

**FACULTY OF HEALTH SCIENCES**  
2023/2024

## **MISSION**

The mission of the Faculty of Health Sciences is to be a Center of Excellence in Health Sciences that is locally relevant and globally competitive; to educate health professionals in different health fields to provide ethical, -culturally relevant and evidence-based care; and to undertake research and community development projects relevant to the needs of society.

## **VISION**

The vision of the Faculty of Health Science is to be a world-class Faculty transforming health education and health care and responsive to the needs of the population.

# **FACULTY LIST**

## **OFFICERS OF THE FACULTY**

Warrak, Elias	President of the University
Bahr, Georges	Provost
Abu-Saad Huijer, Huda	Dean
Abdel Rahman, Abir	Chair, Medical Laboratory Sciences Department
Azar, Mathil	Director, Nursing Program
Mrad, Myriam	Chair, Public Health Department
Serhan, Mireille	Chair, Nutritional Sciences Department
Aoun, Habbouba	Director, Department of Community Engagement
Chahine, Rana	Registrar

## **FACULTY STAFF**

Atallah, David	IT Assistant
Chaddad, Rita	Executive Secretary
Charbel, Martine	Librarian
Constantine, Catherine	Executive Secretary
Khalil, Mayssa	Secretary
Khamis, Youssef	Office Assistant
Khater, Paul	IT Assistant
Lahoud, Cecile	Executive Secretary
Makhoul, Sethrida	Receptionist

## **FACULTY MEMBERS**

Abbas, Nivine	Ph.D., Social Sciences and Environmental Studies, University of Twente, Netherland
Abdel Karim, Carole	M.S., Pharmacology and Therapeutics American university of Beirut, Lebanon
Abdel Rahman, Abir	Ph.D., Public Health & Psychological Sciences, University of Strathclyde, Scotland
Abdo, Elias	Ph.D., Molecular Microbiology University of Montpellier, France.
Abou Lteif, Ghada	M.S., Biology, American University of Beirut, Lebanon
Abu-Saad Huijer, Huda	Ph.D., Curriculum & Instruction, Nursing Science, University of Florida, Gainesville
Al Bayssari Charbel	Ph.D., Medical Microbiology, Lebanese University, Lebanon Ph.D., Human Pathology, Infectious Disease, Aix-Marseille University, France
Aoun, Habbouba	Doctorate of Public Health, Atlantic International University, U.S.A.
Azar, Mathil	Ph.D., Health Sciences, University of Dundee, U.K.
Bassila, Joelle	M.S. Nursing Administration American University of Beirut, Lebanon

Broumana, Jessy	B.S., Medical Laboratory Sciences, University of Balamand, Lebanon
Chabbani, Sana	M.A., School Counseling, Lebanese American University, Lebanon
Chamieh, Hala	Ph.D., Molecular and Cellular Biology/Biochemistry Joseph-Fourrier University, France
Dano, Dominique	Ph.D., Health and Life Sciences Lorraine University, France.
Dib, Liza	M.S., Microbiology, Lebanese University, Lebanon
El Char, Mira	Ph.D., Molecular Microbiology, University of Cambridge, U.K.
Germanos, Peggy	M.S., Nursing, St. Joseph University, Lebanon
Greige, Layal	M.S., Immunology and Microbiology, American University of Beirut, Lebanon
Habib, Hiba	M.S., Nursing, St. Joseph University, Lebanon
Haddad, Lara	Ph.D., Immunology, University of Aix-Marseille II, France
Hosni, Hala	B.A., Mathematics, American University of Beirut, Lebanon
Hourani, Rabab	BSN, MBA Ecole Supérieure des Affaires, Lebanon
Jaalouk, Lina	M.S., Health Promotion Management, Marymount University, U.S.A.
Jurdi, Saada	M.S. Epidemiology and Biostatistics American University of Beirut
Karam, Joanne	Ph.D., Nutrition and Food Science University of Balearic Islands, Spain
Kobrossy, Michline	M.S., Occupational Health, University of Birmingham, England
Maarawi, Thérèse	M.S., Chemistry, University of Balamand, Lebanon
Mardirossian, Jean Marc	M.S., Molecular Biology University of Balamand, Lebanon
Mrad, Myriam	Ph.D., Epidemiology & Public Health, Université Pierre et Marie Curie- Paris VI
Rouaiheb (El), Hiba	M.S., Food Technology, American University of Beirut, Lebanon
Saliba, Jessica	Ph.D., Biology and Health Montpellier University, France
Serhan, Mireille	Ph.D., Food Engineering and Biotechnology, National Polytechnic Institute of Lorraine, France
Shoucair, Gretta	M.S., Food Technology, American University of Beirut, Lebanon
Wakim, Zeina	D.E.A., Social Sciences, Lebanese University, Lebanon
Whaibeh, Emile	MPH University of Balamand

## **PROGRAMS OF STUDIES**

The Faculty of Health Sciences encompasses the following academic programs:

- MS in Clinical Laboratory Sciences 2 years
  - o Infectious Diseases and Immunology
  - o Molecular Biology
  - o Laboratory Management
- MPH Master of Public Health 2 years
  - o Occupational and Environmental Health
- MSN Master of Science in Nursing 2 years
  - o Neonatal and Child Care
  - o Adult Care with four areas of concentration: Adult, Gerontology, Oncology, Traumatology and Emergency Care

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

## **COURSE CODES**

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

<b>CODE</b>	<b>DESCRIPTION</b>
<b>CLAS</b>	Clinical Laboratory Sciences Courses
<b>MPHP</b>	Public Health Courses
<b>NURS</b>	Nursing Courses
<b>NUSC</b>	Nutritional Sciences Courses

## **GRADUATE PROGRAM**

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

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

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

To earn a Master of Science in Nursing degree, a student must successfully complete 36 credits including the completion of a 6 credits-thesis or a 3 credits-project.

## **ADMISSION REQUIREMENTS**

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

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

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

- Completed official application form
- Official transcript
- Certified copy of the Lebanese Baccalaureate or its equivalent
- Two letters of recommendations
- Three recent passport-size photographs
- Non-refundable application fee.
- Proof of English Proficiency (a minimum score of 600 on the paper-based TOEFL exam or 100 on the student-based TOEFL exam.
- Statement of interest
- Evidence of work or community experience.

1.C-Applicants to the MSN program must hold a Bachelor degree in Nursing or midwifery from a recognized institution of higher learning with a minimum cumulative average as evaluated by the Program. Applicants should present the following documents:

- Completed official application form
- Official transcript
- Certified copy of the Lebanese Baccalaureate or its equivalent
- Two letters of recommendations
- Three recent passport-size photographs
- Non-refundable application fee.
- Proof of English Proficiency (a minimum score of 600 on the paper-based TOEFL exam or 100 on the Internet-based TOEFL exam.
- License to practice nursing or midwifery from country of residence.

Additional requirements:

- Proof for completing an undergraduate course of statistics.
- Interview.

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

Refer to the University rules and regulations.

**MASTER OF SCIENCE IN CLINICAL LABORATORY  
SCIENCES**  
**INFECTIOUS DISEASES AND IMMUNOLOGY TRACK**

**FIRST YEAR**

**SEMESTER 1**

<b><u>Course Code</u></b>	<b><u>Course Title</u></b>	<b><u>Credit</u></b>
CLAS 312	Epidemiology and Biostatistics	3
CLAS 320	Cellular and Molecular Biology	3
CLAS 321	Medical Microbiology	3
<b>Total</b>		<b>9</b>

**SEMESTER 2**

<b><u>Course Code</u></b>	<b><u>Course Title</u></b>	<b><u>Credit</u></b>
CLAS 304	Research Methods	3
CLAS 310	Advanced Principles of Immunology	3
CLAS 313	Biomedical research techniques	3
CLAS 327	Principles of infectious diseases control	3
<b>Total</b>		<b>12</b>

**SECOND YEAR**

**SEMESTER 3**

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

**SEMESTER 4**

<b><u>Course Code</u></b>	<b><u>Course Title</u></b>	<b><u>Credit</u></b>
CLAS 399	Thesis Continued	-

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

## MOLECULAR BIOLOGY TRACK

### FIRST YEAR

#### SEMESTER 1

<u>Course Code</u>	<u>Course Title</u>	<u>Credit</u>
CLAS 312	Epidemiology and Biostatistics	3
CLAS 320	Cellular and Molecular Biology	3
CLAS 336	Genomics	3

**Total** 9

#### SEMESTER 2

<u>Course Code</u>	<u>Course Title</u>	<u>Credit</u>
CLAS 304	Research Methods	3
CLAS 308	Biotechnology	3
CLAS 313	Biomedical research techniques	3
CLAS 339	Protein Biochemistry and proteomics	3

**Total** 12

### SECOND YEAR

#### SEMESTER 3

<u>Course Code</u>	<u>Course Title</u>	<u>Credit</u>
CLAS 399	Maŝter's Thesis	6
	Elective	3

