

UNIVERSITY OF BALAMAND  
FACULTY OF MEDICINE AND MEDICAL SCIENCES

**Course Description**

**MED I Courses**

**Introduction to Cell Structure and Function (INTC412)**

**2 Credits**

This course introduces the fundamental principles in cellular development, division, differentiation and function, and cellular organization into tissues. The course also examines the use of biophysics and cellular physiology in determining the function of excitable membranes and is intended to direct the attention of first year medical students to the importance of medical embryology in bridging microscopic anatomy, cellular physiology, and clinical science.

The course format includes lectures, biophysics problems, virtual histology lab sessions, and histology clinical cases.

**Blood & Cardiovascular Medicine: Structure & Function (CARD413)**

**3 Credits**

This course is designed to present an integrated knowledge of the normal cardiovascular system to first year medical students. The course discusses hematopoiesis, blood components, and the main mechanisms of hemostasis and directly correlates the gross anatomy of the heart with the cardiac function and the cardiac muscle excitation and contraction cycles. Histology of the heart and blood vessels and live ultrasonic imaging complement the didactic information given. The course also describes the development of the heart and vessels during organogenesis and the remodeling of the fetal circulation into the adult pattern and discusses the principles of hemodynamics in the macro and microcirculation leading to the integrated responses of the cardiovascular system that regulate organ flow, blood pressure, and cardiac output.

The course format includes lectures, laboratory sessions, and discussions and analysis of a series of clinical cases pertaining to selected clinical cardiovascular abnormalities to introduce students to basic pathophysiology and pathology.

**Endocrine and Reproductive Medicine: Structure & Function (ENDO413)**

**3 Credits**

This course is designed for first year medical students to develop a thorough knowledge about hormone synthetic pathways and mechanisms of action to understand the multifaceted clinical conditions that may arise because of a developmental anomaly, an abnormal hormonal environment, or an inability to respond to hormonal stimuli. This course also emphasizes the hormonal regulation of the male and female reproductive cellular organization and functions in development and adulthood and describes the gross, functional, and radiological anatomy of the male and female reproductive systems in health and disease as well.

The course format includes lectures, laboratory sessions, and a series of selected clinical applications.

**Gastrointestinal Medicine: Structure & Function (GAST413)**

**3 Credits**

This course sets the framework for the understanding of the microscopic, gross organization, and the principal functions of the GI system. The course focuses on the main regulatory mechanisms of GI function and discusses the processes of motility, secretion, digestion and absorption, elimination, and biliary secretion and excretion. The course format includes lectures, laboratory and imaging sessions, and a series of selected clinical problems to emphasize to first year medical students the significance of basic science in the understanding of clinical applications.

**The Musculoskeletal System: Structure & Function (MUSK424)**

**4 Credits**

This course provides first year medical students with a detailed knowledge of the development, form, and function of the normal musculoskeletal system. The course describes the microscopic, gross, functional, and radiological anatomy of the back and upper and lower limbs as well as the blood, lymphatic, and nerve supply. This course also addresses skeletal muscle physiology and the mechanisms of neural control of skeletal muscle function. The course format includes lectures, laboratory sessions, and a series of clinical correlations to allow students to develop a functional understanding of bones, tendons, joints, and muscles and their innervation and mechanisms of action in health, injuries, and disease.

**Renal Medicine: Structure & Function (RENL412)**

**2 Credits**

This course provides first year medical students with an integrated knowledge of the basic structure and function of the renal system. The microscopic and gross anatomy is directly correlated with the excretory and homeostatic functions of the urinary system. The mechanisms of urine formation along with the concept of renal clearance and its clinical applications, as well as the role of the kidney in regulating plasma osmolarity, ECF volume, blood pressure, sodium, potassium, and calcium concentrations, and acid/base balance are discussed at length. The sequential embryonic stages of development of the kidney, ureters, and bladder are also presented. This detailed theoretical information is complemented by gross dissection of the pelvis, histologic slides of the urinary system, and imaging sessions. Clinical correlations are incorporated throughout the lectures, including micturition disorders, congenital diseases, acid base and ionic disorders, glomerular diseases, stones, renal failure, as well as a brief of overview of dialysis.

