J. Sargeant Reynolds Community College
Course Content Summary

Course Prefix and Number: NSG 252 **Credits:** 4

Course Title: Complex Health Care Concepts

Course Description: Focuses on nursing care of diverse individuals and families integrating complex health concepts. Emphasizes clinical judgment, patient-centered care and collaboration. Lecture 4 hours. Total 4 hours per week.

General Course Purpose: The purpose of this course is to apply complex health concepts that relate to the client and family across the lifespan.

Course Prerequisites and Co-requisites:
Prerequisites: NSG 210 and NSG 211

Course Objectives:

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

- Provide patient-centered care promoting therapeutic relationships, caring behaviors, and self-determination across the lifespan for diverse populations of individuals with complex health needs.
- Practice safe nursing care that minimizes risk of harm across systems and client populations with complex health needs.
- Integrate clinical judgment in the management of care for multiple, complex clients across the lifespan.
- Practice professional behaviors that encompass the legal/ethical framework while incorporating self-reflection, leadership and a commitment to recognize the value of life-long learning.
- Manage client care through quality improvement processes, information technology, and fiscal responsibility to meet client needs and support organizational outcomes.
- Demonstrate principles of collaborative practice within nursing and interdisciplinary teams fostering mutual respect and shared decision-making to achieve optimal outcomes of care.
- Manage the principles of pharmacology to the identified concepts for clients with complex conditions across the lifespan.
- Manage the appropriateness, accuracy, and client response to pharmacology principles for clients with complex conditions.

Major Topics to be Included

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Concepts and Exemplars	Pharmacology
Fluid & Electrolytes Concept ● Fluid and electrolyte principles ● Risk factors related to altered fluid and electrolyte levels ● Prevention of altered fluid and electrolyte levels ● Fluid and electrolyte diagnostic testing ● Clinical judgement related to altered fluid and electrolyte levels ● Manage the care of a client receiving hemodialysis or continuous renal replacement therapy. **Exemplars**: acute kidney injury & chronic renal failure	Erythropoietin stimulating agents Phosphate binders
Acid Base Concept ● Acid base principles ● 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:** Acid base imbalances, uncompensated and compensated metabolic acidosis and alkalosis, respiratory acidosis and alkalosis	Sodium Bicarbonate
Intracranial Regulation Concept ● Intracranial regulation principles ● Risk factors related to altered	Anti-epileptic drugs

intracranial regulation ● Prevention of altered intracranial regulation ● Intracranial regulation diagnostic testing ● Clinical judgment related to altered intracranial regulation **Exemplars:** Cerebral vascular accident, seizures (across the lifespan), Traumatic brain injury	· Phenytoin · Valproic acid · Levetiracetam · Lamotrigine · Topiramate · Gabapentin Lacosamide Anticoagulants HMG-CoA reductase inhibitors Tissue Plasminogen activator (tPa) Antihypertensive medications Benzodiazepines (ex. Lorazepam, clonazepam) Barbiturates (ex. Phenobarbital) Skeletal Muscle Relaxants (ex. Cyclobenzaprine) Osmotic diuretic (mannitol)
Mobility Concept ● Mobility principles ● Risk factors related to altered mobility ● Prevention of altered mobility ● Mobility diagnostic testing ● Clinical judgement related to altered mobility **Exemplars:** spinal cord injury (across the lifespan, including spina bifida), Parkinson's disease, Multiple sclerosis	Anti-Parkinson's drugs Levodopa Dopamine agonists, and MAO-B Inhibitors Amantadine Anticholinergic

Inflammation Concept ● Inflammatory principles ● Risk factors related to altered inflammation ● Prevention of altered inflammation ● Inflammatory testing ● Clinical judgement related to inflammation **Exemplars:** Hepatitis, cirrhosis, pancreatitis, cholecystitis	Osmotic laxatives (ex. Lactulose) Narcotics (ex. Hydromorphone) Proton Pump Inhibitors (ex. Pantoprazole) Octapeptides (ex. Octreotide) Insulin Antiemetics Antibiotics Antifungals Albumin
Infection Concept ● Infection principles ● Risk factors related to infection ● Prevention of infection ● Diagnostic testing for infection ● Clinical judgment related to infection **Exemplars**: Sepsis across the lifespan	Vasopressors Antibiotics
Tissue Integrity Concept ● Tissue integrity principles ● Risk factors related to tissue integrity ● Prevention of altered tissue integrity ● Tissue integrity diagnostic testing ● Clinical judgment related to tissue integrity **Exemplars**: Burns	Fluid resuscitation Proton pump Inhibitors Silver sulfadine cream and other topical creams
Perfusion Concept ● Perfusion principles ● Risk factors related to perfusion ● Prevention of altered perfusion ● Perfusion diagnostic testing ● Clinical judgment related to perfusion	Cardiac Glycoside (Digoxin) Calcium Channel Blockers (ex. Adenosine) Digoxin immune fab

● Hemodynamic monitoring ● Arterial line management ● Chest tube management ● Management of a client with a pacing device **Exemplars**: Shock (all types), multiple organ dysfunction syndrome (MODS), arrhythmias, congenital defects (infant and child)	ASA Beta Blockers Calcium channel blockers Thrombolytics Angiotensin Converting Enzyme Inhibitors Angiotensin II Receptor Blockers Vasodilators (Nitrates) Epinephrine Antidysrhythmic (ex. Lidocaine, Amiodarone) Muscarinic antagonist (Atropine) Tissue Plasminogen Activator (tPa) Heparin Beta-1 agonist (Dobutamine) Inotrope (ex. Dopamine) Vasopressor (ex. Norepinephrine) Diuretics (Loop, Potassium Sparing, Thiazide) Opioids (ex. Morphine) Antihistamines Colloids Albumin
Gas Exchange Concept ● Gas exchange principles ● Gas exchange diagnostic testing ● Risk factors related to altered gas exchange	Neuromuscular blocking agents Corticosteroids

• Prevention of altered gas exchange • Clinical judgment related to altered gas exchange • Ventilation: mechanical, continuous positive airway pressure, bilevel airway pressure • Management of a client during and after a procedure with moderate sedation **Exemplars**: Acute respiratory distress, pneumothorax	Xanthine Propofol Fentanyl Midazolam
Metabolism Concept • Metabolism principles • Risk factors related to altered metabolism • Prevention of altered metabolism • Metabolism diagnostic testing • Clinical judgment related to altered metabolism **Exemplars**: Adrenocortical dysfunction, pituitary dysfunction	Corticosteroids (predisone) Desmopressin (DDAVP)

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