



دانشگاه علوم پزشکی و خدمات بهداشتی، درمانی جندی شاپور اهواز

دانشکده علوم توانبخشی
گروه آموزشی

طرح دوره

رشته تحصیلی: Master of Physical therapy	عنوان درس: Advanced Specific Techniques
پیش نیاز: Neuromuscular Physiology and Pathophysiology	کد درس: 18
میزان واحد به تفکیک: 2 Theoretical Credits	تعداد واحد: 2
ترم تحصیلی: نیمسال دوم	سال تحصیلی: ۱۴۰۴-۱۴۰۵
مدرس مسئول: Dr.Masumeh Hessam	گروه مدرسین: Dr.Maryam Saadat, Dr.Masumeh Hessam
روزهای حضور در دفتر کار: دوشنبه ساعت ۱۲-۱۴	روز و ساعت درس: سه شنبه ساعت ۸-۱۰
رویکرد دوره: ترکیبی (حضوری- مجازی)	آدرس پست الکترونیک: hessam.masumeh@gmail.com
معرفی دوره:	
<p>This course focuses on theoretical foundations of advanced motor control and motor learning. Core motor control theories including Reflex Theory, Hierarchical Theory, Motor Programming Theory, Dynamic Systems Theory, and Ecological Theory will be discussed. Behavioral perspectives on motor control will be introduced with emphasis on attentional mechanisms, dual-task interference, and cognitive-motor interaction during movement execution.</p>	
اهداف کلی درس:	
<p>By the end of this course, students will develop an advanced understanding of foundational and contemporary motor control and motor learning theories and apply attentional principles to the analysis and facilitation of movement in rehabilitation practice.</p>	



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Specific Learning Outcomes (Cognitive Domain – Bloom’s Taxonomy)

Remembering

1. Define major motor control theories.
2. Identify key concepts in attention theory.
3. List types of attentional models.

Understanding

4. Explain principles of Reflex Theory, Hierarchical Theory, Motor Programming Theory, Dynamic Systems Theory, and Ecological Theory.
5. Describe limited capacity attention models.
6. Explain cognitive-motor interference mechanisms.

Applying

7. Apply motor control theories to clinical movement analysis.
8. Apply attentional principles to dual-task rehabilitation scenarios.
9. Analyze movement performance under different attentional conditions.

Analyzing

10. Compare classical and contemporary motor control theories.
11. Analyze interference patterns between cognition and motor performance.
12. Differentiate internal versus external focus of attention during movement execution.

Evaluating

13. Critically evaluate the clinical relevance of motor control theories.
14. Judge the effectiveness of attentional strategies in rehabilitation contexts.

Creating

15. Design rehabilitation strategies incorporating motor control and attentional principles.
16. Propose dual-task training frameworks for neurological or musculoskeletal patients.

Course Content Outline (7 Sessions)

17. Session 1: Introduction to motor control theories and Reflex Theory.
18. Session 2: Hierarchical Theory and Motor Programming Theory.
19. Session 3: Dynamic Systems Theory and Ecological Theory. Reference: Shumway-Cook & Woollacott – Chapter 1.
20. Session 4: Behavioral perspective of motor control and introduction to attention.
21. Session 5: Attention theories including single-channel theory, capacity models, limited capacity attention, and dual-task paradigms.
22. Session 6: Cognitive-motor interference and dual-task interaction.



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23. Session 7: Attentional focus during movement execution (internal vs external focus).

تقویم درس:

جلسه	تاریخ	عنوان مبحث	روش تدریس	فعالیت‌های یادگیری / تکالیف دانشجوی	نام مدرس / مدرسان
۱		History, definitions, and philosophy of evidence-based physical therapy	Interactive lecture – Q&A	Answer classroom questions and study references	Dr.Masumeh Hessam
۲		Three core components of evidence-based decision-making	Interactive lecture – PBL	Answer classroom questions and study references	Dr.Masumeh Hessam
۳		Clinical question formulation (PICO framework)	Interactive lecture – Develop a clinical question	Answer classroom questions and study references	Dr.Masumeh Hessam
۴		Types of scientific evidence and evidence hierarchy	Interactive lecture – group discussion	Answer classroom questions and study references	Dr.Masumeh Hessam
۵		Research study designs (Case report, RCT, Meta-analysis, etc)	Interactive lecture – Q&A	Answer classroom questions and study references	Dr.Masumeh Hessam
۶		Efficient literature search strategies	Practical workshop Database search exercise	Answer classroom questions and study references	Dr.Masumeh Hessam
۷		Critical appraisal and clinical application of evidence	Interactive lecture – Q&A	Answer classroom questions and study references	Dr.Masumeh Hessam
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وظایف و انتظارات از دانشجوی:

- Regular and punctual attendance in class
- Study of assigned references
- Active participation in classroom discussions
- Timely submission of assignments
- Adequate preparation for formative and summative assessments
- Collaboration in group learning activities
- Compliance with academic regulations regarding attendance



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Teaching Methods

Interactive lectures, theoretical comparison tables, case-based analysis, dual-task simulation scenarios, and group discussions.

Assessment Methods

Formative Assessment (40%): Interactive assignments, class participation, article analysis presentations.

Summative Assessment (60%): Written final examination including multiple-choice and analytical questions

منابع اصلی درس: