



### **FUNDAMENTALS OF BIOMEDICAL SCIENCE**

*DESCRIPTION:* The Fundamentals of Biomedical Science course is designed to provide students with a broad foundation in critical biomedical science subject areas including biochemistry, molecular biology, cell biology, genetics, microbiology, immunology, pharmacology, pathology, physiology, histology, anatomy, and embryology. The course focuses first on biochemistry, molecular biology, cell biology, genetics, pharmacology and an introduction to the anatomical sciences. The course then builds on and extends this foundation into the areas of microbiology, immunology and pathology. Fundamentals of Biomedical Science is taught in 19 weeks and consists of lectures, problem based learning (PBL) sessions, team-based learning (TBL) sessions, small group discussions, and laboratory activities.



### **NEUROSCIENCE AND BEHAVIOR**

*DESCRIPTION:* The Neuroscience and Behavior Course provides the basic concepts and vocabulary in the areas of neuroanatomy, neurophysiology, sensory systems, neurochemistry, neuropharmacology, neuropathology, neurology and psychiatry. The course uses an integrated approach by combining lectures, problem-based learning (PBL) and anatomy laboratory instruction. The PBL sessions in small groups provide the fundamental knowledge of common neurological and psychiatric disorders that are complemented by lectures for specific diseases. The presentation of the neuroanatomy component emphasizes correlations with clinical cases and lead to the localization of brain lesions. The instruction in gross of anatomy of the head and neck is integrated with clinical correlates.



### **PATHOPHYSIOLOGY AND THERAPEUTICS 1**

*DESCRIPTION:* Pathophysiology and Therapeutics 1 provides basic concepts and vocabulary pertaining to the anatomy, chemistry, histology, microbiology, pathology, pharmacology and physiology of human nutrition, hematology and the gastrointestinal and hepatic systems, including normal nutrition and diagnosis and management of common nutritional disorders. The course uses a variety of teaching formats, including didactic lectures, large group team-based learning (TBL), small group Inquiry (IQ) cases and pathology labs, and Simulation Center instruction. IQ cases cover learning objectives not included in the lectures, so that the two formats complement but do not substitute for one another. For most sessions, there are recommended readings in the core texts. The Simulation Center component emphasizes correlations with clinical cases and differential diagnosis and treatment of digestive system lesions.



## **PATHOPHYSIOLOGY AND THERAPEUTICS 2**

*DESCRIPTION:* The Pathophysiology and Therapeutics 2 course provides the basic concepts and vocabulary in the areas of the anatomy, chemistry, histology, microbiology, pathology, pharmacology, and physiology of the cardiovascular, respiratory and related hematologic systems. The course uses an integrated approach by combining lectures, problem-based learning (IQ cases), team-based learning lessons, and simulated laboratory instruction. The IQ case sessions, in small groups, provide the fundamental knowledge of common cardiovascular and respiratory disorders that are complemented by lectures for specific diseases. The take-home IQ cases and pharmacology mini cases reinforce major themes and concepts delivered in lecture. The Simulation Center component emphasizes the clinical process of history, physical exam and medical testing to develop differential diagnoses and treat.



## **PATHOPHYSIOLOGY AND THERAPEUTICS 3**

*DESCRIPTION:* The Pathophysiology and Therapeutics 3 course provides the basic concepts and vocabulary in the areas of the anatomy, chemistry, histology, microbiology, pathology, pharmacology, and physiology in three separate systems - renal, reproduction and endocrine. The renal section teaches students the structure, physiology, pathophysiology and pathology of the kidneys and genitourinary tract. The physiology section consists of fluid balance, electrolyte balance and acid base balance as well as an approach to disorders in these areas of kidney function. Diseases of the kidneys and collecting system is reviewed. The reproductive section covers basic concepts and vocabulary of male and female biology as it relates to pathology, gynecological diseases and infertility. The endocrine section covers the anatomy, histology, physiology, pathophysiology and pathology of endocrine organs. The course is taught with an integrated approach which combines lectures, pathology laboratories, inquiry (IQ) cases (a form of problem-based learning), take-home problems sets (mini cases), team-based learning (TBL), a visit to a dialysis center and Simulation Center instruction. The IQ cases consists of small groups which provide the fundamental knowledge of common renal, endocrine and reproductive diseases that are complemented by lectures about specific diseases and pathophysiology. The take-home problem sets (mini cases) reinforce the major themes and concepts delivered in lecture. The Simulation Center and dialysis experience provide real and simulated clinical experience.



## **PATHOPHYSIOLOGY AND THERAPEUTICS 4**

*DESCRIPTION:* The Pathophysiology and Therapeutic 4 course is a 6-week course in the spring semester of Year 2 that builds on the foundation in gross anatomy, histology, chemistry, pharmacology, microbiology, and immunology taught during the Fundamentals of Biomedical Science courses in fall semester of Year 1. The course is designed to provide students with the principles of pathology, pathophysiology, diagnosis, and basic treatment rationale pertaining to infectious, immunologic and hematologic diseases. Integrated to this course are core principles of dermatological and ophthalmologic disorders. The course objectives focus on the primary disorders caused by infection, immunodeficiency, autoimmunity and hematological malignancies. The course uses an integrated approach by combining lectures, problem-based learning (IQ Cases), problem sets (i.e., mini cases), and simulated laboratory instruction. IQ cases in the small-group setting use a set of core cases to focus students on pathophysiology, diagnosis, public health aspects, and a first approach to management and is complemented by lectures for specific diseases. Mini cases reinforce major themes and concepts delivered in lecture. The laboratory component emphasizes the use of flow cytometry in the diagnosis and monitoring of immunological disorders.