**Total** 9

#### SEMESTER 4

<u>Course Code</u>	<u>Course Title</u>	<u>Credit</u>
CLAS 399	Thesis Continued	-

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

## LABORATORY MANAGEMENT TRACK

### FIRST YEAR

#### SEMESTER 1

<u>Course Code</u>	<u>Course Title</u>	<u>Credit</u>
CLAS 301	Laboratory Management	3
CLAS 346	Laboratory Financial management	3
CLAS 353	Laboratory Human Resource Management	3
CLAS 360	Research methodology and Biostatistics	3
<b>Total</b>		<b>12</b>

#### SEMESTER 2

<u>Course Code</u>	<u>Course Title</u>	<u>Credit</u>
CLAS 340	Laboratory Quality management system and accreditation	3
CLAS 357	Laboratory Set up & Equipment Technology	3
CLAS 359	Quality Control in Industries	3
	Elective	3
<b>Total</b>		<b>12</b>

### SECOND YEAR

#### SEMESTER 3

<u>Course Code</u>	<u>Course Title</u>	<u>Credit</u>
CLAS 351	Database Management & Laboratory Information Systems	3
CLAS 355	Laboratory Marketing Strategies	3
<b>Total</b>		<b>6</b>

#### SEMESTER 4

<u>Course Code</u>	<u>Course Title</u>	<u>Credit</u>
CLAS 350	Laboratory Management Internship	4

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

## **COURSE DESCRIPTION**

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

**3.0: 3 cr. E**

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

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

**3.0: 3 cr. E**

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

### **CLAS 304 RESEARCH METHODS**

**3.0: 3 cr. E**

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

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

**4.0:4cr.E**

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

### **CLAS 308 BIOTECHNOLOGY**

**3.0: 3 cr. E**

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

### **CLAS 309 BIOTECHNOLOGY INTERNSHIP**

**3.0: 3 cr.E**

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

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

**3.0: 3 cr. E**

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

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

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

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

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

**CLAS 313 BIOMEDICAL RESEARCH TECHNIQUES:****3.0: 3 cr. E**

The course describes a broad range of the most widely used molecular and immunological techniques, protocols, assays and technologies in the laboratory science program, with the aim to give the students a thorough understanding of the common pitfalls of these techniques. Students will learn the theories associated with each technique and obtain hands on experience from handling DNA and RNA sequences, to protein characterization and data analysis at a cellular and immunological level. The course shall equip the students with a capacity to understand and apply these methods in their future research.

**CLAS 320 Cellular and Molecular Biology****3.0: 3 cr. E**

The Cell and molecular biology course develops the basic concepts and understanding of cell and molecular Biology. This course will deepen students information on cellular structures and functions as well as their roles in genetics, biochemical, physiological and pathophysiological aspects. The course will also provide students with an opportunity to analyze, present, and discuss significant research papers in the field of cell and molecular biology.

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

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

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

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

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

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

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

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

**CLAS 327 PRINCIPLES OF INFECTIOUS DISEASES CONTROL****3.0: 3 cr. E**

This course provides a comprehensive guide on the application of infection, prevention and control practices. Students will learn about the epidemiology of healthcare associated infections, surveillance and antibiotic stewardship programs. They will learn about outbreak detection and management, and other related procedures to prevent infection transmission.

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

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

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

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

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

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

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

The course main objective is to acquire knowledge about gathering and analyzing genomic data. The course introduces research methods used to accumulate genomic data, instruct on how to access major genomic databases, how various nucleotide alignment algorithms work, and how to use such data. The course is an introduction to theory and methods used for genome-level sequence analysis. It uses public databases and software to extract, analyze and interpret DNA sequences. Topics covered include functional and structural homology, and analysis of gene expression patterns using gene chip technology.

**CLAS 338 CLINICAL GENETICS****2.0: 2 cr. E**

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

**CLAS 339 PROTEIN BIOCHEMISTRY AND PROTEOMICS****3.0: 3 cr. E**

The course introduces and discusses the different aspects of protein biochemistry including protein structure, protein crystallography, recombinant protein production and protein purification. Emphasis will be stressed on the relation between protein structure and function. The course also introduces the field of proteomics. The methods used in proteomics are discussed to familiarize the students with the techniques involved in proteomics and to make the students capable of analyzing proteomic data. Recent advances in proteomics research are also described, with special stress on the applications of proteomics in the health sciences such as applications of proteomics in biomarker discovery, cancer diagnosis, and micro-organism detection.

