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Course Name: Pharmacology  
Course Number: RNSG 1201  
Semester Credit Hours: 2  
Lecture Hours per week: 2  
Contact Hours per Semester: 32  
State Approval Code: CIP 51.3801

Prerequisites: Admission to the nursing program or administrative approval

Course Description
Introduction to the science of pharmacology with an emphasis on the actions, interactions,  
adverse effects, and nursing implications of each drug classification and/or specific drugs.  
Topics include the roles and responsibilities of the nurse in safe administration of  
medications within a legal/ethical framework. The student will identify the roles and  
responsibilities of the professional nurse in administering pharmacologic agents and  
explain the safe utilization of medications.

Core Competencies
Students are expected to demonstrate basic competency in reading, writing, oral  
communication, math, and computer skills. Students are expected to be an active learning  
participant by assuming accountability in preparing for each class by completing required  
readings and/or other learning activities as listed in each unit assignment. Proficiency  
will be measured by examination scores, oral discussions and/or presentations, case  
studies and internet research activities.

Course Requirements
1. Regular attendance within current attendance policies. See student handbook.
2. An average of at least 75% or better on coursework.
3. Outside individualized readings and assignments.
4. Compliance with all rules and regulations as outlined in the current Department of  
   Nursing Student Handbook and Panola College Catalog.
5. Required remediation for failure on any pharmacology exam.

REQUIRED TEXTBOOKS/REFERENCES

Lilley, L.L., Harrington, S., & Snyder, J.S. (2014), Pharmacology and the  


Revised Spring, 2013
## COURSE OUTCOMES

### THE NURSE AS A MEMBER OF THE PROFESSION:
At the end of the course using classroom application, the student will be able to:

| Discuss the legal/ethical concepts that influence one’s practice in pharmacology. (Scans 1B,i,ii,iii,iv,v; 1C i,ii,iii, iv,v) |
| PO 1 & 2 DEC I. A, B, C, D |

### THE NURSE AS PROVIDER OF PATIENT-CENTERED CARE:
At the end of the course using classroom application, the student will be able to:

| Apply life-long learning in pharmacological principles and how knowing the evidenced based pharmacological practices influence quality nursing care. (Scans 1A i,ii,iii,iv,v) |
| PO3;DEC II A,B,C,D,E,F,G PO4DEC II A, B,C,D,E,F,G PO5 |

| Gather information regarding patient responses to altered health to distribute appropriate medications. (Scans 1A i,ii,iii,iv,v) |
| PO3,4,5 DEC II A,B,C,D,F,G |

| Apply principles of patient education when teaching about medications. (Scans 1A i,ii,iii,iv,v) |
| PO4 DEC II. A,B,C,E,F,G |

| Explain rationale for using certain medications that coordinate with the nursing plan of care by organizing patient data and utilizing critical thinking. (Scans 1A i,ii,iii,iv,v) |
| PO5 DEC II.C, G,H |

| Discuss confidentiality of information when gathering data about patient medications with the use of case studies and/or simulation. (Scans 1A, i,ii,iii,iv,v) |
| PO5 DEC II. D1,5, E8,9,F,H3,4,5,6 PO8 |

### THE NURSE AS PATIENT SAFETY ADVOCATE:
At the end of the course using classroom application, the student will be able to:

| Explain, implement, and acquire training regarding mandatory safety measures for patients, staff, and visitors by using case study information about the distribution of medications. (Scans 1A i,ii,iii,iv,v) |
| PO 6 & 7 DEC III A,B,D,E |

| Discuss measures to promote quality care in a safe environment for patients, staff, and families related to administering medications. (Scans 2C i,ii,iii,iv,v) |
| PO 6 & 7 DEC III A,B,C,D,E |

| Describe what pharmacological concepts can be utilized to promote health care advocacy. (Scans 2C i,ii,iii,iv,v) |
| PO 6 DEC III B,C,E |

| Explore the technological advances that have and will improve pharmacology issues in improving patient outcomes. (Scans 1A i,ii,iii,iv,v) |
| PO 6 DEC III D, E |

### THE NURSE AS A MEMBER OF THE HEALTH CARE TEAM:
At the end of the course using classroom application, the student will be able to:

| Identify within the Scope of Practice in nursing, pharmacological activities which can be legally, ethically, and morally delegated to non-professional personnel. (Scans1A i,ii,iii,iv,v) |
| PO 8,9,10,11 DEC IV A,B,C,D,F,G |

Revised Spring, 2013
GRADING

The student must pass with a grade of 75 or above in order to successfully pass this course.

