

## Module (Course Syllabus) Catalogue

### 2023-2024

College/ Institute	Erbil Technical Health and Medical College	
Department	Prosthetics and Orthotics	
Module Name	Physiology and Pathology II	
Module Code	PAP401	
Degree	Technical Diploma <input type="checkbox"/>	Bachelor <input checked="" type="checkbox"/>
	High Diploma <input type="checkbox"/>	Master <input type="checkbox"/> PhD <input type="checkbox"/>
Semester	4 <sup>th</sup>	
Qualification	PhD Rheumatology & medical rehabilitation	
Scientific Title	lecturer	
ECTS (Credits)	6	
Module type	Prerequisite <input type="checkbox"/>	Core <input type="checkbox"/> Assist. <input checked="" type="checkbox"/>
Weekly hours	4	
Weekly hours (Theory)	( 4 )hr Class	( 160)Total hrs Workload
Number of Weeks	12	
Lecturer (Theory)	Dr. Zekra Ali Aziz	
E-Mail & Mobile NO.	<a href="mailto:zekra.aziz@epu.edu.iq">zekra.aziz@epu.edu.iq</a> 009647504413211	
Websites		

# Course Book

<b>Course Description</b>	<p>At the end of this course, the student should be able to:</p> <ul style="list-style-type: none"><li>- Identify essential basics of physiology.</li><li>- Identify different systems of human body</li><li>- Recognize the function of different systems of the body.</li><li>- Identify physiology of human body vascular and respiratory systems.</li><li>- Recognize the function of different systems of the body including the skin.</li><li>- Demonstrate the function of endocrine glands &amp; abnormalities resulting from disturbance in secretion.</li><li>- Demonstrate physiology of metabolic changes.</li><li>- Identify Physiological terms &amp; basis of renal &amp; GIT system.</li></ul> <p>The course is designed to introduce prosthetics and orthotics students to pathology via:</p> <p>Discuss tissue injury and diseases processes, using appropriate vocabulary.</p> <p>Recognize morphological and functional differences between normal and injured or diseased tissue.</p> <p>Recognize the different types of pathological lesions and their causes.</p> <p>Integrate pathological findings with clinical manifestations of disease.</p> <p>-</p>
<b>Course objectives</b>	<p>At the end of this course, the student should be able to:</p> <ul style="list-style-type: none"><li>- Recognize fundamental concepts and definitions of human physiology that can be applied to practice.</li><li>- Identify human physiological principles which underpin prosthetics and orthotics management.</li><li>- Understand physiology emphasizing the dynamic relationships of human structures and function.</li></ul> <p>Upon the completion of the course, the student should be able to:</p> <p>Define pathology and disease.</p> <p>Discuss broadly the causes of disease and the categories under which they can be considered.</p> <p>Describe pathological mechanisms underlying disease processes immunity, neoplasia, vascular disturbances (congestion, hyperemia, edema, thrombosis, ischemia, shock and hemorrhage), and metabolic disorders.</p> <p>Understand the clinical manifestations of pathological processes.</p> <p>Discuss the diseases affecting particular organ systems.</p>

	Understand the clinical manifestations of pathological processes affecting particular organ systems/tissues.				
<b>Student's obligation</b>	<ul style="list-style-type: none"> <li>• Reading and understanding of study notes</li> <li>• Participation in forum and discussions</li> <li>• Participation in active communication with the lecturer</li> <li>• Regular assignment submission</li> </ul>				
<b>Required Learning Materials</b>	Lectures notes, videos, audios, platform-based conferences, homework exercises, homework correction and guidance, live consultation and problem-solving, self-study. Hall, projector.				
<b>Evaluation</b>		<b>Task</b>	<b>Weight (Marks)</b>	<b>Due Week</b>	<b>Relevant Learning Outcome</b>
	<b>Assignments</b>	(2) Homework	10%	6 <sup>th</sup> & 8 <sup>th</sup>	
		Class Activity	2%		
		Report	8%	11 <sup>th</sup>	
		Essay	8%	2 <sup>nd</sup>	
		Quiz	8%		
		Midterm Exam	24%		
		Final Exam	40%		
		Total	100%		
<b>Specific learning outcome:</b>	<p>1- Understand the levels of organization of cells, tissues, organs and systems, and associated terminology.</p> <p>2- Describe the basic structure of a cell, and of bone, skin, cells and tissue, their interactions and how these relate to their functions in the human body.</p> <p>3- Describe the roles of the skeletal and integumentary systems, and appreciate the importance of the control of (and co-ordination between) these systems.</p> <p>4- Compare the structure and properties of biological substances.</p> <p>5- Understand the alteration in the physiology for the fabrication of the prosthesis and orthosis.</p> <p>6- Understand the implications of specific diseases, pathologies or injuries on function, e.g. diabetes.</p> <p>7-Demonstrate an understanding of essential basic pathological processes.</p> <p>8-Use the terminology for the field of pathology correctly and contextually.</p> <p>9-Demonstrate an understanding of the predisposing factors, causes, and pathogenesis, morphology and potential complications of such diseases.</p>				