**Pulmonary Medicine: Structure & Function (PULM412)****2 Credits**

This course emphasizes the anatomy and the homeostatic function of the respiratory system. The microscopic organization and gross and radiological anatomy of the respiratory system set the background for the discussion of the main structures involved in breathing and their interactions in the initiation of inspiration and expiration, the three primary processes of ventilation, diffusion, and perfusion, and the assessment of lung function. This course also focuses on the mechanisms involved in the transport of gases between the lungs and tissue capillaries as well as on the neural and chemical control systems. The course format includes lectures, laboratory sessions, and a series of selected clinical problems to emphasize to first year medical students the significance of the acid-base balance and the clinical problems that may arise in conditions of hypoxia or hyperoxia.

**Head & Neck and Basic Neuroscience (HNBN426)****6 Credits**

This course is designed to provide first year medical students with a detailed knowledge of the development, microscopic structure, anatomy, physiology, and imaging of the normal nervous system and the head and neck region. This interdisciplinary course also sets the structural framework for the understanding of gross anatomy principles and anatomic relationships, basic mechanisms in neurophysiology, organization and function of sensory and motor systems, and clinical applications of this information.

The course format includes lectures, gross and neuroanatomy laboratory sessions, and case-based problems that reinforce the concepts of gross anatomy and basic neuroscience to allow students to develop analytical thinking in clinical problem solving.

**Medical Biochemistry & Nutrition (BIOC 406)****6 Credits**

The course is designed to incorporate the fundamental aspects of biochemistry in a series of lectures and clinical correlations. The objective of the course is to provide the student with an integrated view of biochemistry. Topics include structures and functions of biomolecules, mechanism of enzyme action, bioenergetics, major pathways, and control mechanisms in human metabolism. Additionally, the course introduces principles of nutrition and a brief description of prevention and management of selected diseases with diet.

**Medical Genetics (MGEN 402)****2 Credits**

The course is designed to introduce the students to the fundamental concepts in human genetics at molecular, cellular, and clinical levels. It details the principles of classical genetics, biochemistry of nucleic acids, control of gene expression, gene therapy, and investigates recent developments in genetic technology.

**Immunology (IMUN 402)****2 Credits**

The course allows medical students to examine the cellular and molecular functions of the immune system. It details the events taking place during the immune response, immune recognition, and immune effector function.

**Medical Ethics (METH 401)****1 Credit**

The course is designed to introduce the medical student to the ethical principles governing the medical profession such as the duties of physicians, patients' rights, informed consent and refusal of treatment, confidentiality, good clinical practice, medical research, organ transplantation, mental disorders and disabilities, and life and death.

**Normal Human Behavior (NPSY 402)****2 Credits**

The course seeks to introduce medical students to the normal and abnormal human development and behaviors. It focuses on the major influences of human behavior, psychological, biological, and cultural factors, to stress their roles in the development and presentation of diseases. It is also designed to introduce students to the roles of neural systems serving human behaviors such as emotions, memory, intellect, perception, addictions, motivation, and reward.

**Biostatistics and Epidemiology (EPST 402)****2 Credits**

This course introduces the basic principles and applications of biostatistics and epidemiology, as they are applied to problems in clinical and public health settings. Topics cover a wide range from simple descriptive statistics and presentation of data, to principles of hypothesis testing, and an introduction to linear and logistic regression and non-parametrical tests. Lectures, problem sets, and computer output are used to develop these and additional concepts. The epidemiology part of this course will introduce students to the principles, methods and research designs used to describe and evaluate the patterns of illness in communities. Furthermore, important epidemiological concepts in evaluation of epidemiological findings such as confounding, effect measure modification, and measures of attribution of disease burden to specific exposures are also presented. Medical students will also have the opportunity to learn techniques to critically evaluate and interpret current medical literature, an essential skill to future success in clinical practice.

