NR245. Pharmacology. 3 hours credit. Prerequisite: BI226 and BI227 or BI240 all with a C or better. This course will enable the student to develop an understanding of the concepts of pharmacology including pharmaceutics, pharmacokinetics, pharmacodynamics, drug classifications, adverse reactions, and legal and ethical issues. The student will apply these underlying concepts to the nurse’s role in medication administration.

Required Materials

Supplemental Materials

* For complete textbook information, refer to https://bookstore.butlercc.edu

Butler-assessed Outcomes
The intention is for the student to be able to:
1. Apply the concepts of pharmacology and the nursing process to safely administering medications.

Learning PACT Skills that will be developed and documented in this course
Through involvement in this course, the student will develop ability in the following PACT skill area(s):

Analytical Thinking Skills
- Critical thinking - Through the analysis of case studies and written discussion, the student will develop critical thinking skills related to pharmacology and administration of medications.

Major Summative Assessment Task(s)
These learning outcome(s) and the Learning PACT skill(s) will be demonstrated by:
1. Developing an education plan for an individual receiving a specific drug therapy.

Skills or Competencies
Actions that are essential to achieve the course outcomes:
1. Apply teaching/learning principles to patient education.
2. Utilize evidenced based practice/research.
3. Demonstrate critical thinking (nursing process) in making clinical judgments.
Learning Units
I. Pharmacology concepts
   A. Drug names and classifications
   B. Pharmaceutics
   C. Pharmacokinetics
   D. Pharmacodynamics
   E. Pharmacotherapeutics
   F. Life span considerations
   G. Environmental and cultural influences
   H. Legal and ethical issues
   I. Over-the-counter medications, herbal and dietary supplements
   J. Medication safety

II. Drugs affecting central nervous system (CNS)
   A. CNS depressants and muscle relaxants
   B. CNS stimulants
   C. Antiseizure
   D. Antiparkinson
   E. Psychotherapeutic
      1. Antianxiety
      2. Antimanic
      3. Selective serotonin reuptake inhibitors
      4. Tricyclic antidepressants
      5. Monoamine oxidase inhibitors
      6. Antipsychotic

III. Drugs affecting the autonomic nervous system
   A. Adrenergic and adrenergic blocking
   B. Cholinergic and cholinergic blocking

IV. Analgesic and anti-inflammatory drugs
   A. Opioid and nonopioid
   B. Anti-inflammatory
   C. Nonsteroidal anti-inflammatory
   D. Corticosteroids
   E. Antirheumatic
   F. Antigout

V. Anti-infective drugs
   A. Antibiotics
   B. Antiviral
   C. Antitubercular
   D. Antifungal
   E. Antimalarial, antiprotozoal and antihelmintic
   F. Urinary antiseptics, anti-infectives
VI. Drugs affecting immune response  
   A. Antineoplastics  
   B. Immunosuppressants  
   C. Biologic response – modifying drugs  

VII. Drugs affecting cardiovascular and renal systems  
   A. Cardiac glycosides  
   B. Antianginals  
   C. Antidysrhythmics  
   D. Diuretics  
   E. Antihypertensives  
   F. Antihyperlipidemias  
   G. Anticoagulants, antiplatelets and thrombolytics  
   H. Fluid and electrolyte replacements  

VIII. Drugs affecting respiratory system  
   A. Antihistamines, decongestants, antitussives and expectorants  
   B. Bronchodilators  

IX. Drugs affecting gastrointestinal system  
   A. Acid controlling drugs  
   B. Antidiarrheals and laxatives  
   C. Antiemetics and antinauseants  

X. Drugs affecting endocrine system  
   A. Pituitary drugs  
   B. Thyroid and antithyroid drugs  
   C. Antidiabetic drugs  
   D. Adrenal drugs  

XI. Gender specific health drugs  
   A. Female reproductive  
      1. Female sex hormones  
      2. Labor, delivery, and postpartum drugs  
      3. Drug therapy for osteoporosis  
   B. Male reproductive  
      1. Androgens  
      2. Drug therapy for benign prostatic hypertrophy  
      3. Drug therapy for erectile dysfunction  

XII. Drugs affecting sensory and integumentary systems  
   A. Ears  
   B. Eyes  
   C. Skin  

Learning Activities
Learning activities will be assigned to assist the student to achieve the intended learning outcomes through textbook readings, tutorials, study guides, case studies, nursing journals and discussion participation, and other activities at the discretion of the instructor.

**Grade Determination**
The student will be graded on learning activities and assessment tasks. Grade determinants may include the following: written assignments, quizzes, discussion participation, and other methods of evaluation at the discretion of the instructor.