



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

P.T763 Advanced Clinical Neuroscience - JNQF Level: 9

Second Semester 2025-2026

Course Catalog

2 Credit Hours. The course aims to build on the existing knowledge of neurological rehabilitation theory and practice from an evidence-based perspective. Advanced clinical assessment, clinical reasoning and clinical therapeutic skills to the development of safe, effective and specific rehabilitation programs and exercise prescription for individual with neurological disorders will be also included in the course.

Teaching Method: On Campus

Text Book

Title	Neurologic interventions for physical therapy-e-book
Author(s)	Martin, Suzanne Tink, and Mary Kessler
Edition	3rd Edition
Short Name	Ref#1
Other Information	

Course References

Short name	Book name	Author(s)	Edition	Other Information
Ref#2	Spasticity Management A Practical Multidisciplinary Guide	AJ Thompson, L Jarrett, L Lockley	2nd Edition	
Ref#3	Umphred's Neurological Rehabilitation: Umpfred's Neurological Rehabilitation-E-Book.	Lazaro, Rolando T., Sandra G. Reina-Guerra, and Myla Quiben	4th Edition	
Ref#4	International Classification of Functioning, Disability and Health; Organization World Health: Geneva, Switzerland	World Health Organization	2nd Edition	
Ref#5	Neurorehabilitation Technology	Reinkensmeyer, David J., and Volker Dietz,	3rd Edition	

Instructor	
Name	Dr. Mohammad Etoom
Office Location	-
Office Hours	Sun : 09:30 - 12:00 Mon : 10:30 - 12:00 Tue : 10:15 - 11:15 Wed : 10:30 - 12:30
Email	msetoom@just.edu.jo

Class Schedule & Room
Section 1: Lecture Time: Thu : 13:00 - 15:00 Room: M3301

Tentative List of Topics Covered		
Weeks	Topic	References
Week 1	Course Introduction	From Ref#1
Weeks 2, 3	Spasticity Management	From Ref#2 , From Ref#3
Week 4	Advanced Topics in Stroke Rehabilitation: Agreed Definitions and a Shared Vision	From Ref#1 , From Ref#3
Week 5	Advanced Topics in Stroke Rehabilitation: Fatigue in Stroke	From Ref#1 , From Ref#3
Week 6	Agreed Definitions and a Shared Vision: Biomarkers of Stroke Recovery	From Ref#1 , From Ref#3
Week 7	Advanced Topics in Stroke Rehabilitation: Standardized measurement of balance and mobility post-stroke	From Ref#1 , From Ref#3
Week 8	Advanced Topics in Stroke Rehabilitation: Return to work after stroke	From Ref#1 , From Ref#3
Week 9	Advanced Topics in Stroke Rehabilitation: Recommendations for Measurement in Stroke Recovery & Rehabilitation Trials	From Ref#1 , From Ref#3
Weeks 10, 11	ICF in Neurorehabilitation	From Ref#4
Weeks 12, 13, 14	Advanced Technologies in NeuroRehabilitation	From Ref#5

Mapping of Course Outcomes to Program Outcomes and NQF Outcomes	Course Outcome Weight (Out of 100%)	Assessment method
CLO7: Exhibit proficiency in accessing, critically appraising, and applying research evidence within neurological physical therapy practice. This includes evaluating research methodologies, interpreting study findings, and integrating evidence effectively into clinical decision-making. [1L9S3, 1L9C6]	20%	
CLO1: Analyze the role of physical therapy in the comprehensive management of neurologic disorders, including detailed assessment, evaluation, long-term follow-up, and prediction of treatment outcomes. [1L9K3, 1L9C4]	10%	
CLO2: Evaluate the importance of interdisciplinary collaboration in neurological care, demonstrating knowledge of effective communication strategies and teamwork skills essential for engaging with healthcare professionals, caregivers, and community resources. [1L9K1, 1L9C1]	10%	
CLO3: Investigate and assess emerging technologies and innovative approaches in neurorehabilitation such as virtual reality, robotics, wearable sensors, and neurostimulation analyzing their applications and potential clinical benefits. [1L9K1, 1L9K3]	10%	
CLO4: Demonstrate advanced proficiency in conducting comprehensive assessments for individuals with neurological conditions, utilizing standardized tools, applying clinical reasoning, and accurately interpreting findings to guide personalized treatment planning. [1L9K1, 1L9S3]	20%	
CLO5: Apply critical thinking skills to analyze complex clinical scenarios, identify and address recovery barriers, and adapt treatment plans using current evidence and individual patient responses. [1L9K2, 1L9S3]	20%	
CLO6: Select and utilize appropriate outcome measures to evaluate treatment effectiveness and monitor patient progress, employing both objective metrics and patient-reported outcomes to assess functional improvements and quality of life [1L9K3, 1L9S3]	10%	

Relationship to Program Student Outcomes (Out of 100%)									
PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9	PLO10

Relationship to NQF Outcomes (Out of 100%)						
L9K1	L9K2	L9K3	L9C1	L9C4	L9S3	L9C6
20	10	15	5	5	35	10

Evaluation	
Assessment Tool	Weight
Midterm Exam	50%
Final Exam	50%

Date Printed: 2026-02-25