	Elective	3
<b>Total</b>		<b>6</b>

**Total credits** **36**

\*\* Major course requiring a passing grade of 70 (18 credits)

*Note: Students may take up to 6 of the above credits during their first degree, provided these are in addition to requirements for the first degree.*

**COURSES TO BE TAKEN BY**  
**PUBLIC HEALTH AND DEVELOPMENT SCIENCES**  
**GRADUATES REGISTERED FOR A SECOND DEGREE IN**  
**HEALTH PROMOTION**  
**(38 credits)**

**FIRST YEAR****SEMESTER 1**

<b><u>Course Code</u></b>	<b><u>Course Title</u></b>	<b><u>Credit</u></b>
FHSC 261/PSYC 200	Introduction to Psychology	3
PDHP 211	Kinesiology in Health**	2
PDHP 213	Marketing, Design and Development of Media Tools	3
PDHP 218	Principles of Health Promotion I**	3
PDHP 246	Illness, Disease and Lifestyle **	3
	Elective	3
<b>Total</b>		<b>17</b>

**SEMESTER 2**

<b><u>Course Code</u></b>	<b><u>Course Title</u></b>	<b><u>Credit</u></b>
FHSC 259	Humanitarian Aid and Emergency Response	3
PDHP 232	Educational Strategies in Health Promotion**	3
PDHP 243	Stress Management and Health	3
PDHP 244	Human Rights in Health **	3
PDHP 252	Themes in Health Promotion **	3
<b>Total</b>		<b>15</b>

**SEMESTER 3**

<b><u>Course Code</u></b>	<b><u>Course Title</u></b>	<b><u>Credit</u></b>
PDHP 234	Health Communications**	3
	Elective	3
<b>Total</b>		<b>6</b>

**Total credits** **38**

\*\* Major course requiring a passing grade of 70 (20 credits)

*Note: Students may take up to 6 of the above credits during their first degree, provided these are in addition to requirements for the first degree.*

## **DUAL BS DEGREE PROGRAM IN MEDICAL LABORATORY SCIENCES & PUBLIC HEALTH AND DEVELOPMENT SCIENCES**

Students who are graduating in or have graduated with, a BS degree in Medical Laboratory Sciences (including those who have done a pre-med track) and are interested to take a second BS degree in Public Health and Development Sciences, may do so in a Dual Degree Program.

In order to fulfill University and Faculty requirements for the Dual Degree Program, students should first complete all credit requirements for the first degree (BS in Medical Laboratory Sciences).

Following completion of the first degree, an additional 37 credits are then taken for the second degree, a BS in Public Health and Development Sciences. This is done over a minimum period of an additional three full semesters (including summer). Notwithstanding, students may take up to 6 credits during the first degree and have them count towards the second degree. This is providing that these credits are in addition to credit requirements for the first degree, and that they satisfy requirements for the second degree.

The second degree may be taken on a fulltime or a part-time basis. Depending on scheduled course offerings, and the student's availability, more than three semesters may be required to complete the second BS degree. Students should consult with their advisor.

The passing grade in all of the courses, with the exception of the elective, is 70.

### **CURRICULUM =37 CREDITS**

#### **SEMESTER 1**

<b><u>Course Code</u></b>	<b><u>Course</u></b>	<b><u>Credit</u></b>
PDHP 201	Environment, Health and Development	3
PDHP 219	Introduction to Public Health	3
NUSC 208	Public Health Nutrition and Food Hygiene	3
PDHP 226	Sanitation and Resource Management for Public Health	3
PDHP 229	Epidemiology in Public Health Practice	3
PDHP 242	Public Health and Urban Environments	3
<b>Total</b>		<b>18</b>

#### **SEMESTER 2**

<b><u>Course Code</u></b>	<b><u>Course</u></b>	<b><u>Credit</u></b>
PDHP 227	Occupational Health and Hygiene	3
PDHP 231	Public Administration and Policy in Lebanon	3
PDHP 239	Health Risk Assessment: Principles and Applications	1
FHSC 284	Project Planning and Evaluation	3
PDHP 245	Issues in Community Health and Development	3
	Elective*	3
<b>Total</b>		<b>16</b>

### **SEMESTER 3**

<b><u>Course Code</u></b>	<b><u>Course</u></b>	<b><u>Credit</u></b>
PDHP 260	Student Project Residency Internship**	3
<b>Total</b>		<b>3</b>
<b>Total credits</b>		<b>37</b>

\*One suggested elective of 3 credits, to be chosen from:

PDHP 214 Family Health  
PDHP 238 Environmental Management in Public Health Practice  
PDHP 244 Human Rights in Health  
PDHP 246 Illness, Disease and Lifestyle  
PDHP 255 Global Health  
FHSC 259 Humanitarian Aid and Emergency Response

\*\*PDHP 260 is a two month full-time internship at a host institution.

### **MINOR IN PUBLIC HEALTH**

Students from all degree backgrounds are eligible take a MINOR in PUBLIC HEALTH. This consists of 18 credits; students from non-science backgrounds may need to take prerequisites as well<sup>1</sup>

Students should consult with the Program Director.

A Minor in Public Health allows students to become informed and proactive in:

- Population wide social and health concerns
- The needs of vulnerable populations
- Disease prevention
- Community development

### **Required Courses 12 credits:**

PDHP 201	Environment, Health and Development	3 credits
PDHP 219	Introduction to Public Health	3 credits
FHSC 282	Epidemiology and Biostatistics	3 credits
FHSC 269	Health care Management and Administration	3 credits

### **Elective Tracks- 6 credits. Students choose ONE of the following tracks:**

#### **1.Environmental Health track**

PDHP 200	Microbiology for Public Health	3 credits
PDHP 226	Sanitation and Resource Management for Public Health	3 credits

#### **2.Development track**

PDHP 231	Public Administration and Policy in Lebanon	3 credits
PDHP 242	Public Health and Urban Environments	3 credits

#### **3.Occupational Health track**

PDHP 221	Toxicology for Public Health	2 credits
PDHP 239	Health Risk Assessment	1 credit

PDHP 227	Occupational Health and Hygiene	3 credits
OR		
PDHP 238	Environmental Management in Public Health Practice	3 credits

**4. Health education track**

PDHP 218	Principles of Health Promotion I	3 credits
PDHP 232	Educational Strategies in Health Promotion	3 credits
or		
PDHP 214	Family Health	3 credits

**5. General track**

Six credits in Public Health courses approved by the PDHP program

1- All students are required to have previously completed one undergraduate course in each of the following :  
Biology, Chemistry and Social Sciences.

**NUTRITIONAL SCIENCES PROGRAM**  
**BACHELOR OF SCIENCE IN NUTRITIONAL SCIENCES**

**FIRST YEAR**

**SEMESTER 1**

<b><u>Course Code</u></b>	<b><u>Course Title</u></b>	<b><u>Credit</u></b>
ENGL 203	English Communication Skills III	3
FHSC 200/BIOL 201	Introduction to Biology I	3
FHSC 201/BIOL 202	Introduction to Biology I- Laboratory	1
FHSC 222/CHEM 202	Basic Chemistry	3
FHSC 223/CHEM 203	Basic Chemistry Laboratory	1
FHSC 261/PSYC 200	Introduction to Psychology	3
LISP 200 <sup>1</sup>	Library Use and Research Methods	1
<b>Total</b>		<b>15</b>

**SEMESTER 2**

<b><u>Course Code</u></b>	<b><u>Course Title</u></b>	<b><u>Credit</u></b>
ENGL 204	English Communication Skills IV(or its equivalent)	3
FHSC 203	Basic Human Physiology	4
FHSC 225/CHEM 240	Basic Organic Chemistry	3
FHSC 268	Survey of Management and Marketing	3
NUSC 200	Basic Human Nutrition *	3
<b>Total</b>		<b>16</b>

**SECOND YEAR**

**SEMESTER 3**

<b><u>Course Code</u></b>	<b><u>Course Title</u></b>	<b><u>Credit</u></b>
FHSC 227/CHEM 245	Organic Chemistry I Lab	1
MLAB 210	Basic Biochemistry	3
NUSC 201	Human Nutrition and metabolism*	3
NUSC 203	Food Microbiology*	3
NUSC 204	Food Chemistry*	3
	Elective	3
<b>Total</b>		<b>16</b>

**SEMESTER 4**

<b><u>Course Code</u></b>	<b><u>Course Title</u></b>	<b><u>Credit</u></b>
CSPR <sup>2</sup>	Cultural Studies Courses	3
FHSC 282	Principles of Epidemiology and Biostatistics	3
NUSC 202	Life Cycle Nutrition*	3
NUSC 220	Community Nutrition I*	3
NUSC 230	Food Analysis*	2
	Elective	3
<b>Total</b>		<b>17</b>

**THIRD YEAR**  
**SEMESTER 5**

<b><u>Course Code</u></b>	<b><u>Course Title</u></b>	<b><u>Credit</u></b>
FHSC 288	Research in Health Care Sciences	3
NUSC 210	Food Service Management*	3
NUSC 212	Therapeutic Nutrition I*	3
NUSC 213	Therapeutic Nutrition I- Laboratory*	1
NUSC 231	Food Processing*	2
NUSC 232	Food Processing- Laboratory*	1
	Elective	3
<b>Total</b>		<b>16</b>

**SEMESTER 6**

<b><u>Course Code</u></b>	<b><u>Course Title</u></b>	<b><u>Credit</u></b>
CSPR <sup>2</sup>	Cultural Studies Courses	3
NUSC 211	Nutrition Counseling and Communication *	3
NUSC 214	Therapeutic Nutrition II*	3
NUSC 215	Therapeutic Nutrition II- Laboratory*	1
NUSC 241	Tutorial: Special Topics in Nutrition and Food*	2
FHSC 271 <sup>1</sup>	First Aid	1
<b>Total</b>		<b>13</b>
<b>Total credits</b>		<b>93</b>

\* Major course with passing grade = 65

1. Required no-fee course

2. Students may choose any CSPR course except CSPR 205 and CSPR 206

**PREMEDICAL REQUIREMENTS:**

The premedical track in Nutritional Sciences allows capable students to graduate with a BS degree in Nutritional Sciences in addition to completion of the following premedical requirements (exempted from the above mentioned 9 credits UNIV SET-ELECTIVES) needed for application to medical school:

<b><u>Course Code</u></b>	<b><u>Course Title</u></b>	<b><u>Credits</u></b>
FHSC 204	Principles of Genetics	2
FHSC 219/CHEM 222	Analytical Chemistry	3
FHSC 228/CHEM 244	Organic Chemistry II	3
FHSC 241/PHYS 211	Fundamentals of Physics I	3
FHSC 243/PHYS 213	Fundamentals of Physics II	3
FHSC 260	Introduction to Sociology	3
<b>Total</b>		<b>17</b>

# **COURSE DESCRIPTIONS**

## **CSPR CULTURAL STUDIES PROGRAM**

Refer to the Cultural studies Program.

