

## ENF303 PHARMACOLOGY

Semester Credits: 4  
In-class Hours: 64  
Level: 3

### OVERVIEW

To determine the pharmacokinetics of drugs most commonly used in medical practice. Acquire knowledge of existing drugs and dosage forms, routes of administration, mechanism of action, and to detect side effects and complications involving their use. Administer drugs with scientific and technical knowledge of drug administration. Perform medication administration procedures, with full responsibility and technical knowledge associated with this field.

### OBJECTIVES OF THE MODULE

At the end of the module the student will know the main pharmacological characteristics of drugs, ensuring optimal management as well as theoretical knowledge of dosage forms, routes of administration, and use the best strategies for proper application techniques. The occurrence of adverse reactions and know how to act if necessary. In addition, students will learn how to educate patients to ensure the effectiveness of medication while minimizing risks.

### CONTENT

UNIT	LEARNING UNITS	LEARNING CYCLES
1	<b>Introduction to Pharmacology</b>	<p><b>Definition:</b> -Pharmacology, Drugs, Medicines. -Origin of drugs</p> <p><b>Subdivisions of Pharmacology:</b> -Pharmacokinetics, Pharmacodynamics, Pharmacotherapeutic, -Toxicology</p> <p><b>Importance of Pharmacology</b></p> <p><b>Pharmacokinetics:</b> -Definition (absorption, distribution, metabolism and excretion)</p> <p><b>Pharmacodynamics: Definition</b> -Molecule pharmacological interaction of the organism; consequences</p> <p><b>Drug Interaction:</b> -Definition; types of interactions</p> <p><b>Adverse Reactions:</b> -Definition; types of reactions</p> <p><b>Formulations Effects of drugs:</b> -Placebo; undesirable effects; Teratogenicity; dependence</p>
2	<b>Drug Administration</b>	<p><b>Role of nurse and other health professionals in the administration of medication.</b></p> <p><b>Precautions when medicating</b></p> <p><b>Routes of Administration:</b></p>

		<p>-Oral, Topical, Sublingual, Rectal, Vaginal</p> <p><b>Enteral administration</b></p> <p><b>Parenteral administration:</b></p> <p>-Intravenous, intramuscular, subcutaneous: intradermal, epidural, intraperitoneal</p> <p><b>Administration of Blood Products: Blood transfusion:</b></p> <p>-Definition, components, characteristics, indications</p> <p><b>Parenteral Nourishment:</b></p> <p>-Definition; Intravenous Solutions</p>
3	<b>Calculations</b>	<p><b>Tables of equivalences:</b></p> <p>-Measurements of volume, weight and length</p> <p><b>Dosage:</b></p> <p>-Calculation dosage</p> <p>-Pediatric Dosage Calculations</p> <p><b>Antibiotics:</b></p> <p>-Antifungal</p> <p>-Urinary Antiseptics</p> <p>-Cephalosporins</p> <p>-Erythromycins</p> <p>-Penicillins</p> <p>- Sulfa</p> <p>-Tetracyclines</p> <p>-TB drugs</p> <p><b>Cardiovascular:</b></p> <p>- Anti arrhythmic</p> <p>- Anticoagulants</p> <p>- Beta-blockers</p> <p>- Digitalicos</p> <p>-Calcium-antagonist</p> <p>-Hypotensive</p> <p>-Vasodilators</p> <p>- Sympathomimetic</p>
4	<b>Frequently Used Drugs</b>	<p><b>Digestive System:</b></p> <p>- Antacids</p> <p>- Anti diuretics</p> <p>- Anti emetics</p> <p>- Anti ulcerates</p> <p><b>Endocrine system:</b></p> <p>- Adrenal corticosteroids</p> <p>- Hipoglucemiantes</p> <p>- Insulins</p> <p>- Anti thyroid</p> <p><b>Genitourinary system:</b></p> <p>- Diuretics</p> <p>- Osmotic diuretics</p> <p>- Estrogens</p> <p>- Progestins</p> <p><b>Musculo Skeletal System:</b></p> <p>- Anti gouty</p> <p>- Non steroidal anti inflammatory</p>

		<p><b>Nervous System:</b></p> <ul style="list-style-type: none"> <li>- Anxiolytics</li> <li>- Anticonvulsants - Anti Psychotic</li> <li>- Barbiturates</li> </ul> <p><b>Analgesic:</b></p> <ul style="list-style-type: none"> <li>-Opioids</li> <li>-Non opioid</li> </ul> <p><b>Minor analgesics:</b></p> <ul style="list-style-type: none"> <li>- Acetylsalicylic acid</li> <li>- Paracetamol</li> </ul> <p><b>Respiratory System:</b></p> <ul style="list-style-type: none"> <li>- Antitussive</li> <li>- Bronco dilators</li> <li>- Expectorants</li> <li>- Antihistaminic</li> </ul>
5	<b>Practical</b>	<p><b>Management of infusion pumps:</b></p> <ul style="list-style-type: none"> <li>- Forms of drug administration: bolus, intermittent and continuous infusion</li> </ul> <p><b>Stop Patent:</b></p> <ul style="list-style-type: none"> <li>- Medicines used in medical emergencies</li> </ul> <p><b>Storage and preservation of medicines:</b></p> <p><b>Photosensitive Drugs:</b></p> <ul style="list-style-type: none"> <li>- Management</li> <li>- Preparation of drugs</li> <li>- Time of administration</li> </ul>

### **EVALUATION**

Final grade is based on...

1. Assignments & Quizzes 30%
2. Exams 40%
3. Laboratory/Clinical 30%

### **BIBLIOGRAPHY**

- Internet Resources
- Nursing Manual
- Manual de la Enfermería/ Mosby. 2005
- Techniques and Procedures
- Técnicas y Procedimientos / Harry 2000.
- Pharmacology
- *Farmacología para la enfermería* 2da. Edición Dr. Chijioke Osinachi edición 2004