



NSG520 Course Syllabus 08

Nursing Pathophysiology (Herzing University)



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— UNIVERSITY —

Course Syllabus

Course Title: Pathophysiology and Pharmacology

Course Code: NSG520

Credit hours: 4.0

Lecture and Discussion (15 contact hours per credit) 60 Contact Hours

Course Description:

This course focuses on introductory concepts of pathophysiology related to human illness with an emphasis placed on cellular alterations in body systems as they relate to selected disease states. Students will use critical thinking processes to analyze diverse client presentations of selected illness for symptomatology, pathophysiology, and healthcare implications. Students will be introduced to the role of pharmacotherapeutic agents in the treatment of illness and in the promotion of wellness in patients throughout the lifespan. These concepts provide the basis for the study of drug actions, indications, side effects, nursing implications, and patient education.

Program: DEMSN Nursing

Program Outcomes:

Upon completion of their program, the student should be able to:

1. Prioritize patient-centered care using clinical judgment and the nursing process. (Knowledge for Nursing Practice, Person-Centered Care)
2. Collaborate with patients, families and team members to provide safe and culturally competent care. (Population Health, Quality and Safety)
3. Integrate evidence-based practice within diverse clinical settings to deliver optimal care. (Scholarship, Systems-Based Practice)
4. Minimize risk of harm to patients and providers through both systems effectiveness and individual performance. (Quality and Safety)
5. Use informational technology to communicate, mitigate error, support decision making, and manage patient care. (Informatics and Healthcare Technologies)
6. Evaluate quality improvement processes to enhance patient outcomes. (Quality and Safety)
7. Integrate professionalism and advanced leadership skills within the interdisciplinary healthcare environment. (Interprofessional Partnerships, Professionalism, Personal, Professional, and Leadership Development)
8. Analyze national and global policies, legislative concepts, and economics to address population outcomes. (Professionalism)

Course Learning Objectives:

Upon completion of this course, the student will be able to:

1. Describe the pathophysiological processes of common alterations in health.
2. Define indications, contraindications, and adverse events associated with pharmacologic therapy.
3. Explain proper administration of pharmacologic therapy.
4. Differentiate pathophysiological changes across the lifespan.
5. Understand the effects of pharmacologic treatments on patients across the lifespan.

Topics & Learning Activities

Unit	Topics & Activities	Points Possible
<p style="text-align: center;">1</p> <p>Introduction to Pathophysiology and Pharmacology</p>	<p>Topics: Introduction to Pathophysiology and Pharmacology:</p> <ul style="list-style-type: none"> • Principles of Disease & Pathophysiology • Genetics & Congenital Alterations • Diagnosis & Treatment Modalities • Pharmacology in Nursing and Treatment of Human Disease • Drug Interactions, Adverse Drug Reactions, & Medication Errors • Drug Therapy Across the Lifespan <p>Reading: Selected readings as provided in adaptive platform Supplemental Dosage Calculation Materials</p> <p>Assignments:</p> <ul style="list-style-type: none"> • Knowledge Check Questions (KCQ) • Unit 1: Quiz 1 • Introduction Discussion • Dosage Calculation: Unit 01, Unit 01: Dosage Calculation: Basic Math Principles: Integers & Decimals <p>Assessments:</p> <ul style="list-style-type: none"> • Dosage Calculation Exam 01 Prep Quiz 1 	<p style="text-align: center;">50</p> <p style="text-align: center;">20</p> <p style="text-align: center;">20</p> <p style="text-align: center;">100</p> <p style="text-align: center;">100</p>
<p style="text-align: center;">2</p> <p>Primary Mechanisms of Disease</p>	<p>Topics: Primary Mechanisms of Disease:</p> <ul style="list-style-type: none"> • Malnutrition & Obesity • Aging • Trauma • Infectious Diseases • Lifestyle and Environmental Factors 	

