

**Miami Dade College  
Benjamin Leon School of Nursing  
NUR 1141----Level 1 Semester 2  
Nursing Math & Pharmacology  
Generic Full-Time**

**COURSE TITLE:** Nursing Math & Pharmacology  
**COURSE NUMBER:** NUR 1141  
**SCHEDULE:** January 10<sup>th</sup> – April 29<sup>th</sup>, Mondays  
**TERM:** Spring, 2022 (2223)  
**COURSE CREDITS:** 2 Credits  
**REFERENCE:** TBA

**INSTRUCTOR INFORMATION:**

**Faculty:** Prof. Carren S. Mullings (Mrs.) - RN, MSN  
**Email:** cmulling@mdc.edu  
**Phone:** 305- 237-TBA  
**Office:** Room 2109-01  
**Office Hours:** TBA

**Course Description:**

This course provides the foundation for safe, effective drug therapy and the role of the nurse in health promotion, disease prevention, and management. The course focuses on the basic drug classification, concepts, and principles of pharmacology with special consideration for the nursing role in developing a comprehensive approach to the clinical application of drug therapy using the nursing process. Prerequisites: NUR 1025, 1025C, 1025L, 1060C, 1142; corequisites: NUR 1211, 1211L. (2 hr. lecture).

**Instructional Approach/Strategies:**

Will include, but are not limited to:

- Lectures enhanced through multimedia presentations, participation in facilitated group discussion, case studies, NCLEX-RN review questions, recording lectures, and written examinations.

**Course Student Learning Outcomes/Course Competencies:**

At the end of the course the student will be able to:

1. Apply principles of pharmacology, pharmacokinetics, and pharmacodynamics to medication therapy (Meets Unit Competencies/Objectives 1, 2, 3, 4, 5, 6, 7, 8, 9, & 10).
2. Recognize the major classifications of medications, common medications within each classification, their side effects, and contraindications (Meets Unit Competencies/Objectives 1, 2, 3, 4, 5, 6, 7, 8, 9, & 10).
3. Discuss nursing implications and concepts of safety when performing medication administration (Meets Unit Competencies/Objectives 1, 8, & 9).
4. Understand the legal and ethical implications/aspects of medication administration (Meets Unit Competencies/Objectives 1, 2, 3, 4, 5, 6, 7, 8, 9, & 10).

**End-of-Program Student Learning Outcomes (EPSLO):**

1. Develop a professional identity that demonstrates teamwork, collaboration, effective communication and adhere to standards of practice for nursing.
2. Implement safety and quality initiatives in the delivery of holistic client-centered care.
3. Utilize technological resources to effectively deliver care which enhances positive client outcomes.
4. Deliver compassionate care to diverse populations with respect to individuality and clients' needs.
5. Uses relevant evidence to improve clients' outcomes within a dynamic environment.

**College-wide Student Learning Outcomes:**

Miami Dade College has adopted General Education Outcomes. This course provides intentional learning experiences to address outcomes #1, #2, #3, #4, and #8. Upon completion of a program of study at the Medical Center Campus, graduates from Miami Dade College should emulate the following outcomes:

1. Communicate effectively using listening, speaking, reading, and writing skills.
2. Use quantitative analytical skills to evaluate and process numerical data.
3. Solve problems using critical and creative thinking and scientific reasoning.
4. Formulate strategies to locate, evaluate, and apply information.
8. Demonstrate knowledge of ethical thinking and its application to issues in society.

<b><u>Outcome Number</u></b>	<b><u>Intentional Learning Activity</u></b>	<b><u>Assessment and Evaluation Method</u></b>
1	<ul style="list-style-type: none"> <li>• Employ critical thinking skills and reflections to determine the effectiveness of medication administration on client care outcomes.</li> </ul>	<ul style="list-style-type: none"> <li>• Self-guided learning modules, discussion boards, and objective test questions requiring students to identify safe and accurate medication administration</li> </ul>
2	<ul style="list-style-type: none"> <li>• Recognize the major classifications of medications, common medications within each classification, side effects, nursing implications and contraindications</li> </ul>	<ul style="list-style-type: none"> <li>• Objective test questions requiring students to identify classifications of medications, common medications within each classification, side effects, and contraindications utilizing the nursing process</li> </ul>
3	<ul style="list-style-type: none"> <li>• Apply principles of pharmacology, pharmacokinetics, pharmacodynamics, and drug administration including adverse drug effects and medication errors to medication therapy.</li> </ul>	<ul style="list-style-type: none"> <li>• Objective test questions categorized by the nursing process.</li> <li>• Objective test questions requiring student to select the priority nursing action regarding drug therapy.</li> <li>• Use of multiple-response (select all that apply) questions.</li> </ul>
4	<ul style="list-style-type: none"> <li>• Use of textbooks, reading lists, the internet, and library to obtain information.</li> <li>• Identify appropriate care, teaching, and reportable alterations following administration of pharmacotherapeutic agents.</li> </ul>	<ul style="list-style-type: none"> <li>• Objective test questions utilizing Bloom's taxonomy at the application and/or analysis level which requires complex thought processing in drug therapy.</li> </ul>
8	<ul style="list-style-type: none"> <li>• Understanding the nursing role and responsibility in medication administration in accordance with standards of practice</li> <li>• Application of the core values of the discipline</li> </ul>	<ul style="list-style-type: none"> <li>• Use of class discussion, case studies, and discussion forums</li> <li>• Utilizing objective test questions requiring students to identify various examples of ethical</li> </ul>

	of nursing and the professional standards of moral, ethical, and legal conduct.	dilemmas in medication administration.
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End of Program SLO 1: Develop a professional identity that demonstrates teamwork, collaboration, effective communication and adhere to standards of practice for nursing. (MDC Learning Outcomes 1,6) (NLN Competency 3)	<b><u>Instructional Method</u></b> Lectures enhanced through multimedia presentations, participation in facilitated group discussion, case studies, NCLEX-RN review questions, recording lectures, and written examinations.	<b><u>Learning Activity</u></b> Employ critical thinking skills and reflections to determine the effectiveness of medication administration on client care outcomes.	<b><u>Evaluation</u></b> Self-guided learning modules, discussion boards, and objective test questions requiring students to identify safe and accurate medication administration
Course Student Learning Outcome:	1, 2, 3, 4, 5, 6, 7, 8, 9, & 10	1, 2, 3, 4, 5, 6, 7, 8, 9, & 10	1, 2, 3, 4, 5, 6, 7, 8, 9, & 10

End of Program SLO 2: Implement safety and quality initiatives in the delivery of holistic client-centered care. (MDC Learning Outcomes 3) (NLN Competency 2, 4)	<b><u>Instructional Method</u></b> Lectures enhanced through multimedia presentations, participation in facilitated group discussion, case studies, NCLEX-RN review questions, recording lectures, and written examinations.	<b><u>Learning Activity</u></b> Recognize the major classifications of medications, common medications within each classification, side effects, nursing implications and contraindications	<b><u>Evaluation</u></b> Objective test questions requiring students to identify classifications of medications, common medications within each classification, side effects, and contraindications utilizing the nursing process
Course Student Learning Outcome:	1, 2, 3, 4, 5, 6, 7, 8, 9, & 10	1, 2, 3, 4, 5, 6, 7, 8, 9, & 10	1, 2, 3, 4, 5, 6, 7, 8, 9, & 10

End of Program SLO 3: Utilize technological resources to effectively deliver care which enhances positive client outcomes. (MDC Learning Outcomes 4,8,9) (NLN Competency 2)	<b><u>Instructional Method</u></b> Lectures enhanced through multimedia presentations, participation in facilitated group discussion, case studies, NCLEX-RN review questions, recording lectures, and written examinations.	<b><u>Learning Activity</u></b> <ul style="list-style-type: none"> <li>• Use of textbooks, reading lists, the internet, and library to obtain information.</li> <li>• Identify appropriate care, teaching, and reportable alterations following administration of pharmacotherapeutic agents.</li> </ul>	<b><u>Evaluation</u></b> Objective test questions utilizing Bloom's taxonomy at the application and/or analysis level which requires complex thought processing in drug therapy.
Course Student Learning Outcome:	1, 8, & 9	1, 8, & 9	1, 8, & 9

End of Program SLO 4: Demonstrate nursing clinical judgment while delivering compassionate care to diverse populations with respect to individuality and clients' needs. (MDC Learning Outcomes 1, & 2) (NLN Competency 1, 2)	<b><u>Instructional Method</u></b> Lectures enhanced through multimedia presentations, participation in facilitated group discussion, case studies, NCLEX-RN review questions, recording lectures, and written examinations.	<b><u>Learning Activity</u></b> Apply principles of pharmacology, pharmacokinetics, pharmacodynamics, and drug administration including adverse drug effects and medication errors to medication therapy to deliver compassionate care to a diverse population with respect to individuality and clients' needs.	<b><u>Evaluation</u></b> <ul style="list-style-type: none"> <li>• Objective test questions categorized by the nursing process.</li> <li>• Objective test questions requiring student to select the priority nursing action regarding drug therapy.</li> <li>• Use of multiple-response (select all that apply) questions.</li> </ul>
Course Student Learning Outcome:	1, 2, 3, 4, 5, 6, 7, 8, 9, & 10	1, 2, 3, 4, 5, 6, 7, 8, 9, & 10	1, 2, 3, 4, 5, 6, 7, 8, 9, & 10

