



# COURSE INFORMATION SHEET

**Title of Course: General Pathology**

**Academic Year:** 2017-2018

**Duration of Course:** 4 weeks

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## **Mission Statement of Course:**

The main focus of this clinically oriented General Pathology course is to examine the basic and common responses of cells and tissues to various types of injurious stimuli and to relate these changes to the pathogenesis, clinical presentation, and treatment of human disease.

## **Goals of Course:**

Pathology is the study of functional and structural abnormalities resulting in disease processes. The study of pathology is divided into General Pathology (this course), which examines basic and common responses of cells and tissue to various stimuli, and Systemic Pathology (distributed over several 2<sup>nd</sup> year pathophysiology courses), which studies disease processes in specific organ systems (e.g., cardiovascular, pulmonary, renal, etc.).

After a brief introduction (which will include a synoptic review of some features of normal histology), the 5 major modules/topics we will examine in General Pathology are Cell Injury, Inflammation & Repair, Hemodynamic Disorders, Immunologically Mediated Disease, and Neoplasia. Additional material will be presented on Nutritional Pathology and the hospital-based and forensic aspects of the postmortem examination (i.e., autopsy) – all of which fall under the purview of General Pathology. The final lecture, part of the Frontiers in Science series, will be given by Dr. Michael Donovan and will discuss the latest opportunities and techniques related to the procurement and use of pathologic tissue in translational and basic medical research.



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## Objectives of Course:

Students who have completed the General Pathology course will be able to:

- Recognize basic morphological patterns of the cellular response to injury and correlate these with etiology, pathogenetic mechanisms, cellular outcomes, and clinical implications.
- Compare and contrast the pathogenetic mechanisms and morphological appearances of acute vs. chronic inflammation, apply knowledge of morphological patterns to propose etiological differential diagnoses, and formulate basic therapeutic approaches.
- Apply an understanding of the mechanisms underlying healing and repair to strategize optimal management for wound healing.
- Apply an understanding of different pathogenetic mechanisms that lead to intercellular edema to construct a list of etiological differential diagnoses based on fluid cytological and biochemical analysis.
- Analyze the etiopathogenetic mechanisms leading to thrombosis, disseminated intravascular coagulation (DIC) and shock, and recognize the possible outcomes and clinicopathological consequences of these major circulatory disorders.
- Discuss the pathologic alterations and clinical consequences of nutritional disorders, including those seen with global nutritional excess or deprivation, and those seen with selected nutrient deficiencies.
- Employ an understanding of the pathogenesis and morphological characteristics of the different types of hypersensitivity reactions to characterize autoimmune disorders with respect to pathogenetic mechanisms, pathological features, and clinical consequences.
- Discuss the clinicopathological features of amyloid and amyloidosis.
- Describe and categorize neoplasms by site/organ and tissue of origin; gross, microscopic, and immunohistochemical features; benign vs. malignant potential; molecular characteristics; natural history; and clinical presentation.
- Discuss the value of the autopsy in improving clinical diagnosis and management, quality control, medical education, research, and characterization and elucidation of "new" disease entities. Describe the postmortem examination procedure and discuss common reasons that may cause the autopsy permission to be denied.
- Describe the function and organization of the Medical Examiner system and discuss its role in postmortem examination.