



Jordan University of Science and Technology
Faculty of Applied Medical Sciences
Respiratory Therapy Department

RTH211 Physiology And Anatomy Of The Heart And Respiratory System - JNQF Level: 7

First Semester 2023-2024

Course Catalog

3 Credit Hours. This course is designed to study the structural & physiological mechanisms of the cardiopulmonary system, including a review of respiratory and cardiovascular anatomy, mechanics of ventilation, gas diffusion, physiology of internal and external respiration, oxygen transport, carbon dioxide transport, and disposal, ventilation/perfusion relationships, and nervous control of ventilation. This course provides detailed data on the structure and function of the heart and lungs, including their interdependency.

Teaching Method: Blended

Text Book

Title	Respiratory Care Anatomy and Physiology: Foundations for Clinical Practice
Author(s)	Will Beachey
Edition	3rd Edition
Short Name	Anatomy & Physiology of cardiopulmonary system
Other Information	ISBN: 978-0-323-07866-5 https://evolve.elsevier.com/cs/product/978032388289 2022

Instructor

Name	Mr. Abdullah Bani Yousef
Office Location	-
Office Hours	Sun : 10:00 - 11:00 Mon : 09:00 - 10:00 Tue : 10:30 - 12:30 Thu : 10:30 - 12:30
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Class Schedule & Room

Section 1:

Lecture Time: Mon : 10:00 - 11:30

Room: M4201

Prerequisites

Line Number	Course Name	Prerequisite Type
102304	MED230A Human Physiology	Prerequisite / Study
1112180	P.T218 Gross Anatomy & Histology	Prerequisite / Study

Tentative List of Topics Covered

Weeks	Topic	References
Week 1	The Airways & Alveoli (structure & function)	CH 1 From Anatomy & Physiology of cardiopulmonary system
Week 1	Conducting Airway Histology	CH 1 From Anatomy & Physiology of cardiopulmonary system
Week 2	The Lungs and Chest Wall	CH 2 From Anatomy & Physiology of cardiopulmonary system
Week 3	Alveolar Capillary Membrane anatomy & physiology	From Anatomy & Physiology of cardiopulmonary system
Week 4	Mechanics of Ventilation	CH 3 From Anatomy & Physiology of cardiopulmonary system
Week 5	Ventilation , Gas exchange & Transport	CH 4 From Anatomy & Physiology of cardiopulmonary system
Week 6	Cardiovascular Gross Anatomy	CH 17 From Anatomy & Physiology of cardiopulmonary system
Week 7	Coronary Circulation	CH 17 From Anatomy & Physiology of cardiopulmonary system
Week 8	Cardiac Conduction System	CH 17 From Anatomy & Physiology of cardiopulmonary system
Week 9	Cardiac Muscle Properties	CH 17 From Anatomy & Physiology of cardiopulmonary system
Week 10	Cardiac Cycle	CH 17 From Anatomy & Physiology of cardiopulmonary system
Week 11	Regulation of Heart Pumping Activity	CH 17 From Anatomy & Physiology of cardiopulmonary system
Week 12	Cardiac Sympathetic and Parasympathetic Stimulation	CH 17 From Anatomy & Physiology of cardiopulmonary system

Week 13	Vascular System (Anatomy & Physiology)	CH 17 From Anatomy & Physiology of cardiopulmonary system
Week 14	Determinants of Systolic and Diastolic Blood Pressure	CH 17 From Anatomy & Physiology of cardiopulmonary system
Week 15	Vascular System Regulation(Local Control)	CH 17 From Anatomy & Physiology of cardiopulmonary system
Week 16	Vascular System Regulation (Central Control)	CH 17 From Anatomy & Physiology of cardiopulmonary system

Mapping of Course Outcomes to Program Outcomes and NQF Outcomes	Course Outcome Weight (Out of 100%)	Assessment method
Identify the anatomical structure and its function for each part in the cardiopulmonary system. [15PLO 1] [15L7K1]	15%	first exam
Relate the different anatomical structures to the process of ventilation mechanics. [15PLO 1] [15L7K1]	15%	first exam
Describe the role of the respiratory therapist in communication and collaboration as a member of the cardiopulmonary support team. [2PLO 2, 5PLO 4, 3PLO 7] [3L7K1, 7L7C3]	10%	first exam
Discuss the physiological changes that appear when deviation from normal anatomical cardio-pulmonary aspects. [8PLO 1, 7PLO 3] [7L7K1, 8L7C2]	15%	first exam, second exam, Final exam
Explain concepts of ventilation, perfusion, peripheral vascular resistance, compliance, elasticity, and gas exchange. [15PLO 1] [7L7K1, 8L7S2]	15%	second exam, Final exam
Discuss the timing and sequence of all mechanical events in the cardiac cycle. [8PLO 1, 7PLO 2] [15L7K1]	15%	second exam, Final exam
Describe the local, central, and humoral mechanisms regulation of blood pressure. [7PLO 1, 8PLO 3] [7L7K1, 8L7S1]	15%	Final exam

Relationship to Program Student Outcomes (Out of 100%)						
PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6	PLO 7
68	9	15	5			3

Relationship to NQF Outcomes (Out of 100%)				
L7K1	L7S1	L7S2	L7C2	L7C3
69	8	8	8	7

Evaluation	
Assessment Tool	Weight
first exam	30%

second exam	30%
Final exam	40%

Policy	
Statement on Professionalism	Professional behavior is expected of students at all times. Attitude and professional behavior are a minimum criterion for passing this class. Examples of unprofessional behavior include but are not limited to missing classes, tardiness, lack of attention for a speaker, talking to others during a lecture, leaving a lecture before its completion without prior authorization of the instructor, working on other class material during class, and sleeping during class.
Cheating	University regulations will be applied to cases of cheating and/or plagiarism.
Cell phone	The use of cellular phones is prohibited in classrooms and during exams. Cellular phones must be switched off in classrooms and during exams.
Attendance	No points will be counted for points attendance in this class, however, attending the lectures will greatly enhance your grade. The student is responsible for any information discussed in lecture sessions. It is imperative to attend all classes.
Absences	University regulations will be applied. Students are not allowed to be absent for more than 20% of lectures for any reason or excuse. If a student exceeds the absence limit, he or she will not be allowed to sit for future course exams. (Please review university regulations for more details).
Make-up Exam	Make-up exams are entitled to students who miss the exam with an accepted legal or medical excuse endorsed by the instructor within 24 hours after the scheduled exam (Please review university regulations for more details).
Feedback	Concerns, complaints, questions, and/or feedback are appreciated and will be important to the instructor. You can contact your instructor using the e-mail or during office hours.

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