End of Program SLO: 5 Use relevant evidence to improve clients' outcomes within a dynamic environment. (MDC Learning Outcomes 2,4,9,10) (NLN Competency 2, 4)	<b><u>Instructional Method</u></b> Lectures enhanced through multimedia presentations, participation in facilitated group discussion, case studies, NCLEX-RN review questions, recording lectures, and written examinations.	<b><u>Learning Activity</u></b> <ul style="list-style-type: none"> <li>Understanding the nursing role and responsibility in medication administration in accordance with standards of practice</li> <li>Application of the core values of the discipline of nursing and the professional standards of moral, ethical, and legal conduct.</li> </ul>	<b><u>Evaluation</u></b> <ul style="list-style-type: none"> <li>Use of class discussion, case studies, and discussion forums</li> <li>Utilizing objective test questions requiring students to identify various examples of ethical dilemmas in medication administration.</li> </ul>
Course Student Learning Outcome:	1, 2, 3, 4, 5, 6, 7, 8, 9, & 10	1, 2, 3, 4, 5, 6, 7, 8, 9, & 10	1, 2, 3, 4, 5, 6, 7, 8, 9, & 10

1. Calculate time of medication administration; intravenous drip rates; and medication dosages for oral, parenteral, and topical medication. (Meets Unit Objectives/ Competencies 1,2, & 3)
2. Discuss the role of the nurse in maintaining and calculating a fluid balance record in a specified patient situation and the relation of the course with general education outcome. (Meets Unit Objectives/ Competencies 3)

**Unit Course Competencies/Objectives/EPSLO/  
MDC Learning Outcomes/Core Components**

Course Content	Learning Outcomes
<p style="text-align: center;"><b><u>Unit 1-Immune System</u></b></p> <p><b><u>Unit 1-Objectives/Competency</u></b></p> <ol style="list-style-type: none"> <li>1. Define vocabulary and unit terms</li> <li>2. Describe the life cycle of the human immunodeficiency virus (HIV)</li> <li>3. Identify risk factors for HIV transmission</li> <li>4. Describe classifications of antiretroviral therapy for HIV</li> <li>5. Discuss the nurse's role in medication management and adherence for HIV</li> <li>6. Discuss medical management for preventing mother-to-child transmission of HIV infection during pregnancy</li> <li>7. Discuss health care workers' exposure risks and prevention to HIV</li> <li>8. Describe the mechanism of action and the principles of immunosuppression</li> <li>9. Describe active and passive immunity used in immunizations</li> <li>10. Differentiate between active natural and active acquired immunity</li> <li>11. Review the recommended immunization schedule for children, teens, and adults</li> <li>12. Identify the therapeutic actions, indications, pharmacokinetics,</li> </ol>	<ul style="list-style-type: none"> <li>• Critical/creative thinking</li> <li>• Formulate strategies</li> <li>• Ethics</li> </ul>

contraindications, adverse reactions, and drug interactions associated with each class of immune stimulant and immune suppressant

13. Identify the therapeutic actions, indications, pharmacokinetics, contraindications, adverse reactions, and drug interactions associated with each vaccine
14. Identify the nursing considerations and teaching needs for clients receiving each class of antiretrovirals, immune stimulant, immune suppressant, and vaccines
15. Apply the nursing process for the client taking antiretrovirals, immune stimulants, immune suppressants, and vaccines

### **Unit 1-Content**

- a. Types of immunity
- b. Uses, actions, side effects, contraindications of common medications
- c. Nursing implications
- d. Client education needs
- e. Selected prototype drugs

### **Unit 1-Terminology/Vocabulary**

Antibodies, antigen, interferons, interleukins, t cells, b cells, Hageman factor, analgesic, antipyretic, inflammatory response, anti-inflammatory drugs, immune stimulant, immune suppressant, passive immunity, active immunity, immune sera, vaccine, serum sickness, antiretroviral therapy (ART), cryptosporidiosis, cytomegalovirus (CMV), fusion (entry) inhibitor, immune reconstitution inflammatory syndrome (IRIS), immune response, Kaposi sarcoma, Mycobacterium avium complex (MAC), opportunistic infections (OIs), Pneumocystis jiroveci pneumonia (PJP), postexposure prophylaxis (PEP), resistance, staging and classification systems, toxoplasmosis, tuberculosis infection, and viral load

### **Unit 1-Course Objective – EPSLO- Competency**

***EPSLO 4.*** Uses relevant evidence to improve client outcomes within a dynamic environment. (MDC Learning Outcomes 2, 4, 9, & 10) (Core Components 5 & 7)

1. Perform a comprehensive health assessment including physiological, psychological, sociological, and spiritual needs of clients, families, groups, populations, and communities across the lifespan experiencing complex (unstable acute conditions) health alterations in a variety of settings.
2. Use the nursing process to prioritize the delivery of client care, with two or more clients, to achieve optimal outcomes.
3. Model culturally sensitive care for clients, families, and groups from diverse backgrounds.
4. Use clinical reasoning and clinical judgment when evaluating nursing care to improve client outcomes.
5. Advocate for clients, families, and groups regarding nursing care issues and health care decisions.
6. Use verbal and nonverbal communication that promotes caring, therapeutic relationships with individuals, families, and groups.
7. Analyze best current evidence for its application to practice when providing and managing client-centered care.
8. Integrate best current evidence into clinical judgments that indicate the need to modify clinical practice

## Unit 2-Anti-inflammatories & Analgesic Agents

### Unit 2-Objectives/Competency

1. Define vocabulary and unit terms
2. Discuss the pathophysiologic basis of inflammation
3. Compare the action of various nonsteroidal anti-inflammatory drugs (NSAIDs)
4. Explain the use of disease-modifying antirheumatic drugs (DMARDs)
5. Differentiate between the side effects and adverse reactions of NSAIDs and DMARDs
6. Identify the mechanism of action of various antigout medication such as colchicine and allopurinol
7. Differentiate between acute and chronic pain
8. Compare indications for nonopioid and opioid analgesics
9. Describe the serum therapeutic ranges of aspirin and acetaminophen
10. Compare and contrast the side effects of aspirin and opioids
11. Formulate a nursing process for a client with patient-controlled analgesia
12. Identify the therapeutic actions, indications, pharmacokinetics, contraindications, adverse reactions, and drug interactions associated with each class of anti-inflammatory agents and analgesics
13. Apply the nursing process for the client taking anti-inflammatory agents and analgesics

### Unit 2-Content

- a. Types of anti-inflammatory and analgesic drugs
- b. Uses, actions, side effects, contraindications of common medications
- c. Nursing implications
- d. Client education needs
- e. Selected prototype drugs

### Unit 2-Terminology/Vocabulary

COX-2 inhibitors, cyclooxygenase (COX), disease-modifying antirheumatic drugs (DMARDs), gout, immunomodulators, immunosuppressives, infection, inflammation, nonsteroidal anti-inflammatory drugs (NSAIDs), prostaglandins, uricosurics, adjuvant analgesics, analgesics, cluster headaches, migraine headaches, neuropathic pain, nociceptors, nonopioid analgesics, nonsteroidal anti-inflammatory drugs (NSAIDs), opioid agonist-antagonists, opioid agonists, opioid antagonist, orthostatic hypotension, pain threshold, pain tolerance, and patient-controlled analgesia (PCA)

### Unit 2-Course Objective – EPSLO- Competency

**EPSLO 4.** Uses relevant evidence to improve client outcomes within a dynamic environment. (MDC Learning Outcomes 2, 4, 9, & 10) (Core Components 5 & 7)

1. Perform a comprehensive health assessment including physiological, psychological, sociological, and spiritual needs of clients, families, groups, populations, and communities across the lifespan experiencing complex (unstable acute conditions) health alterations in a variety of settings.
2. Use the nursing process to prioritize the delivery of client care, with two or more clients, to achieve optimal outcomes.
3. Model culturally sensitive care for clients, families, and groups from diverse backgrounds.
4. Use clinical reasoning and clinical judgment when evaluating nursing care to improve client outcomes.