**Family Medicine/Clinical Skills I And Patient Physician Relation (CLSK 434)****4 Credits**

The course is designed to allow medical students to begin to understand the concept of a patient, develop effective communication with the patient, perform physical examination, and appreciate the humane care of patients. This course is designed as a summer rotation at Saint George Hospital University Medical Center.

## MED II Courses

### **Foundation of Medicine (FMED504)**

**4 Credits**

This module explores the basic principles of medical pharmacology and pathology. The pathology section builds upon understanding the four aspects of the major disease processes: etiology, pathogenesis, clinical significance of the histopathological and molecular findings, and application of the clinically supportive sciences. Current understanding of the pathogenesis and epidemiology of important common and uncommon diseases will be discussed. Detailed description of significant cell and tissue alterations in disease processes and how they contribute to organ dysfunction and clinical manifestations are emphasized. In the pharmacology section, clinically applied principles of pharmacodynamics and pharmacokinetics are amply described. The pharmacology of the autonomic nervous system and its clinical applications are also detailed.

### **Basic Neurology: Diseases and Treatment (NEUR503)**

**3 Credits**

This module describes the neurological diseases of the central and peripheral nervous system. Emphasis is given on the symptoms and signs, pathology, pathophysiology, and treatment of these diseases.

Glossary of the different signs and symptoms in neurological disorders together with the correlation between the neurologic clinical manifestations and neuroanatomical location of the lesions will be presented. Pathology of the different neurological disorders will be also introduced. All pathophysiological disorders in neurology with their corresponding treatments will be discussed in addition to the strategies needed for the best therapeutic options in clinical practice.

### **Pulmonary Medicine: Diseases & Management Strategies (PULM503)**

**3 Credits**

This module addresses the pathologic and pathophysiologic principles that underlie diseases of the upper and lower respiratory tracts along with their pharmacologic treatments. Pulmonary function tests and other diagnostic tools for pulmonary disease are explained.

### **Renal Medicine: Pathogenesis and Pharmacotherapy (NEPH503)**

**3 Credits**

In this module students will become familiar with renal and bladder disorders along with their pharmacologic treatments. Hypertension and metabolic derangements are addressed with their management. An approach to the patient with renal failure is outlined. Renal dialysis and transplantation are also introduced.

### **Cardiovascular Medicine: Disorders and Management Modalities (CARD504)**

**4 Credits**

This module describes the major diseases affecting the cardiovascular system, their etiologies, and their clinical manifestations. Cardiac emergencies are highlighted and a clinical approach to their management protocols is outlined. Pharmacotherapies along with behavioral and preventive therapies are widely explored.

### **Infectious Diseases: Pathophysiology and Treatment Strategies (INFE502)**

**2 Credits**

This module deals with complicated, widespread and opportunistic infections. Nosocomial and Head & Neck infections are addressed. The modes of transmission of bacterial, viral and mycobacterial infections along with their clinical syndromes are detailed. Cases about HIV, fever with rash and fever of unknown origin are presented. The pharmacology of antimicrobials is given. Bacterial resistance to antimicrobial agents and strategies to control it are widely discussed. Infection control measures are highly stressed.

### **Endocrine and Reproductive Medicine: Disorders and Therapy Protocols. (ENDO504)**

**4 Credits**

This module describes the main endocrine and metabolic disorders, emphasizes the strategies to treat them and handles endocrine emergencies. It also describes the pathology of the male and female reproductive systems, the main infections affecting them and the behavioral and pharmacologic treatments.

### **Gastrointestinal Tract Disorders and Management (GAST504)**

**4 Credits**

In this module, students will learn about all gastrointestinal and adnexal diseases and their treatment strategies. Abdominal emergencies are highlighted, and their management protocols outlined. The clinical skills for taking a good history and performing a complete physical exam for this system will be explored. The role of radiology in diagnosing gastrointestinal disorders is detailed.