### **FOUNDATIONS OF MEDICINE 1**

*DESCRIPTION:* The Foundations of Medicine (FOM) course provides students with an understanding of the fundamental principles necessary to become a competent, compassionate and professional physician with opportunities for direct patient care. FOM is divided into four courses: FOM 1, 2, 3 and 4 which run throughout the first two years of medical school. This separation is designed to provide a summative assessment to students at the end of each FOM course. The goal of the FOM 1 course is to assist students in developing the knowledge, skills, attitudes and behaviors that are needed to interview and examine patients; to answer clinical questions; to understand the importance of patient advocacy and disease prevention; to instill the foundation for the ethical and legal framework of patient care; and to integrate the knowledge of basic science, clinical skills and the science of clinical practice components. The course also introduces the skills needed to provide care to specific groups of patients such as elderly patients.



### **FOUNDATIONS OF MEDICINE 2**

*DESCRIPTION:* The Foundations of Medicine (FOM) course provides students with an understanding of the fundamental principles necessary to become a competent, compassionate and professional physician with opportunities for direct patient care. FOM is divided into four courses: FOM 1, 2, 3 and 4 which run throughout the first two years of medical school. This separation is designed to provide a summative assessment to students at the end of each FOM course. The overall objectives and content areas for the FOM 2 course in Year 1 are to continue the progression of the objectives of the FOM 1 course, adding new components and clinical skills at an advanced level.

The FOM 2 course is intended to assist students to deepen their knowledge and improve their skills, attitudes and behaviors needed to interview and examine the patient, to answer clinical questions, to understand the importance of patient advocacy and disease prevention, to explore barriers to health care, and to instill the foundation for the ethical and legal framework of patient care. Students continue to develop skills to strengthen the patient physician relationship. Additional Interprofessional Education sessions with the students and faculty from the FAU College of Nursing and School of Social Work will cover Financing of the health care system and continue the SAGE mentor visits.



### **FOUNDATIONS OF MEDICINE 3**

*DESCRIPTION:* The Foundations of Medicine (FOM) course provides students with an understanding of the fundamental principles necessary to become a competent, compassionate and professional physician with opportunities for direct patient care. FOM is divided into four courses: FOM 1, 2, 3 and 4 which run throughout the first two years of medical school. This separation is designed to provide a summative assessment to students at the end of each FOM course. The overall objectives and content areas for the FOM 3 course in Year 2 are to continue the progression of the objectives of the FOM 1 and 2 courses, adding new components and clinical skills at an advanced level.

The goal of the FOM 3 course is to assist the students in expanding their medical knowledge and to refine their clinical skills, attitudes and behaviors needed to interview and examine the patient; to generate and answer clinical questions; to develop their clinical reasoning; to understand the importance of patient advocacy and disease prevention; to explore the barriers to health care and to instill the foundation for the ethical and legal framework of patient care. The course also introduces the skills needed to care for specific groups of patients such as children, the elderly, LGBT individuals, as well as patients at the end of life.



### **FOUNDATIONS OF MEDICINE 4**

*DESCRIPTION:* The Foundations of Medicine (FOM) courses provide students with an understanding of the fundamental principles necessary to become a competent, compassionate and professional physician. FOM is divided into four courses: FOM 1, 2 3 and 4 which run throughout the first two years of medical school. This separation is designed to provide summative and formative assessments to students at the end of each FOM course.

The goal of the FOM 4 course is to assist the students in expanding their medical knowledge and refining their clinical skills, attitudes and behaviors needed to interview and examine the patient; to generate and answer clinical questions using evidence; to develop their clinical reasoning; to introduce students to the hospital setting and system of inpatient medicine in preparation for the student's Year 3 clerkships.



### **USMLE STEP 1 REVIEW**

*DESCRIPTION:* USMLE Step 1 Review is a six-week course at the end of Year 2 in which medical students pursue directed independent study with faculty support and resources in preparation for the USMLE Step 1 Examination.



### **SYNTHESIS AND TRANSITION**

*DESCRIPTION:* Synthesis and Transition is two-week course at the beginning of Year 3 designed to help students synthesize knowledge acquired in the first two years of medical school to prepare them for a smooth transition to the Year 3 clerkships. The course includes 1) Case Seminar, a complex PBL/IQ case that integrates across multiple organ systems and focuses on differential diagnosis and treatment decisions; and 2) Simulation Center and interactive work on clinical reasoning and clinical skills building across multiple core disciplines.



### **TRANSITION TO RESIDENCY**

*DESCRIPTION:* This two-week capstone course is offered in March at the end of the Year 4. The goal of this course is to prepare students to work effectively as interns, residents and practicing physicians. Additionally, it helps students to develop the knowledge, attitudes and skills necessary to be successful in their professional lives. Activities that will be covered include rapid response scenarios, central venous catheter and/or interosseous line insertion, airway management, multitasking, organization and prioritization, advanced communication skills, reflective exercises, and teaching skills. These are taught by using simulated scenarios, team-based learning exercises and larger group lectures.