	<ul style="list-style-type: none"> • Cancer • Immune Responses <p>Reading: Selected readings as provided in adaptive platform Supplemental Dosage Calculation Materials</p> <p>Assignments:</p> <ul style="list-style-type: none"> • Knowledge Check Questions (KCQ) • Dosage Calculation: Unit 01, Unit 02: Dosage Calculation: Basic Math Principles: Fractions, Proportions, & Percentages <p>Assessments:</p> <ul style="list-style-type: none"> • Dosage Calculation Exam 01 Prep Quiz 2 	<p>50</p> <p>100</p> <p>100</p>
<p>3</p> <p>Inflammation & Wound Healing</p>	<p>Topics:</p> <ul style="list-style-type: none"> • Inflammation & Wound Healing: • The Inflammatory Process • Cyclooxygenase Inhibitors: Nonsteroidal Anti-Inflammatory Drugs and Acetaminophen • Glucocorticoids for Nonendocrine Disorders • Infection <p>Reading: Selected readings as provided in adaptive platform Supplemental Dosage Calculation Materials</p> <p>Assignments:</p> <ul style="list-style-type: none"> • Knowledge Check Questions (KCQ) • Unit 3: Quiz 2 • Drug Cards • Dosage Calculation: Unit 01, Unit 03: Dosage Calculation: Conversions <p>Assessments:</p> <ul style="list-style-type: none"> • Dosage Calculation Exam 01 Prep Quiz 3 	<p>50</p> <p>20</p> <p>25</p> <p>100</p> <p>100</p>
<p>4</p> <p>Antimicrobial Agents</p>	<p>Topics:</p> <p>Antimicrobial Agents:</p> <ul style="list-style-type: none"> • Antimicrobial Therapy Basic Principles • Drugs to Weaken Bacterial Cell Wall I - Penicillins • Drugs to Weaken Bacterial Cell Wall II – Cephalosporins, Carbapenems, and Other Inhibitors of Cell Wall Synthesis • Bacteriostatic Inhibitors of Protein Synthesis: Tetracycline, Macrolides, & Clindamycin • Aminoglycosides: Bactericidal Inhibitors of Protein Synthesis • Sulfonamides and Trimethoprim 	

	<ul style="list-style-type: none"> • Fluroquinolones and Metronidazole • Antifungal Agents • Antiviral Agents I: Non-HIV Viral Infections <p>Reading: Selected readings as provided in adaptive platform Supplemental Dosage Calculation Materials</p> <p>Assignments:</p> <ul style="list-style-type: none"> • Knowledge Check Questions (KCQ) 50 • Case Study Discussion Question 20 • Dosage Calculation: Unit 01, Unit 04: Dosage Calculation: Methods of Dosage Calculation 100 <p>Assessments:</p> <ul style="list-style-type: none"> • Dosage Calculation Exam 01 Prep Quiz 4 100 	
<p>5 Disorders of the Integumentary System, Musculoskeletal System, and Disorders of the Eyes and Ears</p>	<p>Topics: Disorders of the Integumentary System, musculoskeletal system, and disorders of Eyes and Ears:</p> <ul style="list-style-type: none"> • Review of A&P, Skin Lesions, & Cancer • Inflammatory & Infectious Disorders of the Skin, Hair, Nails, & Glands • Decubitus ulcers & Burns • Disorders of the Eyes • Disorders of the Ears • Review of Musculoskeletal System and Disorders <p>Reading: Selected readings as provided in adaptive platform Supplemental Dosage Calculation Materials</p> <p>Assignments:</p> <ul style="list-style-type: none"> • Knowledge Check Questions (KCQ) 50 • Unit 5: Quiz 3 20 • Drug Cards 25 • Dosage Calculation: Unit 01, Unit 05: Dosage Calculation: Reading Labels & Calculating Oral Dosages 100 <p>Assessments:</p> <ul style="list-style-type: none"> • Dosage Calculation Exam 01 Prep Quiz 5 100 	

<p style="text-align: center;">6</p> <p style="text-align: center;">Disorders of the Respiratory System and Fluid and Electrolyte Imbalances</p>	<p>Topics: Disorders of the Respiratory System and fluid and electrolyte imbalances:</p> <ul style="list-style-type: none"> • Review of A&P & Process of Oxygenation • Infectious Disorders of the Respiratory System • Drugs for Allergic Rhinitis, Cough, and Colds • Antihistamines • Antimycobacterial Agents for Tuberculosis • Obstructive Lung Diseases • Drugs for Asthma & Chronic Obstructive Pulmonary Disease • Vascular and Expansion Disorders of the Respiratory System • Fluid Imbalances • Electrolyte Imbalances • Drugs Affecting Fluid and Electrolyte Balance • Acid-Base Imbalances <p>Reading: Selected readings as provided in adaptive platform Supplemental Dosage Calculation Materials</p> <p>Assignments:</p> <ul style="list-style-type: none"> • Knowledge Check Questions (KCQ) 50 • Dosage Calculation: Unit 01, Unit 06: Dosage Calculation: Comprehensive Review 100 <p>Assessments:</p> <ul style="list-style-type: none"> • Exam 1 (will cover content from units 1-5) 100 • Dosage Calculation Exam 01 Prep Quiz 6 100 	
<p style="text-align: center;">Unit 7</p> <p style="text-align: center;">Disorders of the Gastrointestinal & Urinary Systems</p>	<p>Topics:</p> <ul style="list-style-type: none"> • Disorders of the Gastrointestinal & Urinary Systems: • Review of A&P Gastrointestinal System • Disorders of the Gastrointestinal System • Drugs for Peptic Ulcer Disease • Laxatives • Other Gastrointestinal Drugs • Review of A&P Urinary System • Disorders of the Urinary System • Drug Therapy for Urinary Tract Infections <p>Reading: Selected readings as provided in adaptive platform</p>	

