Vanguard University
School for Professional Studies
Degree Program

Principles of Pathophysiology
NURS 410

Student Guide

1/2012

COURSE DESCRIPTION

This course presents knowledge of pathophysiology, using a systems approach, as applied in current nursing practice. Selected major health problems, their pathophysiology and medical treatment are discussed. Topics from various scientific and clinical areas will be explored and coordinated with other courses in the Nursing Program.

AACN ESSENTIALS OF BACCALAUREATE EDUCATION FOR PROFESSIONAL NURSING PRACTICE (2008)

Essential IX: Baccalaureate Generalist Nursing Practice

2. Recognize the relationship of genetics and genomics to health, prevention, screening, diagnostics, prognostics, selection of treatment, and monitoring of treatment effectiveness, using a constructed pedigree from collected family history information as well as standardized symbols and terminology.

#3. Implement holistic, patient-centered care that reflects an understanding of human growth and development pathophysiology, pharmacology, medial management, and nursing management across the health-illness continuum, across the lifespan, and in all healthcare settings.

QUALITY AND SAFETY EDUCATION FOR NURSES (QSEN) COMPETENCIES

Quality Improvement

1. Seek information about outcomes of care for populations served in care setting.
2. Use tools (such as control charts and run charts) that are helpful for understanding variation.
3. Practice aligning the aims, measures and changes involved in improving care.

Safety

1. Demonstrate effective use of technology and standardized practices that support safety and quality.
2. Communicate observations or concerns related to hazards and errors to patient, families and the health care team.

TEXT AND MATERIALS

Required Texts:

Huether, S. and McCance, K. (2008). *Understanding Pathophysiology*, (4th ed.), St. Louis, MO: Mosby.

Recommended Text:

Anatomy and Physiology Textbook (your choice)

LEARNING OUTCOMES / COURSE OBJECTIVES

Outcome 1: To provide nursing care utilizing professional knowledge and core competencies (critical thinking, communication, assessment and technical skill) derived from the foundation of nursing science, basic pathophysiologic principles and general education studies.

Outcome 2: To demonstrate verbally and in writing an understanding of the etiology, pathogenesis, clinical manifestations and treatment implications of common disorders of human function.

Course Objectives:

After completing this course, the student will be able to understand the function, pathophysiology, genetic predisposition, signs and symptoms, diagnostic tests, and treatment for common disease states including evidenced based guidelines and pharmacological management for adults and children in the following systems:

- Cells, Tissues, Basic Genetic Principles
- Neurologic System
- Hormone Regulation
- Hematologic System
- Cardiovascular System
- Pulmonary System
- Renal System
- Gastrointestinal System
- Musculoskeletal System

Topics not covered in class will be addressed in Student Study Guide's and Study Guide presentations.

STUDENT EVALUATION

Percentages	Points	Grade	Significance	GPA
93 – 100%	930-1000	A	Exceptional	4.00
90 – 92.9%	900-929	A-		3.67
87 – 89.9%	870-899	B+		3.33
83 – 86.9%	830-869	B	Above Average	3.00
80 – 82.9%	800-829	B-		2.67
77 – 79.9%	770-799	C+		2.33
73 – 76.9%	730-769	C	Average	2.00
70 – 72.9%	700-729	C-		1.67
67 – 69.9%	670-699	D+		1.33
63 – 66.9%	630-669	D	Below Average	1.00
60 – 62.9%	600-629	D-		0.67
00 – 59.9%	000-599	F	Failure	0.00

OVERVIEW / POINTS AVAILABLE

Attendance and Participation	=	70 points
Moodle Activities online	=	30 points
6 Exams (100 points each)	=	600 points
Study Guide	=	150 points
Class Presentation	=	150 points
	=	**1000 possible points**

DISEASE/ PATHOPHYSIOLOGY STUDY GUIDE:

The purpose of this assignment is to provide each student with a study guide for chosen diseases. Each student chooses a disease from the list provided and creates a study guide. **A copy of each guide is to be provided to each student**. The due date for ALL Study Guides is: **WEEK 7,** at the beginning of class. **THERE WILL BE NO EXCEPTIONS**.

Maximum length is **4 pages** (not including your reference page). The objective is to be succinct, focusing on the specifics of the disease. The guide should be interesting and easy to read, feel free to be creative. The reference page is to be in APA format.

This assignment counts as **150 points** toward your total grade. The components and the points assigned are as follows:

- Identification of chosen disease
- Describe the pathologic mechanism underlying the disease process **(50 points)**
- Describe the associated signs and symptoms and the pathology causing at least 2 of the signs or symptoms **(50 points)**
- Describe / explain the appropriate assessment of the patient **(10 points)**
    - Diagnostic test, lab, radiographic, etc. – includes normal values if appropriate
- Describe the treatment plan – including patient education **(10 points)**
- **Include copies of your resource materials (articles, charts, diagrams, etc.) – *FOR THE INSTRUCTOR ONLY – NOT FOR FELLOW STUDENTS* (30 points)**

CLASS PRESENTATION OF STUDY GUIDE:

The purpose of this presentation is to give each student the opportunity to share with the class information they learned while exploring their assigned topic for their study guide.
Each presentation is limited to 10 minutes; **this will be strictly enforced due to the limited class time**. The presentation is to reflect the information provided in the study guide, so it will not be necessary to distribute another handout on the night of the presentation.
You may use any means of presentation – PowerPoint, Posters, videos, etc. Be creative in sharing your information.

The class will grade the presentation and their input will used in determining the points earned.

This presentation counts as **150 points** toward your total grade. The components and the points assigned are as follows:

- Speaker's knowledge of and ability to clearly explain the topic **(75 points)**
- Use of audiovisuals (PowerPoint, video, poster, etc) **(50 points)**
- Development of a Patient teaching handout that can briefly and clearly describe the disease process and treatment **(25 points)**
    - This handout should not be more than a one 8"x11" sheet of paper.

STUDENT ASSIGNMENTS

Week	Topic	Assignments
1	Introduction / Expectations of the Class Central Pathophysiologic Concepts	**Readings from Text**: Chapter 3: Altered Cellular & Tissue Biology (pg 62-93) Cellular Adaptation Cellular Injury & Manifestations of Cellular Injury Cellular Death Aging & Altered Cellular & Tissue Biology Chapter 4: Fluids & Electrolytes (pg 99-115) Chapter 5: Innate Defenses: Inflammation (pg 121-141) Chapter 6: Adaptive Immunity (pg 145-166) Chapter 7-Hypersensitivities, infection, and immune Deficiencies (pg. 169-206)
2	**EXAM #1- (covers Wk 1 lecture content)**	**Readings from Text:** Chapter 2: Genes and Genetic Diseases (pg 36-57) DNA, RNA, Proteins Chromosomes Transmission of Genetic Diseases Multifactorial Inheritance Chapter 8-Stress & Disease (p. 208-219) Chapter 9-Biology of Cancer (pg. 222-241) Chapter 10-read the Review on pg. 263-4 only Chapter 11-Cancer in Children (pg. 267-271)

Week	Topic	Assignments
3	**EXAM #2**	**Readings from Text**: Chapter 19: REVIEW: Structure & Function of the Hematologic System (pg. 481-506) Chapter 20-Alterations of Hematologic Function (pg. 508-547) Chapter 21-Alterations of Hematologic Function in Children (pg. 550-565) Chapter 22: REVIEW: Structure & Function of Cardiovascular and Lymphatic Systems (pg. 567-602) Chapter 23-Alterations in Cardiovascular Function (pg 606-669)

Week	Topic	Assignments
4	**EXAM #3**	**Readings from Text**: Chapter 25: REVIEW Entire Chapter Structures of the Pulmonary System Gas Exchange Function of Pulmonary System Aging & The Pulmonary System Chapter 26: Alterations of Pulmonary Function Atelectasis Pneumothorax Restrictive Lung Diseases Obstructive Lung Diseases Respiratory Tract Infections Lung Cancer Chapter 27: Asthma Cystic Fibrosis Acute Respiratory Distress Syndrome BPD Respiratory Infections Chapter 33: REVIEW: Structure & Function of Digestive System (pg 912-935) Chapter 34-Alterations of Digestive Function (pg. 937-979)

Week	Topic	Assignments
5	**EXAM #4**	**Readings from Text**: Chapter 17-REVIEW: Mechanisms of Hormonal Regulation-pg 425-445 Chapter 18-Alterations of Hormonal Regulation pg 447-478 Chapter 28-REVIEW: Structure & Function of Renal & Urologic Systems-g 767-783 Chapter 29-Alterations of Renal & Urinary Function pg. 785-807 Urinary Tract Obstruction UTI and Clinical Manifestations Glomerular Disorders Nephrotic Syndrome Acute Renal Failure Chronic Renal Failure Chapter 30-Alterations of Renal & Urinary Function in Children (pg 810-817) Hypospadias Glomerulonephritis Nephrotic Syndrome UTI & Vesicoureteral Reflux Enuresis

Week	Topic	Assignments
6	**Exam #5**	**Readings from Text:** Chapter 12: REVIEW: Structure & Function of Neurologic System (pg. 273-302) Chapter 14: Concepts of Neurologic Dysfunction (pg. 331- Seizures Cognitive Disorders Data Processing Deficits Paralysis Chapter 15: Alterations of Neurologic Function (pg. 369-402) Brain Trauma Spinal Cord Trauma Strokes Myasthenia Gravis

7	**EXAM #6** **Study Guide Due**	**Readings from Text**: Chapter 36: REVIEW: Structure & function of the musculoskeletal System (pg. 1004-1025) Chapter 37: Alterations of Musculoskeletal Function (pg. 1028-1068) Osteoporosis Osteoarthritis Rheumatoid Arthritis Gout Chapter 38: Alterations of Musculoskeletal Function in Children (pg. 1071-1084) Clubfoot Developmental Dysplasia of hip Scoliosis Chapter 39: Structure, Function and Disorders of the Integument Review photos pg 1089-1093 Pruritis Dermatitis pg 1096 Benign tumors (pg 1106-7) Skin Cancer (pg 1007-1108)
8	**CLASS PRESENTATIONS DUE**	Chapter 32-Alterations of Reproductive System

LOGISTICS CHART

Hour (PM)	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8
6:00 - 7:00	Intro to Course	**EXAM #1**	**EXAM #2**	**EXAM #3**	**EXAM #4**	**EXAM #5**	**EXAM #6** **Study Guide Due**	**PRESENTATIONS**
7:00 - 7:30	MEAL / BREAK	MEAL / BREAK	MEAL / BREAK	MEAL / BREAK	MEAL / BREAK	MEAL / BREAK	MEAL / BREAK	
7:30 - 8:30	Lecture / Class Discussion: Central Concepts of Cellular Function	Lecture / Class Discussion: Genetics, stress, Inflammation, Immunity	Lecture / Class Discussion: Cardiac, Vascular, & Hematologic System	Lecture / Class Discussion: Pulmonary & Digestive System	Lecture / Class Discussion: Hormone Regulation & Renal System	Lecture / Class Discussion: Neurologic System	Lecture/ Class Discussion: Musculo-skeletal system	
8:30 - 10:00	Lecture / Class Discussion: Cellular Concepts (cont.)	Lecture / Class Discussion: Genetics, stress, Inflammation, Immunity (cont.)	Lecture / Class Discussion: Cardiac, Vascular, & Hematologic System (cont.)	Lecture / Class Discussion: (cont.) Pulmonary & Digestive System	Lecture / Class Discussion: Hormone Regulation & Renal System (cont.)	Lecture / Class Discussion: Neurologic System (cont.)	Lecture / Class Discussion: Musculo-skeletal system (cont.)	Chpt 31 & 32 GYN & Reprod. system

NOTE: The Professor reserves the right to make changes to the scheduled classes based on needs of the students

COURSE POLICIES

ATTENDANCE AND TARDY POLICY

You must attend class on time and remain present until dismissed. Class attendance is necessary in order to complete the course. The School for Professional Studies relies on the dynamics of class interaction and group processing in order to integrate and apply the learning of academic content. This model also emphasizes the development and practice of interpersonal communication skills and teamwork (e.g., group problem solving and negotiation). The format therefore necessitates class attendance. In practical terms, one course session is equivalent to three weeks of traditional semester course work.

> *Students who miss more than one class meeting (or more than five class hours) in any given course will automatically receive a failing grade and need to retake the course to obtain a passing grade.*

Students who arrive late disturb the class. Students who arrive late will not receive participation points for the unit covered. Students who are habitually late may be asked to drop the course.

CLASS PARTICIPATION

You must be prepared and participate in all discussions. Criterion: Is the student engaged in classroom discussions? Does the student demonstrate an ability to handle assigned material with a degree of proficiency? (e.g., demonstrate the type of questions and issues consistent with and reflecting a familiarity with the assigned material). Participation is evaluated according to quality, not quantity of participation. Attendance will be scored, and no participation points will be awarded is the student is absent.

LATE PAPER / PROJECT POLICY

You are responsible for submitting assignments on time (by 6:00pm). Unless authorized by the Professor in advance, no credit will be given for assignments not turned in when due.

ACADEMIC DISHONESTY

Work submitted for assessment purposes must be the independent work of the student concerned. Plagiarism, or copying and use of another's work without proper acknowledgement, is not permitted. Nor is it permissible for any former or present student to allow another student to refer to, use as a sample, or in any way copy or review their work. If a student needs guidance, he or she must seek the Professor's assistance.

DISABILITY SERVICES

For students with documented medical or psychological disabilities, please contact the Coordinator of Disability Services to request reasonable accommodations. The Coordinator of Disability Services is located in the Counseling Center on the second floor of the Scott Academic Center and can be reached at extension 4489 or by email at disabilityservices@vanguard.edu

For students with a documented learning disability who would like to request appropriate accommodations, please contact the Director of Learning Skills, located upstairs in Scott Academic Center at extension 2540 or by email at disabilityservices@vanguard.edu

CLASSROOM DIVERSITY STATEMENT

As students and faculty at Vanguard University of Southern California, and foremost as Christian believers, we endeavor to communicate with honesty and confidentiality, to speak with encouraging and edifying words, and to create a safe environment where we shelter one another with love when vulnerabilities arise. This classroom intends to foster a Christ-centered community that promotes appreciation and respect for individuals, enhances the potential of its members, and values differences in gender, ethnicity, race, abilities, and generation.