PHARMACOLOGY FOR PhT
Course Syllabus

Course Number: THRP-0121B
OHLAP Credit: No
OCAS Code: None
Course Length: 35 Hours
Career Cluster: Health Science
Career Pathway: Therapeutic Services
Career Major(s): Pharmacy Technician, Advanced Pharmacy Technician

Pre-requisite(s):
This course provides the student with an overview of the major categories of classifications of drugs. Emphasis is placed on actions of drugs in the human body as well as trade and generic names.

Textbooks:
Pharmacy Calculations for Technicians 5th Edition, text with Study Partner CD
Certification Exam Review 3rd Edition, text with Study Partner CD
Pharmacy Practice for Technicians 5th Edition, text with Study Partner CD
Pharmacy Labs for Technicians, Second Edition, text with NRx Simulation CD
Blackboard

Course Objectives:

A. Describe the Use and Function of Anticonvulsants and Drugs to Treat other CNS Disorders
   1. Develop an understanding of the physiologic processes that occur in epilepsy.
   2. Classify seizures and the goals of their therapy.
   3. Understand that specific drugs are used in different classes of seizures.
   4. Be familiar with Parkinson’s disease and the drugs used in its treatment.
   5. Know the symptoms of myasthenia gravis, the attention-deficit disorders, ALS, MS, and Alzheimer’s and their treatments.

B. Discuss the Use and Function of Respiratory Drugs
   1. Differentiate the pulmonary diseases.
   2. Learn the pathophysiology and treatment of asthma.
   3. Define the goals of asthma treatment.
   4. Discuss the pathophysiology and treatment of emphysema and chronic bronchitis.
   5. Learn how pneumonia, cystic fibrosis and respiratory distress syndrome fit into this category of diseases.
   6. Be aware of the reemergence of tuberculosis and of treatment for this disease.
   7. Outline smoking cessation plans and supportive therapy.

C. Describe the Use and Function of Gastrointestinal Drugs
   1. 

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1. Describe gastrointestinal physiology and how it impact GI disease.  
2. Be aware of drug treatment for these diseases.  
3. Identify the chemo-receptor trigger zone (CTZ) and its role in nausea.  
4. Know which antiemetics act on the CTZ and their mechanisms of action.  
5. Describe the role of fiber in the digestive process.  
7. Discuss how antidiarrheals work and the agents in this class.  
8. Discuss laxatives, their use and misuse.  
9. Explain the use of antiflatulents.  
10. Know how to calculate ideal body weight and body mass index, and define obesity.  
11. Identify the parasites that invade the human body and treatment for the diseases they cause. 

D. Describe the Use and Function of Urinary System Drugs  
1. Understand the renal system, its importance and how it works.  
2. Differentiate the parts of the renal system.  
3. Recognize renal failure and the agents to treat this progressive disease.  
4. Know the causes and treatment of urinary tract infections.  
5. Understand the classes of diuretics and how they work. 

E. Discuss the Use and Function of Cardiovascular Drugs  
1. Understand the cardiovascular system.  
2. Differentiate arrhythmias, congestive heart failure, myocardial infarction, angina and hypertension.  
3. Know the drugs and treatment for each separate aspect of heart disease.  
4. Recognize anticoagulant and antiplatelet drugs and know their functions.  
5. Discuss stroke and the drugs used to treat it.  
6. Identify hyperlipidemia and its role in heart disease and stroke. 

F. Describe the Use and Function of Muscle Relaxants, Nonnarcotic Analgesics and Drugs for Arthritis  
1. Define muscle relaxants.  
2. Identify muscle relaxants and their various mechanisms of action.  
3. Identify the non-narcotic analgesics, and describe their uses and mechanisms of action.  
4. Define rheumatoid arthritis and gout.  
5. Identify agents used to treat arthritis, rheumatoid arthritis; and gout; their usage and side effects.  

G. Discuss the Use and Function of Hormones  
1. Explain the concept of hormones and how they regulate the body.  
2. Discuss thyroid replacement therapy.  
3. Discuss adrenal sex hormones and male dysfunction.  
4. Understand the concept of estrogen replacement therapy.  
5. Understand the formulation of oral contraceptives.  
6. Describe the diseases of the genitai systems and how to avoid them.  
7. Discuss corticosteroids.  
8. Understand diabetes and the proper treatment and care of patients.  
9. Know the applications for growth hormone.  

H. Describe the Use and Function of Topicals, Ophthalmics and Otics  
1. Describe the skin as an organ.  
2. Understand the physiology of the skin.  
3. Recognize the classes of antiseptics and disinfectants.  
4. Identify the parasites that infest the skin.  
5. Know the topical drugs and the conditions they treat.  
6. Explain the action of the topical corticosteroids and their application.  
7. Recognize the ophthalmic and otic agents and their uses.
I. Discuss the Use and Function of Recombinant Drugs and Chemotherapy
   1. Understand recombinant DNA and the process for producing medications in this manner.  
   2. Identify colony-stimulating factors and their uses.  
   3. Understand the immune system and how it works.  
   4. Summarize the body’s defenses.  
   5. Identify neoplastic disease and the classifications of drugs used in its treatment.

J. Describe the Use and Function of Vitamins, Nutritional Supplements, Natural Supplements, Antidotes and CODE Blue Emergencies
   1. Understand total parenteral nutrition, its purposes, ingredients, stability and complications.  
   2. Discuss and calculate electrolyte levels.  
   3. Recognize herbs, their values, uses and dangers.  
   4. List various types of emergencies and general guidelines for handling them.  
   5. Understand the importance of the Blue Alert cart, its supplies and its maintenance.

1 ODCTE Objective
All unmarked objectives are TTC instructor developed.

Teaching Methods: The class will primarily be taught by the lecture and demonstration method and supported by various media materials to address various learning styles. There will be question and answer sessions over material covered in lecture and media presentations. Supervised lab time is provided for students to complete required projects.

Grading Procedures: 1. Students are graded on theory and lab practice and performance.  
2. Each course must be passed with seventy (70%) percent or better.  
3. Grading scale: A=90-100%, B=80-89%, C=70-79%, D=60-69%, F=50-59%.  
4. Career Major grades established during coursework are a major criteria in successfully obtaining certification.

Description of Classroom, Laboratories, and Equipment: Tulsa Technology Center campuses are owned and operated by Tulsa Technology Center School District No. 18. All programs provide students the opportunity to work with professionally certified instructors in modern, well-equipped facilities.

Available Certifications/College Credit: The student may be eligible to take state, national or industry exam after completion of the program. College credit may be issued from Oklahoma State University-Okmulgee or Tulsa Community College. See program counselor for additional information.

College Credit Eligibility: The student must maintain a grade point average of 2.0 or better.