

Course Specification

(Postgraduate Programs)

Course Title: Advanced Pathopharmacology
Course Code: NRS 624
Program: Master of Science in Nursing (MSN)
Department: CAMS
College: College of Nursing
Institution: Majmaah University
Version: TPG-153 2024
Last Revision Date: <i>Pick Revision Date.</i>



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A. General information about the course:

1. Course Identification:

1. Credit hours: 4 hours (0+4+0)

2. Course type

A. University College Department Track

B. Required Elective

3. Level/year at which this course is offered: (3rd Level , 2^{ed}Year)

4. Course General Description:

This course is designed to present an orientation to disease as disordered physiology. It is intended to enable students to understand how and why the symptoms and signs of various conditions appear. In approaching disease as disordered physiology, this course analyzes the mechanism(s) of production of the symptoms and signs of different disease syndromes. In doing so, it recognizes the student's and practitioner's need to understand the mechanism(s) underlying the disease and its clinical manifestations so that rational pharmacologic therapies can be devised. Thus, appropriate screening and diagnostic laboratory evaluative methods will also be included.

5. Pre-requirements for this course (if any):

None

6. Pre-requirements for this course (if any):

None

7. Course Main Objective(s):

This course provides students with a well-grounded understanding of physiology, pathophysiology for clinical assessment, decision-making and management including best practices-based foundational knowledge of pharmacotherapies, pharmacokinetics and pharmacodynamics. The students can be able to relate this knowledge to interpreting changes in normal function that result in symptoms indicative of illness and in assessing, diagnosing and managing medication-related health problems, identify or prevent drug interactions and manage medication therapy for vulnerable populations.



- Upon the completion of this course, students will have the knowledge and skills to:
 1. compare physiologic changes over the life span;
 2. analyze the relationship between normal physiologic and pathological phenomena produced by altered states across the life span;
 3. synthesize and apply current research-based knowledge regarding pathological changes in selected disease states;
 4. describe the developmental physiology, normal etiology, pathogenesis, and clinical manifestations of commonly found/seen altered health states;
 5. analyze physiologic responses to illness and pharmacologic treatment modalities;
- analyze data with respect to diagnosing client problems.

2. Teaching Mode: (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	30%	50%
2	E-learning		
3	Hybrid <ul style="list-style-type: none"> • Traditional classroom • E-learning 		
4	Distance learning	30hrs	50%

3. Contact Hours: (based on the academic semester)

No	Activity	Contact Hours
1.	Lectures	
2.	Laboratory/Studio	30
3.	Field	
4.	Tutorial	
5.	Others (specify).....	
	Total	30





B. Course Learning Outcomes (CLOs), Teaching Strategies and Assessment Methods:

Code	Course Learning Outcomes	Code of PLOs aligned with the program	Teaching Strategies	Assessment Methods
1.0	Knowledge and understanding			
K1.1	Analyze the relationship between normal physiologic and pathological phenomena produced by altered states across the life span.	K1	Lecture-discussion, collaborative learning, audiovisual-aided teaching and research activities	Examination
2.0	...			
S2.1	Analyze the relationship between normal physiologic and pathological phenomena produced by altered states across the life span.	S2	Lecture-discussion, collaborative learning, audiovisual-aided teaching and research activities	Rubrics for case analysis; concept paper; and, examination
S2.2	Analyze the relationship between normal physiologic and pathological phenomena produced by altered states across the life span.	S2	Lecture-discussion; collaborative learning, computer-assisted instruction (audiovisual-aided teaching) and research activities (selected readings)	Rubrics for evidence-based research project; case analysis; oral presentation and leadership discussion; and, examination
3.0	Values, autonomy, and responsibility			
V3.1	Apply self-learning principles in the advanced practice role in integrating current research-based findings to understand etiology, pathogenesis and morphological alterations of selected acute and chronic disease states.	V3	Collaborative learning, computer-assisted instruction (audiovisual-aided teaching) and research activities (selected readings)	Rubrics for evidence-based research project; case analysis; oral presentation and leadership discussion; and, examination
V3.2	Use of effective communication skills to interact with patients, families and the interdisciplinary healthcare team.	V3	Collaborative learning, computer-assisted instruction (audiovisual-aided teaching) and	Rubrics for evidence-based research project; case analysis; and, oral presentation and





Code	Course Learning Outcomes	Code of PLOs aligned with the program	Teaching Strategies	Assessment Methods
			research activities (selected readings)	leadership discussion

C. Course Content:

No	List of Topics	Contact Hours
1.		
2.		

Total		

D. Students Assessment Activities:

No	List of Topics	Contact Hours	No
1.	Unit 1: Course Introduction: Overview <ul style="list-style-type: none"> • Introduction to Pharmacology • Pharmacokinetics • Pharmacodynamics Practical 1 Orientation, Course Objectives, Course Grading System, Course Requirements, Advanced Pathophysiology Drug Classes and Schedules	4 hrs theory 4 hrs practical	
2.	Unit 3: Cardiovascular Physiology <ul style="list-style-type: none"> • Pathological mechanisms • Screening and diagnostic evaluative methods • Pharmacologic management Practical 3 Hematologic Disorder (Sickle Cell Anemia)	2 hrs theory 2 hrs practical	
3.	Unit 4: Renal Pathophysiology <ul style="list-style-type: none"> • Pathological mechanisms • Screening and diagnostic evaluative methods • Pharmacologic management 	2 hrs theory 2 hrs practical	





