

LU-FMS MEDICAL EDUCATION COURSE DESCRIPTIONS

2nd Medical Educational Year Syllabus

<i>Course</i>	<i>Course Code</i>	<i>Hours Credits</i>	SYLLABUS CODE	PREREQUISITE COURSE
<i>Medical Ethics</i>	<i>ETHICS611</i>	<i>30 Hours 3 Credits</i>	ACD-SY2- ETHICS611	NONE
<p>Once out in the real world looking after patients junior and seasoned practitioners face more important issues such as ethics, that is about right and wrong and the reasons that we give for our choices and actions. This works the decision to make after a careful analysis of the professional regulations, commitments to patients, families and friends as well as the availability of real alternatives and financial issues. Positivism in the 19th century led to the oblivion of the human sciences in medical studies. The person has been driven out of his/her body and the urgent action is to bring it back to that body in a relation that raises forgotten questions.</p> <p>We believe that Ethics find naturally its source of reflection in Action. Therefore more the student is in direct contact with the action, more he/she would appreciate the variety of the raised questions & challenges. Ethics curricula are provided in three stages: Preclinical, Clinical and postgraduate.</p>				
<i>Human Embryology</i>	<i>ANAT512</i>	<i>30 Hours 3 Credits</i>	ACD-SY2- ANAT512	
<p>The lecture course is a study of embryology in humans, with emphasis on the fundamental developmental processes shared by vertebrate embryos. Topics include gametogenesis, fertilization, and development of the embryo from zygote through the differentiation of the neural tube. The second part of the course is devoted to the development of selected human organ systems including the nervous system, the sense organs, the cardiovascular, digestive, respiratory, musculoskeletal development and urogenital systems. The third part of the course includes congenital birth defects in humans.</p>				
<i>General Biology Lab (TP)</i>	<i>BIOL201</i>	<i>10 Hours 0.5 Credit</i>	ACD-SY2- BIOL201	NONE
<p>Five (5) practical sessions will be performed: they consist mainly of the recognition of different specimen and of slides preparation using an optical microscope. The faculty therefore provides a practical laboratory equipped with microscopes and a monitor connected to the instructor's microscope in order to provide students with an understanding use of a microscope and to learn how to represent a detailed and coherent lab report. This latter consists of illustrations and annotations of all slides seen.</p> <p>In this laboratory we will be reinforcing the concepts set forth in previous lectures giving in the first year through experimentation. By the end of the lab students should have obtained some laboratory techniques and an understanding of proper use of simple scientific equipment.</p> <p>This lab is designed to be taken during the first semester.</p>				

Anatomy	ANAT511	120 Hours (course 80 hours, TP 40 hours) 10 Credits	ACD-SY2-ANAT511	NONE
<p>This course uses a regional approach to teaching anatomy and is followed with dissection of the human body, which is essential for learning the details, the three-dimensional relationships, and the anatomical variation, necessary for a good grasp of anatomy. Thus, the course is broken into multiple sections of study: thorax, abdomen, pelvis, limbs, head and neck, brain, back.</p> <p>Within each part, the students are given lectures on human gross anatomy, dissect that region of the body, and receive relevant clinical correlations.</p>				
Introduction to Human Genetics	GENE411	20 Hours 2 Credits	ACD-SY2-GENE411	GENETICS OF 1ST ACADEMIC YEAR
<p>This course provides a solid understanding of the concepts and scientific methods of modern genetics as it applies to humans. It covers basically human hereditary genetics (Mendelian and extensions to Mendelian cases) with a strong human disease perspective. It also covers molecular cytogenetics (chromosomal abnormalities and their phenotypic consequences, basic cytogenetic techniques (karyotyping/chromosome staining) and molecular cytogenetic techniques (FISH/CGH/Flow cytometry). The course intends to prepare the students for two other courses: Molecular Genetics/Biology and Human Genetics by providing the necessary basic knowledge for advanced concepts in Molecular Biology and Human Genetics.</p>				
Nutrition	NUTR111	30 Hours 3 Credits	ACD-SY2-NUTR111	BIOLOGY, GENERAL BIOCHEMISTRY, METABOLIC BIOCHEMISTRY
<p>The Nutrition course focuses on the food-nutrition dimension in the context of the evolution of our food system. It begins with a description of regulatory systems for energy purposes and a discussion of fasting to show how the human body adjusts its metabolisms in response to stress. It then focuses on knowledge of foods and nutrients and highlights the close link between diet and health.</p>				
General Physiology	PHYS111	40 Hours 4 Credits	ACD-SY2-PHYS111	CELLULAR BIOLOGY, HISTOLOGY
<p>This course entails a physiological approach to the study of the major systems in the human body. Firstly, it addresses an emphasis on homeostasis, signaling and transport across membrane. Secondly, it offers a concise and detailed approach to study the normal function of the nervous, endocrine, and muscular systems.</p>				
General Histology	HIST611	30 Hours 3 credits	ACD-SY2-HIST611	CELL BIOLOGY
<p>Histology, or microscopic anatomy, is the study of the tissues of the human body by microscopic</p>				