**CLAS 340 LABORATORY QUALITY MANAGEMENT SYSTEM AND ACCREDITATION****3.0: 3 cr. E**

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

Prerequisite: CLAS 301

**CLAS 346 LABORATORY FINANCIAL MANAGEMENT****3.0: 3 CR. E**

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

**CLAS 350 LABORATORY MANAGEMENT INTERNSHIP****4.0: 4 cr. E**

A supervised professional training and experience in an actual laboratory or clinical setting. The internship provides the students with hands-on training in lab finance and budgeting, implementation of quality management, database and information systems, and management skills; as well as developing personal managerial and leadership skills. Each student is expected to complete a minimum of 4 months (8 hours/day), under the supervision of a Faculty advisor (internal preceptor) and an external preceptor assigned by the hosting institution. This is an essential course in the major, and students must have the permission of the student's advisor to enroll. So the students should complete the internship within one year (two regular semesters) and one summer if needed. Hence, students are allowed to reactivate one time including one summer.

**CLAS 351 DATABASE MANAGEMENT & LABORATORY INFORMATION SYSTEMS****3.0: 3 cr. E**

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

**CLAS 353 LABORATORY HUMAN RESOURCE MANAGEMENT****3.0: 3 cr. E**

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

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

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

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

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

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

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

**CLAS 359 QUALITY CONTROL IN INDUSTRIES****3.0: 3 cr. E**

This course introduces students to the concept of quality management systems in different organizations such as industries, pharmaceutical companies, laboratories, cosmetic industries etc. One part of the course highlights the WHO, FDA and EU guidelines related to pharmaceutical industries, biological products and medical devices. The guidelines focus on the GMP (Good Manufacturing Practices) mainly, followed by the GDP (Good Distributing Practices), and GLP (Good Laboratory Practices). The second part of the course describes quality standards related to food industry with an emphasis on the hazard analysis and critical control points (HACCP). The third part covers the quality management system audit in different industrial fields.

**CLAS 360 RESEARCH METHODOLOGIES AND BIostatISTICS****3.0: 3 cr. E**

This course addresses the principles of research design and the methods used in both quantitative and qualitative medical laboratory field. The course encourages students to think critically about Laboratory organization evidence. The main concepts covered in this course are the distinct but complementary roles of quantitative and qualitative research approaches; synthesizing published literature to identify a research gap; formulating research questions; choosing appropriate methods of quantitative data collection for clinical laboratory research; the process of qualitative data collection and qualitative analysis using software; The second part of the course provides an introduction to the use of statistics in applied research. Students will learn how to choose and apply statistical tools in their research.

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

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

The students can register this course as an elective course.

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

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

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

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

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

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

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

\* Students can enroll on a full-time basis and complete the degree in 1.5 years as follows: 18cr Fall 1, 18cr Fall 2, 6cr in Fall 2

\* Students holding an MD degree or currently enrolled in the Medical School at UOB are eligible to transfer up to 11 credits from their initial degree to the chosen MPH track.

### **The Program offers a MPH degree with 3 tracks:**

1. Community Health Track (42 cr)
2. Occupational and Environmental Health Track (42 cr)

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

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

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

### **Concentration Courses: Community Health Track (15 credits):**

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

- MPHP 306 Basic Theories of Health Promotion (3 credits)
- MPHP 316 Community Health Assessment (3 credits)
- MPHP 317 Community Program Planning, Implementation, Monitoring and Evaluation (3 credits)
- MPHP 320 Selected topics in Community Health (3 credits)
- MPHP 333 or another course accepted by the Program (3 credits)

**Concentration Courses: Occupational and Environmental Health Track (15 credits):**

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

- MPHP310 Occupational Toxicology and Risk Assessment (3 credits)
- MPHP319 Occupational Well-being, Health, Hygiene, Safety, and Law (3 credits)
- MPHP321 HSE Management Principles & Methods (3 credits)
- MPHP 322 Emergency Management of Accidents and Incidents Investigation (3 credits)
- MPHP333 or another course accepted by the program (3 credits)\_

**Practicum (6 credits):**

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

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

The MPH program is divided into two compartments practicum I and II. In Practicum I the students learn to implement theoretical research skills. In practicum II students get hands-on experience in a professional settings.

## **COMMUNITY HEALTH TRACK**

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

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

### **SEMESTER 2**

<b><u>Course code</u></b>	<b><u>Course Title</u></b>	<b><u>Credit</u></b>
MPHP 306	Basic Theories of Health Promotion	3
MPHP 308	Public Health Ethics	1
MPHP 309	Public Health Policy, Law and Advocacy	2
MPHP 312	Health Services and Management	3
MPHP 315	Research Design	3
		<hr/>
		<b>13</b>

### **SECOND YEAR**

#### **SEMESTER 3**

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

#### **SEMESTER 4**

<b><u>Course code</u></b>	<b><u>Course Title</u></b>	<b><u>Credit</u></b>
MPHP 341	Practicum I	3
MPHP 350	Practicum II	3
		<hr/>
		<b>6</b>

**Total** **42**

## **COURSE DESCRIPTION**

### **MPHP 301 BIOSTATISTICS**

**3.0: 3 cr. E**

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

### **MPHP 302 EPIDEMIOLOGY**

**3.0: 3 cr. E**

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

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

**3.0: 3 cr. E**

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

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

**3.0: 3 cr. E**

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

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

**3.0: 3 cr. E**

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

Pre-requisite(s): MPHP 305.