No	List of Topics	Contact Hours	No
	<p>Practical 4 Cardiovascular Disorder (Ischemic Heart Attack)</p> <p>Practical 5 Cardiovascular Disorder (Hypertensive Heart Disease)</p>		
4.	<p>Unit 5: Respiratory and Metabolic Disorders</p> <ul style="list-style-type: none"> • Pathological mechanisms • Screening and diagnostic evaluative methods • Pharmacologic management <p>Practical 6 Renal Disorder (Chronic Kidney Disease)</p> <p>Practical 7 Respiratory Disorder (COPD)</p>	<p>2 hrs theory</p> <p>2 hrs practical</p>	
5.	<p>Unit 6: Disorders of the Reproductive Systems</p> <ul style="list-style-type: none"> • Pathological mechanisms • Screening and diagnostic evaluative methods • Pharmacologic management <p>Practical 8 Respiratory Disorder (Asthma)</p> <p>Practical 9 Metabolic Disorder (Diabetes Mellitus)</p>	<p>2 hrs theory</p> <p>2 hrs practical</p>	
6.	<p>Unit 7: Fluid and Electrolyte Disorders</p> <ul style="list-style-type: none"> • Pathological mechanisms • Screening and diagnostic evaluative methods • Pharmacologic management <p>Practical 10 Disorder of the Reproductive System (Benign Prostatic Hyperplasia)</p> <p>Practical 11 Fluid and Electrolyte Disorder (Electrolyte Imbalance)</p>	<p>4 hrs theory</p> <p>4 hrs practical</p>	
7.	<p>Unit 7: Fluid and Electrolyte Disorders</p> <ul style="list-style-type: none"> • Pathological mechanisms • Screening and diagnostic evaluative methods • Pharmacologic management 	<p>4 hrs theory</p> <p>4 hrs practical</p>	





No	List of Topics	Contact Hours	No
	Practical 10 Disorder of the Reproductive System (Benign Prostatic Hyperplasia) Practical 11 Fluid and Electrolyte Disorder (Electrolyte Imbalance)		
8.	Unit 8: Gastrointestinal Pathophysiology <ul style="list-style-type: none"> • Pathological mechanisms • Screening and diagnostic evaluative methods • Pharmacologic management Practical 12 Gastrointestinal Disorder (Peptic Ulcer Disease)	4 hrs theory 4 hrs practical	
9.	Unit 9: Neurologic Disorders <ul style="list-style-type: none"> • Pathological mechanisms • Screening and diagnostic evaluative methods • Pharmacologic management Practical 13 Neurologic Disorder (CVA)	4 hrs theory 4 hrs practical	
10.	Synthesis of Pharmacological Topics Practical 13 Neurologic Disorder (Alzheimer Disease)	4 hrs theory 4 hrs practical	
	Total		90

*Assessment Activities (i.e., Written test, oral test, oral presentation, group project, essay, etc.)

E. Learning Resources and Facilities:

1. References and Learning Resources:

Essential References	Ashelfor, S., Raynsford, J., & Taylor, V. (2016). <i>Transforming Nursing Practice: Pathophysiology & Pharmacology for Nursing Students</i> . (1 st edition) SAGE Publications Inc., California. Lynn, P. (2018). <i>Taylor's clinical nursing skills: a nursing process approach</i> . Lippincott Williams & Wilkins. ISBN 978-0-7817-9384-1
Supportive References	a. Lilley, L.L., Collins, S.R, & Snyder, J.S.(2016). <i>Pharmacology and the Nursing Process</i> , 8th Ed. St. Louis: Elsevier Mosby.





	<p>b. Kumar, V., Abbas, A., & Aster, J. (2015). Robbins & Cotran Pathologic Basis of Disease 9th ed., Philadelphia, PA: Elsevier/Saunders</p> <p>c. McCance, K.L., & Huether, S. E. (2015). Pathophysiology: The biologic basis for disease in adults and children (7th ed.). St. Louis: Mosby/Elsevier.</p> <p>Giangrasso, A. P., & Shrimpton, D. M. (2013). Dosage calculations: A multi-method approach. Boston: Pearson.</p>
Electronic Materials	<ul style="list-style-type: none"> • www.sdl.edu.sa • www.findarticles.com • www.emedicine.com • www.allnurses.com • www.nurse.com • www.medscape.com
Other Learning Materials	Educational CDs are available in the laboratory

2. Educational and Research Facilities and Equipment Required:

Items	Resources
<p>facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)</p>	<ul style="list-style-type: none"> • Lecture rooms accommodating 30-40 students Laboratories accommodating 10-20 students
<p>Technology equipment (Projector, smart board, software)</p>	<ul style="list-style-type: none"> • Computer • Projector • Microphone & Speakers • Smart board with all the accessories • Internet
<p>Other equipment (Depending on the nature of the specialty)</p>	<ul style="list-style-type: none"> • E-learning, Blackboard

F. Assessment of Course Quality:

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching	Student	Direct
Effectiveness of students assessment	Student	Direct
Quality of learning resources	Student	Direct
The extent to which CLOs have been achieved	Faculty member / Quality assurance committee	✓ Direct assessment outcome analysis Course report preparation
Other		

Assessor (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify))

Assessment Methods (Direct, Indirect)





G. Specification Approval Data:

COUNCIL /COMMITTEE	ACADEMIC COUNCIL MEETING
REFERENCE NO.	DEPARTMENT MEETING MINUTES NO 4
DATE	5/9/2024