<p>observations and investigations, and how these tissues are arranged to constitute organs. This course is principally designed to introduce the students to the methods of study of cells and tissues and to provide them with a thorough understanding of the structural and functional organization of the four basic types of tissues (epithelium, connective tissue, nervous tissue, and muscle) in each of the body's organ system at both the cellular and subcellular levels. Because there is an inseparable relationship between structure and function, emphasis is placed on structural-functional correlates at both the light and electron microscopic levels. Descriptions of alterations in normal histology through disease or injury provide an understanding of the etiology of various disease states.</p>				
General Histology Lab (TP)	HIST612	20 Hours 1 credit	ACD-SY2- HIST612	CELL BIOLOGY
<p>Each topic of the practical lab sessions includes the identification of stained tissue sections pertinent to that topic under the optical light microscope. The student is also requested to submit by the end of each lab session a detailed lab report covering drawings and the associated labeling of the tissue sections selected to be visualized during that lab session.</p>				
General Hematology	PHYS121	20 Hours 2 Credits	ACD-SY2- PHYS121	NONE
<p>This course is intended to introduce students to fundamental concepts in hematology, including normal physiology of blood, development of blood cell elements in the erythrocytic, leukocytic and megakaryocytic cell lines as well as principles of hemostasis.</p>				
History of Medicine and General Culture	MDGC911	30 hours 3 credits		
Not prepared yet				
Metabolic Biochemistry	BIOL221	35 Hours 3.5 Credits	ACD-SY2- BIOL221	STRUCTURAL BIOCHEMISTRY
<p>The understanding of any life process requires the knowledge of biochemical reactions and their integration into metabolic pathways. This course covers the two fundamental areas of molecular biochemistry, namely energy production and storage on the one hand, and biosynthesis of macromolecules on the other, through to the diseases that are generated by dysfunctions of metabolic pathways. The course starts with the metabolism of carbohydrates, the main energy producer in the cell. Several chapters will be devoted to the study of glycogen metabolism, glycolysis, the Krebs cycle and the pentose phosphate pathway The course will continue on the metabolism of lipids (oxidation, synthesis of fatty acids, synthesis of cholesterol ...), then on the metabolism of proteins (transamination, urea cycle ..) and then on the metabolism of nucleotides.</p>				
Structural Biochemistry	BIOL211	45 Hours 4.5 credits	ACD-SY2- BIOL211	GENERAL CHEMISTRY – ORGANIC CHEMISTRY
<p>The Structural Biochemistry course aims to study the chemical structure and properties/functions of biological molecules (carbohydrates, lipids, proteins, nucleic acids, enzymes, vitamins, ...) as well as the study strategies of these molecules leading to their elucidation. It provides a basic training in</p>				

biochemistry, enabling the student to competently approach all fields related to medical biochemistry.				
<i>Structural Biochemistry (TP)</i>	<i>BIOL212</i>	<i>20 Hours</i> <i>1 credit</i>	<i>ACD-SY2-</i> <i>BIOL212</i>	
Not prepared yet				
<i>Introduction to Scientific Reading</i>	<i>SCRE931</i>	<i>15 Hours</i> <i>1.5 Credits</i>	<i>ACD-SY2-</i> <i>SCRE931</i>	NOT A SPECIFIC COURSE BUT EVENTUALLY SOME SCIENTIFIC REASONING IS REQUIRED.
This course entails a scientific and methodological approach to teach the student how to read, understand, dissect and present scientific papers to a formal and informal audience. This course is divided into two units, over which the students will be taught the content and purpose of the different sections of a scientific article to be presented orally while developing their public speaking, analytical, reading, comprehension, and writing skills.				
<i>Introduction to Data Processing</i>	<i>COMP111</i>	<i>25 Hours</i> <i>2.5 Credits</i>	<i>ACD-SY2-</i> <i>COMP111</i>	NONE
Medical informatics is the science of information applied to medicine. In this course, students will learn about Information and Communication Technologies (ICT) in medicine (Tele-medicine, medical web sites, forum, blogs, wiki, search engine). In addition, students will work with the standard XML (XML structure, Well-formed document, DTD). Other topics covered include: introduction to image (digital image, resolution, size and framing), image format (Raster images, Vector images), and standard DICOM. Finally, we will give a short overview of the electronic medical record (EMR).				
<i>English</i>	<i>LANG111</i>	<i>100 Hours</i> <i>3 Credits</i>	<i>ACD-SY2-</i> <i>LANG111</i>	NONE
The English for Specific Academic Purposes for Medicine aims to familiarize students with the English language used in the medical world in which they would work and communicate. First, the course's main objective is to introduce students to the writing style used in medical writing and the style they would be likely to use in written communication. Second, learning the medical terms inherent in the medical sciences specific to medicine as well as academic vocabulary is a major focus of the course. Third, the understanding and efficient use of professional and technical language, both written and spoken, plays a major role in consolidating the knowledge gained. All aspects of oral and written communication are emphasized. Special attention is given to style, conventions, the recursive technical writing process, research methodology, and peer collaboration.				
<i>Sociology of Health</i>	<i>SOHE921</i>	<i>45 Hours</i> <i>4.5 Credits</i>	<i>ACD-SY2-</i> <i>SOHE921</i>	
This course offers an introduction to medical students of sociology as a field and of sociological methods and theories, all in line with a medical perspective. The influence of who we are and where we are and their impact on the delivery, access to health care and the inequalities involved will be covered. Material				

covered includes theoretical perspectives, social structures that influence the field of health and illness, people's and doctor's perception of health and illness, as well as, the nature of the doctor – patient relationship.				
<i>Psychology</i>	<i>PYCH111</i>	<i>40 Hours</i> <i>4 Credits</i>	<i>ACD-SY2-</i> <i>PYCH111</i>	
<i>Not prepared yet</i>				
<i>French for Medicine</i>	<i>LANG121</i>	<i>100 Hours</i> <i>3 Credits</i>	<i>ACD-SY2-</i> <i>LANG121</i>	NONE
The French language courses aim to enhance learners' mastery of oral and written French as well as introduce them to some of the most important aspects of French medical terminology and style by providing them with the linguistic and stylistic tools needed to perform in today's health care settings. Learners will gain knowledge of a wide array of medical data and contexts through working on case reports, fact sheets, and articles and through focused listening and speaking activities. Moreover, learners will acquire basic writing skills needed for full functioning in the medical professional realm.				

