OBJECTIVES

PATHOPHYSIOLOGY & THERAPEUTICS – I/II COURSES

Upon completion of the Pathophysiology and Therapeutics course, students will be able to:

ALTRUISM

• Identify the basic ethical principles relating to the choices of various pharmacologic, non-pharmacologic and alternative treatments of the major diseases of the various major organ systems.

• Develop patient treatment plans cognizant of individuals’ beliefs and values to maximize his/her understanding and treatment outcome.

• Adhere to the school’s Honor Code by practicing its principles in small group activities, laboratories, lectures, clinical correlations and clinicopathologic conferences where they interact with their colleagues, the faculty and with patients and in exams.

• Describe the roles of various health care professionals and the need for collaboration in delivering patient care.

• Estimate the incidence of disease among various U.S. populations and inter-patient variations in responses to treatments.

KNOWLEDGE

• Distinguish both the normal functioning of the major organ systems and the pathologic processes involved in the major organ-based diseases and syndromes.

• Explain the molecular, biochemical, and cellular mechanisms known to cause or underlie various pathophysiological states and the mechanism of the drugs and chemicals used to combat the major diseases and syndromes.

• Describe the pathology/pathophysiology of the major organ diseases and correlate those changes with the molecular, biochemical, and cellular changes.

• Identify the causes of the important diseases of the major organ systems.

• Illustrate the importance of genetics, genomics and molecular biology in the epidemiology, diagnosis and treatment of various diseases.
• Recognize the application of bioinformatics to the study of emerging disease and to their treatment will emerge.

• Describe the tests used in diagnosing pathophysiologic states of major organ systems.

• Summarize the basic principles of pharmacology, the mechanism of action and side effects of all major classes of drugs, the choice of drugs for major illnesses and drug interactions.

• Apply the concept of “lifelong learning” to their education through the need to review normal anatomical, biological, genetic, neuroscience and physiological parameters from Year I while approaching pathophysiological studies of the organ systems in Year II.

SKILLS

• Identify critical aspects of a focused medical history and physical exam (both as part of this course and with strong correlation with the Introduction to Clinical Medicine Courses), synthesize and analyze this information and formulate a differential diagnosis.

• Apply information learned in the course to the various system-specific examinations in the parallel Introduction to Clinical Medicine course.

• Interpret the results of commonly used diagnostic tests and procedures Used in the evaluation of diseases of the major organ systems and integrate the clinicopathologic manifestations with results of these commonly used clinical and laboratory tests and radiologic/non-radiologic imaging to determine the underlying etiology.

• Assess the cause and gradation of pain, and apply pharmacologic principles to the treatment of mild to severe pain with the appropriate use of NSAIDs, opioids, adjunctive and/or alternative medication and treatment in both acute and chronic conditions.

• Define, analyze and interpret the epidemiologic, clinical, pathologic and diagnostic data to determine the causes and optimal treatment of the major clinical diseases.

• Describe the most appropriate diagnostic and therapeutic strategies for the major acute and chronic organ-based diseases.

• Identify the signs and symptoms of common life-threatening events related to the major organ systems and institute appropriate initial therapy and/or admission to a hospital
• Recognize the best initial course of management for patients with serious conditions requiring critical care, due to acute, severe disease of the major organ systems.

• Demonstrate maturation in their abilities to communicate with each other and with the faculty

**DUTIFUL**

• Describe the importance of the socio-economic status and the psychological and cultural factors inherent in the development of various systemic diseases.

• Identify the basic epidemiologic principles as applied to organ-based diseases.

• Retrieve data from the medical school education website and the internet and define the validity/non-validity of such information