### **Hematopoietic and Lymphoreticular Disorders & Treatment (HEMA503)**

**3 Credits**

In this module blood system disorders, transfusion medicine and oncologic diseases are detailed. The complications of neutropenia along with lymphadenopathy are widely discussed. Oncologic emergencies and the approach to their management are presented. Strategies for the diagnosis of blood and lymphatic disorders are highlighted. The pharmacotherapy of anemia, chemotherapy, anti-platelets and anti-coagulants are stressed upon.

### **Skin Disorders and Treatment (SKIN502)**

**2 Credits**

This module addresses major skin and soft tissue diseases along with their clinical presentation. Approach to diagnosis and management, and the correlation between skin disorders and internal diseases are detailed.

### **Mental Disorders and Their Pharmacotherapy (PSYD503)**

**3 Credits**

In this module mental disorders and their management modalities are explained. Ethical and forensic psychiatric issues are emphasized.

**Diseases of Immunity and Musculoskeletal System (IMUS504)****4 Credits**

This module presents the relationship between the connective tissues of the body and the associated immune and inflammatory states. The effects of the immune system in responding to pathogens and injury will be elucidated. The generation of autoimmunity states will be detailed. Bone tumors along with tumor and transplant immunology will be emphasized. The pharmacology section will detail the most important treatments for the common rheumatologic diseases, immunotherapy and immunoprophylaxis. A brief session on the imaging of the musculoskeletal system will be also presented. The clinical skills for taking a good history and performing a complete physical exam for both systems will be explored.

**Clinical Microbiology (CMIC 504)****4 Credits**

This module aims at introducing the students to the microbial world from a medical perspective. It provides special emphasis on microbial structure, classification, and interaction with the human host. General concepts of bacterial microbiology, virology, mycology, and parasitology are presented. Mechanisms of infections and antimicrobial therapy characteristic of each type are also covered.

**Family Medicine-Clinical Skills II (CLSK 524)****4 Credits**

Clinical Skills II emphasizes the importance of integrating medical knowledge, clinical skills, and professional attitude as a prerequisite for appropriate, effective, and efficient patient care. In this perspective, the course expands on what was done within the framework of the "Clinical Skills I" course.

In this module, MEDII students will learn how to approach patients in different specialty clinics, maintain professional attitude in patient - physician relationship, apply the ethical standards in clinical care, identify key elements in taking patient history within each specialty, review physical examination skills learned in Clinical skills I and identify abnormal findings on physical examination.

**MED III Courses****Clinical Clerkship in Internal Medicine (CCIM 612)****(12 Weeks)**

During the 12 weeks of clinical clerkship in the hospital, the students rotate for 8 weeks on the inpatient ward and for 4 weeks in the Community Health Clinic/Family Medicine. They acquire the adequate skills for taking a comprehensive history of the patient, perform a complete physical examination, elaborate an adequate differential diagnosis of the medical problems, follow, and analyze pertinent laboratory and radiological results, and write a supervised comprehensive progress that will reflect the actual patient status. Throughout their rotations, students are required to attend clinical conferences and to prepare and participate in clinical discussions.

**Clinical Clerkship in Surgery (CCSU 612)****(12 Weeks)**

During the 12 weeks of clinical clerkship in the hospital, the students will be introduced to the basic principles of surgery and rotate in general surgery, in orthopedics, in urology, in neurosurgery, in cardio thoracic and vascular surgery. They build up their basic knowledge of the common surgical diseases in order to formulate a differential diagnosis, be familiar with the management of surgery patients including surgical emergencies, learn to communicate with patients, acquire the adequate skills for taking a comprehensive history of the patient, participate in the patient workup, learn under supervision the principles of pre-operative preparation, operative management and postoperative care. Throughout their rotations, students are required to attend clinical conferences and to prepare and participate in clinical discussions.

