



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

P.T767 Motor Learning And Control Of Movement

Second Semester 2024-2025

Course Catalog

3 Credit Hours. This course focuses on the behavioral, biomechanical, and neural foundations of motor skills development, acquisition, and performance. Movement analysis principles are used to explain the neuromotor control processes fundamental for skilled performance in everyday functional behaviors.

Teaching Method: On Campus

Text Book

| | |
|--------------------------|--|
| Title | Motor Learning and Control for Practitioners |
| Author(s) | Cheryl Coker |
| Edition | 5th Edition |
| Short Name | Ref 1 |
| Other Information | 2021 |

Instructor

| | |
|------------------------|------------------------------|
| Name | Dr. Mohammad Alwardat |
| Office Location | Ground Floor L1-10 |
| Office Hours | |
| Email | msalwardat@just.edu.jo |

Class Schedule & Room

Section 2:
Lecture Time: Thu : 11:00 - 14:00
Room: N4201

Tentative List of Topics Covered

| Weeks | Topic | References |
|--------------|---|-------------------|
| Week 1 | Introduction to Motor Learning and Control | From Ref 1 |
| Week 2 | Understanding Movement Preparation | From Ref 1 |
| Week 3 | The Role of Attention, Arousal, and Visual Search in Movement Preparation | From Ref 1 |
| Week 4 | Behavioral Theories of Motor Control | From Ref 1 |
| Week 5 | Neural Mechanisms: Contributions and Control | From Ref 1 |
| Week 6 | Stages of Learning | From Ref 1 |
| Week 7 | The Learner: Pre-Instruction Considerations | From Ref 1 |
| Week 8 | Skill Presentation | From Ref 1 |
| Week 9 | Principles of Practice Design | From Ref 1 |
| Week 10 | Practice Schedules | From Ref 1 |
| Week 11 | Diagnosing Errors | From Ref 1 |
| Week 12 | Correcting Errors | From Ref 1 |

| Mapping of Course Outcomes to Program Outcomes | Course Outcome Weight (Out of 100%) | Assessment method |
|---|--|--------------------------|
| Analyze the role of attention, arousal, and visual search in movement preparation and skilled motor performance. | 20% | |
| Evaluate different motor control theories and neural mechanisms contributing to movement execution and learning. | 15% | |
| Apply principles of skill acquisition, practice design, and feedback to enhance motor learning in clinical and functional settings. | 15% | |
| Diagnose movement errors using movement analysis principles and propose evidence-based correction strategies. | 20% | |
| Explain the fundamental behavioral, biomechanical, and neural principles underlying motor learning and movement control. | 15% | |
| Integrate motor learning principles into rehabilitation and therapy settings to optimize patient outcomes. | 15% | |

| Evaluation | |
|------------------------|---------------|
| Assessment Tool | Weight |
| Midterm Exam | 50% |
| Final exam | 50% |