- Critical/creative thinking
- Formulate strategies
- Ethics

<ol style="list-style-type: none"> <li>5. Advocate for clients, families, and groups regarding nursing care issues and health care decisions.</li> <li>6. Use verbal and nonverbal communication that promotes caring, therapeutic relationships with individuals, families, and groups.</li> <li>7. Analyze best current evidence for its application to practice when providing and managing client-centered care.</li> <li>8. Integrate best current evidence into clinical judgments that indicate the need to modify clinical practice</li> </ol>	
<p style="text-align: center;"><b><u>Unit 3 -Gastrointestinal System</u></b></p> <p><b><u>Unit 3-Objective/Competency</u></b></p> <ol style="list-style-type: none"> <li>1. Define vocabulary and unit terms.</li> <li>2. Identify categories of medications used for the gastrointestinal system disorders</li> <li>3. Describe the underlying processes in nausea/vomiting, diarrhea, and constipation</li> <li>4. Discussing appropriate use of antacids</li> <li>5. Discuss appropriate choice of laxatives for selected client populations</li> <li>6. Discuss possible reasons for and hazards of overuse of laxative products</li> <li>7. Differentiate the major categories of antidiarrheal drug</li> <li>8. Differentiate between peptic ulcer, gastric ulcer, duodenal ulcer, and gastroesophageal reflux disease (GERD).</li> <li>9. Compare and contrast the actions of antiulcer drugs used in the treatment of peptic ulcer: tranquilizers, anticholinergics, antacids, histamine<sub>2</sub> blockers, proton pump inhibitors, pepsin inhibitors, and prostaglandin analogues</li> <li>10. Describe the therapeutic actions, indications, pharmacokinetics, contraindications, common adverse reactions, and drug interactions associated with each class of drugs affecting the gastrointestinal system</li> <li>11. Identify the nursing considerations and teaching needs for clients receiving each class of drugs affecting the gastrointestinal system.</li> <li>12. Apply the nursing process for the client taking gastrointestinal system drugs</li> </ol> <p><b><u>Unit 3-Content</u></b></p> <ol style="list-style-type: none"> <li>a. Types of GI concerns</li> <li>b. Uses, actions, side effects, contraindications of common medications</li> <li>c. Nursing implications</li> <li>d. Client education needs</li> <li>e. Selected prototype drugs</li> </ol> <p><b><u>Unit 3-Terminology/Vocabulary</u></b></p> <p>Bile, histamine-2 (H<sub>2</sub>) antagonist, hydrochloric acid, peristalsis, pancreatic enzymes, acid rebound, peptic ulcer, proton pump inhibitor, antidiarrheal drug, bulk stimulant, cathartic dependence, diarrhea, constipation, lubricant, chemical stimulant, antiemetic, phenothiazine, and chemoreceptor trigger zone (CTZ)</p> <p><b><u>Unit 3-Course Objective – EPSLO- Competency</u></b></p> <p><b><u>EPSLO 4.</u></b> Uses relevant evidence to improve client outcomes within a dynamic environment. (MDC Learning Outcomes 2,4,9,10) (Core Components 5 &amp; 7)</p> <ol style="list-style-type: none"> <li>1. Perform a comprehensive health assessment including physiological, psychological, sociological, and spiritual needs of clients, families, groups, populations, and communities across the lifespan experiencing complex</li> </ol>	<ul style="list-style-type: none"> <li>• Quantitative analytical</li> <li>• Critical/creative thinking</li> </ul> <p>Formulate strategies</p>



<p>(unstable acute conditions) health alterations in a variety of settings.</p> <ol style="list-style-type: none"> <li>2. Use the nursing process to prioritize the delivery of client care, with two or more clients, to achieve optimal outcomes.</li> <li>3. Model culturally sensitive care for clients, families, and groups from diverse backgrounds.</li> <li>4. Use clinical reasoning and clinical judgment when evaluating nursing care to improve client outcomes.</li> <li>5. Advocate for clients, families, and groups regarding nursing care issues and health care decisions.</li> <li>6. Use verbal and nonverbal communication that promotes caring, therapeutic relationships with individuals, families, and groups.</li> <li>7. Analyze best current evidence for its application to practice when providing and managing client-centered care.</li> <li>8. Integrate best current evidence into clinical judgments that indicate the need to modify clinical practice</li> </ol>	
<p style="text-align: center;"><b><u>Unit 4-Nervous System</u></b></p> <p><b><u>Unit 4-Objective/Competency</u></b></p> <ol style="list-style-type: none"> <li>1. Define vocabulary and unit terms</li> <li>2. Discuss various disorders affecting the central and autonomic nervous system</li> <li>3. Explain the effects of stimulants on the central nervous system (CNS)</li> <li>4. Compare attention-deficit/hyperactivity disorder (ADHD) and narcolepsy</li> <li>5. Differentiate the action of drugs used for ADHD and narcolepsy</li> <li>6. Contrast the common side effects of amphetamines, anorexiant, analeptics, doxapram, and caffeine</li> <li>7. Differentiate the types and stages of sleep</li> <li>8. Explain several nonpharmacologic ways to induce sleep</li> <li>9. Differentiate among these adverse effects: hangover, dependence, tolerance, withdrawal symptoms, and rapid eye movement (REM) rebound</li> <li>10. Discuss the uses of benzodiazepines</li> <li>11. Differentiate nursing interventions related to barbiturates, benzodiazepines, nonbenzodiazepines, and melatonin agonist hypnotics</li> <li>12. Compare the stages of anesthesia</li> <li>13. Explain the uses for topical anesthetics</li> <li>14. Differentiate general and local anesthetics and their major side effects</li> <li>15. Contrast the two international classifications of seizures with characteristics of each type</li> <li>16. Differentiate between the types of seizures</li> <li>17. Compare the actions of hydantoins, long-acting barbiturates, succinimides, benzodiazepines, iminostilbenes, and valproate</li> <li>18. Summarize the pathophysiology of Parkinson's disease and Alzheimer disease</li> <li>19. Contrast the actions of anticholinergics, dopaminergic, dopamine agonists, monoamine oxidase B (MAO-B) inhibitors, and catechol-O-methyltransferase (COMT) inhibitors in the treatment of Parkinson's disease</li> <li>20. Compare the side effects of various antiparkinsonian drugs</li> <li>21. Contrast the pathophysiology of myasthenia gravis and multiple sclerosis</li> <li>22. Discuss the drug group used to treat myasthenia gravis</li> <li>23. Discuss the drug group used to treat multiple sclerosis</li> <li>24. Differentiate between the muscle relaxants used for spasticity and those used for muscle spasms.</li> <li>25. Identify the therapeutic actions, indications, pharmacokinetics,</li> </ol>	<ul style="list-style-type: none"> <li>• Quantitative analytical</li> <li>• Critical/creative thinking</li> <li>• Formulate strategies</li> </ul>

contraindications, common adverse reactions, and drug interactions associated with each class of drug affecting the central nervous system (CNS)

26. Explain major responses to stimulation of adrenergic receptors
27. Differentiate between selective and nonselective adrenergic agonists
28. Contrast the uses of alpha and beta antagonists
29. Compare general side effects of adrenergic agonists and adrenergic antagonists.
30. Compare the responses of cholinergic agonist and antagonist drugs
31. Differentiate between direct-acting and indirect-acting cholinergic agonists
32. Contrast the major side effects of cholinergic agonists and antagonists
33. Differentiate the uses of cholinergic agonists and antagonists
34. Identify the therapeutic actions, indications, pharmacokinetics, contraindications, common adverse effects, and drug interactions associated with each class of drug affecting the autonomic nervous system (ANS)
35. Identify the nursing considerations and teaching needs for clients receiving each class of drug affecting the CNS and the ANS systems
36. Apply the nursing process for the client taking nervous system drugs

#### **Unit 4-Content**

- a. Types of nervous system disorders
- b. Uses, actions, side effects, contraindications of common medications
- c. Nursing implications
- d. Client education needs
- e. Selected prototype drugs

#### **Unit 4-Terminology/Vocabulary**

Neurotransmitter, anxiolytic, benzodiazepine, barbiturate, sedative, selective serotonin reuptake inhibitor (SSRI), tricyclic antidepressant (TCA), monoamine oxidase inhibitor (MAOI), tyramine, depression, antipsychotic, attention deficit disorder, bipolar disorder, schizophrenia, antiepileptic, seizure, status epilepticus, dopaminergic, Parkinson's disease, spasticity, extrapyramidal tract, migraine, ergot derivatives, narcotics, triptans, opioid receptors, pain, analgesia, anesthetic, sympathetic nervous system, parasympathetic nervous system, adrenergic receptors, cholinergic receptors, adrenergic agonist, sympathomimetic, sympatholytic, pheochromocytoma, bronchodilation, cholinergic, anticholinergic, Alzheimer disease, myasthenia gravis, mydriasis, and miosis

#### **Unit 4-Course Objective – EPSLO- Competency**

***EPSLO 4.*** Uses relevant evidence to improve client outcomes within a dynamic environment. (MDC Learning Outcomes 2,4,9,10) (Core Components 5 & 7)

1. Perform a comprehensive health assessment including physiological, psychological, sociological, and spiritual needs of clients, families, groups, populations, and communities across the lifespan experiencing complex (unstable acute conditions) health alterations in a variety of settings.
2. Use the nursing process to prioritize the delivery of client care, with two or more clients, to achieve optimal outcomes.
3. Model culturally sensitive care for clients, families, and groups from diverse backgrounds.
4. Use clinical reasoning and clinical judgment when evaluating nursing care to improve client outcomes.
5. Advocate for clients, families, and groups regarding nursing care issues and health care decisions.
6. Use verbal and nonverbal communication that promotes caring, therapeutic relationships with individuals, families, and groups.

<ol style="list-style-type: none"> <li>7. Analyze best current evidence for its application to practice when providing and managing client-centered care.</li> <li>8. Integrate best current evidence into clinical judgments that indicate the need to modify clinical practice</li> </ol>	
<p style="text-align: center;"><b><u>Unit 5 – Antineoplastic Agents</u></b></p> <p><b><u>Unit 5-Objectives/ Competency</u></b></p> <ol style="list-style-type: none"> <li>1. Define vocabulary and unit terms</li> <li>2. Describe major categories of anti-neoplastic medications</li> <li>3. Describe the nature of cancer and the changes the body undergoes when cancer occurs</li> <li>4. Identify the therapeutic actions, indications, pharmacokinetics, contraindications, most common adverse reactions, and important drug interactions associated with each class</li> <li>5. Identify the nursing considerations and teaching needs for clients receiving each class of antineoplastic agents</li> <li>6. Apply the nursing process for the client taking antineoplastic agents</li> </ol> <p><b><u>Unit 5-Content</u></b></p> <ol style="list-style-type: none"> <li>a. Types of chemotherapy</li> <li>b. Uses, actions, side effects, contraindications of common medications</li> <li>c. Nursing implications</li> <li>d. Client education needs</li> <li>e. Selected prototype drugs.</li> </ol> <p><b><u>Unit 5-Course Objective – EPSLO- Competency</u></b></p> <p><b><i>EPSLO 4.</i></b> Uses relevant evidence to improve client outcomes within a dynamic environment. (MDC Learning Outcomes 2,4,9,10) (Core Components 5 &amp; 7)</p> <ol style="list-style-type: none"> <li>1. Perform a comprehensive health assessment including physiological, psychological, sociological, and spiritual needs of clients, families, groups, populations, and communities across the lifespan experiencing complex (unstable acute conditions) health alterations in a variety of settings.</li> <li>2. Use the nursing process to prioritize the delivery of client care, with two or more clients, to achieve optimal outcomes.</li> <li>3. Model culturally sensitive care for clients, families, and groups from diverse backgrounds.</li> <li>4. Use clinical reasoning and clinical judgment when evaluating nursing care to improve client outcomes.</li> <li>5. Advocate for clients, families, and groups regarding nursing care issues and health care decisions.</li> <li>6. Use verbal and nonverbal communication that promotes caring, therapeutic relationships with individuals, families, and groups.</li> <li>7. Analyze best current evidence for its application to practice when providing and managing client-centered care.</li> <li>8. Integrate best current evidence into clinical judgments that indicate the need to modify clinical practice</li> </ol>	<ul style="list-style-type: none"> <li>• Quantitative analytical</li> <li>• Critical/creative thinking</li> <li>• Formulate strategies</li> </ul>
<p style="text-align: center;"><b><u>Unit 6 – Endocrine System</u></b></p> <p><b><u>Unit 6-Objectives/Competency</u></b></p>	<ul style="list-style-type: none"> <li>• Quantitative analytical</li> </ul>

1. Define vocabulary and unit terms
2. Compare the hormones secreted from the pituitary, thyroid, parathyroid, and adrenal glands.
3. Differentiate among the hormones from the adenohypophysis and the neurohypophysis.
4. Differentiate the actions and uses of the hormones from the pituitary, thyroid, parathyroid, and adrenal glands: thyroxine (T4), triiodothyronine (T3), calcitonin, parathyroid hormone (PTH), mineralocorticoids, and glucocorticoids.
5. Compare type 1 and type 2 diabetes mellitus.
6. Describe the symptoms of diabetes mellitus.
7. Differentiate symptoms of hypoglycemic reaction and hyperglycemia.
8. Compare onset, peak, and duration of rapid-acting, short-acting, intermediate-acting, and long-acting insulins.
9. Compare the action of oral antidiabetic drugs and their side effects.
10. Differentiate between the actions of insulin, oral antidiabetic agents, and glucagon.
11. Explain the rationale for and implementation of a sliding scale in treating the insulin dependent diabetic
12. Describe the therapeutic actions, indications, pharmacokinetics, contraindications, most common adverse reactions, and important drug interactions associated with each class of drugs affecting the endocrine system
13. Identify nursing considerations and teaching needs for clients receiving each class of drugs affecting the endocrine system
14. Apply the nursing process for the client taking endocrine drugs

- Critical/creative thinking
- Formulate strategies

#### **Unit 6-Content**

- a. Types of endocrine drugs
- b. Uses, actions, side effects, contraindications of common medications
- c. Nursing implications
- d. Client education needs
- e. Selected prototype drugs

#### **Unit 6-Terminology/Vocabulary**

Acromegaly, diabetes insipidus, dwarfism, gigantism, corticosteroids, hyperthyroidism, hypothyroidism, iodine, levothyroxine, metabolism, thyroxine, myxedema, diabetes mellitus, glycogen, insulin, ketosis, glycosuria, hypoglycemia, hyperglycemia, and sulfonylureas

#### **Unit 6-Course Objective – EPSLO- Competency**

**EPSLO 4.** Uses relevant evidence to improve client outcomes within a dynamic environment. (MDC Learning Outcomes 2,4,9,10) (Core Components 5 & 7)

1. Perform a comprehensive health assessment including physiological, psychological, sociological, and spiritual needs of clients, families, groups, populations, and communities across the lifespan experiencing complex (unstable acute conditions) health alterations in a variety of settings.
2. Use the nursing process to prioritize the delivery of client care, with two or more clients, to achieve optimal outcomes.
3. Model culturally sensitive care for clients, families, and groups from diverse backgrounds.
4. Use clinical reasoning and clinical judgment when evaluating nursing care to improve client outcomes.
5. Advocate for clients, families, and groups regarding nursing care issues and health care decisions.

<ol style="list-style-type: none"> <li>6. Use verbal and nonverbal communication that promotes caring, therapeutic relationships with individuals, families, and groups.</li> <li>7. Analyze best current evidence for its application to practice when providing and managing client-centered care.</li> <li>8. Integrate best current evidence into clinical judgments that indicate the need to modify clinical practice</li> </ol>	
<p style="text-align: center;"><b><u>Unit 7- Cardiovascular System</u></b></p> <p><b><u>Unit 7-Objectives/Competency</u></b></p> <ol style="list-style-type: none"> <li>1. Define vocabulary and unit terms</li> <li>2. Outline the normal controls of blood pressure</li> <li>3. Describe the cardiac action potential</li> <li>4. Describe the pathophysiologic process of heart failure, angina, coronary artery disease, blood coagulation, and anemia</li> <li>5. Develop a teaching plan for ways to increase the safety, effectiveness, and prevent toxicity of digoxin</li> <li>6. Describe major categories of anti-arrhythmic medications</li> <li>7. Describe major categories of nitrates</li> <li>8. Describe characteristics of anti-anginal agents</li> <li>9. Compare and contrast the major categories of medications used in the treatment of hypertension</li> <li>10. Discuss the major categories of diuretic therapy</li> <li>11. Discuss the major categories of anticoagulant and thrombolytics therapy</li> <li>12. Discuss the importance of blood and blood products</li> <li>13. Identify the therapeutic actions, indications, pharmacokinetics, contraindications, common adverse reactions, and drug interactions associated with each class of drugs affecting the cardiovascular system</li> <li>14. Identify the nursing considerations and teaching needs for clients receiving each class of drugs affecting the cardiovascular system</li> <li>15. Apply the nursing process for the client taking cardiovascular drugs</li> </ol> <p><b><u>Unit 7-Content</u></b></p> <ol style="list-style-type: none"> <li>a. Types of cardiovascular concerns</li> <li>b. Uses, actions, side effects, contraindications of common medications</li> <li>c. Nursing implications</li> <li>d. Client education needs</li> <li>e. Selected prototype drugs.</li> </ol> <p><b><u>Unit 7-Terminology/Vocabulary</u></b></p> <p>Arrhythmias, conductivity, electrocardiogram, systole, diastole, angiotensin-converting enzyme (ACE) inhibitor, angiotensin receptors, hypotension, hypertension, renin-angiotensin aldosterone system, heart failure, tachypnea, dyspnea, cardiac output, bradycardia, tachycardia, angina pectoris, atherosclerosis, myocardial infarction, coronary artery disease, cholesterol, hyperlipidemia, low-density lipoprotein (LDL), bile acids, anticoagulants, antiplatelets, clotting factors, erythropoiesis, erythropoietin, iron-deficiency anemia, pernicious anemia, megaloblastic anemia, aldosterone, antidiuretic hormone (ADH), carbonic anhydrase, glomerulus, nephron, prostate gland, edema, alkalosis, high-ceiling-diuretics, hyperaldosteronism, hypokalemia, urinary urgency, pyelonephritis, and antispasmodics, dysuria</p> <p><b><u>Unit 7-Course Objective – EPSLO- Competency</u></b></p>	<ul style="list-style-type: none"> <li>• Quantitative analytical</li> <li>• Critical/creative thinking</li> <li>• Formulate strategies</li> </ul>

**EPSLO 4.** Uses relevant evidence to improve client outcomes within a dynamic environment. (MDC Learning Outcomes 2,4,9,10) (Core Components 5 & 7)

1. Perform a comprehensive health assessment including physiological, psychological, sociological, and spiritual needs of clients, families, groups, populations, and communities across the lifespan experiencing complex (unstable acute conditions) health alterations in a variety of settings.
2. Use the nursing process to prioritize the delivery of client care, with two or more clients, to achieve optimal outcomes.
3. Model culturally sensitive care for clients, families, and groups from diverse backgrounds.
4. Use clinical reasoning and clinical judgment when evaluating nursing care to improve client outcomes.
5. Advocate for clients, families, and groups regarding nursing care issues and health care decisions.
6. Use verbal and nonverbal communication that promotes caring, therapeutic relationships with individuals, families, and groups.
7. Analyze best current evidence for its application to practice when providing and managing client- centered care.
8. Integrate best current evidence into clinical judgments that indicate the need to modify clinical practice

### Unit 8 – Respiratory System

#### Unit 8-Objectives/ Competency

1. Discuss pathophysiology for upper and lower respiratory disorders
2. Identify categories of medications used in the treatment of respiratory disorders
3. Compare antihistamine, decongestant, antitussive, and expectorant drug groups
4. Differentiate between rhinitis, sinusitis, and pharyngitis
5. Discuss chronic obstructive pulmonary disease (COPD) and restrictive lung disease
6. Differentiate the drug used in the treat of COPD and asthma
7. Compare the side effects of beta2-adrenergic agonists and methylxanthines
8. Describe the therapeutic serum or plasma theophylline level and the toxic level
9. Contrast the therapeutic effects of leukotriene antagonists, glucocorticoids, cromolyn, antihistamines, and mucolytics for COPD and asthma
10. Describe the therapeutic actions, indications, pharmacokinetics, contraindications, adverse reactions, and drug interactions associated with each class of drugs affecting the respiratory system
11. Identify the nursing considerations and teaching needs for clients receiving each class of drugs affecting the respiratory system
12. Apply the nursing process for the client taking respiratory drugs

#### Unit 8-Content

- a. Types of respiratory disorders
- b. Uses, actions, side effects, contraindications of common medications
- c. Nursing implications
- d. Client education needs
- e. Selected prototype drugs.

#### Unit 8-Terminology/Vocabulary

Asthma, alveoli, cystic fibrosis, cold, cough, pneumonia, lower, respiratory

- Quantitative analytical
- Critical/creative thinking
- Formulate strategies

tract, upper respiratory tract, surfactant, sinusitis, atelectasis, respiration, chronic obstructive pulmonary disease (COPD), antihistamines, antitussives, expectorants, mucolytics, rebound congestion, rhinitis, decongestants, bronchodilator, mast cell stabilizer, xanthines, leukotriene receptor antagonists

**Unit 8-Course Objective – EPSLO- Competency**

***EPSLO 4.*** Uses relevant evidence to improve client outcomes within a dynamic environment. (MDC Learning Outcomes 2,4,9,10) (Core Components 5 & 7)

1. Perform a comprehensive health assessment including physiological, psychological, sociological, and spiritual needs of clients, families, groups, populations, and communities across the lifespan experiencing complex (unstable acute conditions) health alterations in a variety of settings.
2. Use the nursing process to prioritize the delivery of client care, with two or more clients, to achieve optimal outcomes.
3. Model culturally sensitive care for clients, families, and groups from diverse backgrounds.
4. Use clinical reasoning and clinical judgment when evaluating nursing care to improve client outcomes.
5. Advocate for clients, families, and groups regarding nursing care issues and health care decisions.
6. Use verbal and nonverbal communication that promotes caring, therapeutic relationships with individuals, families, and groups.
7. Analyze best current evidence for its application to practice when providing and managing client-centered care.
8. Integrate best current evidence into clinical judgments that indicate the need to modify clinical practice

**Unit 9 – Reproductive System**

**Unit 9-Objectives/ Competency**

1. Define vocabulary and unit terms
2. Discuss the effects of estrogen and progesterone on the female body
3. Describe methods of contraception commonly prescribed, client selection, mechanisms of action, and possible side effects
4. Understand pharmacologic interventions used in the treatment of female infertility
5. Describe the mechanism of action for ovulatory stimulation therapy
6. Identify drug therapies used for common gynecologic conditions, such as dysfunctional uterine bleeding, endometriosis, dysmenorrhea, infertility, and premenstrual syndrome
7. Discuss nonpharmacologic and pharmacologic interventions for menopausal symptoms
8. Differentiate among types of drugs used for osteoporosis
9. Describe the nursing process, including teaching and risk-benefit–alternative education associated with drugs used for menopausal symptoms
10. Discuss the effects of testosterone and androgens on the male body
11. Describe the effects of gonadal hormone supplementation on the hypothalamic anterior pituitary feedback loop
12. Describe the role of testosterone therapy in managing developmental problems related to primary and secondary male sex characteristics and spermatogenesis
13. Differentiate common conditions for which androgen therapy and antiandrogen

- Quantitative analytical
- Critical/creative thinking
- Formulate strategies

<p>therapy are indicated</p> <ol style="list-style-type: none"> <li>14. Assess patients for therapeutic and adverse effects of androgen therapy</li> <li>15. Categorize commonly prescribed drugs for impaired male sexual function</li> <li>16. Identify the therapeutic actions, indications, pharmacokinetics, contraindications, most common adverse reactions, and important drug interactions associated with each class of drug affecting the male and female reproductive system</li> <li>17. Identify the nursing considerations and teaching needs for clients receiving each class of drug affecting the male and female reproductive system</li> <li>18. Apply the nursing process for the client taking reproductive drugs</li> </ol> <p><b><u>Unit 9-Content</u></b></p> <ol style="list-style-type: none"> <li>a. Types of reproductive concerns</li> <li>b. Uses, actions, side effects, contraindications of common medications</li> <li>c. Nursing implications</li> <li>d. Client education needs</li> </ol> <p><b><u>Unit 9-Terminology/Vocabulary</u></b>  Estrogen, progesterone, menstrual cycle, sperm, testosterone, ovaries, ovulation, progesterone, fertility drugs, progestins, oxytocic's, anabolic steroids, androgens, hypogonadism, benign prostatic hyperplasia (BPH), and penile erectile dysfunction</p> <p><b><u>Unit 9-Course Objective – EPSLO- Competency</u></b>  <b><i>EPSLO 4.</i></b> Uses relevant evidence to improve client outcomes within a dynamic environment. (MDC Learning Outcomes 2,4,9,10) (Core Components 5 &amp; 7)</p> <ol style="list-style-type: none"> <li>1. Perform a comprehensive health assessment including physiological, psychological, sociological, and spiritual needs of clients, families, groups, populations, and communities across the lifespan experiencing complex (unstable acute conditions) health alterations in a variety of settings.</li> <li>2. Use the nursing process to prioritize the delivery of client care, with two or more clients, to achieve optimal outcomes.</li> <li>3. Model culturally sensitive care for clients, families, and groups from diverse backgrounds.</li> <li>4. Use clinical reasoning and clinical judgment when evaluating nursing care to improve client outcomes.</li> <li>5. Advocate for clients, families, and groups regarding nursing care issues and health care decisions.</li> <li>6. Use verbal and nonverbal communication that promotes caring, therapeutic relationships with individuals, families, and groups.</li> <li>7. Analyze best current evidence for its application to practice when providing and managing client- centered care.</li> <li>8. Integrate best current evidence into clinical judgments that indicate the need to modify clinical practice</li> </ol>	
<p style="text-align: center;"><b><u>Unit 10- Antimicrobial Agents</u></b></p> <p><b><u>Unit 10-Objectives/Competency</u></b></p> <ol style="list-style-type: none"> <li>1. Differentiate between broad spectrum and narrow spectrum drugs.</li> <li>2. Define bacterial resistance to antibiotics and discuss the emergence of resistant strains.</li> <li>3. Identify the therapeutic actions, indications, pharmacokinetics,</li> </ol>	<ul style="list-style-type: none"> <li>• Quantitative analytical</li> <li>• Critical/creative thinking</li> <li>• Formulate strategies</li> </ul>



<p>contraindications, most common adverse reactions, and important drug interactions associated with each class of anti-infective, antivirals, anti-tuberculars, antiretrovirals, antiprotozoals, and antifungal agents.</p> <ol style="list-style-type: none"> <li>4. Identify the nursing considerations and teaching needs for clients receiving each class of anti-infective (antibiotics, antivirals, antitubercular, antiretrovirals, antiprotozoals, and antifungal) agents</li> <li>5. Apply the nursing process for the client taking anti-infective (antibiotics, antivirals, antitubercular, antiretrovirals, antiprotozoals, and antifungal) agents</li> </ol> <p><b><u>Unit 10-Content</u></b></p> <ol style="list-style-type: none"> <li>a. Types of anti-infective agents</li> <li>b. Uses, actions, side effects, contraindications of common medications</li> <li>c. Nursing implications</li> <li>d. Client education needs</li> <li>e. Selected prototype drugs</li> </ol> <p><b><u>Unit 10-Terminology/Vocabulary</u></b> Bactericidal, bacteriostatic, culture, prophylaxis, resistance, superinfection, and sensitivity testing</p> <p><b><u>Unit 10-Course Objective – EPSLO- Competency</u></b> <b><i>EPSLO 4.</i></b> Uses relevant evidence to improve client outcomes within a dynamic environment. (MDC Learning Outcomes 2, 4, 9, &amp; 10) (Core Components 5 &amp; 7)</p> <ol style="list-style-type: none"> <li>1. Perform a comprehensive health assessment including physiological, psychological, sociological, and spiritual needs of clients, families, groups, populations, and communities across the lifespan experiencing complex (unstable acute conditions) health alterations in a variety of settings.</li> <li>2. Use the nursing process to prioritize the delivery of client care, with two or more clients, to achieve optimal outcomes.</li> <li>3. Model culturally sensitive care for clients, families, and groups from diverse backgrounds.</li> <li>4. Use clinical reasoning and clinical judgment when evaluating nursing care to improve client outcomes.</li> <li>5. Advocate for clients, families, and groups regarding nursing care issues and health care decisions.</li> <li>6. Use verbal and nonverbal communication that promotes caring, therapeutic relationships with individuals, families, and groups.</li> <li>7. Analyze best current evidence for its application to practice when providing and managing client-centered care.</li> <li>8. Integrate best current evidence into clinical judgments that indicate the need to modify clinical practice</li> </ol>	
<p style="text-align: center;"><b><u>Unit 11 – Pharmacology Basics</u></b></p> <p><b><u>Unit 11-Objective/Competency</u></b></p> <ol style="list-style-type: none"> <li>1. Define vocabulary and unit terms</li> <li>2. Differentiate between generic and brand name, over the counter and prescription drugs</li> <li>3. List at least six factors that can influence the actual effects of drugs in the body</li> <li>4. Explain the meaning of half-life and calculate the half-life of given drugs</li> </ol>	<ul style="list-style-type: none"> <li>• Quantitative analytical</li> <li>• Critical/creative thinking</li> <li>• Formulate strategies</li> </ul>

5. Calculate the correct dose of a drug when given examples of drug orders and available forms of the drug
6. List the nursing responsibilities for medication administration
7. Discuss various nursing interventions to prevent medication errors and provide for safe medication administration
8. Describe the pharmacologic actions and safety of complementary and alternative medicine
9. Discuss the nursing process related to medication administration
10. Differentiate the effects of culture, ethnicity, and growth and development on pharmacotherapeutics and pharmacokinetics
11. Describe osmolality and tonicity
12. Describe the classifications of intravenous fluids
13. Discuss the functions and signs & symptoms of major electrolytes to include deficiency and excess of potassium, sodium, calcium, magnesium, chloride, and phosphorus
14. Differentiate between intracellular and extracellular electrolytes
15. Apply the nursing process to fluid volume deficit and fluid volume excess
16. Apply the nursing process to the care of the client experiencing potassium, sodium, calcium, and magnesium imbalances

#### **Unit 11-Content**

1. Safe medication administration
2. Basic of medication administration
3. Types of medications administration
4. Common equipment for safe medication administration
5. Nursing implications of medication administration
6. Drug calculations

#### **Unit 11-Terminology/Vocabulary**

Adverse effects, Brand name, Generic name, Drugs, Food and Drug Administration, Pharmacology, Pharmacotherapeutics, Pharmacodynamics, Pharmacogenetics, Pharmacokinetics, Half-life, complementary and alternative medicine, Pharmacologic Classification, Over the Counter drugs, Pregnancy Classifications, and Teratogenic

#### **Unit 11-Course Objective – EPSLO- Competency**

***EPSLO 2.*** Implement safety and quality initiatives in the delivery of holistic client-centered care to diverse populations. (MDC Learning Outcomes 1, 2, & 3) (Core Component 1, 2, & 7)

1. Identify safety risks and environmental hazards in health care settings.
2. Practice performance of psychomotor skills that minimize safety risks and environmental hazards.

***EPSLO 4.*** Uses relevant evidence to improve client outcomes within a dynamic environment. (MDC Learning Outcomes 2, 4, 9, & 10) (Core Component 5 & 7)

1. Perform a comprehensive health assessment including physiological, psychological, sociological, and spiritual needs of clients, families, groups, populations, and communities across the lifespan experiencing complex (unstable acute conditions) health alterations in a variety of settings.
2. Use the nursing process to prioritize the delivery of client care, with two or more clients, to achieve optimal outcomes.
3. Model culturally sensitive care for clients, families, and groups from diverse backgrounds.
4. Use clinical reasoning and clinical judgment when evaluating nursing care to

<p>improve client outcomes.</p> <ol style="list-style-type: none"> <li>5. Advocate for clients, families, and groups regarding nursing care issues and health care decisions.</li> <li>6. Use verbal and nonverbal communication that promotes caring, therapeutic relationships with individuals, families, and groups.</li> <li>7. Analyze best current evidence for its application to practice when providing and managing client-centered care.</li> <li>8. Integrate best current evidence into clinical judgments that indicate the need to modify clinical practice</li> <li>9. Analyze best current evidence for its application to practice when providing and managing client-centered care.</li> <li>10. Integrate best current evidence into clinical judgments that indicate the need to modify clinical practice</li> </ol>	
<p style="text-align: center;"><b><u>Unit 12 - Legal and Ethical Responsibilities</u></b></p> <p><b><u>Unit 12-Objective/Competency</u></b></p> <ol style="list-style-type: none"> <li>1. Define vocabulary and unit terms</li> <li>2. Examine the legal and ethical implications of medication administration</li> <li>3. Discuss the legal and ethical implications of medication and dosage errors</li> <li>4. Discuss common protocols for medication clinical trials</li> <li>5. Identify the legal and ethical responsibilities for clinical trials</li> <li>6. Explain the legal and ethical implications for administration of controlled substances</li> </ol> <p><b><u>Unit 12-Content</u></b></p> <ol style="list-style-type: none"> <li>1. Nursing responsibilities</li> <li>2. Clinical trails</li> <li>3. Clients' Rights</li> <li>4. Medication errors</li> <li>5. Drug calculation errors</li> <li>6. Sentinel events</li> </ol> <p><b><u>Unit 12-Terminology/Vocabulary</u></b> Clinical Phase Trails, Controlled Substances, Medication Errors, and Drug interactions</p> <p><b><u>Unit 12-Course Objective – EPSLO- Competency</u></b></p> <p><b><i>EPSLO 2.</i></b> Implement safety and quality initiatives in the delivery of holistic client-centered care to diverse populations. (MDC Learning Outcomes 1, 2, &amp; 3) (Core Component 1, 2, &amp;7)</p> <ol style="list-style-type: none"> <li>1. Identify safety risks and environmental hazards in health care settings.</li> <li>2. Practice performance of psychomotor skills that minimize safety risks and environmental hazards.</li> </ol> <p><b><i>EPSLO 4.</i></b> Uses relevant evidence to improve client outcomes within a dynamic environment. (MDC Learning Outcomes 2, 4, 9, &amp; 10) (Core Component 5 &amp; 7)</p> <ol style="list-style-type: none"> <li>1. Perform a comprehensive health assessment including physiological, psychological, sociological, and spiritual needs of clients, families, groups, populations, and communities across the lifespan experiencing complex (unstable acute conditions) health alterations in a variety of settings.</li> <li>2. Use the nursing process to prioritize the delivery of client care, with two or</li> </ol>	<ul style="list-style-type: none"> <li>• Quantitative analytical</li> <li>• Critical/creative thinking</li> <li>• Formulate strategies</li> </ul>

- more clients, to achieve optimal outcomes.
3. Model culturally sensitive care for clients, families, and groups from diverse backgrounds.
  4. Use clinical reasoning and clinical judgment when evaluating nursing care to improve client outcomes.
  5. Advocate for clients, families, and groups regarding nursing care issues and health care decisions.
  6. Use verbal and nonverbal communication that promotes caring, therapeutic relationships with individuals, families, and groups.
  7. Analyze best current evidence for its application to practice when providing and managing client-centered care.
  8. Integrate best current evidence into clinical judgments that indicate the need to modify clinical practice

### **Required Textbooks**

Vallerand, A. H., & Sanoski, C. A. (2015). *Davis's drug guide for nurses* (13th ed.). Philadelphia: F.A. Davis Company. ISBN: 9780803628335

McCustion, L. E., Vuljoin-Dimmagio, K., Winton, M. B., & Yeager J.J. (2021). *Pharmacology: A patient-centered nursing process approach*. (10th ed.). St. Louis, MO: ELSEVIER. ISBN: 978-0-323-39916-6

### **Recommended Reading**

Pharmacology Text and Elsevier Adaptive Quizzing Package, 9th Edition - A Patient-Centered Nursing Process Approach ISBN: 9780323352871

-Or-

Elsevier Adaptive Quizzing for Pharmacology (Retail Access Card), 9th Edition - A Patient-Centered Nursing Process Approach ISBN9780323352857

### **Additional Resources**

Nurse Pro-Cal – computer software available in the Center for Learning and Simulation Center of Learning and Simulation (305) 237-4130

Tutoring – in the Center for Learning and Simulation tutoring is available. If you feel you are in need of remediation, you may go to the center at any time. Your instructor may also refer you to the center for additional assistance.

Calculators - A simple calculator for computations should be brought to each class. **Calculators with data storage capabilities will not be permitted for examinations.**

### **Course Evaluation**

#### **Components of Grade**

Unit Exam I

**20%**

Unit Exam II	20%
Unit Exam III	20%
Final Exam (Cumulative exam)	25%
Quizzes (In class)	5%
ATI Practice Assessment, Remediation, and Standardize Proctored Exam- Pharmacology	<u>10%</u> 100%

**Each test will be comprised of 10-20% pharmacology math questions**

*\*Rules for Abbreviations & Equivalents and Notational & Rounding Rules are based on rules learned in NUR 1142. Examinations will be graded according to these rules.*

### **School of Nursing Grading Scale**

#### **Grading Scale**

93-100%	A
85-92%	B
77-84%	C
69-76%	D
Below 69%	F

### **Course/Departmental Policies**

#### ***Method of Communicating Grades:***

Grades for each test will be distributed within one week of taking the test.

#### ***Make-up Tests:***

There are no make-up tests in this course. If a student is unable to attend class on the day a test is scheduled, the weight of the final exam will be increased by the weight of each missed test. If more than one test is missed, the student may be asked to withdraw.

#### ***Test Review:***

Faculty will review exam content when test results are distributed. Students who wish to review their own test results must schedule an appointment with the faculty within two weeks of receiving individual results.

#### ***Practice Assessment and Remediation:***

1. At designated times during the course, the student will take two Practice Assessment tests from home.
2. The results of the Practice Assessment A will generate a remediation plan.
3. The student must complete the assigned ATI Remediation Plan prior to taking the Practice Assessment B.
4. At the completion of the assigned ATI Remediation Plan, the student will complete Practice Assessment B.
5. In order to receive the full points, the student must complete all areas of the 2 Practice Assessments and the remediation Plan.

<b>2 POINTS</b>	<b>2 POINTS</b>	<b>2 POINTS</b>
<i>Practice Assessment A</i>	<i>Remediation Plan</i>	<i>Practice Assessment B</i>

Complete Practice Assessment A.	<ul style="list-style-type: none"> <li>• Complete ATI Assigned Remediation Plan.</li> <li>• For each topic missed complete: <ul style="list-style-type: none"> <li>○ An active learning templates</li> <li>○ Identify three critical points to remember</li> </ul> </li> </ul>	Complete Practice Assessment B
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***Standardized Proctored Assessment:***

The Standardized Proctored Assessment is mandatory and is given towards the end of the course (*courses include Fundamentals, Pharmacology, Obstetric, Pediatric, Psychiatric, Medical-Surgical, and Advanced Medical-Surgical*). The student can earn up to a total of 4 points based on the level achieved on the Standardized Proctored Assessment. The following scale will be used for the Standardized Proctored Assessment:

STANDARDIZED PROCTORED ASSESSMENT
Level 3 Equivalent (86.7% - 100%) = 4 points (100%)
Level 2 Equivalent (71.7% to 85%) = 3 points (75%)
Level 1 Equivalent (53.3% to 70%) = 1 point (25%)
Below Level 1 Equivalent (under 51.7%) = 0 points (0%)

***Special Note:***

The Standardized Proctored Assessment is a mandatory course requirement. Failure to complete the Standardized Proctored Assessment will result in no points being awarded. Failure to complete the assigned remediation plan and Practice Assessment A and B will result in no points being awarded.

***Testing Center Policy:***

Refer to student handbook

<http://www.mdc.edu/nursing/docs/Associate-in-Science-Nursing-Student-Handbook.pdf>

***Attendance:***

Attendance is required for students to successfully meet the course objectives. Students who miss any scheduled lectures are responsible for acquiring the missed information.

***Illness/Emergency:***

Notify the instructor regarding absence or tardiness.

***Academic Dishonesty:***

Academic dishonesty will not be tolerated. Students involved in any form of academic dishonesty including copying from others during an exam or allowing others to copy from your exam or otherwise helping other students with answers during an exam will face disciplinary sanctions in accordance with the College's Student Rights and Responsibilities Handbook. For more information, please obtain a copy of the Handbook at the Student Life Department or review it in the MDC student website.

***Progression:***

To progress to the following semester, students must earn a grade of "S" (clinical) and/or "C" (lecture) or higher in every nursing course required this semester. Please see co-requisites.

***Remediation:***

Students who are not meeting course objectives and or requirements are responsible for seeking tutorial remediation. It is the student's responsibility to make an appointment with the course instructor for direction regarding remediation.

***Smart Plan Policy:***

The Benjamin Leon School of Nursing's goal is for every student to be successful throughout the nursing program. Nursing students are only allowed to repeat a course one time, if failed the second time, the student will be dismissed from the program. To avoid this from happening, and to remediate the student, a SMART Action Plan for Remediation has been developed for each nursing course. Each SMART Plan is specific for the failed course and focuses on student preparation and success. It is mandatory in the School of Nursing that any student who is unsuccessful in a course the first time must complete a Smart Plan before being allowed to re-take/re-register for the course. To initiate the SMART Plan, students must:

- a. Be advised and referred by their course instructor.
- b. Meet with a Retention Specialist who will initiate the SMART Action Plan.
- c. Complete all assignments with the Retention Specialist, who will verify your work and send a completion release to the student's program Department Chairperson.
- d. The Chairperson will be responsible for re-enrolling the student into courses and notifying the student's instructor of your completion status.
- e. Please see your Department Chairperson for more information.

***Mobile Phones:***

Repeated ringing of mobile phones is disruptive during a lecture or discussion and is disturbing to peers and the professor. Please set mobile phones to either flash, vibrate, or silent. If ringing occurs, the student may be asked to remove his/herself from the classroom. Mobile phone use during any course examination is strictly prohibited.

***Materials:***

Students must bring the required textbook to each class session for reference.

**Available Support Services:****ACCESS Statement:**

By providing a variety of services that address a spectrum of disabilities, the ACCESS department works to ensure equal access and opportunity throughout the college experience. Students with a documented disability are encouraged to contact the campus ACCESS (Disability Services) Department in advance for information on appropriate policies and procedures for obtaining assistance. Retroactive auxiliary aids and services cannot be provided. The ACCESS department at the Medical campus is located in Building 1, Room 1113, and can be reached at (305) 237-4027. The ACCESS department at the Homestead campus is located in Building A, Room 233, and can be reached at (305) 237-5226. Please note it is the student's responsibility to self-identify at each campus where they are taking courses and seeking services.

***Tutoring Services:***

<https://libraryguides.mdc.edu/rn>

***Nursing Skills Lab:***

<http://www.mdc.edu/nursing/nursing-skills-lab.aspx>

***Clinical Simulation Lab:***

<http://www.mdc.edu/medical/campus-information/facilities-csl.aspx>

**Policy on Change(s) to Course Syllabus:**

The professor retains the right to make changes to the course syllabus. Changes will be communicated to students verbally, in writing, or both.



**NUR1141**  
**Course Calendar**  
**Mondays**

WEEK/ DATE	TOPIC	READINGS	LEARNING ACTIVITIES AND EVALUATION
<b><u>Week 1</u></b> Course Student Learning Outcomes: 1, 2, 3, 4, 5, 6, 7 Unit Objectives: 11 & 12 EPSLO: 2 & 4			
<b>1</b> <b>01/10/22</b>	Course Overview: Syllabus/ ATI  <b>Lecture:</b> Intro to Pharmacology Pharmacology Basics	McCuiston: Chapters 1-4, 9, 10, 12  ATI eBook: Ch. 1, 2, 4, 5, & 6	<b><u>Pharmacology Made Easy 4.0</u></b> <ul style="list-style-type: none"> <li>• <u>ATI Module 1:</u> <ul style="list-style-type: none"> <li>○ Intro to Pharm</li> <li>○ Drills &amp; Practice &amp; Questions</li> </ul> </li> </ul>
<b><u>Week 2</u></b>  <b>01/17/22</b>	<b>NO CLASS</b>	<b>HOLIDAY</b>	<b><u>Martin Luther King Holiday</u></b>
<b><u>Week 3</u></b> Course Student Learning Outcomes: 1, 2, 3, 4, 5, 6, 7 Unit Objectives: 6 EPSLO: 4			
<b>3</b> <b>01/24/22</b>	<b>Lecture:</b> Endocrine Drugs	McCuiston: Chapters 46-47  ATI eBook: Ch. 39 & 40	<b><u>Pharmacology Made Easy 4.0</u></b> <ul style="list-style-type: none"> <li>• <u>ATI Module 9:</u> <ul style="list-style-type: none"> <li>○ Endocrine System</li> <li>○ Drills &amp; Practice Questions</li> </ul> </li> <li>• <b>Quiz #1: Pharm Basics</b></li> </ul>
<b><u>Week 4</u></b> Course Student Learning Outcomes: 1, 2, 3, 4, 5, 6, 7 Unit Objectives: 4 EPSLO: 4			
<b>4</b> <b>01/31/22</b>	<b>Lecture:</b> Autonomic Neurological System Drugs  <b>Lecture:</b> Central Nervous System Drugs: Antiseizure Drugs	McCuiston: Chapters 15-16  ATI eBook: Ch. 13  McCuiston: Chapters 19  ATI eBook: Ch. 7, 8, 9, & 10	<b><u>Pharmacology Made Easy 4.0</u></b> <ul style="list-style-type: none"> <li>• <u>ATI Module 2:</u> <ul style="list-style-type: none"> <li>○ Neurological System-Part 1</li> <li>○ Drills &amp; Practice Questions</li> </ul> </li> <li>• <b>Quiz #2: Endocrine System</b></li> </ul>