**Clinical Clerkship in Obstetrics and Gynecology (CCOG 608)****(8 Weeks)**

During the 8 weeks of clinical clerkship in the hospital, the students will be introduced to the basic principles of obstetrics and gynecology, acquire the adequate skills for taking a comprehensive history of the patient, performing pelvic examination, diagnosis and management of OBS-GYN problems and follow-up on patients. Students also attend daily seminars, weekly grand rounds and monthly pathology conference. Students meet daily their attending staff, discuss cases and review charts.

**Clinical Clerkship in Pediatrics (CCPE 608)****(8 Weeks)**

During the 8 weeks of clinical clerkship in the hospital, the students will be introduced to the basic principles of pediatrics, the care of children including the management of the healthy and sick child, peculiarities of disease in infancy, childhood and adolescence. The nutrition, growth and development are stressed, as well as the importance of combining preventive with curative medicine. Throughout their rotation students are required to attend clinical conferences and to prepare and participate in clinical discussions.

**Clinical Clerkship in Psychiatry (CCPS 604)****(4 Weeks)**

During the 4 weeks of clinical clerkship, the medical students workup psychiatric patients where they are supervised by an attending psychiatrist, learn how to conduct and document a psychiatric interview including chief complaints, psychiatric history, social history, developmental history and medical history. The student will be able to perform a complete mental status examination of a patient with mental illness, discuss and document differential diagnosis, assess and document whether or not the patient is at risk of injury to himself or others. The rotation includes daily seminars dealing with psychopathology, case presentation and discussions, interview techniques and basic psychotherapy as well as psychopharmacology.

**Preventive Medicine and Health Administration (PMHA 602)****(30 Hours)**

This module is intended to expand student understanding of the complexities of the context of clinical practice and orient them towards preventive medicine. It focuses on health promotion and the tools required assessing and improving public health. It also stresses on human rights in Medicine and how to reduce inequalities in health. Topics covered include health systems and administration, planning and policy making in Lebanon; healthcare and public health services; health as a social and human right; the social and cultural determinants of health and the role of physicians in society.

**Medical Ethics (Advanced) (CETH601)****(15 Hours)**

The course is designed to present to medical students opinions regarding the ethical principles governing the medical profession such as patients' rights, informed consent, refusal of treatment, confidentiality, and good clinical practice. The areas addressed are medical research, organ transplantation, genetic testing, palliative care and end-of-life issues, ethical dilemmas in the intensive care setting and in the elderly.

**MED IV Courses****Clinical Clerkship in Internal Medicine (CCIM 704)****4 Months**

The Med IV clerkship in Internal Medicine consists of four rotations of one month each in ICU, CCU, ER, and Wards. In this clerkship, students improve on their interviewing, communication, and diagnosis skills. They are exposed to intensive care settings and learn to manage ICU/CCU patients. Moreover, they learn rapid assessment and management of life-threatening conditions, and they carry the responsibilities of house interns.

**Clinical Clerkship in Surgery (CCSU 701)****1 Month**

In the Med IV clerkship in Surgery, the students acquire an understanding of the fundamental skills of diagnosis and management of patients with surgical illnesses, develop the ability to analyze patients' clinical problems, prioritize patients' investigations and management needs. They develop the ability to collect, synthesize and communicate the details of a patient's history, physical examination, differential diagnosis, progress in the hospital and assume primary responsibility for a set of inpatients which include writing orders, developing management and diagnostic plans and presenting these plans to upper-level residents or faculty. Attendance at departmental/divisional grand rounds, morbidity, mortality and other conferences is expected from students. The students spend a month on the surgical ward.