## **ENGL 203, 204, 223, 244, 253**

Refer to the Division of English Language & Literature.

## **LISP 200 LIBRARY USE AND RESEARCH METHODS**

Refer to the Faculty of Library and Information Studies.

## **FHSC 200, 201**

Refer to the Department of Biology and to the Faculty of Health Sciences Service Courses.

## **FHSC 203, 204, 271, 282, 288**

Refer to the Faculty of Health Sciences Service Courses.

## **FHSC 219, 222, 223, 225, 226, 227, 228, 284**

Refer to the Faculty of Health Sciences Service Courses.

## **FHSC 240, 241, 242, 261, 268**

Refer to the Faculty of Health Sciences Service Courses.

## **MLAB 210, 213, 243, 244**

Refer to the Medical Laboratory Sciences Program.

## **PDHP 213, 214, 219, 231, 247**

Refer to the Public Health and Development Sciences & Health Promotion Program.

## **NUSC 200 BASIC HUMAN NUTRITION**

**3.0: 3 cr. E**

This course introduces basic human nutrition. It covers the study of carbohydrates, fats, proteins, vitamins and minerals. It also covers basic metabolic processes (digestion, absorption...) and includes an introduction to healthy nutrition.

Pre-requisite: FHSC 200 or BIOL 201.

## **NUSC 201 HUMAN NUTRITION AND METABOLISM**

**3.0: 3 cr. E**

This course covers human physiological needs for energy, carbohydrates, fat, proteins, vitamins and minerals. It also includes advanced metabolism of the different nutrients and an overview of methods of nutritional assessment and a brief introduction of the different nutritional diseases (Renal diseases, gastrointestinal diseases and inborn errors of the metabolism...).

Pre-requisites: NUSC 200, FHSC 203, or (BIOL 203 and BIOL 204).

## **NUSC 202 LIFECYCLE NUTRITION**

**3.0: 3 cr. E**

This course covers nutritional needs throughout the lifespan including infancy, childhood, adolescence, adulthood and elderly. It also includes special requirements for pregnancy and lactation.

Pre-requisite: NUSC 201.

## **NUSC 203 FOOD MICROBIOLOGY**

**3.0: 3 cr. E**

This course is designed to give students an understanding of the role of microorganisms in food processing and preservation; relation of microorganisms to food spoilage, food borne illness and intoxication, general food quality, and role of microorganisms in health promotion. Weekly laboratory sessions give the student a practical understanding of the laboratory methods used in the microbiological analysis of foods, and with the identifying characteristics of the major groups of microorganisms associated with food spoilage, food borne disease, and

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food fermentations.

Pre-requisite: FHSC 200 or BIOL 201.

### **NUSC 204 FOOD CHEMISTRY**

**3.0: 3 cr. E**

This course explores the structure, properties, and chemical composition of food systems and the changes they undergo during processing and under storage. Basic chemical/biochemical reactions of carbohydrates, lipids, proteins, and other constituents in fresh and processed foods are discussed with respect to various food qualities (color, flavor, texture, nutrition, and safety).

Pre-requisite: FHSC 222 or CHEM 202.

### **NUSC 205 FOOD AND NUTRITIONAL TOXICOLOGY**

**3.0: 3 cr. E**

Introduction to the toxicology of foods, and food borne chemicals and organisms. Major classes of food toxicants, their importance, properties, detection, metabolism, control and regulation; and basic issues in food/diet safety and toxicology. Environmental safety of the food supply from the farm to the fork is also discussed.

Pre-requisites: NUSC 203.

### **NUSC 208 PUBLIC HEALTH NUTRITION AND FOOD HYGIENE**

**3.0: 3 cr. E**

The course covers subject matter related to the science of nutrition, including human nutrition, food hygiene and community nutrition. This course is offered to non-nutrition science majors.

Pre-requisite: FHSC 200/207 or BIOL 201/205.

### **NUSC 209 BASIC NUTRITION AND DIET THERAPY**

**3.0: 3 cr. E-F**

This course provides a comprehensive overview of human nutrition and its role in maintaining health and promoting medical therapy for certain disease conditions. It introduces students to basic nutritional concepts, nutritional needs and assessment. It also discusses standard and therapeutic diets and meal plans for specific disease conditions from the perspective of patient education. This course is offered to non-Nutritional Sciences majors.

### **NUSC 210 FOOD SERVICE MANAGEMENT**

**3.0: 3 cr. E**

The course explores various aspects of foodservice operations including management functions, food production and scheduling, marketing, cost controls, sanitation and safety, facility and equipment design, service concepts and menu planning.