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

**1.0: 1 cr. E**

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

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

**2.0: 2 cr. E**

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

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

**3.0: 3 cr. E**

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

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

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

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

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

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

Pre-requisite(s): MPHP 305 and 306.

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

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

Pre-requisite(s): MPHP 305 and 306

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

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

Pre-requisite(s): MPHP 305 and 306

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

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

During AY 17/18, the course investigated topics of wellbeing and mental health, with a focus on Lebanon and Global Mental Health.

**MPHP 341 Practicum I****3.0: 3 cr. E**

In this course, students will be implementing a research project already developed in the MPHP315 course. The project can be conducted individually or in a group of maximum of 3 students. Quantitative, qualitative, or mixed methods can be used. An IRB clearance should be acquired before the implementation.

**MPHP 350 Practicum II****3.0 3cr. E**

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

## **MPH OCCUPATIONAL AND ENVIRONMENTAL HEALTH TRACK**

### **SEMESTER 1**

<b><u>Course code</u></b>	<b><u>Course Title</u></b>	<b><u>Credit</u></b>
MPHP 301	Biostatistics	3
MPHP 302	Epidemiology	3
MPHP 303	Environmental Health Sciences	3
MPHP 305	Social Behavioral Determinants of Health in a Global World	3
MPHP 308	Public Health Ethics	1
MPHP 309	Public Health Policy, Law and Advocacy	2
MPHP 315	Research Design	3
		<hr/>
		<b>18</b>

### **SEMESTER 2**

<b><u>Course code</u></b>	<b><u>Course Title</u></b>	<b><u>Credit</u></b>
MPHP 310	Occupational Toxicology and Risk Assessment	3
MPHP 312	Health Services and Management	3
MPHP 319	Occupational Well-being, Health, Hygiene, Safety, and Law	3
MPHP 321	HSE Management Principles & Methods	3
MPHP 322	Emergency Management of Accidents and Incidents Investigation	3
MPHP 333	Directed Elective	3
		<hr/>
		<b>18</b>

### **SEMESTER 4**

<b><u>Course code</u></b>	<b><u>Course Title</u></b>	<b><u>Credit</u></b>
MPHP 341	Practicum I	3
MPHP 350	Practicum II	3
		<hr/>
		<b>6</b>
<b>Total</b>		<hr/>
		<b>42</b>

**MPHP 310 OCCUPATIONAL TOXICOLOGY AND RISK ASSESSMENT****3.0: 3 cr. E**

In this course, students will be able to study the use of chemicals in a workplace as possible hazards to human health. Students will learn the process of toxicological risk assessment. An emphasis will be laid on the identification of hazards and risk to human and the environment.

Furthermore, attention will be paid to risk management and risk communication to prevent the risk in corresponding communities.

**MPHP 319 OCCUPATIONAL WELL-BEING, HEALTH, HYGIENE, AND SAFETY****3.0: 3 cr. E**

This course will enable students to anticipate, recognize, evaluate, and control potential biological, chemical, physical, and psycho-social health hazards in the working environment. The objective is to protect the health and well-being of the workforce and to safeguard the community at large. Students will be able to identify these hazardous agents that could cause disease or discomfort in the workplace, by evaluating the extent of the risk due to exposure to these hazardous agents and controlling them to prevent ill-health in the long or short term.

**MPHP 321 HSE MANAGEMENT PRINCIPLES & METHODS****3.0: 3 cr. E**

This course will introduce students to the management concepts and principles relevant to the management of HSE. Topics include nature of management; strategic and operational planning; organizational structure; decision-making; theories of leadership; the communication process; theories of motivation; and organizational change.

**MPHP 322 EMERGENCY MANAGEMENT OF ACCIDENTS AND INCIDENTS INVESTIGATION****3.0: 3 cr. E**

This course provides students with the different models used in accident and incident investigations. It covers incident investigation tools that explain the role of human, organizational, and technical factors that lead to unwanted incidents and accidents. The course also provides the proper emergency response plans needed to mitigate accidents and incidents necessary for HSE.

**MPHP 333 Directed Elective****3.0: 3 cr. E**

This course highlights special and current topics in occupational and environmental health. Particular emphasis will be given to the importance of incorporating sustainable human development as an integral part of the workforce health, safety, and well-being.