**Clinical Clerkship in Anesthesiology (CCAN 712)****2 weeks**

In this clerkship of two weeks duration, the MED IV student is expected to acquire the necessary knowledge and skills to perform a pre-operative and post-operative assessment of surgical patients, develop a plan for safe airway and anesthetic management of routine surgical patients, be able to perform direct laryngoscopy and intubation, manage pre-operative fluid prescriptions, be familiar with peripheral and central intravenous catheter placement, and to function appropriately in an operating room setting.

**Clinical Clerkship in Otorhinolaryngology (CCEN 712)****2 weeks**

This two week-clerkship is designed to provide the medical student with a clinical experience in ENT diseases and reinforce surgical skills acquired in the MED III surgery clerkship. The student will acquire knowledge and skills in the clinical evaluation of patients presenting with symptoms and/ or diseases of the ENT areas, and in the elaboration of a management plan, whether medical or surgical. Several aspects of the specialty will be covered, including pediatric and cosmetic otolaryngology. In addition, the student will be exposed to the most delicate and technically demanding microsurgies.

**Clinical Clerkship in Ophthalmology (CCOP 712)****2 weeks**

This two week-rotation includes the following:

1. Clinical Introduction to eye pathology.
2. Exposure to surgical procedures.
3. End of rotation seminar-part of resident grand round

Teaching activities are assigned to different subspecialties of the department as well as comprehensive ophthalmologists.

**Clinical Clerkship in Medical Imaging (CCRX 701)****2 weeks**

This fourth year-clerkship is designed to provide the medical student with a clinical exposure to general radiology concepts including Ultrasonography, CT and MRI. Medical students are expected to attend the daily conferences of the department.

**Selective Clerkship**

It is the offering of various selective rotations from the different departments from which the student can select one month of selective clerkship to be chosen from one of the following medical subspecialties: Neurology, Infectious Diseases, Dermatology, Endocrinology, Pediatric Surgery, and Laboratory Medicine. In the selective rotation, students are exposed to patients from a subspecialty of their choice and face more focused clinical scenarios.

**The Selective Rotations are:****Clinical Clerkship In Infectious Diseases (CCIN701)****1 Month**

This rotation is a one month-clinical selective clerkship in Infectious Diseases that is intended to provide the fourth year - medical student with direct and intense exposure to a wide range of infectious diseases.

Objectives:

- Approach to a patient with fever and understanding how specific risk factors (exposure, travel, previous hospitalization) will help building a differential diagnosis and affect the management plan.
- Understand diagnostic methods in infectious diseases i.e. cultures, serology and molecular (PCR) techniques.
- Exposure to common infections (community and nosocomial) e.g. UTI, respiratory infections, bloodstream infections...
- Be familiar with different antibiotic classes, eliciting differences in spectrum and mode of action, and understanding the risk of emerging resistance.
- Understand the basics of infection control (hand hygiene, isolation precautions).

#### **Clinical Clerkship In Neurology (CNEU701)**

**1 Month**

This rotation is a selective clerkship in Neurology that is intended to provide the fourth year-medical student with a clinical experience in Neurological diseases and acquire medical knowledge and skills in this field. In addition, the student will be exposed to different paraclinical procedures including brain imaging, neurophysiological tests and lumbar puncture. At the end of the one-month rotation, the student should be able on elaborating diagnostic strategies and providing management plans needed for the most frequent neurological disorders.

#### **Clinical Clerkship In Endocrinology (CEND701)**

**1 Month**

The purpose of this one-month selective experience is to provide the student with a thorough exposure to commonly encountered endocrine disorders both in the outpatient and inpatient settings. Students will rotate on wards and will attend clinics.

During the Endocrinology selective, students will see patients presenting with different endocrine problems such as thyroid disease, diabetes, hypocalcemia and hypercalcemia, pituitary tumors, steroid hormone abnormalities, etc.

Students are also required to attend departmental activities such as bi-monthly journal clubs and Endocrine noon conferences.