	<p>Assignments:</p> <ul style="list-style-type: none"> • Knowledge Check Questions (KCQ) • Unit 7: Quiz 4 • Drug Cards <p>Assessments:</p> <ul style="list-style-type: none"> • Dosage Calculation Exam 01 Practice 	<p>50</p> <p>20</p> <p>25</p> <p>100</p>
<p>8</p> <p>Disorders of the Cardiovascular & Peripheral Vascular Systems</p>	<p>Topics:</p> <p>Disorders of the Cardiovascular & Peripheral Vascular Systems:</p> <ul style="list-style-type: none"> • Review of A&P of Cardiovascular & Peripheral Vascular Systems • Heart Disorders & Shock • Calcium Channel Blockers • Vasodilators • Atherosclerotic Agents • Drugs for Angina Pectoris • Anticoagulant, Antiplatelet, and Thrombolytic Drugs • Myocardial Infarction Agents • Antidysrhythmic Drugs <p>Reading: Selected readings as provided in adaptive platform</p> <p>Assignments:</p> <ul style="list-style-type: none"> • Knowledge Check Questions (KCQ) • Case Study Discussion Question <p>Assessments:</p> <ul style="list-style-type: none"> • Dosage Calculation Exam 01 	<p>50</p> <p>20</p> <p>100</p>
<p>9</p> <p>Vascular System</p>	<p>Topics:</p> <p>Vascular Disorders and treatment:</p> <ul style="list-style-type: none"> • Hypertension • Adrenergic Agonists and Adrenergic Antagonists • Hemodynamics and Drugs Acting on the Renin- Angiotensin- Aldosterone System • Other Vascular Disorders and Headache <p>Reading: Selected readings as provided in adaptive platform</p> <p>Assignments:</p> <ul style="list-style-type: none"> • Knowledge Check Questions (KCQ) • Unit 9: Quiz 5 • Drug Cards 	<p>50</p> <p>20</p> <p>25</p>

<p>10 Disorders of the Blood & Lymphatic Systems</p>	<p>Topics: Disorders of the Blood & Lymphatic Systems:</p> <ul style="list-style-type: none"> • Blood and Circulatory System • Drugs for Deficiency Anemias • Lymphatic System <p>Reading: Selected readings as provided in adaptive platform</p> <p>Assignments:</p> <ul style="list-style-type: none"> • Knowledge Check Questions (KCQ) • Case Study Discussion Question <p>Assessments:</p> <ul style="list-style-type: none"> • Exam 2 (will cover content from units 6-9) • Dosage Calculation Exam 01 Retake (If needed) 	<p>50 20 100</p>
<p>11 Disorders of the Nervous System</p>	<p>Topics: Disorders of the Nervous System:</p> <ul style="list-style-type: none"> • Review of the Nervous System • Acute Neurological Problems • Chronic and Congenital Neurologic Disorders <p>Reading: Selected readings as provided in adaptive platform</p> <p>Assignments:</p> <ul style="list-style-type: none"> • Knowledge Check Questions (KCQ) • Unit 11: Quiz 6 • Drug Cards 	<p>50 20 25</p>
<p>12 Psychotherapeutic Drugs</p>	<p>Topics: Psychotherapeutic Drugs:</p> <ul style="list-style-type: none"> • Antidepressants • Management of Anxiety Disorders • Drugs for Bipolar Disorder • Antipsychotic Agents and Schizophrenia • Sedative-Hypnotic Drugs • Drugs of Abuse • Cholinergic Drugs: Muscarinic Agonists & Antagonists <p>Reading: Selected readings as provided in adaptive platform</p> <p>Assignments:</p> <ul style="list-style-type: none"> • Knowledge Check Questions (KCQ) 	<p>50</p>

