

**WESTERN CONNECTICUT STATE UNIVERSITY**  
**Department of Nursing**

**Course Number:** NUR 570

Course Title: Advanced Clinical Pharmacology

**Credits:** 3 S.H.

**Placement:** Role Development

**Pre-requisites:** NUR 515

**Course Description:**

This course focuses on pharmacotherapeutic principles, mechanisms of action, and selection of pharmaceutical agents in clinical practice. Emphasis is placed on drug therapy and identifying and avoiding adverse drug reactions and interactions.

**Student Learning Outcomes:**

1. Describe pharmacotherapeutic principles related to commonly used drugs in the classifications of drugs generally prescribed by advanced practice nurses.
2. Describe the pharmacologic actions, effects, and potential adverse reactions to commonly used drugs in the classifications of drugs generally prescribed by advanced practice nurses.
3. Identify principles of drug dosing, including effects, side effects, and toxicity.
4. Apply knowledge of pharmacologic principles in selected case studies of health problems commonly encountered by nurses in advanced practice.
5. Define the ethical and legal responsibilities, including state and federal statutes, which govern prescriptive authority for nurses in advanced practice.
6. Demonstrates an understanding of the relationship of genetics and genomics to diagnostics, selection of treatment and monitoring of treatment effectiveness.

**Content Outline:**

- I. Introduction to Pharmacology
  - A. Pharmacodynamics

B. Pharmacokinetics

C. Basic Principles of Pharmacogenetics and pharmacogenomics

1. Polymorphisms and drug metabolism
2. Selected examples: (e.g. Warfarin and CYP polymorphism, ethnic based treatment choices of hypertension.)

II. Anti-infective Agents (Antibiotics)

III. Antipyretics

IV. Analgesic Management

- A. Opioid agonists and antagonists
- B. Benzodiazepines
- C. Non-opioid and non-steroidal analgesics

V. Cardiac Agents

- A. Antihypertensive agents
- B. Cardiac glycosides
- C. Peripheral vasodilators
- D. Calcium entry blockers
- E. Diuretics
- F. Hyperlipoproteinemia agents

VI. Respiratory Agents

- A. Histamine and histamine receptor antagonists
- B. Antitussives, decongestants, and expectorants
- C. Bronchodilators

VII. Gastrointestinal Agents

- A. Gastric antacids
- B. Gastric stimulants
- C. Antiemetics

VIII. Diabetes Management

- A. Insulin
- B. Oral hypoglycemic

IX. Hormones

- A. Thyroid
- B. Ovarian
- C. Corticosteroids
- D.

X. Immunizations and Vaccines

XI. Vitamins and Minerals

XII. Psychotropic Agents

- A. Antipsychotics
- B. Antidepressants
- C. Drugs used to treat mania
- D. Antianxiety agents
- E. Interactions between psychotropic agents and other agents

XIII. Anticoagulants

- A. Heparin and anticoagulants
- B. Oral anticoagulants
- C. Thrombolytic agents

XIV. Neuromuscular Agents

XV. Advanced Practice Legislation Update

Approved by Graduate Council 2006

Programs Committee 2/20/13

Nursing Dept. Feb 2013

AVP April 2013