### **NUSC 211 NUTRITION COUNSELING AND COMMUNICATION**

**3.0: 3 cr. E**

This course introduces the basic patient counseling techniques in hospital and clinical settings. It also includes an in-depth overview of nutritional assessment methods (Applied and theoretical). The course will require students to implement real life consultations and follow ups with patients.

Pre-requisite: NUSC 200.

### **NUSC 212 THERAPEUTIC NUTRITION I**

**3.0: 3 cr. E**

This course examines selected metabolic diseases (including chronic diseases like CVD, Diabetes, hypertension and obesity as well as cancers and HIV/AIDS.), their etiology, metabolic pathways and specific medical nutrition therapy for their prevention and treatment.

Pre-requisites: NUSC 201, NUSC 202.

Co-requisite: NUSC 213.

### **NUSC 213 THERAPEUTIC NUTRITION I LAB**

**1.0:1 cr. E**

Practical applications and case studies for concepts and theories covered in NUSC 221.

Co-requisite: NUSC 212.

- NUSC 214 THERAPEUTIC NUTRITION II** **3.0: 3 cr. E**  
This course examines selected metabolic diseases (including renal diseases, gastrointestinal diseases, pulmonary, and inborn errors of metabolism), their etiology, metabolic pathways and specific medical nutrition therapy for their prevention and treatment. The course also covers the basic principles of total parenteral nutrition and enteral nutrition.  
Pre-requisites: NUSC 212, NUSC 213.  
Co-requisite: NUSC 215.
- NUSC 215 THERAPEUTIC NUTRITION II LAB** **1.0:1 cr. E**  
Practical applications and case studies for concepts and theories covered in NUSC 224.  
Co-requisite: NUSC 214.
- NUSC 220 COMMUNITY NUTRITION I** **3.0: 3 cr. E**  
This course examines the role of nutrition in promoting, maintaining and improving health in the community. It covers community assessment methods, basic principles of epidemiology, an introduction to food security, policy making and nutrition education.  
Pre-requisites: NUSC 200.  
Co-requisite: NUSC 202.
- NUSC 230 FOOD ANALYSES** **3.0: 3 cr. E**  
Principles and applications of the chemical, physical, and instrumental methods used to determine the constituents of foods. Weekly laboratory sessions give the student a practical understanding of the theory and help in conducting and evaluating a scientific experiment and presenting the data in technical written form.
- NUSC 231 FOOD PROCESSING** **2.0: 2 cr. E**  
Food processing as a scientific and technological activity covers a broader area than food preparation and cooking. It involves the application of scientific principles to slow down the natural processes of food spoilage, and to provide convenience and a safe marketplace. This course introduces conventional and novel processing and preservation technologies. The sensory and nutritional implications of food processing and preservation will also be discussed.  
Co-requisite: NUSC 232.
- NUSC 232 FOOD PROCESSING LAB** **1.0: 1 cr. E**  
Laboratory exercises in the Pilot Plant in food preservation and processing as well as field visits to various food industries. Reports of findings and observations due after each exercise.  
Co-requisite: NUSC 231.
- NUSC 233 INTRODUCTION TO FOOD ENGINEERING** **3.0: 3 cr. E**  
Study of basic concepts of engineering principles, their application in the processing of food and importance in solving problems in food science and technology.
- NUSC 234 FOOD SCIENCE AND TECHNOLOGY I** **3.0: 3 cr. E**  
This course covers the basic fundamentals of food science and underlying technology associated with providing a safe, nutritious, and abundant supply of fresh and processed foods to humans. It explores key food commodities (meat, fish, dairy, cereal, fruits and vegetables, oils and seeds) with an emphasis on their production and processing methods. Traditional and local food products are also discussed.  
Pre-requisite: NUSC 233.
- NUSC 235 FOOD SCIENCE AND TECHNOLOGY II** **3.0: 3 cr. E**  
This course continues exploring food commodities such as beverages, confectionary and chocolate products. This is followed by introducing the students to various aspects of food science and technology including food additives, food packaging, sensory science, food product development, fermentation and enzyme technology and food biotechnology. Nutraceuticals and functional foods are also discussed.  
Pre-requisite: NUSC 234.