<p>13 Disorders of the Endocrine System</p>	<p>Topics: Disorders of the Endocrine System:</p> <ul style="list-style-type: none"> • Review of A&P of Endocrine System & Endocrine Dysfunction of Pancreas • Thyroid and Parathyroid Gland Diseases • Pituitary Gland Diseases and Adrenal Gland Diseases <p>Reading: Selected readings as provided in adaptive platform</p> <p>Assignments:</p> <ul style="list-style-type: none"> • Knowledge Check Questions (KCQ) • Unit 13: Quiz 7 • Drug Cards • Case Study Discussion Question 	<p>50 20 25 20</p>
<p>14 Disorders of the Reproductive System</p>	<p>Topics: Disorders of the Reproductive System:</p> <ul style="list-style-type: none"> • Review of A&P of Male Reproductive System • Adrenergic Antagonists • Vasodilators and Phosphodiesterase 5 inhibitors • Review of A&P of Female Reproductive System • Sexually Transmitted Diseases • Fluroquinolones and Metronidazole <p>Reading: Selected readings as provided in adaptive platform</p> <p>Assignments:</p> <ul style="list-style-type: none"> • Knowledge Check Questions (KCQ) 	<p>50</p>
<p>15 Patient Care Plan Project & Final Exam</p>	<p>Topics:</p> <ul style="list-style-type: none"> • Case study presentation with nursing assessment, interventions, and evaluations <p>Assignments:</p> <ul style="list-style-type: none"> • Patient Care Plan Project <p>Assessments:</p> <ul style="list-style-type: none"> • Final Exam: Comprehensive 	<p>100 100</p>
<p>16 Final Reflection</p>	<p>Topics: Final course reflection</p> <p>Discussions:</p> <ul style="list-style-type: none"> • Final reflection on objectives 	<p>20</p>

Exam grades that appear in the adaptive (Realizeit) platform do not reflect the final grade and should be disregarded. The final grade will become visible in the Canvas platform after the test item analysis has been completed.

*Pass rates may vary by program requirement- Refer to the University Catalog.

Undergraduate Grade Scale

A	90.00%-100.00%
B	80.00-89.99%
C	76.00-79.99%
F	0.00-75.99%

Grade Summary

Grade Summary	Weight	Method of Scoring
Discussion Questions	5%	Points
Knowledge Check Questions	10%	Points
Assignments (Drug Cards, Patient Care Plan Project, Dosage Calculation Exercises/Quizzes/Exams)	15%	Rubric/Points
Quizzes 7	10%	Points
Exams (2)	40%	Points
Final Exam	20%	Points
Total	100%	

**** Dosage Calculation Exam 01:** Students will be given two opportunities to pass the Dosage Calculation Exam 01 with a grade of 80% or better. Students who fail to achieve 80% on the Dosage Calculation Exam 01 after two attempts will be required to engage in remediation. Students unable to pass dosage CALCULATION exam 01 with 80% on the final attempt will not be permitted to progress to NSG522.

Use of Remote Proctoring for Exams

Herzing University is committed to protecting each student's privacy while also maintaining the integrity of assessments used to determine student achievement of learning objectives. As part of its efforts to do so, Herzing uses Proctorio, a proctoring software that allows for automated or live proctoring of exams, to maintain the integrity of the exams administered by the University.

The automated proctoring solution monitors test takers via a webcam, microphone, browser, and device to uphold the integrity of the assessment. This process includes monitoring test taker behavior, including facial and gaze detection tracked, dropped internet connections, and other activities that may indicate irregular testing activities. At the end of the exam session, an institution-approved representative will review a summary report of flagged activities; raw data will additionally be available. The institution-approved representative determines if any further action is warranted based on University policy. Herzing will retain this information for six months unless needed to resolve a specific pending grade dispute.

Any student accessing an exam without the use of Proctorio will receive a zero on the exam.

THIRD-PARTY TESTING

Assessment and remediation are critical components of nursing education. Students in the nursing program may be required to take third-party, standardized exams in an electronic format throughout the curriculum. These standardized tests are valid and reliable predictors of success on the NCLEX examination and provide valuable feedback concerning student strengths and weaknesses. Student learning outcome data identifies content areas that require remediation, allowing faculty to personalize student support and intervention.

Courses that utilize third-party exams will incorporate the points earned on the test as a percentage of the final grade earned for the course as specified in the course syllabus.

POLICIES

*University policies, such as attendance philosophy, notification of absences, extenuating circumstances, accommodation requests, academic dishonesty, late policy, grading and grading symbols, and student conduct are included in the University catalog. Students should reference the catalog for the complete listing of policies.

**Note: In some cases, program and/or course specific information may be appended to the syllabus as an addendum. In these instances, students must consider the syllabus to be inclusive of any appended information, and as such, students must adhere to all course requirements as described in the document in its entirety.*

To pass this course, students must achieve a minimum exam average of 76%. This exam average is determined by the average scores of all exams in the course. This does not apply to Dosage Calculation exams, PassPoint exams, ShadowHealth exams, or HESI Exit Exams.

After achieving the 76% exam average, the exam scores are applied to the weighted grading scale to calculate the final course grade. The final course grade is inclusive of all course requirements in the weighted grading scale to determine the final course grade. A final course grade of 76% or higher is required to pass this course.

Final grades will be posted after the exam average has been calculated and applied at the end of the term.