3rd Medical Educational Year Syllabus

<i>Course</i>	<i>Course Code</i>	<i>Hours Credits</i>	SYLLABUS CODE	PREREQUISITE COURSE
<i>Basic Immunology</i>	<i>IMMU711</i>	<i>30 Hours 3 credits</i>	ACD-SY3- IMMU711	BASIC MOLECULAR AND CELLULAR BIOLOGY, BIOCHEMISTRY, HISTOLOGY AND GENETICS
<p>This course is focused on the needs of medical students. It offers a concise and integrated overview of the normal functions of the human immune system and its role in protection against harmful microbes in the environment. It also addresses the role of the immune system in tumor control and in graft rejection. To cut through the complexities of immunology, the course is divided in three main sections: i) the components of the immune system, ii) the interactive functions of these components and iii) the role of the immune system in fighting infections, tumors and foreign tissues.</p> <p>This course is designed not only to induce an interest and an appreciation of the basic principles of immunology, but also to highlight the relevance of these principles to diverse areas of clinical practice including, but not limited to, infectiology, oncology and rheumatology.</p> <p>The tutorials (TD) focus on group work and presentations made by the students. The topics include: description and interpretation of advanced immunodiagnostic techniques presentation and investigation of simple clinical cases to briefly highlight the importance of basic physiological concepts in human health, preparing the students to engage in the course of clinical immunology.</p>				
<i>Basic Immunology (TP)</i>	<i>IMMU712</i>	<i>16 Hours 1.3 Credits</i>	ACD-SY3- IMMU712	BASIC MOLECULAR AND CELLULAR BIOLOGY, BIOCHEMISTRY, HISTOLOGY AND GENETICS
<p>The lab work gives the students the opportunity to:</p> <ul style="list-style-type: none"> -learn and apply basic good laboratory practice, mainly rules and regulations related to biosafety -observe, run and interpret simple immunodiagnostic techniques -write concise informative reports <p>The lab sessions span over 9 hours (3 sessions of 3 hours each).</p>				
<i>Semiology</i>	<i>IMED4901</i>	<i>105 Hours 10.5 Credits</i>	ACD-SY3- IMED4901	BASICS IN EACH SUBJECT
<p>This student-centered teaching course is designed to initiate students how to approach and interact with patients presenting with different symptoms. This course will provide to students the essential knowledge to analyze symptoms, the clinical signs to understand the mechanisms of the clinical presentation and to answer to the following questions: what is wrong, which systems are involved and finally to integrate signs and symptoms into syndromes.</p>				

<i>Molecular Biology</i>	<i>BMOL311</i>	<i>50 Hours</i> <i>5 Credits</i>	ACD-SY3- BMOL311	BIOCHEMISTRY- GENETICS- PHYSICS- CELL BIOLOGY- PHYSIOLOGY
Molecular biology, a discipline at the crossroads of genetics, biochemistry and physics, aims to understand the functioning of cells at the molecular level, but also all the techniques of nucleic acid manipulation and their applications. The course provides a molecular basis for physiopathology, diagnostics and therapeutics. It starts with the basic concepts and genomics. It then deals with the tools of genetic engineering, the methods of analysis of the genome and its modifications, as well as genotypic diagnosis in the medical field.				
<i>Molecular Biology (TP)</i>	<i>BMOL312</i>	<i>15 Hours</i> <i>0.75 Credits</i>	ACD-SY3- BMOL312	BIOCHEMISTRY- GENETICS- PHYSICS- CELL BIOLOGY- PHYSIOLOGY
For the practical sessions, the groups have 26 to 30 students working in pairs and supervised by the teacher and an assistant. Some manipulations are carried out in demonstration by the teacher and the assistant. The students hand in a report after certain sessions and take a written exam at the end of the course, which is marked independently of the theoretical exam.				
<i>Cardiovascular Physiology</i>	<i>PHYS131</i>	<i>30 Hours</i> <i>3 Credits</i>	ACD-SY3- PHYS131	NONE
This course provides a detailed overview of key concepts of cardiovascular physiology including discussion of current research in the field. Topics to be covered include: electrophysiology; excitation-contraction coupling mechanics; nervous system control; vascular function, metabolism, development, and adaptation.				
<i>Systematic Histology</i>	<i>HIST621</i>	<i>50 Hours</i> <i>5 Credits</i>	ACD-SY3- HIST621	CELL BIOLOGY AND BASIC HISTOLOGY
"Histology of Organs" is principally designed to provide students with an understanding of the structural and functional organization of the human body at the cellular and subcellular levels. Because there is an inseparable relationship between structure and function, emphasis is placed on structural-functional correlates at both the light and electron microscopic levels. Descriptions of alterations in normal histology through disease or injury provide an understanding of the etiology of various disease states. As such, the study of system histology not only complements the study of Gross Anatomy but rather establishes a solid foundation for the understanding of both physiology and pathophysiology.				
<i>Systematic Histology Lab (TP)</i>	<i>HIST622</i>	<i>20 Hours</i> <i>1 Credit</i>	ACD-SY3- HIST622	CELL BIOLOGY AND BASIC HISTOLOGY
Each of the practical Lab sessions will cover one of the topics stated in the Lab outline. As such, students are instructed, using a bright-field microscope, to visualize and identify a series of tissue sections slides pertinent to that topic. Thereafter, the student is directed to present a lab report t				