	<p>10- Correlate clinical features with the causes and mechanisms of disease.</p> <p>11- Knowledge of the pathogenesis of diseases, interventions for effective treatment, and mechanisms of health maintenance to prevent disease</p>
<b>Course References:</b>	<ul style="list-style-type: none"> <li>- Concise Textbook of Physiology, Indu Khurana and Arushi Khurana, 3rd edition, 2018 Published by RELJ India Private Limited</li> <li>- Physiology USMLE Step 1, Robert B. Dunn and Steven R. Daughert, 2013 by De Vry/ Becker Educational Development Corp. AU rights reserved</li> <li>- Guyton and Hall textbook of medical physiology, John E. Hall and Arthur C. Guyton, 12<sup>th</sup> edition, 2011, Sunders Elsevier.</li> <li>- Human physiology an integrated approach. Dee Unglaub Silverthorn, Bruce B. Johnson, William C. Ober, Claire G. Garrison, Andrew C. Silverthorn, 8th edition, 2019. Pearson education</li> <li>- Book: Anatomy and Physiology (boundless),2021.<a href="https://med.libretexts.org/@go/page/7665">https://med.libretexts.org/@go/page/7665</a></li> </ul> <p>Rapid Review Pathology by Edward F. Goljan Robbins Basic Pathology by Kumar, Abbas &amp; Aster Crash Course Pathology by Olivia Mckinney &amp; Isabel Woodman</p>

Course topics	Week	Learning outcome
L01: Circulation, Blood pressure, and pulse L02: Respiratory System	1 <sup>st</sup>	1&7
L03: Cerebral Palsy L04: The Physiology of the Blood <b>Essay, Cardiovascular response to lower limb amputees gait, (heart rate, blood pressure)</b>	2 <sup>nd</sup>	2, 4, & 8
L05: Circulatory disturbances: Hyperaemia, Congestion. Haemorrhage, Oedema, Thrombosis, Embolism, and Shock L06: Lymphatic System, anatomy and Physiology	3 <sup>rd</sup>	4 & 9
L07: The Immune system <b>and the Diseases of the Immune System</b> L08: Inflammation (acute and chronic), Healing, Repair and Osteomyelitis	4 <sup>th</sup>	5 & 10
L09: Soft Tissue Injury (hypertrophy, hypotrophy, sprain, and strain) L10 : Scoliosis and Kyphosis	5 <sup>th</sup>	7
L11: The skin, anatomy and physiology , <b>Burns and Gangrene</b> L12: Oncology definition, classification, aetiology <b>Homework, How scoliosis does affect lung function and shortness of breath?</b>	6 <sup>th</sup>	3 & 11
L13: Genetic and Developmental Disorders (Arthrogruposis, Torticolis, Brachial plexus birth palsy) L14: Genetic and Developmental Disorders (Spina Bifida, Developmental Dysplasia of hip)	7 <sup>th</sup>	1 & 4
L15: Endocrine system and Pituitary gland L16: Thyroid glands and Parathyroid glands	8 <sup>th</sup>	3 & 11

<b>Homework, What orthosis is used for hands burns treatment?</b>		
L17: Metabolism and Body Temperature L18: Physiology of the kidney and Adrenal glands	<b>9<sup>th</sup></b>	8 & 9
L19: Pancreas clinical anatomy and physiology, endocrine and exocrine functions and <b>Diabetes mellitus</b> L20: Joints disease, Osteoarthritis, Rheumatoid arthritis.	<b>10<sup>th</sup></b>	1 & 6
L21: Metabolism of bones and <b>Metabolic disorders (Osteoporosis, Paget disease)</b> L22: Bone disorders (fractures) <b>Report, Diabetes mellitus, physiology, pathophysiology, acute and chronic complications of diabetes mellitus</b>	<b>11<sup>th</sup></b>	3 & 10
L23: Gastrointestinal System L24: Physiology of liver	<b>12<sup>th</sup></b>	4
<b>Questions Example Design</b>		
<b>Extra notes:</b>		
<b>External Evaluator</b>		