**UNIVERSITI TEKNOLOGI MARA**

**SED651: MOTOR LEARNING APPLIED TO PHYSICAL EDUCATION**

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| **Course Name (English)** | MOTOR LEARNING APPLIED TO PHYSICAL EDUCATION APPROVED |
| **Course Code** | SED651 |
| **MQF Credit** | 3 |
| **Course Description** | This course introduce students to psychomotor concepts and how they are applied to the learning of gross and fine motor skills in order to produce more efficient movement. Emphasis is placed on concepts, principles and theories of learning motor skills, controlling, movement, attention, memory, individual differences, knowledge of results, transfer of learning and practice. |
| **Transferable Skills** | Students are able to explain and relate the concepts, principles and theories of motor learning into physical education and sport practice. |
| **Teaching Methodologies** | Lectures, Lab Work, Practical Classes, Discussion, Presentation |
| **CLO** | CLO1 Apply relevant test for motor learning in relation to sport practice<br>CLO2 Demonstrate the understanding to transfer concepts, principles and theories of motor learning into physical education<br>CLO3 Demonstrate the values & ethics & professionalism to apply theories of motor learning in relation to individual differences in Physical and Health Education context |
| **Pre-Requisite Courses** | No course recommendations |

| **Topics** |
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| **1. Introduction to Motor Learning and Performance: How Skills Are Studied**<br>1.1) Why Study Motor Skills?<br>1.2) The Science of Motor Learning and Performance<br>1.3) Focus on Research 1.1: Franklin M. Henry – Father of Motor Behavior Research<br>1.4) Defining Skills<br>1.5) Components of Skills<br>1.6) Classifying Skills<br>1.7) Focus on Research 1.2: Error Scores in Discrete Tasks<br>1.8) Focus on Research 1.3: Error Scores in Continuous Tasks<br>1.9) Understanding Performance and Learning |
| **2. Processing Information and Making Decisions: The Mental Side of Human Performance**<br>2.1) The Information-Processing Approach<br>2.2) Reaction Time and Decision Making<br>2.3) Memory Systems |
| **3. Attention and Performance: Limitations on Information Processing**<br>3.1) What is Attention?<br>3.2) Limitations in Stimulus Identification<br>3.3) Limitations in Response Selection<br>3.4) Limitation in Movement Programming<br>3.5) Decision Making Under Stress |
| **4. Sensory Contributions to Skilled Performance: Feedback Processing in Motor Control**<br>4.1) Sources of Sensory Information<br>4.2) Processing Sensory Information<br>4.3) Principles of Visual Control<br>4.4) Audition and Motor Control |

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| **5. Motor Programs: Motor Control of Brief Actions**<br>5.1) Motor Program Theory<br>5.2) Evidence for Motor Programs<br>5.3) Motor Programs and the Conceptual Model<br>5.4) Problems in Motor Program Theory: The Novelty and Storage Problems<br>5.5) Generalized Motor Program Theory |
| **6. Principles of Speed, Accuracy and Coordination: Controlling and Timing Movements**<br>6.1) Speed-Accuracy Trade-Offs<br>6.2) Sources in Rapid Movements<br>6.3) Exceptions to the Speed-Accuracy Trade-Off<br>6.4) Analyzing a Rapid Movement: Baseball Batting<br>6.5) Accuracy in Coordinated Actions |
| **7. Individual Differences: How People Differ in Their Performance Capabilities**<br>7.1) The Study of Individual Differences<br>7.2) Ability Versus Skills<br>7.3) Is There General Motor Ability?<br>7.4) Abilities and the Production of Skills<br>7.5) Prediction and Selection Based on Ability |
| **8. Skill Acquisition, Retention, and Transfer: How Expertise is Gained**<br>8.1) Skill Acquisition<br>8.2) Skill Retention<br>8.3) Skill Transfer |
| **9. Organizing and Scheduling Practice: How the Structure of Practice Influences Learning**<br>9.1) Off-Task Practice Considerations<br>9.2) Organizing Practice and Rest<br>9.3) Variable Versus Random Practice<br>9.4) Blocked Versus Random Practice |
| **10. Augmented Feedback: How Providing Extra Information Influences Learning**<br>10.1) Feedback Classification<br>10.2) The function of Augmented Feedback<br>10.3) How Much Feedback Should Be Given?<br>10.4) When to Give Feedback |

| Assessment Breakdown | % |
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| Continuous Assessment | 100.00% |

**Details of Continuous Assessment**

| Assessment Type | Assessment Description | % of Total Mark | CLO |
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| Practical | To conduct field-laboratory on specific topics and apply to skills in sports | 30% | CLO1 |
| Presentation | n/a | 20% | CLO2 |
| Writing Test | Written Test | 30% | CLO2 |
| Written Report | To prepare report of lab exercise | 20% | CLO3 |

**Reading List**

**Recommended Text**

- **Richard A. Magill & David Anderson 2016, *Motor Learning and Control: Concept & Application*, 11th Ed., McGraw Hill International Ed**
- **Howard N. Zelaznik 1996, *Advances in Motor Learning and Control*, Ed., , Purdue University. [ISBN: ]**
- **Albert Gollhofer, Wolfgang Taube, Jens Bo Nielsen 2015, *Routledge Handbook of Motor Control and Motor Learning*, 1st Ed., Routledge [ISBN: 978-113886042]**

**Article/Paper List**: This Course does not have any article/paper resources

**Other References**: This Course does not have any other resources