Objectives:

At the end of this rotation the student will:

- Recognize the common endocrine, metabolic and hormonal disorders of patients.
- Learn the basic principles related to the pathogenesis, clinical manifestations, laboratory evaluation and management of commonly encountered endocrine disorders.
- Develop the ability to thoroughly interrogate patients presenting with endocrine problems, analyze data and generate differential diagnoses and treatment plans.

#### **Clinical Clerkship In Dermatology (CDER701)**

**1 Month**

The duration of the selective in Dermatology is one month. It introduces the students to the signs and symptoms of common dermatologic diseases and its relation to systemic disease.

Objectives:

The student should be able to:

- Understand the signs, symptoms and management of common dermatologic diseases.
- Understand and interpret laboratory tests and diagnostic studies employed in the assessment of dermatologic diseases.

Key Responsibilities of the student:

1. Attend weekly dermatology conferences.
2. Attend daily consult rounds.
3. Do consults under the supervision and guidance of the rotating resident and be present during attending rounds.
4. Attend dermatology clinic.

#### **Clinical Clerkship In Clinical Laboratory (CCCL701)**

**1 Month**

The objective of the clinical laboratory selective/elective is to introduce students to the organization of a clinical laboratory with its different sections and to provide an exposure to laboratory operations. Students are expected to acquire a general understanding on how laboratory requests are processed from sample collection to results reporting and interpretation. They will get an overview of the three phases of laboratory testing: pre-analytical, analytical and post-analytical. They will get acquainted with the different technologies used in the laboratory. They will rotate in the following sections: clinical chemistry, clinical microbiology, clinical hematology, and blood bank unit. In each section, they will focus on the methodology, principles, and interpretation of routine clinical laboratory tests. Students are highly encouraged to follow up on the patients in the medical wards, in order to correlate laboratory results to clinical findings and thus constitute a whole clinical picture. They will also be asked to perform literature reviews and participate in case discussion.

#### **Clinical Clerkship In Family Medicine (CFAM701)**

**1 Month**

This rotation is a 1-month clinical selective clerkship in Family Medicine that is intended to provide the fourth year-medical student with experience in several specified medical areas. During the Family Medicine selective, students will rotate in the inpatient, ambulatory and chronic settings. They will see patients of all age groups presenting with different common acute and chronic conditions with a special emphasis on health promotion and disease prevention. Students will also be required to attend academic activities of the Division such as didactic lectures, conferences and journal clubs with an emphasis on outcome-oriented and evidence-based studies.

Objectives:

At the end of the clerkship, each student should be able to demonstrate:

- The ability to apply knowledge of how to conduct a comprehensive clinical assessment
- Use appropriately laboratory and other diagnostic techniques
- Perform clinical reasoning
- Develop comprehensive therapeutic plans
- Do periodic health assessments
- Understand the psychosocial aspects of patient care

### **Elective Clerkship (CCCE 703)**

**3 Months**

It is the offering of various elective rotations from the different departments from which the student can select one, two or three clerkships of 1 month duration each. The students are allowed to participate in electives abroad as well provided these electives meet our rules and standards, and provided they bring proof of attendance and evaluations of the respective off-site rotations.

#### **The Elective Rotations Are:**

##### **Nephrology**

The Nephrology elective introduces students to the diagnosis and management of patients with fluid and electrolyte disorders, acute renal failure, and chronic renal failure. The duration of this elective is four weeks.

Objectives:

The student should be able to:

- Understand the signs, symptoms and management of common renal syndromes including acute kidney injury and chronic renal failure, glomerulonephritis, and nephrotic syndrome.
- Understand and interpret laboratory tests, medical imaging and diagnostic studies employed in the assessment of renal function.
- Understand the diagnosis and management of fluid, electrolyte and acid-base disorders.
- Understand the diagnosis and management of primary and secondary hypertension.

Key Responsibilities of the student:

1. Attend weekly nephrology conferences.
2. Attend daily nephrology consult rounds.
3. Do nephrology consults under the supervision and guidance of the nephrology fellow and be present during attending rounds.
4. Attend nephrology clinic.

