

## **Therapeutics II (PHCL 442)**

### **Course coordinator:**

*Dr Khalid Alkharfy*

### **Course instructors:**

1. *Dr. Khalid Alkharfy*
2. *Dr. Jamal Elazab*
3. *Dr. Mohammed Alhasan*

### **Course description:**

This course integrates the pathophysiologic abnormalities of disease states with concepts of drug action and therapy. State-of-the art pharmacotherapy will be reviewed with pertinent pathophysiology. Emphasis will be placed on drug selection, dosing regimen design, and therapeutic drug monitoring to assess the attainment of therapeutic efficacy and avoidance of adverse reactions. Identification and treatment of significant drug-drug or drug-disease state interactions will also be covered. Pharmacotherapy of selected disease states will be illustrated using patient cases.

### **Course goals:**

1. Enhance the student's knowledge of all aspects of drug therapy and his understanding of how drugs cure disease or ameliorate signs and symptoms of disease.
2. Enhance the student's therapeutic problem-solving skills so that he can integrate and apply pathophysiologic and pharmacotherapeutic knowledge in the development of drug therapy plans.

### **Course objectives:**

Upon successful completion of this course, students should be able to:

1. Recognize the signs and symptoms for the common conditions in the areas of renal, pulmonary, oncology, hematology, CNS, and infectious diseases based on an appropriate understanding of the underlying pathophysiology and diagnostic criteria.
2. Compare the various treatment options and select and/or recommend patient-specific drug therapy plans using the principles of evidence-based pharmacotherapy when appropriate guidelines are not available or applicable.
3. Evaluate the appropriateness of patient-specific drug therapy regimens.
4. Counsel patients regarding the proper use of the drugs used.
5. Monitor expected therapeutic outcomes and potential adverse effects of drug treatment, including frequency of monitoring.

## Topics to be covered:

1. Disease workup - overview
2. Renal failure (RF)
  - a. Acute renal failure
  - b. Chronic renal failure
3. Anemias
  - a. Iron deficiency anemia
  - b. Megaloblastic anemias
  - c. Inherited diseases affecting hemoglobin synthesis (sickle cell and thalassemias)
  - d. Drug-induced anemias
4. Respiratory tract diseases
  - a. Bronchial asthma
  - b. Chronic obstructive pulmonary diseases (COPD)
5. Oncologic disorders
  - a. General principles
  - b. Clinical use of antineoplastics
  - c. Pain management
6. CNS disorders
  - a. Depression
  - b. Epilepsy
7. Infectious diseases
  - a. General principles of antimicrobials
  - b. Urinary tract infections
  - c. Pneumonia
  - d. Tuberculosis

## Student's evaluation:

Midterm Exam-1	26 points
Midterm Exam-2	14 points
Tutorial	20 points
Final Exam	40 points
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Total	100 points

## Reading materials:

1. DiPiro JT, Talbert RL, Hayes PE, Yee GC, Matzke GR and Posey LM. Pharmacotherapy: A Pathophysiologic Approach. Third edition. Appleton & Lange; Norwalk, Connecticut; 6<sup>th</sup> edition 2005.
2. Mary Anne Koda-Kimble, Lloyd Yee Young, Wayne A. Kradjan, B., Joseph Guglielmo, Brain K. Alldredge, Robin L. Corelli. Applied Therapeutics: The Clinical Use of Drugs. Lippincott Williams & Wilkins; 8<sup>th</sup> edition 2005.
3. Distributed handouts.