

J. Sargeant Reynolds Community College
Course Content Summary

Course Prefix and Number: NSG 170

Credits: 6

Course Title: Health/Illness Concepts

Course Description: Focuses on the nursing care of individuals and/or families throughout the lifespan with an emphasis on health and illness concepts. Includes concepts of nursing care for the antepartum client and clients with common and predictable illnesses. Provides supervised learning experiences in college nursing laboratories, clinical/community settings, and/or simulated environments. Lecture 4 hours, Laboratory 6 hours. Total 10 hours per week.

General Course Purpose: The purpose of this course is to introduce the advanced beginner student to concepts related to care of clients with predictable outcomes

Course Prerequisites and Co-requisites:

Prerequisites: BIO 142 (or BIO 232), NSG 100, NSG 106, NSG 130, and NSG 200.

Course Objectives:

Upon successful completion of this course, students will be able to:

- Accurately assess clients who are experiencing common and predictable health problems.
- Use clinical judgment and evidence-based care related to the concepts of fluid and electrolytes, cellular regulation, metabolism, sexuality, reproduction, thermoregulation, gas exchange and perfusion.
- Differentiate relevant cues in the care of clients who are experiencing common predictable health problems.
- Prioritize safety measures in the care of clients with varied health problems.
- Use evidence to support and plan appropriate nursing care.
- Recognize the impact of personal beliefs, values and attitudes in the development of professionalism and professional behaviors.
- Use technology and information management tools to plan and provide safe and effective patient care.
- Compare and contrast the roles of the health team members in the planning and provision of client care.
- Demonstrate the principles of pharmacology and parenteral therapies throughout the lifespan.
- Demonstrate preparation and administration of pharmacological therapies to include parenteral.

Major Topics to be Included

Concepts and Exemplars	Pharmacology
<i>Fluid and Electrolytes Concept</i> ● Basic principles of F&E ● Risk factors related to imbalances in F&E ● Prevention strategies of F&E ● Assessment and diagnostics ● Clinical judgment related to imbalances in F&E ● Skills related to intravenous therapy and blood transfusions ● ABO compatibility Exemplars: specific electrolyte imbalances, dehydration, fluid volume overload	Isotonic Hypertonic Hypotonic Sodium Magnesium Potassium Phosphorus Calcium TPN PPN Blood
<i>Cellular Regulation</i> ● Basic principles of cellular regulation ● Risk factors related to imbalances in cellular regulation ● Prevention strategies ● Assessment and diagnostics ● Clinical judgment related to imbalances in cellular regulation	Selective estrogen receptor modulator (Tamoxifen) Disease-Modifying Antirheumatic Drugs (DMARDS)- (ex. Methotrexate) Alkylating Agents (cisplatin) Anti-tumor (Bleomycin, Dactinomycin) Antiemetics ● 5-HT3 Antagonist-ondansetron

Exemplars: breast cancer, colon cancer, leukemia (across the lifespan)	● Prokinetic agents-metoclopramide ● Cannabinoids ● Tricyclics-promethazine Chemotherapy (safety) Radiation (safety) Mitotic Inhibitors (ex. Vincristine) Taxanes (ex. Abraxane) Biologic Response Modifiers (Interferon, Interleukin) Colony Stimulating Factors (ex. Filgrastim) Erythropoiesis-stimulating agents (Epoetin alpha) Gene therapy Microtubule inhibitor (Docetaxel)
Metabolism concept ● Principles of metabolism ● Risk factors related to alterations in metabolism ● Prevention strategies related to alterations in metabolism ● Assessment and diagnostics ● Clinical judgment related to alterations in metabolism Exemplars: diabetes mellitus type 1 and 2 (across the lifespan), gestational diabetes, Diabetic Ketoacidosis (DKA), Hyperosmolar Hyperglycemic State (HHS)	Insulin and delivery methods (SC, pumps, etc.) Glucagon Biguanides (ex. Metformin) Thiazolidinedione (ex. Rosiglitazone, pioglitazone) Sulfonylurea (ex. Chlorpropamide, glipizide) Serotonin 2 inhibitor DPP4 inhibitor (ex. Sitagliptin) GLP-1 Alpha glucosidase inhibitor- (ex. Acarbose) Meglitinides