<p>5 02/07/22</p>	<p><b>Lecture:</b> Cardiovascular Drugs &amp; Blood Transfusion</p>	<p><b>EXAM 1: PHARM BASICS, ENDOCRINE, &amp; ANS</b></p> <ul style="list-style-type: none"> <li>• <b>Date:</b> Monday, February 07, 2022</li> <li>• <b>Time:</b></li> <li>• <b>Location:</b></li> </ul> <p><b>Pharmacology Made Easy 4.0</b></p> <ul style="list-style-type: none"> <li>• <u>ATI Module 5:</u> <ul style="list-style-type: none"> <li>○ Cardiovascular System</li> <li>○ Drills &amp; Practice Questions</li> </ul> </li> </ul>	
<p><b>Weeks 6 &amp; 8</b> Course Student Learning Outcomes: 1, 2, 3, 4, 5, 6, 7 Unit Objectives: 7 &amp; 8 EPSLO: 4</p>			
<p>6 02/14/22</p>	<p><b>Lecture:</b> Cardiovascular Drugs &amp; Blood Transfusion</p>	<p>McCuistion: Chapters 12 &amp; 37-41  ATI eBook: Ch. 19-24 &amp; 27</p>	<p><b>Pharmacology Made Easy 4.0</b></p> <ul style="list-style-type: none"> <li>• <u>ATI Module 5:</u> <ul style="list-style-type: none"> <li>○ Cardiovascular System</li> <li>○ Drills &amp; Practice Questions</li> </ul> </li> </ul> <p><b>Quiz #3: Cardiovascular System</b></p>
<p>7 02/21/22</p>	<p><b>NO CLASS</b></p>	<p><b>HOLIDAY</b></p>	<p><b><u>PRESIDENTS DAY</u></b></p>
<p>8 02/28/22</p>	<p><b>Lecture:</b> Respiratory Drugs</p> <p><b><u>ATI Pharm Practice Assessment A</u></b></p>	<p>McCuistion: Chapters 35-36  ATI eBook: Ch. 17 &amp; 18</p>	<p><b>Pharmacology Made Easy 4.0</b></p> <ul style="list-style-type: none"> <li>• <u>ATI Module 4:</u> <ul style="list-style-type: none"> <li>○ Respiratory System</li> <li>○ Drills &amp; Practice Questions</li> </ul> </li> </ul> <p><b><u>ATI Pharm Practice Assessment A</u></b> <b>Note:</b> Practice Assessment A will be made available on <b>02/28/22</b>. Practice Assessment A must be completed by <b>Midnight 03/04/22</b>.</p>
<p><b>Weeks 9 &amp; 10</b> Course Student Learning Outcomes: 1, 2, 3, 4, 5, 6, 7 Unit Objectives: 2, 3, &amp; 4 EPSLO: 4</p>			
<p>9 03/07/22</p>	<p><b>Lecture:</b> Gastrointestinal Drugs</p> <p><b>Lecture:</b> Central and Peripheral Nervous System Drugs</p>	<p>McCuistion: Chapters 42-43  ATI eBook: Ch. 28-30</p> <p>McCuistion: Chapters 17,18, &amp; 20-23  ATI eBook: Ch. 11, 12, &amp; 14-16</p>	<p><b>EXAM 2: Cardiac, Blood transfusion, &amp; Respiratory</b></p> <p><b>Pharmacology Made Easy 4.0</b></p> <ul style="list-style-type: none"> <li>• <u>ATI Module 7:</u> <ul style="list-style-type: none"> <li>○ GI System</li> <li>○ Drills &amp; Practice Questions</li> </ul> </li> </ul>

			<p><b><u>Pharmacology Made Easy 4.0</u></b></p> <ul style="list-style-type: none"> <li>• <u>ATI Module 2:</u> <ul style="list-style-type: none"> <li>○ Neurological System-Part 2</li> <li>○ Drills &amp; Practice Questions</li> </ul> </li> </ul>
<p><b>10</b> <b>03/14/22</b></p>	<p><b>Lecture:</b> Central and Peripheral Nervous System Drugs</p> <p><b>Lecture:</b> Anti-inflammatory and Pain Drugs</p> <p><b><u>ATI Practice Assessment A Remediation Plan</u></b></p>	<p>McCuiston: Chapters 17,18, &amp; 20-23</p> <p>ATI eBook: Ch. 11, 12, &amp; 14-16</p> <p>McCuiston: Chapters 24-25</p> <p>ATI eBook: Ch. 33-38</p>	<p><b><u>Pharmacology Made Easy 4.0</u></b></p> <ul style="list-style-type: none"> <li>• <u>ATI Module 2:</u> <ul style="list-style-type: none"> <li>○ Neurological System-Part 2</li> <li>○ Drills &amp; Practice Questions</li> </ul> </li> </ul> <p><b><u>Pharmacology Made Easy 4.0</u></b></p> <ul style="list-style-type: none"> <li>• <u>ATI Module 11:</u> <ul style="list-style-type: none"> <li>○ Anti-inflammatory and Pain</li> <li>○ Drills &amp; Practice Questions</li> </ul> </li> <li>• <b>Quiz #4: Central Nervous &amp; Gastrointestinal System</b></li> </ul> <p><b>Note:</b> Remediation Plan for ATI Practice Assessment A must be completed and submitted by <b>Midnight 03/14/22</b></p>
<p><b><u>Week 11</u></b> Course Student Learning Outcomes: 1, 2, 3, 4, 5, 6, 7 Unit Objectives: 1 EPSLO: 4</p>			
<p><b>11</b> <b>03/21/22</b></p>			<p><b>EXAM #3: CNS, GI, &amp; ANTI-INFLAMMATORY/PAIN</b></p> <ul style="list-style-type: none"> <li>• <b>Date:</b> Monday March 21, 2022</li> <li>• <b>Time:</b></li> <li>• <b>Location:</b></li> </ul>
	<p><b>Lecture:</b> Antineoplastic Agents</p> <p><b>Lecture:</b> Antimicrobial Agents</p>	<p>McCuiston: Chapters 32-33 ATI eBook: Ch. 43-45</p> <p>McCuiston: Chapters 26-28 ATI eBook: Ch. 46-48</p>	<p><b><u>Pharmacology Made Easy 4.0</u></b></p> <ul style="list-style-type: none"> <li>• <u>ATI Module 6:</u> <ul style="list-style-type: none"> <li>○ Hematologic System</li> <li>○ Drills &amp; Practice Questions</li> </ul> </li> </ul> <p><b><u>Pharmacology Made Easy 4.0</u></b></p> <ul style="list-style-type: none"> <li>• <u>ATI Module 9:</u></li> <li>• Reproductive &amp; Genitourinary System</li> <li>• Drills &amp; Practice Questions</li> </ul>

<b>Week 12</b>			
Course Student Learning Outcomes: 1, 2, 3, 4, 5, 6, 7 Unit Objectives: 5, 9, & 10 EPSLO: 4			
<b>12</b> <b>03/28/22</b>	<b>Lecture:</b> Reproductive Drugs	McCuiston: Chapters 52-53 ATI eBook: Ch. 31 & 32	
<b>13</b> <b>04/04/22</b>	<b>Lecture:</b> Immunologic Drugs  <b><u>ATI Practice Assessment B</u></b>	McCuiston: Chapters 29-31 ATI eBook: Ch. 41 & 42	<b>Note:</b> Practice Assessment B will be made available on <b>04/04/22</b> . Practice Assessment B must be completed by Midnight <b>04/08/22</b>
<b>14</b> <b>04/11/22</b>	<b>Lecture:</b> Immunologic Drugs	McCuiston: Chapters 29-31 ATI eBook: Ch. 41 & 42	<b><u>Pharmacology Made Easy 4.0</u></b> <ul style="list-style-type: none"> <li>• <u>ATI Module 12:</u> <ul style="list-style-type: none"> <li>○ Infection &amp; Immune</li> <li>○ Drills &amp; Practice Questions</li> <li>○ Case Studies</li> </ul> </li> </ul>
<b>15</b> <b>04/18/22</b>			<b><u>In-Class Revision</u></b>
<b>16</b> <b>04/25/22</b>			<b><u>COMPREHENSIVE FINAL EXAM</u></b> <ul style="list-style-type: none"> <li>• <b>Date:</b> Monday, <b>April 25<sup>th</sup>, 2022</b></li> <li>• <b>Time:</b> TBA</li> <li>• <b>Location:</b> MDC Testing Department</li> <li>• Remember your ID/ No books</li> </ul>
<b>04/29/22</b>			<b><u>PHARMACOLOGY PROCTORED EXAM - ATI</u></b> <ul style="list-style-type: none"> <li>• <b>Date:</b> <b>April 29, 2022</b></li> <li>• <b>Time:</b> TBA</li> <li>• <b>Location:</b> MDC Testing Department</li> </ul> <p>Remember your ID/ No books</p>

\*Note: Course calendar is subject to modification by instructor