- NUSC 236 FOOD QUALITY ASSURANCE PRINCIPLES I** **3.0: 3 cr. E**  
Basic principles of food safety, quality control and quality assurance in food service establishments and food industries. Emphasis on good agricultural practices (GAP), Good manufacturing practices (GMP), food safety and sanitation, and HACCP and its prerequisite programs.
- NUSC 237 FOOD QUALITY ASSURANCE PRINCIPLES II** **3.0: 3 cr. E**  
The course introduces students to the importance of quality management in the food industry, and the need for an orientation towards total quality management (TQM). It reviews the differences and components of food quality and food safety, explains quality programs and systems such as ISO 9001 and ISO 22000. In addition, this course provides students with tools on how to write standard operating procedures (SOP), conduct internal audits, and use statistical quality control tools with applications in the food industry.  
Pre-requisite: NUSC 236.
- NUSC 238 INTERNSHIP IN FOOD ESTABLISHMENTS** **3.0: 3 cr. E**  
Approved and supervised professional broad-based work experience in food establishments. Written report and oral presentation due at completion.  
Pre-requisite: permission of the student's advisor.
- NUSC 241 TUTORIALS: SPECIAL TOPICS IN NUTRITION AND FOOD** **2.0: 2 cr. E**  
Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses. A final annotated paper is due at project completion.  
Pre-requisite: FHSC 288.
- NUSC 242 FOOD LAWS AND REGULATIONS** **3.0: 3 cr. E**  
This course covers the importance and development of food legislation, food standards, codes of practice and specification (codex alimentarius), formulation of legal food standards (national and international) as well as labeling requirements.
- NUSC 300 A PRACTICUM I** **15.0: 15 cr. E**  
The practicum course is intended to provide interns with knowledge and skills in clinical dietetics practice. Interns will have rotations in nutrition therapy, foodservice management and community settings, in addition to a wide variety of assignments and projects.
- NUSC 300 B PRACTICUM II** **15.0: 15 cr. E**  
The practicum course is intended to provide interns with knowledge and skills in clinical dietetics practice. Interns will have rotations in nutrition therapy, foodservice management and community settings, in addition to a wide variety of assignments and projects.
- NUSC 301 SEMINARS IN CLINICAL DIETETICS I** **3.0: 3 cr. E**  
This course is intended to increase knowledge and skills of the interns in selected aspects of dietetic practice. External lectures that are offered will deal with the process of nutrition care in clinical nutrition, community nutrition and management of foodservice and nutrition care systems.  
Co-requisite: NUSC 300 A
- NUSC 302 SEMINARS IN CLINICAL DIETETICS II** **3.0: 3 cr. E**  
This course is intended to increase knowledge and skills of the interns in selected aspects of dietetic practice. External lectures that are offered will deal with the process of nutrition care in clinical nutrition, community nutrition and management of foodservice and nutrition care systems.  
Co-requisite: NUSC 300 B

# **BACHELOR OF SCIENCE IN NUTRITIONAL SCIENCES** **FOOD SCIENCE AND QUALITY ASSURANCE TRACK**

## **FIRST YEAR**

### **SEMESTER 1**

<b><u>Course Code</u></b>	<b><u>Course Title</u></b>	<b><u>Credit</u></b>
ENGL 203	English Communication Skills III	3
FHSC 200/BIOL 201	Introduction to Biology I	3
FHSC 201/BIOL 202	Introduction to Biology I- Laboratory	1
FHSC 222/CHEM 202	Basic Chemistry	3
FHSC 223/CHEM 203	Basic Chemistry Laboratory	1
FHSC 240/MATH 203	Mathematics for Applied Sciences	3
<b>Total</b>		<b>14</b>

### **SEMESTER 2**

<b><u>Course Code</u></b>	<b><u>Course Title</u></b>	<b><u>Credit</u></b>
ENGL 204	English Communication Skills IV or its equivalent	3
FHSC 226/CHEM 242	Organic Chemistry I	3
FHSC261/PSYC 200	Introduction to Psychology	3
LISP 200 <sup>1</sup>	Library Use and Research Methods	1
MLAB 213	General Microbiology	3
NUSC 200	Basic Human Nutrition*	3
<b>Total</b>		<b>16</b>

## **SECOND YEAR**

### **SEMESTER 3**

<b><u>Course Code</u></b>	<b><u>Course Title</u></b>	<b><u>Credit</u></b>
FHSC 227/CHEM 245	Organic Chemistry I Lab	1
FHSC 268	Survey of Management and Marketing	3
MLAB 210	Basic Biochemistry	3
NUSC 203	Food Microbiology*	3
NUSC 204	Food Chemistry*	3
NUSC 233	Introduction to Food Engineering*	3
<b>Total</b>		<b>16</b>

### **SEMESTER 4**

<b><u>Course Code</u></b>	<b><u>Course Title</u></b>	<b><u>Credit</u></b>
CSPR <sup>2</sup>	Cultural Studies Courses	3
FHSC 282	Principles of Epidemiology and Biostatistics	3
NUSC 230	Food Analysis*	2
NUSC 234	Food Science and Technology I*	3
NUSC 242	Food Laws and regulations*	3
	Free Elective	3
<b>Total</b>		<b>17</b>

**SUMMER**

<b><u>Course Code</u></b>	<b><u>Course Title</u></b>	<b><u>Credit</u></b>
NUSC 238	Internship in Food establishment**	3
<b>Total</b>		<b>3</b>

**THIRD YEAR****SEMESTER 5**

<b><u>Course Code</u></b>	<b><u>Course Title</u></b>	<b><u>Credit</u></b>
FHSC 288	Research in Health Care Sciences*	3
NUSC 231	Food Processing*	2
NUSC 232	Food Processing- Laboratory*	1
NUSC 235	Food Science and Technology II*	3
NUSC 236	Food Quality Assurance Principles I*	3
FHSC 271 <sup>1</sup>	First Aid	2
<b>Total</b>		<b>14</b>

