

## **Course Description**

### **NUR1141 | Nursing Math & Pharmacology | 3.00 credits**

Students will learn about medications and their effects on different body systems. The conceptual and mathematical operations necessary for safe and effective administration of intravenous medications, preparing medications that come in powdered form and adjusting medication administration based on medical protocols are discussed. Concepts of medications including history, nomenclature, sources of drug information, federal drug laws and standards, medication classifications, pharmacokinetics, pharmacodynamics, variables affecting medication actions and effects, and methods of delivery will be addressed. Co-requisites: NUR1025, NUR1025C, NUR1025L and NUR1060C

### **Course Competencies:**

**Competency 1:** The student will describe the pharmacology of medications used to treat disorders of the immune system by:

1. Discussing common characteristics of immunizing agents
2. Discussing the role of immunizations in promoting health and preventing disease
3. Developing a plan for teaching individuals about recommended immunizations
4. Describing the goals of and methods for enhancing immunity
5. Discussing characteristics and clinical uses of immunosuppressants

**Competency 2:** The student will describe the pharmacology of medications used to treat disorders of the gastrointestinal system by:

1. Identifying categories of medications used
2. Comparing and contrasting anti-ulcer agents
3. Discussing appropriate use of antacids
4. Developing a teaching plan including pharmacologic and non-pharmacologic treatment of peptic ulcer disease
5. Discussing the appropriate choice of laxatives for selected client populations
6. Discussing possible reasons for and hazards of overuse of laxative products
7. Differentiating the major categories of antidiarrheal drugs

**Competency 3:** The student will describe the pharmacology of medications used to treat selected disorders of the neurologic system by:

1. Explaining the rationale for the use of intravenous corticosteroids and osmotic diuretics in the treatment of increased intracranial pressure
2. Explaining the appropriate use of anticoagulants in cerebrovascular accident
3. Comparing and contrasting commonly used anticonvulsants
4. Discussing factors that influence the choice of a particular anticonvulsant medication
5. Applying the nursing process in developing a teaching plan for a client with a seizure disorder

**Competency 4:** The student will describe the pharmacology of medications used in the treatment of cancer by:

1. Describing major categories of anti-neoplastic medications
2. Discussing common adverse effects
3. Describing pharmacologic interventions to minimize adverse effects
4. Developing a teaching plan for clients undergoing chemotherapy

**Competency 5:** The student will describe the pharmacology of medications used in the treatment of diabetes by:

1. Comparing and contrasting the different types of insulin
2. Discussing relationships between diet, exercise, and drug therapy in controlling diabetes
3. Differentiating types of oral antidiabetic agents

4. Discussing reasons for combining insulin and oral agents
5. Explaining the rationale for and implementation of a sliding scale in treating the insulin-dependent diabetic

**Learning Outcomes:**

- Use quantitative analytical skills to evaluate and process numerical data
- Solve problems using critical and creative thinking and scientific reasoning
- Formulate strategies to locate, evaluate, and apply information
- Use computer and emerging technologies effectively