**MPHP 341 PRACTICUM I****3.0: 3 cr. E**

In this course, students will be implementing a research project already developed in the MPHP315 course. The project can be conducted individually or in a group of maximum of 3 students. Quantitative, qualitative, or mixed methods can be used. An IRB clearance should be acquired before the implementation.

**MPHP 350 PRACTICUM II****3.0: 3 cr. E**

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

# **MASTER OF SCIENCE IN NURSING (MSN)**

## **The rationale for the MSN**

The MSN program at the Faculty of Health Sciences aims at preparing advanced qualified nurses who are able to respond to the increasing health care challenges at the national, regional, and international level. An advanced qualified caring nurse with the following attributes: critical thinker, assertive leader and manager, effective communicator, rigorous researcher, and determined advocate, is needed to respond to the emerging health care priorities. This is particularly important in the field of child health and adult care that have been developing to become more demanding in view of the progress in science and technology, and the socio-demographic changes.

**MSN Tracks:** *Neonatal and Child Care; Adult Care*

## **Curriculum Description:**

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

The program is structured to have a set of core courses (6cr.), specialty courses (21cr.), one or two electives (3 or 6cr.), and thesis (6 cr.) or project (3cr.).

## **o Core courses**

The core courses are designed to help students develop their knowledge and skills in the areas of research and healthcare leadership Mmanagement

- CLAS304 Research Methods (3cr.)
- NURS300 Role Development in Leadership & Health Care Management (3cr.)

## **o Specialty courses**

Thirteen specialty Credits are designed to equip students with advanced competencies in theory in the areas of Neonatal and Child Care, and Adult Care. In addition, two 4 credit clinical courses (Clinical Decision Making and Management I & II) are offered in each specialty. These training or internship courses are mandatory irrespective of the previous clinical experience of the candidate. They are equivalent to 360 hours (180 hours each) in a clinical setting identified by the Program.

## **Neonatal and Child Care**

- NURS 301 Advanced Physiology & Pathophysiology of the Neonate and Child (3cr.)
- NURS 302 Advanced Pediatric Pharmacology & Therapeutics in Nursing (2cr.)
- NURS 303 Advanced Health Assessment of the Neonate & Child (2cr.)
- NURS 304 Management of Children with Acute & Chronic Conditions Within a Family Centered Approach (3cr.)
- NURS 305 & 306 Clinical Decision Making & Management in Neonatal & Child Care I & II (8cr.)
- NURS 307 Management of High Risk Neonate Within a Family Centered Approach (3cr.)

## **Adult Care**

- NURS 311 Advanced Physiology & Pathophysiology in Adult Care (3cr.)
- NURS 312 Advanced Adult Pharmacology and Therapeutics in Nursing (2cr.)
- NURS 313 Advanced Health Assessment of the Adult (2cr.)
- NURS 314 Management of Adult with Acute & Chronic Conditions (4cr.)
- NURS 315 & 316 Clinical Decision Making & Management in Adult Care I & II (8cr.)
- NURS 317 Therapeutic Communication and Palliative / End of Life Care (2cr.)

o **NURS 398 Project**

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

o **NURS 399 Thesis**

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

o **Elective Course**

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

## NEONATAL AND CHILD CARE:

### FIRST YEAR SEMESTER 1

<u>Course code</u>	<u>Course Title</u>	<u>Credit</u>
NURS 301	Advanced Physiology & Pathophysiology of the Neonate and Child	3
NURS 302	Advanced Pediatric Pharmacology & Therapeutics in Nursing	2
NURS 303	Advanced Health Assessment of the Neonate & Child	2
		7

### SEMESTER 2

<u>Course code</u>	<u>Course Title</u>	<u>Credit</u>
NURS 304	Management of Children with Acute & Chronic Conditions Within a Family Centered Approach	3
NURS 305	Clinical Decision Making & Management in Neonatal & Child Care I*	4
NURS 307	Management of High Risk Neonate Within a Family Centered Approach	3
		10

### SECOND YEAR

#### SEMESTER 3

<u>Course code</u>	<u>Course Title</u>	<u>Credit</u>
CLAS 304	Research Methods	3
NURS 300	Role Development in Leadership & Health Care Management	3
NURS 306	Clinical Decision Making & Management in Neonatal & Child Care II*	4
	Elective	3
		13

#### SEMESTER 4

<u>Course code</u>	<u>Course Title</u>	<u>Credit</u>
NURS 398	Project +	3
	Elective	3
<u>Or</u>		
NURS 399	Thesis	6
		6

\* 1 credit is equivalent to 45 clinical hours.