includes drawings with associated labeling for each of the tissue sections observed by the end of sessions.				
Parasitology - Mycology	MICR821	15 Hours 1.5 Credits	ACD-SY3- MICR821	NONE
<p>The course describes the structure, function, life cycle and pathogenicity of the most important parasitic protozoa, helminths, arthropods and pathogenic fungi in humans. It also includes their interactions with the host's immune system and methods for preventing disease and spreading. Laboratory sessions are substituted by PowerPoint demonstration of slides for the diagnosis of the most important parasites & fungi.</p> <p>This course is a prerequisite of infectious diseases that can accompany any organ system.</p>				
Clinical Biochemistry	BIOL231	20 Hours 2 Credits	ACD-SY3- BIOL231	GENERAL BIOCHEMISTRY – SEMIOLOGY - IMMUNOLOGY
<p>Clinical Biochemistry is the field of medical biology concerned with the analysis of molecules contained in the human body fluids and the interpretation of these analyses with the aim of characterizing the pathophysiological origin of a disease.</p> <p>Clinical Biochemistry deals with the measurement of chemicals (both natural and unnatural) in blood, urine and other body fluids. The investigation into the human physiology of enzymes, carbohydrates, lipids, proteins, electrolytes and hormones are an important function in a clinical laboratory in regards to the diagnosis and monitoring of disease states. Clinical Biochemistry course reviews the function of these chemicals and introduces clinical chemistry tests and instrumentation used for their identification and quantitation. Conditions and disease states associated with abnormal findings of these elements are also discussed.</p> <p>The course focuses on the molecules in question, their origins, their diagnostic interests, and their dosages, and the interpretation of these results according to the Laboratory tests' panel. This interpretation takes into account the physiological characteristics of the patient and the symptoms identified by the clinician. Hence, the analysis and the interpretation of test results as they correlate to clinical diagnosis will be discussed in this course.</p>				
Biophysics	BIPH111	25 Hours 2.5 Credits	ACD-SY3- BIPH111	NONE
<p>This course gives an introduction to the principles and processes that are relevant and important for cancer radiation therapy and radiation-based medical diagnostics and imaging. It also provides an understanding of how the properties of biological systems are determined by basic physical principles at the atomic, molecular and cellular levels.</p>				
Neuroanatomy	ANAT531	60 Hours 6 Credits	ACD-SY3- ANAT531	GENERAL ANATOMY, BASIC KNOWLEDGE OF HUMAN BIOLOGY AND PHYSIOLOGY

<p>Neuroanatomy course covers the basic structure and function of the central nervous system, from spinal cord to cerebral cortex. The major sensory, motor, and integrative neural systems of the human brain are discussed, and also how circuits directly contribute to human behavior. Students will learn how structure forms the basis for function and how precision in comprehending and articulating detailed information is vital for expertise in neuroscience. Based on an understanding of normal neural connections and brain function, the anatomical and physiological bases for multiple neurological disorders are also introduced. In the course we will go over the different functional systems that lay at the foundation of the brain's structure, we will survey the anatomical paths and structures in functional approach.</p>				
<i>Neurophysiology</i>	<i>PHYS161</i>	<i>30 Hours 3 Credits</i>	<i>ACD-SY3- PHYS161</i>	
Not prepared yet				
<i>Metabolic Physiology: Gastrointestinal and Endocrine Physiology</i>	<i>PHYS151</i>	<i>60 Hours 6 Credits</i>	<i>ACD-SY3- PHYS151</i>	GASTROINTESTINAL AND ENDOCRINE ANATOMY AND HISTOLOGY
<p>The gastrointestinal system determines the way nutrients enter and leave our bodies; the proper function and coordination of these processes are vital for maintaining good health. This course focuses on the gastrointestinal system to provide understanding of its organs including the liver, gallbladder and pancreas and their respective physiological functions: digestion and absorption of nutrients; enzymes involved in the digestive system.</p> <p>This course is designed to provide a broad overview of human endocrinology. Course topics will include studying the major endocrine glands, production and synthesis of hormones, mechanisms of action and regulation of hormone secretion, as well as various aspects regarding the anatomy, biochemistry and physiology of the endocrine systems.</p> <p>Upon completion of this course, students will have obtained a complete overview of the components and the function of the gastrointestinal and endocrine systems to prepare them for their exams and medical practice.</p>				
<i>Homeostatic Physiology: Renal and Respiratory Physiology</i>	<i>PHYS141</i>	<i>45 Hours 4.5 Credits</i>	<i>ACD-SY3- PHYS141</i>	ANATOMY, RENAL AND RESPIRATORY HISTOLOGY
<p>This course teaches the functions of the pulmonary and renal system of human body at a level required for clinical medicine. The course covers normal physiology, as well as selected diseases. The ultimate goal is for students to develop an understanding of the integrated functions of the normal body and “problem solving” and “critical thinking” skills in evaluating clinical situations.</p>				
<i>Medical Bacteriology</i>	<i>MICR811</i>	<i>40 Hours 4 Credits</i>	<i>ACD-SY3- MICR811</i>	CELL BIOLOGY
<p>The course includes structure, physiology, metabolism and pathogenesis of medically important bacteria. In addition, how spread of pathogenic microorganisms occurs and can be controlled through prophylactic measures or treatment of infections. A major focus area is how different</p>				

<p>genetic systems among microorganisms affect virulence and pathogenicity. Mechanisms of action of antibiotics, bacterial mechanisms of antibiotic resistance and how these affect local and global health care is also included.</p> <p>This course is a prerequisite of infectious diseases that can accompany any organ system.</p>				
<i>Medical Bacteriology Lab (TP)</i>	<i>MICR812</i>	<i>20 Hours 1 Credit</i>	<i>ACD-SY3- MICR812</i>	<i>NONE</i>
<p>The laboratory provides practical experience with the fundamental techniques and instrumentation of microbiology.</p>				
<i>Medical Virology</i>	<i>MICR831</i>	<i>30 Hours 3 Credits</i>	<i>ACD-SY3- MICR831</i>	<i>NONE</i>
<p>The course includes structure, classification, replication, and mechanisms of pathogenesis of human and animal viruses. An introduction to basic laboratory techniques for culturing viruses, preparation of cell cultures, ways of preservation of viruses & cell cultures & the importance of molecular biology techniques in diagnosis are also discussed. A special focus includes interactions of viruses with cells, outcomes of virus-virus interactions, evasion of host responses, latency, chronicity, persistence & transformation. Antiviral therapies & vaccine preparations are also discussed.</p> <p>This course is a prerequisite of infectious diseases that can accompany any organ system.</p>				

4th Medical Educational Year Syllabus

<i>Course</i>	<i>Course Code</i>	<i>Hours Credits</i>	SYLLABUS CODE	PREREQUISITE COURSE
<i>Psychiatry</i>	<i>PSY1211</i>	<i>40 Hours 4 Credits</i>	ACD-SY4- PSY1211	NONE
<p>Psychiatric disorders are prevalent in society and the majority of patients are treated by non-psychiatrists hence knowledge and clinical reasoning regarding these disorders are crucial for all physicians irrespective of their specialty.</p> <p>This course encompasses substance use and other addictive disorders, psychotic disorders, as well as mood and anxiety disorders. The purpose is to provide medical students with the knowledge necessary to identify and treat patients with psychiatric disorders.</p>				
<i>Clinical Ethics</i>	ETHICS621	<i>15 Hours 1.5 Credits</i>	ACD-SY4- ETHICS621	NONE
<p>Once out in the real world looking after patients junior and seasoned practitioners face more important issues such as ethics, that is about right and wrong and the reasons that we give for our choices and actions. This works the decision to make after a careful analysis of the professional regulations, commitments to patients, families and friends as well as the availability of real alternatives and financial issues. Positivism in the 19th century led to the oblivion of the human sciences in medical studies. The person has been driven out of his/her body and the urgent action is to bring it back to that body in a relation that raises forgotten questions.</p> <p>We believe that Ethics find naturally its source of reflection in Action. Therefore, more the student is in direct contact with the action, more he/she would appreciate the variety of the raised questions & challenges. Ethics curricula are provided in three stages: Preclinical, Clinical and postgraduate.</p>				
<i>Pathology</i>	AP211	<i>100 Hours 10 Credits</i>	ACD-SY4- AP211	CYTOLOGY, HISTOLOGY
<p>Anatomic Pathology course orients the students toward the identification and documentation of the structural and functional consequences of injurious stimuli on cells, and the patterns of host reaction to these influences.</p>				
<i>Pathology Lab (TP)</i>	AP212	<i>20 Hours 1 Credit</i>	ACD-SY4- AP212	CYTOLOGY, HISTOLOGY
<p>A list of links to virtual slides is prepared.</p> <p>Each student tries to discover the main elements of the diagnosis.</p> <p>The instructor verifies the relevance of the interpretation and makes the needed corrections.</p> <p>The instructor gives at the end of each session a “take home message”.</p>				
<i>Clinical Genetics</i>	GENE421	<i>30 Hours 3 Credits</i>	ACD-SY4- GENE421	MOLECULAR BIOLOGY AND HUMAN GENETICS
<p>This course is an expansion of what has been taught in the 3rd and 2nd year and aims to introduce students to the field of genetic counseling and its importance when discussing genetically transmitted</p>				

diseases with families. It will also expand the student's knowledge about the different genetic diseases and their mode of transmission as well as calculate the risk of acquiring the disease in the population.				
<i>Dermatology, Venereology</i>	IMED1011	25 Hours 2.5 Credits	ACD-SY4- IMED1011	NONE
The students will receive complete information on the current and routine diseases in dermatology including a description of the disease, clinical presentation, risk factors and management. Clinical cases are presented at the end of each session by the instructor which makes the course more interactive. Take home messages are also welcome.				
<i>Rheumatology</i>	IMED49	30 Hours 3 Credits	ACD-SY4- IMED49	NONE
Musculoskeletal complaints are among the most common problems that presents to primary care physicians and arthritis is a major cause of disability in society. It is thus essential that physicians develop skills for the recognition and treatment of common rheumatologic diseases. Among these: rheumatoid arthritis, vasculitis, lupus, scleroderma, seronegative spondyloarthropathies, etc...				
<i>Biostatistics</i>	BIOS111	30 Hours 3 Credits	ACD-SY4- BIOS111	NONE
This is an introductory course to biostatistics, that will allow you to understand the basics of biostatistics, what it means and why we use it. This course will also make you familiar with some biostatistical methods, mainly those for beginners. Giving advanced biostatistics is beyond the scope of this course.				
<i>Pharmacology and Toxicology</i>	PHAR1011	100 Hours 10 Credits	ACD-SY4- PHAR1011	NONE BASIC COURSES IN BIOCHEMISTRY AND PHYSIOLOGY
This course explores the basic principles of pharmacology including pharmacodynamics, pharmacokinetics, drug actions and interactions. It provides basic knowledge about commonly used groups of drugs affecting different body systems and their implications in therapy of disease. It provides the reasoning skills needed to readily evaluate therapeutically relevant details of new pharmacological agents and evolving concepts of therapeutics and assimilate that understanding into practice throughout the student's future professional career. It also introduces basic information on important traditional areas in toxicology which will include principles and definitions.				
<i>Clinical Immunology</i>	IMMU721	21 Hours 2.1 Credits	ACD-SY4- IMMU721	BASIC IMMUNOLOGY - BASIC MICROBIOLOGY
This course is a complement to the course of Basic Immunology, offered in the 3rd academic year of medicine. Its aim is to provide medical students with an advanced and applied knowledge of various medical practices in the field of clinical immunology. It covers three themes: - vaccination and immunotherapy - immunopathologies: congenital immunodeficiency, auto-immunity and hypersensitivities - transplantation				

Clinical Immunology (TP)	IMMU722	9 Hours <i>0.45 Credits or 0.9 Credits (as Clinical Immunology total credits = 30)</i>	ACD-SY4- IMMU722	BASIC IMMUNOLOGY - BASIC MICROBIOLOGY
<p>The tutorials (TD) focus on group work and presentations made by the students. They are intended to provide a practical application of the knowledge acquired in the lectures. They are based on discussion of scientific original articles and reviews and on analysis of clinical cases.</p> <p>Three tutorial sessions are dedicated to:</p> <ul style="list-style-type: none"> - the discussion of new approaches in vaccine development, correlating vaccine composition with expected protective properties - presentation of a preclinical trial or clinical case of cancer immunotherapy, to identify the optimal treatment choice and interpret the result of the treatment - discussion of a clinical case of congenital immunodeficiency, explaining the clinical and laboratory diagnostic approach and results, and identifying the optimal treatment choice - discussion of a clinical case of hypersensitivity/auto-immunity, highlighting the workup, the treatment and the follow-up. 				
Genitourinary Surgery	SURG891	25 Hours <i>2.5 Credits</i>	ACD-SY4- SURG891	NONE
<p>Our didactic course represents an introduction of the most common pathologies encountered in Urology. We focused on the pathologies that will be encountered during the internship of the medical students so it can help them later on to manage these urological conditions during their residency and their career whatever is their specialties.</p>				
Cardiothoracic Surgery	SURG811	15 Hours <i>1.5 Credits</i>	ACD-SY4- SURG811	CARDIAC AND PULMONARY ANATOMY AND PHYSIOLOGY
<p>The course is intended to introduce the pathologies related to Cardio-Thoracic Surgery, directly related to what have been taught in Cardiac and Pulmonary Anatomy and Physiology.</p>				
Cardiovascular Pathophysiology	IMED411	60 Hours <i>6 Credits</i>	ACD-SY4- IMED411	CARDIOVASCULAR PHYSIOLOGY
<p>This course will include the cardinal manifestations, definition, epidemiology, pathogenesis, genetics, clinical presentation, complications, differential diagnosis, investigations, treatment and prevention and prognosis of all cardiovascular diseases. In addition, it covers the recent advances that have occurred in the field of cardiology.</p> <p>By the end of this course, the candidate should be well versed with all the common and important adult cardiovascular disease.</p>				

General Surgery	SURG831	50 Hours 5 Credits	ACD-SY4- SURG831	NONE
<p>The education of future physicians in the heart of the Lebanese University includes a period of 7 years called medical school, the first 4 and a half years are spent on Campus, while the remaining time is designated as clinical Rotations and takes places in different accredited hospitals.</p> <p>Traditionally, the first 2 years of medical school are utilized to teach the basic sciences. Whereas the 3rd and the 4th year cover clinical sciences.</p> <p>Students are formally taught the discipline of surgery during the fourth year over a period ranging from 8 to 12 weeks.</p> <p>It is very clear that given the tremendous increase in medical knowledge, surgical technology, and intricate operative procedures, teaching surgery to medical students during this relatively short exposure has become an immense challenge. To meet the challenge, our educators have established realistic learning objectives for the student and have not only relied on the of use traditional teaching methods but employ new modalities where appropriate as well. In this sense the teaching process at the Lebanese University encompasses next to traditional lectures, technical skill acquisition through simulation-based training strategies in our lab.</p> <p>Although the topics covered in the lectures are updated on a regular based to keep up with the latest guidelines.</p> <p>During this course, students are introduced to the principles of caring for the surgical patient. Students participate in the care of patients in the various stages of evaluation and treatment by surgeons (preoperative, intraoperative, postoperative). The student will begin to understand the general process of the application of surgical therapy to patients in a wide variety of settings as a member of the multidisciplinary team.</p>				
Hematology	IMED431	15 Hours 1.5 Credits	ACD-SY4- IMED431	GENERAL HEMATOLOGY (2ND YEAR)
<p>This course intends to help students understand the pathophysiology and management of common and clinically important benign hematology disorders, including: anemia, thrombosis, acquired and hereditary bleeding disorders, and thrombocytopenia as well as gain basic knowledge about blood transfusion and hematopoietic stem cell transplantation.</p>				
Respiratory Pathology	IMED481	30 Hours 3 Credits	ACD-SY4- IMED481	RESPIRATORY SEMIOLOGY AND PHYSIOLOGY
<p>This covers the various pathological conditions and their histopathological appearances. The course also covers the most common microbiological agents affecting the system. The drugs acting on the respiratory system are also discussed with emphasis on their uses and side effects. The course is accompanied by a short introduction to the clinical presentation of the patient with a respiratory disease.</p>				
Gastrointestinal pathology	IMED421	60 Hours 6 Credits	ACD-SY4- IMED421	DIGESTIVE PHYSIOLOGY
<p>This course provides information on presentation, pathophysiology, diagnosis, management, and</p>				

treatment of GI diseases such as inflammatory bowel disease, constipation, as well as neoplastic disorders involving this system. Such information is essential for medical students who are getting ready for clinical rotations where presentations of GI disorders are common.				
<i>Endocrine Pathology</i>	<i>IMED4101</i>	<i>40 Hours 4 Credits</i>	ACD-SY4- IMED4101	ENDOCRINE PHYSIOLOGY
The student will be introduced to the significant endocrine pathologies which appear as comorbid conditions in the field and will be better equipped to educate their patients on disease prevention where applicable.				