**SEMESTER 6**

<b><u>Course Code</u></b>	<b><u>Course Title</u></b>	<b><u>Credit</u></b>
CSPR <sup>2</sup>	Cultural studies	3
NUSC 205	Food and Nutritional Toxicology *	3
NUSC 237	Food Quality Assurance Principles II*	3
NUSC 241	Tutorial: Special Topics in Nutrition and Food*	2
	Free elective	3
<b>Total</b>		<b>14</b>
<b>Total credits</b>		<b>94</b>

\* Major course with passing grade = 65

\*\* Major course with passing grade = 70

1. Required no-fee course.

2. Students may choose any CSPR course except CSPR 205 and CSPR 206

## **FACULTY SERVICE COURSES**

### **FHSC 101 SKILLS FOR A HEALTHIER LIFESTYLE**

**3.0: 3 cr. E/F**

This course introduces students to basic knowledge about health and healthy lifestyle choices which support their “well-being”. It examines the interdependence between health, lifestyle and social environment and provides students with practical life skills and techniques that could lead to positive changes in health behaviors and environment. Students are encouraged to apply knowledge and skills to personal and real-life situations.

### **FHSC 200 INTRODUCTION TO BIOLOGY I**

**3.0: 3 cr. E/F**

Principles of biology, including the cellular basis of life; evolution, energy transfer through living organisms and introduction to systematics.

*Equivalent to BIOL 201.*

### **FHSC 201 INTRODUCTION TO BIOLOGY I – LABORATORY**

**0.3: 1 cr. E**

Required laboratory includes techniques such as microscopy, biochemical analysis, and use of the scientific method.

Co-requisite: FHSC 200 or BIOL 201.

*Equivalent to BIOL 202.*

### **FHSC 202 INTRODUCTION TO HUMAN ANATOMY**

**2.0: 2 cr. E/F**

An introductory course in basic gross anatomy and histology designed for students in health-oriented programs. It provides a basic understanding and working knowledge of tissues, organs and systems of the human body.

### **FHSC 203 BASIC HUMAN PHYSIOLOGY**

**4.0: 4 cr. E/F**

Overviews the basic cell structure, functions and genetic framework. It elaborates on the biological control systems including hemostatic, neural, sensory, hormonal, muscular and others. Finally it covers the physiology of the body organs and respective functions.

Pre-requisite: FHSC 200 or BIOL 201

Pre-requisite for Nursing Or Public Health Students: FHSC 207 or BIOL 205.

### **FHSC 204 PRINCIPLES OF GENETICS**

**2.0: 2 cr. E**

The course presents the general principles of classical and molecular genetics. It deals with the subjects of cytogenetics and pharmacogenetics emphasizing the role of biomonitoring and analysis of genetic elements and mechanisms.

Pre-requisite: FHSC 200 or BIOL 201.

### **FHSC 207 PRINCIPLES OF HUMAN BIOLOGY**

**3.0: 3 cr. E**

Principles of Human Biology provide a basic overview of human biology, starting from the most elementary fabrics of life and moving up to the organ systems that make up the sophisticated living marvel, the human body. This is an ideal bridging course for students from all backgrounds. The course cannot be counted as completing requirements towards a Premedical program. Not Open to MLS students.

*Equivalent to BIOL 205.*

### **FHSC 209 FUNDAMENTALS OF MICROBIOLOGY**

**2.0: 2 cr. E/F**

Introduction to the biology of microorganisms emphasizing the infectious diseases they cause, the related immune response, and infection control practices. Not Open to MLS students.

### **FHSC 210 PATHOPHYSIOLOGY & IMMUNOLOGY**

**4.0: 4 cr. E**

This is an introductory course to the basic concepts of pathophysiology. Emphasis will be placed on the physiological factors behind various diseases, diagnosis, the basic pharmacology and treatment modalities of major illnesses. This course also covers the major topics of basic immunology. Emphasis will be placed on the

immune system, immunity in relation to internal and external disease processes, innate immunity, interpretation of laboratory data., immunoglobulin structure, the major histocompatibility complex and antigen presentation.

### **FHSC 222 BASIC CHEMISTRY**

**3.0: 3 cr. E**

Origin of the atomic theory. Determination of atomic weights and formulae. The mole concept. The chemical equation. Acid-base and oxidation-reduction concepts. Properties of gases gas laws. Liquids and solutions. Types of solutions: ideal and non-ideal solutions. Chemical equilibrium. Ionic equilibrium in aqueous solutions. Solubility. Quantum theory of the atom. Electronic structure of atoms. The chemical bond: ionic and covalent bonds, Hybridization. The valence-Shell Electron-Pair Repulsion (VSEPR) Model.

Pre-requisite: CHEM 102.

*Equivalent to CHEM 202.*

### **FHSC 223 BASIC CHEMISTRY LABORATORY**

**0.3: 1 cr. E**

The aim of this introductory laboratory course is to introduce the students to the basic techniques and equipment of common use in a chemistry lab.

Co-requisite: FHSC 222 or CHEM 202

*Equivalent to CHEM 203.*

### **FHSC 225 BASIC ORGANIC CHEMISTRY**

**3.0: 3 cr. E**

This course outlines the combined theories and fundamental concepts of organic chemistry, including structure, shape, IUPAC nomenclature, stereoisomerism, optical activity absolute coups such as halogen configuration and properties of the following and synthetic organic compounds, and physical methods used in structure determination.