## **ADULT CARE:**

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

<b><u>Course code</u></b>	<b><u>Course Title</u></b>	<b><u>Credit</u></b>
NURS 311	Advanced Physiology & Pathophysiology in Adult Care	3
NURS 312	Advanced Adult Pharmacology and Therapeutics in Nursing	2
NURS 313	Advanced Health Assessment of the Adult	2
		<hr/>
		7

### **SEMESTER 2**

<b><u>Course code</u></b>	<b><u>Course Title</u></b>	<b><u>Credit</u></b>
NURS 314	Management of Adult with Acute & Chronic Conditions	4
NURS 315	Clinical Decision Making & Management in Adult Care I*	4
	Elective	3
		<hr/>
		11

### **SECOND YEAR**

#### **SEMESTER 3**

<b><u>Course code</u></b>	<b><u>Course Title</u></b>	<b><u>Credit</u></b>
CLAS 304	Research Methods	3
NURS 300	Role Development in Leadership & Health Care Management	3
NURS 316	Clinical Decision Making & Management in Adult Care II*	4
NURS 317	Therapeutic Communication and Palliative / End of Life Care	2
		<hr/>
		12

#### **SEMESTER 4**

<b><u>Course code</u></b>	<b><u>Course Title</u></b>	<b><u>Credit</u></b>
NURS 398	Project	3
	+	
	Elective	3
<b><u>Or</u></b>		
NURS 399	Thesis	6
		<hr/>
		6

\*1 credit is equivalent to 45 clinical hours

#### **•Graduation requirements**

- o Completed the 36 credits
- o Passed all courses with a minimum average of 70 per course
- o Achieved a cumulative average of 80

## **COURSE DESCRIPTION**

### **CLAS 304 RESEARCH METHODS**

**3.0: 3 cr. E**

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

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

**3.0: 3 cr. E**

This course focuses on theory and concepts associated with role development in leadership & health care management of the MSN professional nurse in a contemporary healthcare system that is complex and diverse. The course discusses the nurse leader/manager responsibilities including innovation, capacity building, communication and teamwork, governance and shared decision-making, advocacy, risk management, budgetary processes, and human resources. The impact of the economic, sociocultural, political, technological, ethical and legal issues on the healthcare delivery is analyzed. Students develop their knowledge and confidence in planning evidence-based management and leadership strategies to achieve quality improvement and outcome excellence as well as professional growth. Various modes of inquiry and leadership-related skills are emphasized through case-based learning discussions and research projects to foster critical thinking and competence.

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

**3.0: 3 cr. E**

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

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

**2.0: 2 cr. E**

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

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

**2.1: 2 cr. E**

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

**NURS304 MANAGEMENT OF CHILDREN WITH ACUTE AND CHRONIC CONDITIONS WITHIN A FAMILY CENTERED APPROACH** **3.0: 3 cr. E**

This course discusses advanced knowledge of the common acute and chronic health problems from infancy through adolescence within the family context. It emphasizes critical thinking in synthesizing biological, behavioral, nursing, and medical knowledge that are essential for the delivery of primary, secondary and tertiary care in a holistic approach that is culturally, and developmentally sensitive. Theories and concepts of therapeutic communication taking into consideration child and family developmental needs will be discussed.  
Pre/Co-requisite: NURS 301

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

This course focuses on advanced nursing practice in clinical decision making & management in Neonatal and Child care for diverse populations. Students will rotate in inpatient and outpatient settings that cover different areas of specialisation. This will enable them to apply theoretical learning to real life Neonatal and Child care situations and further develop their theoretical and practical knowledge and skills related to health promotion, disease prevention, diagnosis, and management of complex acute and chronic conditions. Emphasis is on the utilisation of analytical judgment, evidence-based guidelines, and sophisticated technology to provide safe, cost effective, legal, and ethical healthcare to get optimal health outcomes for the children in a family centred approach. With the assistance of clinical preceptors, students will practice advanced health assessment, make proper diagnoses, develop, and implement a plan of care that is focused on the growth, developmental, physiological, pathological, psychosocial, and cultural needs of the children from birth to age 18 years.  
Pre/Co-requisite: NURS 303

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

This course focuses on advanced nursing practice in clinical decision making & management in neonatal and child care. Students develop their professional nursing role within health care delivery using theories of leadership and management to respond to the emerging healthcare challenges and requirements for highly sophisticated, cost-effective and safe quality of care. The focus is on innovative and creative approaches that are evidence-based and culturally appropriate. Students will get the opportunities to develop the leadership core competencies in supervised healthcare settings exemplifying professional principles and values, maturity, teamwork and shared decision-making. Students will engage in leadership activities that help them gain knowledge, skills, and abilities as nurse leader and manager. These activities may include infection control, quality improvement, staff education, performance improvement, planned change, strategic planning, budgeting, staffing, etc.  
Pre-Co-requisite: NURS 300