The Associate Degree Nursing Program, in accordance with policy, utilizes the following numerical scale in computing test scores and written work:

- A = 90-100
- B = 80-89
- C = 75-79
- F = Below 75

There will be no rounding of grades. (Policy 5.1 Student handbook)

Exams will be constructed from a random sample of the materials for each unit. Exams will be presented mostly in the form of multiple-choice questions but alternative question formats will be introduced. Students are responsible for the learning objectives in the course syllabus. Exam items will reflect the learning objectives. The final exam will be comprehensive over all the material covered in the course.

Pharmacology Content:

<table>
<thead>
<tr>
<th>Exam</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exam I</td>
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</tr>
<tr>
<td>Exam II</td>
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</tr>
<tr>
<td>Exam III</td>
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</tr>
<tr>
<td>Exam IV</td>
<td>14%</td>
</tr>
<tr>
<td>Exam V</td>
<td>14%</td>
</tr>
<tr>
<td>Final</td>
<td>30%</td>
</tr>
</tbody>
</table>

Total 100%

Required Remediation

When a grade less than 75 is obtained on a pharmacology exam, the student MUST (prior to the next exam) contact the Retention Coordinator or the instructor of record, to schedule a remediation session. The remediation session must be completed prior to the next exam. If the remediation session is not completed, the student will not be allowed to take the next exam and the grade of zero will be obtained.

Examination Blueprint

Each examination will include a minimum of 75% application and analysis type of questions.
Make-up Examinations

Students who are absent from an exam may be given a make-up exam, at the discretion of the instructor. The student must communicate with the instructor regarding absence from the exam.

TEACHING/LEARNING STRATEGIES

<table>
<thead>
<tr>
<th>Audio-Visual</th>
<th>On line Participation</th>
<th>Discussion Board</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lecture Notes</td>
<td>Library/Internet Research</td>
<td>Student/Teacher Conference</td>
</tr>
<tr>
<td>Independent Study</td>
<td>In Class Participation</td>
<td>Case studies</td>
</tr>
</tbody>
</table>
PHARMACOLOGY CONTENT

This pharmacology content is an overview of what will be covered in class, according to the objectives. This content may not go in the order listed here, so pay close attention to the calendar for information on what will be covered in class.

UNIT I: Pharmacology Basics

A. Learning Resources For Unit I:

<table>
<thead>
<tr>
<th>Text</th>
<th>Reference</th>
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<tbody>
<tr>
<td>Lilley</td>
<td>Chapter 1, 2,3,4,6,7,8,9</td>
</tr>
<tr>
<td>Potter</td>
<td>Chapter 15, 16, 17,18,19,20</td>
</tr>
<tr>
<td>Wiley</td>
<td>Introduction</td>
</tr>
<tr>
<td>Nugent</td>
<td>Chapter 1(p. 1-27), 4(Nursing Process), 2(Legal and Ethical)</td>
</tr>
<tr>
<td>NCLEX</td>
<td>3(Nursing care across the life span), 4(Pharmacology), 3(Teaching and Learning), 6—Alternate Item Formats</td>
</tr>
<tr>
<td>“Fundamentals Success”</td>
<td>3(Teaching and Learning), 6—Alternate Item Formats</td>
</tr>
</tbody>
</table>

Other Resources:
Evolve….http://evolve.elsevier.com/Lilley
Case study
Practice tests
Power points…..Canvas
Lecture notes…..Canvas

B. Learning Objectives:

Unit I. Pharmacology Basics
At the end of this unit the student will be able to:

- List the 5 phases of the nursing process.
- Identify the components of the assessment process for patients receiving medications, including collection and analysis of subjective and objective data.
- Discuss the process of formulating nursing diagnoses for patient receiving medications.
- Discuss the evaluation process as it relates to the administration of medications and as reflected by goals and outcome criteria.
- Develop a nursing care plan that is based on the nursing process as it relates to medication administration.
- State the 6 rights of safe medication administration.
- Discuss the professional responsibility and standards of CO# 1,2, 3, 4, 5, 6, 7, 8, 9, 11

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practice for the professional nurse as related to the medications administration process.