	Glucagon-like peptide-1 (GLP-1) agonists (incretin mimetics) (Ex. semaglutide, dulaglutide, and liraglutide)
<i>Sexuality Concept</i> • Basic principles of sexuality • Risk factors related to alterations in sexuality • Prevention strategies related to altered sexuality • Assessment and diagnostics • Clinical judgment related to alterations in sexuality Exemplars: Family planning, Sexually Transmitted Infections (STI's), Erectile dysfunction, Menopause, Female genital mutilation	Estrogen Progesterone Contraceptives Testosterone Phosphodiesterase Routes of administration for contraceptive devices Spermicides
<i>Thermoregulation Concept</i> • Principles of thermoregulation • Risk factors related to alterations in thermoregulation • Prevention strategies related to altered thermoregulation • Assessment and diagnostics • Clinical judgment related to alterations in thermoregulation Exemplars: fever, environmental hypo- and hyperthermia, preterm and newborn hypothermia, malignant hyperthermia	Aspirin Acetaminophen Non-steroidal anti-inflammatory drugs (NSAIDS) Skeletal Muscle Relaxants (Dantrolene)

Gas Exchange Concept • Principles of gas exchange • Risk factors related to alterations in gas exchange • Prevention strategies related to altered gas exchange • Assessment and diagnostics • Clinical judgment related to alterations in gas exchange Exemplars: asthma (across the lifespan), COPD-adult, anemias (introduction to anemia and nutritional anemias (iron deficiency and B12))	Decongestants (ex. Pseudoephedrine, phenylephrine) Expectorants (ex. Guaifenesin) Antitussives (ex. Benzonatate) Corticosteroids (ex. Prednisolone) Sympathomimetic drugs (ex. Dopamine, dobutamine, epinephrine) Anticholinergics- (ex. Benztropine) b Adrenergic agonist drugs- (ex. Albuterol, salmeterol) Xanthine's (ex. Theophylline) Colony Stimulating Factors (ex. Neupogen) Mast cell stabilizers (ex. Loratadine) Methods of administration (Inhalers) Bronchodilators (ex. Albuterol) Iron, B12, Folic acid
Perfusion Concept • Principles of perfusion • Risk factors related to alterations in perfusion • Prevention strategies related to altered perfusion • Assessment and diagnostics • Clinical judgment related to alterations in perfusion Exemplars: hypertension, peripheral vascular disease preeclampsia	Alpha Adrenergic b- Adrenergic blockers (ex. Atenolol, metoprolol) Angiotensin Converting Enzyme Inhibitors (ex. Lisinopril) Angiotensin II Receptor Blockers (ex. Losartan, valsartan) Calcium Channel Blockers (ex. Diltiazem, Cardizem) Vasodilators (Nitrates)

	Diuretics (Loop, Potassium sparing, Thiazide) Magnesium Sulfate Gabapentin
Clotting Concept • Clotting principles • Risk factors related to altered clotting • Prevention of altered clotting • Clinical judgment related to altered clotting Exemplars: Deep Vein Thrombosis (DVT)	Aspirin Heparin/Low molecular weight (and considerations for using reversal agents: protamine sulfate) Warfarin (and considerations for using reversal agents: Vitamin K, Kcentra, FFP) Factor 10A Inhibitor Direct thrombin inhibitors Thrombolytics
Acid Base Concept • Risk factors related to altered acid-base balance • Prevention of altered acid-base balance • Acid-base diagnostic testing • Clinical judgment related to altered acid-base balance Exemplars: Interpretation of compensated and uncompensated acid-base imbalance (metabolic acidosis/alkalosis, respiratory acidosis/alkalosis as it relates to DKA and COPD)	
Pharmacological Principles • IV infusion rates and duration: mL/hr., gtts/min, mcg/min, mg/min, units/hr. • IV infusion for weight-based orders: mcg/kg/min • Formal Assessment drug dosage calculations	

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