



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

P.T206 Kinesiology

Second Semester 2023-2024

**Course Catalog**

2 Credit Hours. This course will focus on learning the terminology and biomechanical concepts related to joints kinesiology. The courses will emphasis the basic anatomic and functional aspects of the human joints and how are they related to the joints? movements. Additionally, this course will focus on the type of joints and osteokinematics and arthrokinematics. In this course, students will explore kinesiology concepts related to the open / closed-packed positions and capsular and non-capsular motion restriction patterns for each joint. Additionally, the course will help students learn the muscles rules in joint motions and understanding the type of muscle contractions, and factors affect the muscle contraction. Students will learn the strengthening exercise (open chain and close chain kinematic) and discuss the appropriate performance, posture, and considerations for contracting each muscle group. The introductory section of the course reviews the basic principles of human motions for each joint, the types of muscle contractions, and open and closed chain motion during simple and complex tasks. Then, the course will cover the kinesiology of the spine and upper extremities. The final section will cover the kinesiology of lower extremities and normal gait pattern as well as the pathological gait patterns. This course is given as two credit hours of theory per week.

**Teaching Method:** On Campus

**Text Book**

<b>Title</b>	Kinesiology of the Musculoskeletal System, Foundation for Rehabilitation.
<b>Author(s)</b>	Donald A. Neumann
<b>Edition</b>	3rd Edition
<b>Short Name</b>	Ref 1
<b>Other Information</b>	2017

**Course References**

Short name	Book name	Author(s)	Edition	Other Information
Ref 2	Clinical Kinesiology and Anatomy	Lynn S. Lippert, F.A	5th Edition	2011

**Instructor**

<b>Name</b>	Dr. Zakariya Nawasreh
<b>Office Location</b>	Medical Building M5, L-4
<b>Office Hours</b>	
<b>Email</b>	zhnawasreh@just.edu.jo

**Class Schedule & Room**

Section 1:  
 Lecture Time: Mon, Wed : 08:30 - 09:30  
 Room: مدرج عرار

Section 3:  
 Lecture Time: Tue, Thu : 15:30 - 16:30  
 Room: LAB

**Prerequisites**

Line Number	Course Name	Prerequisite Type
1112050	P.T205 Biomechanics	Prerequisite / Study

**Tentative List of Topics Covered**

Weeks	Topic	References
Week 1	Introduction: positions and body joints movements:	From <b>Ref 1</b> , From <b>Ref 2</b>
Week 2	Muscle Action	From <b>Ref 1</b> , From <b>Ref 2</b>
Week 3	Shoulder girdle & Joint	From <b>Ref 1</b> , From <b>Ref 2</b>
Week 4	Shoulder girdle & Joint	From <b>Ref 1</b> , From <b>Ref 2</b>

Week 5	Elbow and Radioulnar joints	From Ref 1, From Ref 2
Week 6	Elbow and Radioulnar joints	From Ref 1, From Ref 2
Week 7	Wrist, and Hand Joints	From Ref 1, From Ref 2
Week 8	Neck, Trunk, and Pelvic Girdle	From Ref 1, From Ref 2
Week 9	Hip Joints	From Ref 1, From Ref 2
Week 10	Knee Joints	From Ref 1, From Ref 2
Week 11	Patellofemoral joint	From Ref 1, From Ref 2
Week 12	Ankle Joint and foot	From Ref 1, From Ref 2
Week 13	Kinesiology of Gait	From Ref 1, From Ref 2
Week 14	Abnormal gait patterns	From Ref 1, From Ref 2

Mapping of Course Outcomes to Program Outcomes	Course Outcome Weight (Out of 100%)	Assessment method
Identify the positions, planes of motions and axes of rotations for each joint, type of joints, types of muscle contractions, osteokinematics and arthrokinematics for each joint movement, open and closed packed positions, capsular and non-capsular motion restriction patterns, [1PLO1 -K1]	20%	Final exam
Demonstrate knowledge of basic structure and function of human joints [1PLO1 -K1]	15%	First exam
Demonstrate knowledge of the muscle contraction and their roles in joints movements [1PLO1 -K1]	15%	First exam
Analysis the joint movement, joint arthrokinematics, and the action of muscle contraction. [1PLO6-S3]	15%	Second exam
Analysis complex activities (i.e. gait analysis and exercise analysis). [1PLO6-S3]	15%	Second exam
Identify the normal and pathological movement patterns of human joints. [1PLO3-C3]	20%	Final exam

Relationship to Program Student Outcomes (Out of 100%)															
PLO1 -K1	PLO2- C3	PLO3- C3	PLO4- S1	PLO5- S2	PLO6- S3	PLO7- S3	PLO8- C3	PLO9- C2	PLO10- C1	MS_PLO1_K1	MS_PLO2_K2	MS_PLO3_K3	MS_PLO4_S1	MS_PLO5_S2	MS_PLO6_C1
50		20			30										

Evaluation	
Assessment Tool	Weight
First exam	30%
Second exam	30%
Final exam	40%

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