- Discuss the additional rights associated with safe medication administration.
- Describe the role of general concepts such as pharmaceutics, pharmacokinetics, and pharmacodynamics and their application drug therapy and the nursing process.
- Recall the various drug dosage forms as related to drug therapy and the nursing process.
- Discuss the relevance of the four aspects of pharmacokinetics (absorption, distribution, metabolism, excretion) to professional practice as related to drug therapy for a variety of patients and in a variety of health care settings.
- Discuss the use of natural drug sources in the development of new drugs.
- Recall definitions of common terms used in pharmacology.
- Discuss the influences of the patient’s age on the effects of drugs and drug responses.
- Summarize the impact of age-related changes on the pharmacokinetic aspects of the drug therapy.
- Explain how these age-related changes in drug pharmacokinetics influence various drug effects and drug responses across the life span.
- Provide examples of how age affects absorption, distribution, metabolism and excretion of drugs.
- Identify various cultural phenomena affecting health care and use of medication.
- List the drugs that more commonly show variations in response due to cultural, racial, and ethnic factors.
- Discuss the various categories of controlled substances and give specific drug examples in each category.
- Discuss the nurse’s role in development of new and investigational drugs and the informed consent process.
- Identify the ethical principles involved in making an ethical decision in relation to medication administration.
- Compare the following terms related to drug therapy in the context of professional nursing practice: adverse drug event, adverse drug reaction, allergic reaction, idiosyncratic reaction, medical error and medication error.
- Describe the most commonly encountered medication errors.
- Discuss the possible consequences of medication errors for professional nurses and other members of the health care team.
- Discuss the importance of patient education in the safe administration of drugs, including prescription, over the counter, herbals and supplements.

- Summarize the various teaching and learning principles related to patient education and drug therapy across the life span that are applicable in a health care setting.

- Identify the impact of the various developmental phases on patient education as it relates to drug therapy and the nursing process.

- Discuss the difference between prescription drugs, over the counter drugs, herbals, and dietary supplements.

- Discuss the role of non-prescription drugs, specifically herbals and dietary supplements, in the integrative approach to nursing and health care.

- Discuss the potential dangers associated with the use of over the counter drugs, herbals, and dietary supplements.

- Discuss substance abuse and the significance of the problem in the United States.

- Identify the drugs or chemicals that are most often abused.

- Describe alcohol abuse syndrome with a focus on signs and symptoms, mild to severe alcohol withdrawal symptoms, and associated treatment.

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### Unit II: Drugs Affecting the Respiratory System

#### A. Learning Resources For Unit II:

<table>
<thead>
<tr>
<th>Text</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lilley</td>
<td>Chapter 36 and 37</td>
</tr>
<tr>
<td>Potter</td>
<td>Chapter 40</td>
</tr>
<tr>
<td>Wiley</td>
<td>Respiratory Medications</td>
</tr>
<tr>
<td>Nugent</td>
<td>Chapter 1(p. 1-27), 4(Physical Assessment), 5(Oxygenation)</td>
</tr>
<tr>
<td>NCLEX</td>
<td>6—Alternate Item Formats</td>
</tr>
<tr>
<td>“Fundamentals success”</td>
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</tbody>
</table>

**Other Resources:**
- Evolve...http://evolve.elsevier.com/Lilley
- Case study

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B. Learning Objectives:

Unit II. Drugs Affecting the Respiratory System

At the end of this unit the student will be able to:

- Provide specific examples of the drugs classified as antihistamines (both sedating and non-sedating), decongestants, antitussives, and expectorants.
- Discuss the mechanisms of action, indications, contraindications, cautions, drug interactions, adverse effects, dosages, and route of administration of antihistamines, decongestants, antitussives, and expectorants.
- Describe the anatomy and physiology of the respiratory system.
- Discuss the impact of respiratory drugs on various lower and upper respiratory tract diseases and conditions.
- List the classifications of drugs used to treat diseases and condition of the respiratory system and provide specific examples.
- Discuss the mechanisms of action, indications, contraindications, cautions, drug interactions, adverse effects, dosages, and route of administration of the bronchodilators and other respiratory drugs.

Unit III: Anti-infective and Anti-inflammatory Drugs

A. Learning Resources For Unit III:

<table>
<thead>
<tr>
<th>Text</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lilley</td>
<td>Chapter 38, 39, 40, and 44</td>
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<tr>
<td>Potter</td>
<td>Chapter 28, 39, 44, 48, 50</td>
</tr>
<tr>
<td>Wiley</td>
<td>Antibiotic, NSAIDS, Steroid, Anti-viral Medications</td>
</tr>
<tr>
<td>Nugent</td>
<td>Chapter 1(p. 1-27), 4(Infection control)</td>
</tr>
<tr>
<td>NCLEX</td>
<td>6—Alternate Item Formats</td>
</tr>
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<td>“Fundamentals success”</td>
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</tbody>
</table>

Other Resources:
Evolve....http://evolve.elsevier.com/Lilley

Revised Spring, 2013
### B. Learning Objectives:

**Unit III. Anti-Infective and Anti-Inflammatory Drugs**

At the end of this unit the student will be able to:

- Discuss the general principles of antibiotic therapy
- Compare the characteristics and uses of antiseptics and disinfectants
- List the most commonly used antiseptics and disinfectants
- Discuss the pros and cons of antibiotic use with attention to the overuse or abuse of antibiotics and development of drug resistance
- Classify the various antibiotics by general category and list the drugs in each classification:
  - Sulfonamides
  - Penicillins
  - Cephalosporins
  - Macrolides
  - Tetracyclines
  - Aminoglycosides
  - Quinolones
- Discuss the mechanisms of action, indications, contraindications, cautions, drug interactions, adverse effects, dosages, and route of administration with the antibiotic classifications.
- Identify drug-specific adverse effects and toxic effects of each of the antibiotic classes and measures to decrease their occurrence.
- Discuss superinfection, including its etiology and prevention.
- Describe the advantages and disadvantages associated with the use of antibiotics, including overuse and abuse of antibiotics, development of drug resistance, superinfection, and antibiotic associated colitis.
- Describe the effects of viruses in the human body.
- List specific drugs classified as non-human immunodeficiency virus antivirals and HIV antiviral or antiretrovirals
- Discuss the inflammatory process and the part it plays in generation of pain
- List the disease processes or pathologies that are inflammatory, including gout.
- Discuss the mechanisms of action, indications, contraindications, cautions, drug interactions, adverse effects, dosages, and route of administration with the anti-inflammatory and antigout medications.
Unit IV: Drugs Affecting the Cardiovascular and Renal Systems

A. Learning Resources For Unit IV:

<table>
<thead>
<tr>
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<tr>
<td>Lilley</td>
<td>Chapter 22, 23, 24, 25, 26, 27, 28, 29</td>
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<tr>
<td>Potter</td>
<td>Chapter 40, 41, 45</td>
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<tr>
<td>Wiley</td>
<td>Anti-hypertensives, Diuretic Medications</td>
</tr>
<tr>
<td>Nugent</td>
<td>Chapter 1(p. 1-27), 5(Oxygenation), 5(Urinary Elimination)</td>
</tr>
<tr>
<td>NCLEX</td>
<td>5(Fluids and Electrolytes) 6—Alternate Item Formats</td>
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</tbody>
</table>

Other Resources:
Evolve…..http://evolve.elsevier.com/Lilley
Case study
Practice tests
Power points…..Canvas
Lecture notes…..Canvas

B. Learning Objectives:

Unit IV. Drugs Affecting the Cardiovascular and Renal Systems

At the end of this unit the student will be able to:
- Define the terms inotropic, chronotropic, and dromotropic
- Discuss the pathophysiology of the heart
- Discuss the mechanisms of action, pharmacokinetics, indications, contraindications, cautions, drug interactions, adverse effects, dosages, toxicity, and route of administration used with heart failure medications.
- Describe the cardiac electrophysiology, including normal conduction patterns, rate, and rhythm.
- List the various disorders of cardiac electrophysiology and consequences to the patient.
- Define the terms dysrhythmia and arrhythmia.
- Identify the most common dysrhythmias.
- Discuss the mechanisms of action, pharmacokinetics, indications, contraindications, cautions, drug interactions, adverse effects, dosages, toxicity, and route of administration used with antidysrhythmic medications.
- Describe the pathophysiology of myocardial ischemia and the subsequent occurrence of angina.
- Discuss the mechanisms of action, pharmacokinetics, indications, contraindications, cautions, drug interactions, adverse effects, dosages, toxicity, patient education and route of administration used
with antianginal medications.

- Recall the anatomy and physiology of the autonomic nervous system, including the sympathetic and parasympathetic nervous systems and how they relate to control of blood pressure.
- Define primary hypertension and secondary hypertension and potential medications used for each.
- Discuss the mechanisms of action, pharmacokinetics, indications, contraindications, cautions, drug interactions, adverse effects, dosages, toxicity, and route of administration used with antihypertensive medications.
- Recall the anatomy and physiology of the renal system.
- Discuss the impact of the renal system on blood pressure regulation.
- Describe how diuretics work in the kidneys and how they lower blood pressure.
- Discuss the mechanisms of action, pharmacokinetics, indications, contraindications, cautions, drug interactions, adverse effects, dosages, toxicity, and route of administration used with the different classes of diuretics.
- Recall the various electrolytes and give normal serum values for each.
- Identify the common fluid and electrolytes solutions commonly used to correct states of deficiency or excess.
- Recall the coagulation process and the impact of coagulation modifiers, including anticoagulants, antiplatelets, antifibrinolytics, and thrombolytics.
- Discuss the mechanisms of action, pharmacokinetics, indications, contraindications, cautions, drug interactions, adverse effects, dosages, toxicity, and route of administration used with the different classes of coagulation modifiers.
- Discuss administration procedures and techniques as well as related standards of care for the various coagulation modifiers.
- Identify antidotes for coagulation modifiers.
- Discuss the laboratory tests used in conjunction with treatment with the various coagulation modifiers and their implications of therapeutic use of these drugs and monitoring for adverse effects.
- Recall the pathology of hyperlipidemia, including causes and risk factors.
- List the drug classes and specific drugs that are used to treat hyperlipidemia.
- Discuss the mechanisms of action, pharmacokinetics, indications, contraindications, cautions, drug interactions, adverse effects, dosages, toxicity, and route of administration used with the different classes of hyperlipidemic medications.
Unit V. Drugs affecting the Gastrointestinal system and Nutrition

A. Learning Resources For Unit V:

<table>
<thead>
<tr>
<th>Text</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lilley</td>
<td>Chapter 50, 51, 52, 54</td>
</tr>
<tr>
<td>Potter</td>
<td>Chapter 46, 44</td>
</tr>
<tr>
<td>Wiley</td>
<td>Gastrointestinal Medications</td>
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<tr>
<td>Nugent</td>
<td>Chapter 1(p. 1-27), 5 (Nutrition), 5 (Gastrointestinal system)</td>
</tr>
<tr>
<td>NCLEX</td>
<td>6—Alternate Item Formats “Fundamentals success”</td>
</tr>
</tbody>
</table>

Other Resources:
- Evolve....http://evolve.elsevier.com/Lilley
- Case study
- Practice tests
- Power points......Canvas
- Lecture notes......Canvas

B. Learning Objectives:

Unit V. Gastrointestinal System and Nutrition

At the end of this unit the student will be able to:

- Recall the physiologic influence of peptic ulcer disease, gastritis, spastic colon, gastroesophageal reflux disease, and hyperacidic states on the patient and their gastrointestinal tract.
- Discuss the mechanisms of action, pharmacokinetics, indications, contraindications, cautions, drug interactions, adverse effects, dosages, toxicity, and route of administration used with the different classes of gastrointestinal medications.
- Recall the anatomy and physiology of the gastrointestinal tract, including the process of peristalsis.
- List the various factors affecting bowel elimination and/or bowel patterns.
- Identify the various groups of drugs used to treat alterations in bowels elimination, specifically diarrhea, constipation, and irritable bowel syndrome (IBS).
- Discuss the mechanisms of action, pharmacokinetics, indications, contraindications, cautions, drug interactions, adverse effects, dosages, toxicity, and route of administration used with the different classes of antidiarrheal, laxative, and IBS medications.

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- Recall the anatomy and physiology of nausea and vomiting, including specific precipitating factors and/or diseases.
- List the drug classifications used for antiemetics, and antinausea drugs.
- Discuss the mechanisms of action, pharmacokinetics, indications, contraindications, cautions, drug interactions, adverse effects, dosages, toxicity, and route of administration used with the different classes of antiemetic and antinausea medications.
- Recall 5 pathophysiologic processes and/or disease states that may lead to nutritional deficiencies and require nutritional supplement support.
- List the various enteral feeding tubes, including specific uses.
- Discuss the mechanisms of action, pharmacokinetics, indications, contraindications, cautions, drug interactions, adverse effects, dosages, toxicity, complications, patient education, and route of administration used with the different classes of enteral medications.
- List the lab values related to nutritional deficits and altered nutritional states.

### Unit VI. Drugs affecting the Central Nervous System and the Autonomic Nervous System

#### A. Learning Resources For Unit VI:

<table>
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<tr>
<th>Text</th>
<th>Reference</th>
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<tbody>
<tr>
<td>Lilley</td>
<td>Chapter 11, 12, 13, 14, 16, 18, 19, 20, 21</td>
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<tr>
<td>Potter</td>
<td>Chapter 37, 43, 49</td>
</tr>
<tr>
<td>Wiley</td>
<td>Anti-anxiety, Pain, Anesthetic, Muscle Relaxants, and Anti-Park</td>
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<tr>
<td>Nugent</td>
<td>Chapter 1(p. 1-27), 5 (Pain, Comfort, Rest, and Sleep) 5 (Perioperative)</td>
</tr>
<tr>
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<td>6—Alternate Item Formats</td>
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</tbody>
</table>

**Other Resources:**
- Evolve....http://evolve.elsevier.com/Lilley
- Case study
- Practice tests
- Power points....Canvas
- Lecture notes....Canvas
B. Learning Objectives:

| Unit VI. Drugs Affecting the Central Nervous System (CNS) and the Autonomic Nervous System (ANS) |
|--------------------|---------------------------------------------------------------|
| At the end of this unit the student will be able to: | CO# 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 |
| • Define acute pain and chronic pain | |
| • Recall the signs and symptoms and management of acute and chronic pain | |
| • List pharmacological and nonpharmacological approaches for the management of acute and chronic pain | |
| • Describe the use of nonopioids, nonsteroidal anti-inflammatory drugs, and opioids in the management of pain, including acute and chronic pain, and cancer pain. | |
| • List examples of the classifications of nonopioid, nonsteroidal anti-inflammatory, and opioid | |
| • Discuss the mechanisms of action, pharmacokinetics, indications, contraindications, cautions, drug interactions, adverse effects, dosages, toxicity, complications, patient education, and route of administration used with the different classes of central nervous system medications. | |
| • Describe standards of pain management defined by the World Health Organization and the Joint Commission. | |
| • Define anesthesia. | |
| • Recall the difference between general and local anesthesia. | |
| • List the commonly used general and local anesthetics and describe the risk for each. | |
| • Discuss the mechanisms of action, pharmacokinetics, indications, contraindications, cautions, drug interactions, adverse effects, dosages, toxicity, complications, patient education, and route of administration used with the different classes of anesthetic medications. | |
| • Recall the functions of the central nervous system. | |
| • List central nervous system depressant medications and for what are they used. | |
| • List central nervous system stimulant medications and for what are they used. | |
| • Define the following terms: | |
| 1) Hypnotics | |
| 2) Rapid eye movements (REM) | |
| 3) REM interference | |
| 4) REM rebound | |
| 5) Sedatives | |
| 6) Sedative-hypnotics | |
| 7) Sleep | |
| 8) Therapeutic index | |
| • Discuss the problem of sleep disorders | |
- List drugs included in each of these classifications of central nervous system depressants:
  1) Benzodiazepines
  2) Nonbenzodiazepines
  3) Muscle relaxants

- Discuss the mechanisms of action, pharmacokinetics, indications, contraindications, cautions, drug interactions, adverse effects, dosages, toxicity, complications, patient education, and route of administration used with these different classes of medications:
  1) Benzodiazepines
  2) Nonbenzodiazepines
  3) Muscle relaxants

- Recall the anatomy and physiology of the central nervous system with attention to stimulant effects.

- Define the following terms:
  1) Amphetamine
  2) Attention deficit hyperactivity disorder (ADHD)
  3) CNS stimulant
  4) Migraine
  5) Narcolepsy
  6) Serotonin receptor agonists
  7) Sympathomimetic drug

- List the different CNS stimulant drugs

- Discuss the mechanisms of action, pharmacokinetics, indications, contraindications, cautions, drug interactions, adverse effects, dosages, toxicity, complications, patient education, and route of administration used with CNS stimulant medications.

- Recall the effect of acetylcholine and dopamine on the brain.

- Describe the pathophysiology of Parkinson’s disease

- List the various medications used to treat Parkinson’s disease

- Discuss the mechanisms of action, pharmacokinetics, indications, contraindications, cautions, drug interactions, adverse effects, dosages, toxicity, complications, patient education, and route of administration used with anti-parkinsonian medications.

- Recall the functions of the sympathetic nervous system and the specific effects of adrenergic stimulation.

- List the drugs considered to be adrenergic agonists, also called sympathomimetics

- Discuss the mechanisms of action, pharmacokinetics, indications, contraindications, cautions, drug interactions, adverse effects, dosages, toxicity, complications, patient education, and route of administration used with sympathomimetic medications.

- Define adrenergic blocking in the sympathetic nervous system.

- List the drugs considered to be adrenergic antagonists or blockers, also called sympatholytics.

- Discuss the mechanisms of action, pharmacokinetics, indications, contraindications, cautions, drug interactions, adverse effects, dosages, toxicity, complications, patient education, and route of administration used with sympatholytic medications.
- Recall the functions of the autonomic nervous system, especially the parasympathetic portion of the system.
- List the drugs within the classification of cholinergic agonists, also called parasympathomimetics.
- Discuss the mechanisms of action, pharmacokinetics, indications, contraindications, cautions, drug interactions, adverse effects, dosages, toxicity, complications, patient education, and route of administration used with parasympathomimetic medications.
- Recall the functions of the sympathetic nervous system, especially the blocking cholinergic receptors, also called parasympatholytic.
- List the drugs classified as cholinergic antagonists (blockers) or sympatholytics.
- Discuss the mechanisms of action, pharmacokinetics, indications, contraindications, cautions, drug interactions, adverse effects, dosages, toxicity, complications, patient education, and route of administration used with sympatholytic medications.