5th Medical Educational Year

Course	Course Code	Hours Credits	SYLLABUS CODE	PREREQUISITE COURSE
<i>Medical Ethics</i>	ETHICS631	30 Hours 3 Credits	ACD-SY5- ETHICS631	NONE
<p>Once out in the real world looking after patients junior and seasoned practitioners face more important issues such as ethics, that is about right and wrong and the reasons that we give for our choices and actions. This works the decision to make after a careful analysis of the professional regulations, commitments to patients, families and friends as well as the availability of real alternatives and financial issues. Positivism in the 19th century led to the oblivion of the human sciences in medical studies. The person has been driven out of his/her body and the urgent action is to bring it back to that body in a relation that raises forgotten questions.</p> <p>We believe that Ethics find naturally its source of reflection in Action. Therefore, more the student is in direct contact with the action, more he/she would appreciate the variety of the raised questions & challenges. Ethics curricula are provided in three stages: Preclinical, Clinical and postgraduate.</p>				
<i>Epidemiology</i>	EPID121	40 Hours 4 Credits	ACD-SY5- EPID121	NONE
<p>This course is an introduction to epidemiology; it helps students recognize the value of this discipline in observational research, whether clinical or public health.</p>				
<i>Clinical Neurology: Pathology</i>	IMED471	30 Hours 3 Credits	ACD-SY5- IMED471	BASIC IN NEUROSCIENCES FOR MEDICAL STUDENTS: NEUROANATOMY, NEUROPHYSIOLOGY, SEMIOLOGY INCLUDING THE IDENTIFICATION AND ANALYSIS OF SYMPTOMS AND CLINICAL SIGNS IN NEUROLOGY.
<p>This student-centered teaching course is designed to initiate students how to approach and interact with patients presenting with neurologic diseases involving central, peripheral nervous systems and neuromuscular impairments. This course will provide to students the essential knowledge to understand the pathophysiology, the mechanisms, the etiology, the clinical presentation and the variant subtypes of the major neurological diseases; it will develop the basic principles in the management of patients with neurological diseases and the most updated therapeutic options.</p>				

<i>Renal Pathology</i>	IMED461	45 Hours 4.5 Credits	ACD-SY5- IMED461	RENAL PHYSIOLOGY, ANATOMY, HISTOLOGY
The student will understand and differentiate the different etiologies, clinical presentations, pathogenesis, epidemiology, and the treatment for all renal pathologies.				
<i>Infectious Disease</i>	IMED441	30 Hours 3 Credits	ACD-SY5- IMED441	PATHOPHYSIOLOGY, DIAGNOSIS AND MANAGEMENT OF PATHOLOGIES IN INFECTIOUS DISEASES
Infections are the most common encountered medical problems, so medical students should have knowledge about management of most common infectious problems, antibiotic use, vaccination programs, infection control rules in hospitals, prevention of infections in the community.				
<i>Pediatrics</i>	PEDS511	62 Hours 6.2 Credits	ACD-SY5- PEDS511	Infectiology Immunology
The course includes immunization schedules, growth and development, common mild and major infectious and noninfectious diseases, acute and chronic illnesses, hereditary disease in newborn, infant, child and adolescent, clinical signs, diagnosis, prognosis and treatment. Students should develop the best clinical approach and his competency in taking history and physical examination. He must recognize a serious pathology and be able to ask for the necessary examinations and start a treatment as soon as possible.				
<i>Plastic Surgery and Maxilla Facial Surgery</i>	SURG881	16 Hours 1.6 Credits	ACD-SY5- SURG881	GENERAL KNOWLEDGE OF ANATOMY OF REGIONS AND DISEASES.
This course provides students with a general introduction to the knowledge of plastic, reconstructive and aesthetic surgery. It presents the basic techniques used in soft tissue reconstructive surgery to correct developmental deformities, traumatic, infectious or tumor losses and alterations of shape related to burns. These different techniques are considered topographically and etiologically in each of the cardinal regions of the body: head and neck, trunk, upper and lower limbs.				
<i>Otorhinolaryngology, Head and Neck Surgery Pathologies (ENT)</i>	SURG821	30 Hours 3 Credits	ACD-SY5- SURG821	NONE
The course is designed to enable students to acquire the knowledge, skills and attitudes in the discipline of otorhinolaryngology as essential for a general practitioner. The students should learn the principles of examination and management of common Ear, Nose and Throat diseases and acquire adequate skills to manage common diseases and be able to refer the complicated cases to an appropriate specialist.				