Pre-requisite: FHSC 222 or CHEM 202.

*Equivalent to CHEM 240.*

### **FHSC 226 BASIC ORGANIC CHEMISTRY I**

**3.0: 3 cr. E**

Atomic and molecular orbitals; hybridization and bonding between two carbon atoms. Electronegativity and Resonance. Inductive effect. Stereochemistry: Optical and geometrical isomerism. Substitution., elimination and addition reaction. Properties of alkane, alkene, and alkyne. Chemistry of the aromatic hydrocarbons.

Pre-requisite: FHSC 222 or CHEM 202.

*Equivalent to CHEM 242.*

### **FHSC 227 ORGANIC CHEMISTRY I LABORATORY**

**0.3:1 cr. E**

Experiments are intended to introduce students to basic techniques inorganic chemistry, synthesis and extraction, chromatography and identification of functional groups.

Pre-requisites: FHSC 225/226 or CHEM 240/242

*Equivalent to CHEM 245*

### **FHSC 228 BASIC ORGANIC CHEMISTRY II**

**3.0: 3 cr. E**

Study of the main functional groups: alcohol, phenols, ethers, and epoxides aldehydes and ketones, carboxylic acids and derivatives, amine and amides, Spectroscopy and structure. Carbanions. Aryl halides.

Pre-requisite: FHSC 226 or CHEM 242.

*Equivalent to CHEM 244.*

### **FHSC 239 SPEAKING IN PUBLIC**

**3.0 :3cr. E**

This is a three-credit course which introduces students to public speaking in formal/informal, informative/persuasive modes. The course promotes students' oral skills and prepares them to speak in public in formal and informal situations

**FHSC 240 MATHEMATICS FOR APPLIED SCIENCES****3.0: 3 cr. E**

Infinite series. Polar coordinates. Function of several variables. Partial derivatives. Chain rules. multiple integrals with applications.

Pre-requisite: MATH 113.

**FHSC 241 FUNDAMENTALS OF PHYSICS I****3.0: 3 cr. E**

This course introduces some of the basic fundamentals of physics including: Kinematics of a particle, relative motion, analysis, Newton's laws of motion, work, energy, center of mass, linear impulse and momentum, collision torque, elasticity, gravity, properties of fluids simple harmonic motion, transverse and longitudinal waves, resonance sound waves, Doppler effect thermal expansion, first and second laws of thermodynamics, entropy.

Pre-requisite: PHYS 100, 102.

*Equivalent to PHYS 211.*

**FHSC 242 FUNDAMENTALS OF PHYSICS I LABORATORY****0.3:1 cr. E**

This laboratory introduces students to the types of basic apparatus used in physics. Experiments are designed to demonstrate the meaning and applications of the physical concepts included in the "Fundamental of Physics I" course.

Co-requisite: FHSC 241 or PHYS 211.

*Equivalent to PHYS 212.*

**FHSC 243 FUNDAMENTALS OF PHYSICS II****3.0: 3 cr. E**

The course introduces some of the basic fundamentals of physics including: electric charge, Coulomb's law, electrostatic force. Electric field, electric potential, Gauss' Law, capacitors, capacitance, electric current, resistance, Ohm's law, power emf, internal resistance, magnetic field, magnetic force magnetic materials, alternating currents, rms voltage and current polarization, reflection, refraction, mirrors thin lenses, interference, diffraction, photoelectric effect blackbody radiation, hydrogen atom, fluorescence, atomic and mass numbers, isotopes, alpha , beta and gamma decays, nuclear fission and nuclear fusion.

Pre-requisite: PHYS 100, PHYS 102.

*Equivalent to PHYS 213.*

**FHSC 244 FUNDAMENTALS OF PHYSICS II LABORATORY****0.3: 1 cr. E**

This laboratory introduces students to the types of basic apparatus used in physics. Experiments are designed to demonstrate the meaning and applications of the physical concepts included in the "Fundamental of Physics II" course.

Co-requisite: FHSC 243 or PHYS 213.

*Equivalent to PHYS 214.*

**FHSC 246 LANGUAGE AND CULTURE****3.0: 3 cr.E**

This course is an introduction to the relationship between language and culture. It begins with a general introduction to the concept of language and message forms. The course then discusses the semantic relations between words (such as synonyms and antonyms) and sentences (such as paraphrases, presuppositions and entailments). It also comprises an overview of speech acts (such as statements, apologies, and invitations) and the ways they are expressed in different languages. The second part of the course focuses on the complex relationship between language and identity, language and gender and that between language, power, and social class (particularly in multilingual contexts).

**FHSC 259 HUMANITARIAN AID AND EMERGENCY RESPONSE****3.0: 3 cr. E**

This course addresses the impact of complex humanitarian emergencies on the health of affected populations. It covers a range of health topics including: water, sanitation and hygiene; nutrition; child health; mental health; reproductive health; communicable diseases and various cross-cutting issues in emergencies such as sexual

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violence, the needs of specific vulnerable groups, accountability and the role of the media. Students will be introduced to the challenges faced by public health staff working in emergency settings and the tools commonly used in relief interventions.

Pre-requisite: ENGL 203.