##### **Cardiology**

The Cardiology elective introduces students to the diagnosis and management of patients with cardiac diseases.

The duration of this elective is four weeks.

Objectives:

The student should be able to:

- Understand the signs, symptoms and management of common cardiac diseases.
- Understand and interpret laboratory tests, medical imaging and diagnostic studies employed in the assessment of cardiac disease.

Key responsibilities of the student:

1. Attend weekly conferences.
2. Attend staff meeting.
3. Rotate under the supervision and guidance of the cardiology fellow and be present on attending rounds.
4. Prepare assignments under the supervision of the fellow and attending physician.

##### **Hematology & Medical Oncology**

The Hematology & Medical Oncology elective introduces students to the diagnosis and management of patients with hematological and cancerous diseases. The duration of this elective is four weeks.

Objectives:

The student should be able to:

- Understand the signs, symptoms and management of common hematologic diseases.
- Understand and interpret laboratory tests and diagnostic studies employed in the assessment of hematologic disease.
- Understand the management of patients with different types of cancers and the approach to chemotherapy and its complications.

Key responsibilities of the student:

1. Attend weekly conferences.

2. Attend staff meeting.
3. Rotate under the supervision and guidance of the fellow and be present on attending rounds.
4. Prepare assignments under the supervision of the fellow and attending physician.

### **Pulmonary Medicine**

This rotation is a one month elective clinical clerkship in Pulmonary Medicine that is intended to provide the fourth year medical student with direct and intense exposure to a wide range of pulmonary diseases.

The rotation includes the following:

1. Thorough evaluation and proper management of patients admitted to the medical ward.
2. Active participation in academic activities such as didactic lectures, conferences, case presentations and discussions and attending rounds.
3. Hands-on training for procedures done in the division including pulmonary function tests and arterial blood gas interpretation, thoracentesis and bronchoscopies.

### **Family Medicine**

The Med IV Family Medicine Clerkship is a clinical elective rotation tailored for MED 4 students with the goal to give students the opportunity to expand their clinical skills learnt earlier, developing further their clinical management abilities. This 4-week rotation exposes MED 4 students to the comprehensive and longitudinal care of patients with a special emphasis on care of individuals in the context of families and communities in an outpatient setting.

Objectives:

- To advance the skills of Medical Students in taking a comprehensive history and performing a complete physical exam.
- To develop Medical Students' knowledge of the approach to diagnosis and management of medical problems in an outpatient setting.
- To engage Medical Students in a rational and scientific approach to preventive medicine and clinical decision making.
- To involve Medical Students in the management of a patient medical record in an outpatient setting.
- To demonstrate compassionate behavior, professionalism, and practice a patient-centered care.
- To promote self-education and active learning.

### **Gastroenterology**

This rotation is a one month elective clinical clerkship in Gastroenterology that is intended to provide the fourth year medical student with direct and intense exposure to a wide range of gastric diseases.

Objectives:

- Introduction to intra hospital GI pathology
- Exposure to endoscopy technics with discussion of indication, complication and difficulties of different procedures
- Discussion of different topics during the rounds with physician and the senior residents.
- Every student will have several assignments (topics, procedures, etc.) to complete.

### **Rheumatology**

It is a one-month elective rotation that includes spending time in the clinic as an observer and participating in performing Rheumatology consultations on the medical/surgical wards.

Objectives:

- Familiarize the student with the comprehensive rheumatologic approach to the various musculoskeletal and systemic disorders.
- Differentiate systemic inflammatory from non-inflammatory musculoskeletal disorders and become familiar with the diagnostic approach to the various Connective Tissue and Vasculitic disorders.
- Learn the joint examination, from small to large joints; examination of the spine (cervical, lumbar, sacroiliac), and examination of tendons and bursae.
- Become familiar with the procedures performed in rheumatology: arthrocentesis of various joints, intra articular injections, injections of tendons and bursae.