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

This course focuses on the health problems of the critically ill neonate within the context of the family unit. The biological, pharmacological and nursing knowledge are utilized as basis for nursing practice taking into consideration the psychosocial context of ill and high-risk neonate. Theoretical analysis of the role of the student will be emphasized with the aim of decreasing mortality and morbidity rates and improving the quality of life of high-risk newborns and infants. Theories and concepts of therapeutic communication taking into consideration child and family developmental needs will be discussed.  
Pre/Co-requisite: NURS 301

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

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

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

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

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

This is a two credit course, 2 hours theory and one hour clinical designed to help students develop advanced knowledge and clinical skills in health assessment. The course focuses on history taking, physical examination, diagnostic reasoning, clinical judgment and decision making for the collaborative management of acute and chronic adult patient centered care, and evaluation.

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

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

Pre-Co-requisite: NURS 311

**NURS315 CLINICAL DECISION MAKING AND MANAGEMENT IN ADULT CARE I 4.0: 4 cr. E**

This course focuses on advanced nursing practice in clinical decision-making & management in adult care for diverse populations. Students will rotate in inpatient and outpatient settings that cover different areas of specialization. This will enable them to apply theoretical learning to real life patient care situations and further develop their theoretical and practical knowledge and skills related to health promotion, disease prevention, diagnosis, and management of complex acute and chronic conditions. Emphasis is on the utilization of analytical judgment, evidence-based guidelines, and sophisticated technology to provide safe, cost effective, legal, and ethical healthcare to get optimal health outcomes for the patients. With the assistance of clinical preceptors, students will practice advanced health assessment, make proper diagnoses, develop, and implement a plan of care that is focused on the developmental, physiological, pathological, psychosocial, and cultural needs of the patients throughout the lifespan.

Pre-Co-requisite: NURS 313

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

This course focuses on advanced nursing practice in clinical decision making & management in adult care. Students develop their professional nursing role within health care delivery using theories of leadership and management to respond to the emerging healthcare challenges and requirements for highly sophisticated, cost-effective and safe quality of care. The focus is on innovative and creative approaches that are evidence-based and culturally appropriate. Students will get the opportunities to develop the leadership core competencies in supervised healthcare settings exemplifying professional principles and values, maturity, teamwork and shared decision-making. Students will engage in leadership activities that help them gain knowledge, skills, and abilities as nurse leader and manager. These activities may include infection control, quality improvement, staff education, performance improvement, planned change, strategic planning, budgeting, staffing, etc.

Pre/Co-requisite: NURS 300

## **NURS 317 THERAPEUTIC COMMUNICATION AND PALLIATIVE / END OF LIFE CARE**

**2.0: 2 cr. E**

This course focuses on the caring communication as an essential dimension of professional nursing and a means to interact with patients of various age groups, cultures and ethnicities. Students are supported to develop advanced knowledge and skills related to the main concepts and principles of the therapeutic relation leading to patients and families' empowerment and support. Theories are used to understand the interplay between human behaviour, health, and illness. The importance of communication in helping patients and families' cope with the disease process and its consequences is highlighted. The course also includes a component related to the terminally ill patient and palliative care considering the management of the physical and psychosocial symptoms with respect to the cultural, religious and ethical issues of the patient and family. Teaching/learning role is emphasized as part of the therapeutic communication.

## **NURS 398 PROJECT**

**3.0: 3 cr. E**

The project provides the student with the opportunity to address a nursing enquiry that emerges from the clinical practice and that is relevant to the student area of expertise. The student develops a research proposal that is based on extensive research, scientific and clinical evidence, analysis, and synthesis, elaborates a plan of action, and pilots it. Accordingly, the student provides suggestions that aim at improving clinical practice. The project is mentored by a faculty member and is evaluated by an examination committee that is expert in the field.

Pre-requisite: CLAS 304

## **NURS 399 THESIS**

**6 cr. E**

A master's thesis is an applied research that aims at formulating a research question relevant to the area of expertise to solve a problem and add to the scientific body of knowledge. The thesis enables the student to work independently and develop deeper knowledge and skills in conducting research that is scientifically rigorous and ethically sound. The thesis allows the student to become more competent in analysing, synthesising, and arguing their ideas, and publishing in peer-reviewed journals. The thesis is mentored by a faculty member. It is submitted to an examination committee and is publicly defended.

Pre-requisite: CLAS 304