### Unit VII. Drugs Affecting the Endocrine System

#### A. Learning Resources For Unit VII:

<table>
<thead>
<tr>
<th>Text</th>
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</thead>
<tbody>
<tr>
<td>Lilley</td>
<td>Chapter 31, 32, 33,</td>
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<tr>
<td>Potter</td>
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<tr>
<td>Wiley</td>
<td>Anti-diabetic, Thyroid Medications</td>
</tr>
<tr>
<td>Nugent</td>
<td>Chapter 1(p. 1-27), 5 (Nutrition), 3 (Teaching and Learning)</td>
</tr>
<tr>
<td>NCLEX</td>
<td>6—Alternate Item Formats, 3(Psychological support)</td>
</tr>
<tr>
<td>“Fundamentals success”</td>
<td></td>
</tr>
</tbody>
</table>

**Other Resources:**
- Evolve....http://evolve.elsevier.com/Lilley
- Case study
- Practice tests
- Power points.....Canvas
- Lecture notes.....Canvas

Revised Spring, 2013
### B. Learning Objectives:

#### Unit VII. Drugs Affecting the Endocrine System

At the end of this unit the student will be able to:

- Recall the anatomy and physiology of the thyroid gland.
- List the functions of the thyroid gland and the hormones excreted from this gland.
- Describe the disease processes that result from hypo and hyper secretion of the thyroid hormones.
- List the drugs utilized for hyposecretion of thyroid hormones.
- List the drugs utilized for hypersecretion of thyroid hormones.
- Discuss the mechanisms of action, pharmacokinetics, indications, contraindications, cautions, drug interactions, adverse effects, dosages, toxicity, complications, patient education, and route of administration used with hypo and hyper thyroidism medications.
- Recall the normal actions and functions of the pancreas.
- Discuss the signs and symptoms of hypo and hyper glucemia and how to treat each.
- Describe Type I and Type II diabetes mellitus with regard to the following:
  1) Age of onset
  2) Signs and symptoms
  3) Pharmacological treatment
  4) Nonpharmacological treatment
  5) Incidence
  6) Etiology
- List the drugs used to treat Type I diabetes
- List the drugs used to treat Type II diabetes
- Discuss the mechanisms of action, pharmacokinetics, indications, contraindications, cautions, drug interactions, adverse effects, dosages, toxicity, complications, patient education, and route of administration used with oral hypoglycemic and insulin medications.
- List the types of insulins including the following:
  1) Onset of action
  2) Peak effects
  3) Duration of action
- Recall the normal anatomy and physiology of the adrenal glands
- List the hormones released from the adrenal gland
- Describe Cushing’s syndrome
- Describe Addison’s disease
- List the glucocorticoids and how each affect functions of the body
- List the mineralocorticoids and how each affect functions of the body
- Describe how the adrenal hormones are used in medication therapy.

CO# 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11
• Discuss the mechanisms of action, pharmacokinetics, indications, contraindications, cautions, drug interactions, adverse effects, dosages, toxicity, complications, patient education, and route of administration used with adrenal hormone medications.

Unit VIII. Miscellaneous Therapeutics: Dermatologic, Ophthalmic, Otic

A. Learning Resources For Unit VII:

<table>
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<tr>
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<tbody>
<tr>
<td>Lilley</td>
<td>Chapter 56, 57, 58</td>
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<tr>
<td>Potter</td>
<td>Chapter 48, 49</td>
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<tr>
<td>Wiley</td>
<td>Miscellaneous</td>
</tr>
<tr>
<td>Nugent</td>
<td>Chapter 1(p. 1-27), 5 (Hygiene), 7(Comprehensive Exam)</td>
</tr>
<tr>
<td>NCLEX</td>
<td>6—Alternate Item Formats, “Fundamentals success”</td>
</tr>
</tbody>
</table>

Other Resources:
Evolve....http://evolve.elsevier.com/Lilley
Case study
Practice tests
Power points.....Canvas
Lecture notes.....Canvas

B. Learning Objectives:

Unit VIII: Miscellaneous Therapeutics: Dermatologic, Otic, Ophthalmic

At the end of this unit the students will be able to:
• Recall the normal anatomy and physiology and functions of the skin
• List the disorders, infections, and other conditions commonly affecting the skin
• List the drugs to treat the disorders listed above describing each of the classifications

CO# 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11

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- Discuss the mechanisms of action, pharmacokinetics, indications, contraindications, cautions, drug interactions, adverse effects, dosages, toxicity, complications, patient education, and route of administration used with topical dermatological medications.
- Recall the anatomy and physiology of the eye.
- List potential disorders of the eye.
- List the classifications of medications to treat disorders of the eye including the name of specific drugs.
- Discuss the mechanisms of action, pharmacokinetics, indications, contraindications, cautions, drug interactions, adverse effects, dosages, toxicity, complications, patient education, and route of administration used for various ophthalmic medications.
- Recall the anatomy of the ear including outer, inner, and middle.
- List disorders of the ear including causes and signs and symptoms.
- List types of otic preparations and indications for use.
- Discuss the mechanisms of action, pharmacokinetics, indications, contraindications, cautions, drug interactions, adverse effects, dosages, toxicity, complications, patient education, and route of administration used for various otic medications.

