Miami Dade College

Course Description

HIM2433 | Pathophysiology and Pharmacology | 3.00 credits
This course provides an in-depth knowledge of disease, its etiology, medical complications, and pathophysiologic nature. Students will learn laboratory and other diagnostic tests used to confirm or rule out those diagnoses addressed. Current pharmacological treatments are explored with review and interpretation of health record data. (3 hr. lecture)

Course Competencies:

Competency 1: The student will demonstrate knowledge of diseases, predisposing factors, and environmental/chemical agents that affect the body; be proficient in basic pharmacology with a focus on properties of drugs, their sources, produce effects and drug nomenclature; and will demonstrate their understanding of pathophysiological process of infectious processes, neoplastic diseases, and disorders by:

1. Defining pathophysiology/disease, and name some processes
2. Describing how diseases are named and classified
3. Verifying familiar with basic terminology of diagnosis and treatment
4. Interpreting meanings of terms referring to various features of diseases
5. Examining medical history and physical report
6. Naming example of sources of drugs, pharmaceutical preparations, and administration
7. Describing basic characteristics of bacteria, viruses, fungi, and parasites
8. Listing common communicable diseases, sexually transmitted diseases and their processes
9. Verifying signs/symptoms, stages, etiology, and treatment of severe acute respiratory syndrome SARS), human immunodeficiency virus (HIV)/acquired immunodeficiency syndrome (AIDS), West Nile virus, Covid, sepsis, etc.
10. Reporting physical and chemical agents that may cause disease
11. Comparing disease process of benign and malignant tumors
12. Interpreting the grading and staging systems of malignant tumors described by physician/ pathologist
13. Differentiating lab/radiology tests used to detect conditions/diseases of infectious and neoplasms
14. Explaining common surgical procedures performed to correct diseases/disorders of infectious and neoplasms
15. Identifying current drug actions, adverse reactions, contraindications, precautions

Competency 2: The student will demonstrate current knowledge of common conditions/diseases, treatment modalities, and outcomes of individuals with disease/disorders of endocrine, digestive, nervous, sensory systems, and mental health by:

1. Explaining Meniere's syndrome/otosclerosisv
2. Listing types of cataracts/eye degeneration diseases
3. Explaining how cerebral aneurysms develop, their effects, possible complications, and common surgical procedures
4. Describing causes, pathophysiology, and manifestation of bacterial meningitis/abscess
5. Naming causes and primary treatments/medications commonly used for Crohn's disease/ cholecystitis/gastritis/pancreatitis/peptic ulcers
6. Listing various types of hernias
7. Discussing complications of diabetes mellitus

8. Stating causes of most common endocrine disorders
9. Recognizing the basic structure and functions of the endocrine, digestive, and nervous (including eye and ear)
10. Describing otitis media and its cause, pathophysiology, and signs
11. Identifying contributing factors to mental disorders
12. Discussing the use of Diagnostic and Statistical Manual of Mental Disorders (DSM-V) and the use of mental health assessment tool
13. Designing a mental health fact sheet
14. Differentiating lab/radiology tests used to detect conditions/diseases of endocrine, digestive, nervous, sensory systems, and mental health
15. Identifying current drug actions, adverse reactions, contraindications, and precautions
16. Recommending common lab/radiology tests, medications, and surgical procedures for diseases/ disorders of the endocrine, digestive, nervous (including eye and ear)
17. Discovering various methods of treatment for mental disorders

Competency 3: The student will discuss the pathophysiological process and outcomes of circulatory, respiratory, skin, musculoskeletal systems by:

1. Recognizing the basic structure and functions of the circulatory, respiratory, skin, musculoskeletal systems
2. Explaining myocardial infarction causes and current treatment/procedural modalities
3. Differentiating thrombophlebitis and varicose veins
4. Contrasting the various types of anemia/leukemia/heart failures
5. Describing most common cardiac disorders among United States population
6. Comparing types and causes of pneumonia
7. Discussing the causes and prognosis of asthma
8. Stating common acute and chronic lung diseases and prognosis
9. Explaining the disease long-term effects of inhalation of dust particles
10. Listing four common symptoms of skin diseases and disorders
11. Identifying common causes for intervertebral disk herniation
12. Stating causes and treatment modalities for onset of osteoporosis
13. Comparing and contrasting osteoarthritis and rheumatoid arthritis
14. Exploring current lab/radiology tests and drug therapy used to detect and treat conditions, diseases of circulatory, respiratory, skin, and musculoskeletal systems

Competency 4: The student will describe common conditions/diseases, treatment modalities, and outcomes of individuals with disease/disorders of urinary and reproductive systems, and congenital diseases by:

1. Recognizing the basic structure and functions of the urinary and reproductive systems
2. Contrasting the differences in the systems and functions of male and female
3. Explaining the effects of hypertension and diabetes on the urinary system
4. Describing the etiology and significant manifestations of nephrotic syndrome
5. Comparing acute and chronic renal failure with regard to common causes, pathophysiology, signs & symptoms, and possible complications
6. Educating others on common symptoms and treatment of urinary/kidney/bladder infections
   Discussing the treatment for common sexually transmitted diseases
7. Listing age-related diseases for males and females
8. Identifying trimesters of pregnancy, delivery phases, and puerperium periods
9. Describing the various types of abortions

10. Comparing benign prostatic hypertrophy with cancer of the prostate
11. Describing common congenital diseases/disorders (cystic fibrosis, clubfoot, Hirschsprung's, cleft lip/palate)
12. Listing requirements of growth charts for children
13. Naming state mandated diagnostic procedures (phenylketonuria [PKU], vaccines)
14. Recognizing current drug actions, adverse reactions, contraindications, precautions
15. Researching a current Gene Therapy trial
16. Matching common lab/radiology tests and surgical procedures with conditions/diseases of urinary and reproductive systems, and congenital diseases

Learning Outcomes:

- Formulate strategies to locate, evaluate, and apply information.
- Describe how natural systems function and recognize the impact of humans on the environment