<i>Neurosurgery</i>	SURG841	15 Hours 1.5 Credits	ACD-SY5- SURG841	NONE
The neurosurgery course intends to provide the medical student with an introduction to common neurologic and neurosurgical problems such as trauma, hydrocephalus, stroke, back pain, bleeds in the head, and tumors. It will also help the student explore critical concepts in the pathophysiology of neurosurgical disorders.				
<i>Anesthesia & Reanimation</i>	SURG711	30 Hours 3 Credits	ACD-SY5- SURG711	BASIC SCIENCES RELATED TO ANESTHESIA INCLUDING ANATOMY, PHYSIOLOGY, PHARMACOLOGY AND BIOCHEMISTRY. MEDICINE APPLIED TO ANESTHESIOLOGY.
The Anesthesia & Reanimation Course for undergraduate medical students at Lebanese University is a Course of two parts. Part one, Anesthesia, consisted of 9 sessions and 14.5 hours. Part two, Reanimation, consisted of 10 sessions and 14 hours. Students have this course in their fifth undergraduate year. Students are given lectures to be familiarized with the basics of anesthesia and different anesthetic care plans, in addition to lectures on practice in Intensive care unit.				
<i>General Ophthalmology</i>	SURG851	20 Hours 2 Credits	ACD-SY5- SURG851	NONE
The course aims at introducing clinical ophthalmology to the medical student, highlighting common eye disorders, and their relation to systemic diseases.				
<i>Orthopedic Surgery</i>	SURG861	36 Hours 3.6 Credits	ACD-SY5- SURG861	CLINICAL ANATOMY (YEAR 2), ORTHOPEDIC SEMIOLOGY (YEAR 3)
Orthopedics is the surgical branch of medicine that manages the disorders of the musculoskeletal system ([Bones, joints, muscles, tendons, ligaments...]). This course is a didactic course that is given to the Fifth-year students over 35 hours. It explains the different pathologies related to these systems and organs from the metabolic level to macro level, with emphasis on pathophysiology, clinical scenarios, diagnosis and treatment. The course will help students to assess patients with the varied musculoskeletal pathologies both urgent and elective in order to offer the best care or decide to refer them to a specialist.				
CONTACTED				

<i>Pediatric Surgery</i>	SURG871	20 Hours 2 Credits	ACD-SY5- SURG871	NONE
Surgical diseases of developmental age are divided into: anomalies, inflammations, injuries, neoplasms and others. Going further, each group of disease can touch everybody region and every system or organ. So pediatric surgery brings together almost all surgical sub-specialties: neurosurgery, thoracic surgery, gastro-intestinal surgery, colo-rectal surgery, oncological surgery, traumatology, plastic and reconstructive surgery, urology, vascular surgery and endoscopic surgery. During the course we discuss the most common pathologies and turn students' attention to practical aspect of pediatric surgery, what will allow them to make good decisions in the future.				
<i>Obstetrics and Gynecology</i>	OBGY611	60 Hours 6 Credits	ACD-SY5- OBYG611	ANATOMY – BACTERIOLOGY – GYNECOLOGY SEMIOLOGY (FOR 5TH YEAR STUDENTS)
This course contains the main topics that a student need and should know concerning women health. The gynecologic part will cover the physiology and normal encounters of women reproductive system, in addition to the diseases and malignancies specific to women. The obstetrics part of the course will cover the physiology of pregnancy, the normal events in pregnancy in addition to the main maternal and fetal complications that every medical student should recognize.				
<i>Initiation to Scientific Research</i>	SCRE941	10 Hours 1 Credit	ACD-SY5- SCRE941	INTRODUCTION TO SCIENTIFIC READING (2ND YEAR)
This course entails a scientific and methodological approach to teach the student how to read, understand, dissect and present scientific papers depending on the purpose of the presentation (awareness campaign, fund application, formal standard article presentation). It also guides the student to create his own study protocol by using different study designs. Furthermore, it explains the different phases of clinical trials before a drug accesses the market. This course certainly strengthens the presentations skills of the students but also their writing skills and creative minds!				
<i>Legal Medicine</i>	LEMD641	20 Hours 2 Credits	ACD-SY5- LEMD641	NONE
<p>Unlike any other medical specialty, legal medicine is not based on a specific part of the human body, nor is it limited to the mastery of a particular practice. The field of its application is vast and is witness to an evolution of science and society.</p> <p>Legal medicine covers a wide disciplinary field that goes beyond the thanatological mission. It also concerns all medical findings useful to justice, whether they concern victims of crime or their perpetrators.</p> <p>The development of the sphere of activity of legal medicine is the result of the evolution of legal rules, technical and scientific progress allowing a better communication between two worlds, medicine and justice.</p>				

Quality	QUAL111	15 Hours 1.5 Credits	ACD-SY5- QUAL111	NONE
This course covers the clinical risk management process, issues of patient safety and quality, and their application to both clinical and non-clinical areas. The knowledge acquired will help student participate in the improvement of patient safety and healthcare delivery.				
Oncology	IMED433	20 Hours 2 Credits	ACD-SY5- IMED433	HEMATOLOGY
This course is designed as an overview of modern oncology principles and will cover the diagnosis, treatment/screening measures, prevention, and controversies of cancer. There is a focus on the cancers that constitute the major burden in terms of numbers of cases and cancer deaths. Both childhood and adult tumors will be covered as well as solid and non-solid tumors.				
Radiology	RAD111	40 Hours 4 Credits	ACD-SY5- RAD111	BIOPHYSICS (3RD YEAR)
Students are introduced to the basics of diagnostic images, nuclear medicine, MR technology, ultrasound, and others. Specific subtopics might include thoracic (or chest-area) radiology, abdominal radiology, and administrative issues, including reporting. The goal is to provide the student with a broader understanding of the principles of radiology and a familiarity with the many diagnostic techniques available.				

Las update: 29/07/2023