### Additional Information

If any student in this class has special classroom or testing needs because of a physical, learning, or emotional condition, please contact the ADA Counselor in the Administration Building, telephone 903-693-1123.

*Withdrawing from a course is the student’s responsibility. If you do not withdraw yourself, you will very likely receive an F if you do not attend class.*
Secretary of Labor’s Commission on Achieving Necessary Skills (SCANS)

I. BASIC SKILL COMPETENCIES

A. Basic Skills
   i. Reading: Locate, understand and interpret written information in prose and in documents such as manuals, graphs and schedules.
   ii. Writing: Communicate thoughts, ideas, information and messages in writing, and create documents such as letters, directions, manuals, reports, graphs, and flow charts.
   iii. Arithmetic & Mathematical Operations: Perform basic computations and approach practical problems by choosing appropriately from a variety of mathematical techniques.
   iv. Listening: Receive, attend to, interpret, and respond to verbal messages and other cues.
   v. Speaking: Organize ideas and communicate orally.

B. Thinking Skills
   i. Creative Thinking: Generate new ideas.
   ii. Decision Making: Specify goals and constraints, generate alternatives, consider risks and evaluate and choose the best alternative.
   iii. Problem Solving: Recognize problems and devise and implement plan of action.
   iv. Visualize (“Seeing Things in the Mind's Eye”): Organize and process symbols, pictures, graphs, objects, and other information.
   v. Reasoning: Discover a rule or principle underlying the relationship between two or more objects and apply it when solving a problem.

C. Personal Qualities
   i. Responsibility: Exert a high level of effort and persevere toward goal attainment.
   ii. Self-Esteem: Believe in one's own self-worth and maintain a positive view of oneself.
   iii. Sociability: Demonstrate understanding, friendliness, adaptability, empathy, and politeness in group settings.
   v. Integrity & Honesty: Choose ethical courses of action.

II. WORKPLACE COMPETENCIES

A. Resources:
   i. Time: Select goal-relevant activities, rank them, allocate time, and prepare and follow schedules.
   ii. Money: Use or prepare budgets, make forecasts, keep records, and make adjustments to meet objectives.
   iii. Material & Facilities: Acquire, store, allocate, and use materials or space efficiently.
   iv. Human Resources: Assess skills and distribute work accordingly, evaluate performance and provide feedback.

B. Interpersonal Skills:
   i. Participate as Member of a Team: Contribute to group effort.
   ii. Teach Others New Skills.
   iii. Serve Clients/ Customers: Work to satisfy customers' expectations.
   iv. Exercise Leadership: Communicate ideas to justify position, persuade & convince others, responsibly challenge existing procedures & policies.
   v. Negotiate: Work toward agreements involving exchange of resources, resolve divergent interests.
   vi. Work with Diversity: Work well with men and women from diverse backgrounds.

C. Information:
   i. Acquire and Evaluate Information.
   ii. Organize and Maintain Information.
   iii. Interpret and Communicate Information.
   iv. Use computers to process information.

D. Systems:
   i. Understand Systems: Know how social, organizational and technological systems work and operate effectively with them.
   iii. Improve or Design Systems: Suggest modifications to existing systems and develop new or alternative systems to improve performance.

Revised  Spring 2013
STUDENT ACKNOWLEDGEMENT

I have read the Panola College Associate Degree Nursing program syllabus for Pharmacology RNSG 1201, and I understand the policies as discussed.

I understand that the final grade will be 75% pharmacology content and 25% dosage calculations. I also understand that both sections (pharmacology content and dosage calculations) must be passed with a 75 or higher to pass the course.

I understand that a failure in RNSG 1201 will count as a failure in the ADN program (whether I am currently admitted into the program or not).

I will comply with the syllabus requirements as delineated. **In addition, I will comply with the current ADN Student Handbook as found on the ADN web page.** It is my understanding that this form will become part of my permanent file.

____________________________
Student Name (Printed)

____________________________
Student Signature

____________________________
Date