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

P.T753 Advanced Clinical Neuroscience - JNQF Level: 9

Second Semester 2023-2024

| Course Catalog |
|---|
| 3 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#2 |
| **Other Information** | |

**Course References**

| Short name | Book name | Author(s) | Edition | Other Information |
|---|---|---|---|---|
| Ref#1 | Spasticity Management A Practical Multidisciplinary Guide | AJ Thompson, L Jarrett, L Lockley | 2nd Edition | |
| Ref#3 | Umphred's Neurological Rehabilitation: Umphred'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 : 11:30 - 14:00<br>Mon : 14:00 - 15:30<br>Tue : 12:30 - 14:00<br>Wed : 08:00 - 09:30 |
| Email | msetoom@just.edu.jo |

| Class Schedule & Room |
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| Section 1:<br>Lecture Time: Wed : 09:30 - 12:30<br>Room: M4203 |

**Tentative List of Topics Covered**

| Weeks | Topic | References |
|---|---|---|
| Week 1 | Course Introduction | |
| Weeks 2, 3 | Spasticity Management | From **Ref#1** |
| Week 4 | Advanced Topics in Stroke Rehabilitation: Agreed Definitions and a Shared Vision | From **Ref#2**, From **Ref#3** |
| Week 5 | Advanced Topics in Stroke Rehabilitation: Fatigue in Stroke | From **Ref#2**, From **Ref#3** |
| Week 6 | Advanced Topics in Stroke Rehabilitation: Biomarkers of Stroke Recovery | From **Ref#2**, From **Ref#3** |
| Week 7 | Advanced Topics in Stroke Rehabilitation: Standardized measurement of balance and mobility post-stroke | From **Ref#2**, From **Ref#3** |

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|---|---|---|
| Week 8 | Advanced Topics in Stroke Rehabilitation: Return to work after stroke | From **Ref#2**, From **Ref#3** |
| Week 9 | Advanced Topics in Stroke Rehabilitation: Recommendations for Measurement in Stroke Recovery & Rehabilitation Trials | From **Ref#2**, 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** |
|---|---|---|
| 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. [1MS_PLO1_K1] [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. [1MS_PLO3_K3] [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. [1MS_PLO1_K1] [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. [1MS_PLO3_K3, 1MS_PLO4_S1] [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. [1MS_PLO4_S1, 1MS_PLO6_C1] [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 [1MS_PLO2_K2, 1MS_PLO4_S1] [1L9K3, 1L9S3] | 10% | |
| 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. [1MS_PLO3_K3, 1MS_PLO10_C5] [1L9S3, 1L9C6] | 20% | |

| **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 |
| | | | | | | | | | | 20 | 5 | 30 | 25 | | 10 |

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

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