### **FHSC 260 INTRODUCTION TO SOCIOLOGY**

**3.0: 3 cr. E**

Students are introduced to basic theories and concepts in the study of society, including the evolution of human societies, culture, socialization, family, gender, aging, deviance, urbanization, globalization, mass media and stratification. The course encourages students to critically apply insights gained in the classroom to the social contexts around them.

Pre-requisite: ENGL 203.

### **FHSC 261 INTRODUCTION TO PSYCHOLOGY**

**3.0: 3 cr. E**

This course is a general overview of the subject matter of psychology. It covers basic biological and perceptual processes, development over the life span, learning, memory, consciousness, personality, stress and coping, psychopathology, social cognition and interpersonal dynamics. Illustrations come from current research, pointing out cross-cultural findings. Special emphasis is placed on the scientific method as a mode of thinking.

Pre-requisite: ENGL 102.

*Equivalent to PSYC 200.*

### **FHSC 262 INTRODUCTION TO BUSINESS**

**3.0: 3 cr E**

This is an introduction to the major fields in business administration. It includes principles of economics, management, marketing, finance, accounting and information systems. Not open to business majors.

Pre-requisite: ENGL 101.

### **FHSC 264 HUMAN GROWTH AND DEVELOPMENT**

**2.0: 2 cr. E-F**

This course examines development throughout life span (prenatal to death) taking into account the psychological (emotional, cognitive), biological and social aspects of development.

It introduces periods of development, theories derived from different psychological backgrounds, and research methods in the study of development. It stresses upon the biological and environmental factors and the interaction between both in shaping human development.

Pre-requisites: PSYC 200 or FHSC 261

### **FHSC 266 ANTHROPOLOGY AND HEALTH**

**2.0: 2 cr. E**

This course explores some of the important concepts, methods and perspectives that have been developed by anthropologists and their relevance for healthcare sciences. Among the topics considered are: cultural relativity and ethics, cultural competency, qualitative methods, family and gender, political structures and symbolic systems.

Pre-requisite: FHSC 260.

### **FHSC 268 SURVEY OF MANAGEMENT AND MARKETING**

**3.0: 3 cr. E**

An introductory course for non-business students. Topics in Management include the functions of management (Planning, organizing, directing and controlling) and their implementation. Topics in Marketing include the evolution of the marketing concept, segmentation and positioning, strategic decisions involving product, price, promotion and distribution.

### **FHSC 269 HEALTHCARE MANAGEMENT AND ADMINISTRATION**

**3.0:3 cr. E**

This course introduces students to management practice in health care settings. It provides a solid foundation of managerial knowledge within the health care industry, covering the competencies, professional skills, ethical concerns and challenges related to offering and sustaining quality health services to the community.

Pre-requisite or Co-requisite: ENGL102

### **FHSC 271 FIRST AID**

This course aims at exposing students to hands-on first aid methods and acts needed to be performed before professional medical help arrives. This course offers knowledge and skills to prepare students to become first aiders. It will also familiarize students with emergencies they might encounter and the proper way to deal with them.

NB: Students who completed the Brevet (60 hours in first aid) outside the university will be asked to present their certificate and a copy will be left in their file. Students who finished the course two years back are in need for Cardiopulmonary resuscitation (CPR) only and will be asked to attend CPR sessions and will be examined for this section only.

Information concerning the Program Mission, Objectives and Learning Outcomes is available on the Program website: <http://www.balamand.edu.lb/Academics/Faculties/FHS/AcademicPrograms/Undergraduate/PublicHealthDevSciences/Pages/Introduction.aspx>

### **FHSC 280 INFORMATION TECHNOLOGY AND HEALTH SCIENCES**

**1.2: 2 cr. E-F**

An introduction to information technology and its applications in the field of Health Sciences, through lectures and applied sessions in the computer laboratory.

### **FHSC 282 PRINCIPLES OF EPIDEMIOLOGY AND BIostatISTICS**

**3.0: 3 cr. E-F**

An integrated course that introduces the basics in Epidemiology and Biostatistics. Topics include concepts and measures of vital events, health, disease, disability and death, and the risk factors which determine these events in human populations. Methods of presenting health-related data probability models and assessment of causal associations and differences are also covered. Special attention is given to the Lebanese context.

### **FHSC 284 PROJECT PLANNING AND EVALUATION**

**3.0: 3 cr. E**

This course aims at introducing the student to the principles of project planning and programming, implementation and evaluation. It walks the students through the process with emphasis on the acquisition of specific skills and use of software.

### **FHSC 286 FINANCIAL MANAGEMENT OF HEALTH & DEVELOPMENT PROGRAMS**

**3.0: 3 cr. E**

Introduces the student to the principles and practices important for appropriate financial management of health and development programs. This includes accounting, costing, inventory control, depreciation, alternative mechanisms of financing, etc.

### **FHSC 288 RESEARCH IN HEALTH CARE SCIENCES**

**3.0: 3 cr. E-F**

This is a senior level course which explores the necessary skills to design, undertake and disseminate research. The course considers the basic steps, methods and strategies of the research process; problem identification, hypothesis development, literature review, research design and methodology, data analysis and results communication. Issues of ethics, funding and research policies at institute, national and international levels are discussed.

Pre-requisites: FHSC 282, ENGL 203, LISP 200.