



**EFFECTIVE: SEPTEMBER 2005**  
**CURRICULUM GUIDELINES**

**A. Division:**                    **Science & Technology**                    **Effective Date:**                    **September 2005**

**B. Department / Program Area:**                    **Sport Science**                    **Revision**                     **New Course**                   

**If Revision, Section(s) Revised:**                    **F, M, N, P, Q**

**Date of Previous Revision:**                    **September, 2004**

**Date of Current Revision:**                    **December, 2004**

**C: SPSC 1164**                    **D: Dynamics of Motor Skill Acquisition**                    **E: 3**

Subject & Course No.	Descriptive Title	Semester Credits						
<b>F:</b> Calendar Description: <b>This course will provide students with an introduction to, and basic working knowledge of fundamental principles in motor learning &amp; control and a discussion of experiments and research methods. The course also outlines the foundations of practice techniques and organization as it applies to teaching, coaching, skill acquisition and performance.</b>								
<b>G:</b> Allocation of Contact Hours to Type of Instruction / Learning Settings  Primary Methods of Instructional Delivery and/or Learning Settings:  <b>Lecture</b>  Number of Contact Hours: (per week / semester for each descriptor)  <b>4 hours</b>  Number of Weeks per Semester:  <b>15 weeks</b>	<b>H:</b> Course Prerequisites:  <b>None</b>							
	<b>I:</b> Course Corequisites:  <b>None</b>							
	<b>J:</b> Course for which this Course is a Prerequisite  <b>None</b>							
	<b>K:</b> Maximum Class Size:  <b>35</b>							
<b>L:</b> PLEASE INDICATE: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30px; border: 1px solid black; text-align: center;"><input type="checkbox"/></td> <td>Non-Credit</td> </tr> <tr> <td style="border: 1px solid black; text-align: center;"><input type="checkbox"/></td> <td>College Credit Non-Transfer</td> </tr> <tr> <td style="border: 1px solid black; text-align: center;"><input checked="" type="checkbox"/></td> <td>College Credit Transfer:</td> </tr> </table> <p style="text-align: center; margin-top: 5px;">SEE BC TRANSFER GUIDE FOR TRANSFER DETAILS (<a href="http://www.bctransferguide.ca">www.bctransferguide.ca</a>)</p>			<input type="checkbox"/>	Non-Credit	<input type="checkbox"/>	College Credit Non-Transfer	<input checked="" type="checkbox"/>	College Credit Transfer:
<input type="checkbox"/>	Non-Credit							
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**M: Course Objectives / Learning Outcomes**

After having completed the course as outlined below, students will have acquired a basic knowledge of:

1. Terminology, language, and research methods used in this area of study
2. Individual characteristics that influence the learning and control of motor skills
3. The information processing model and factors affecting decision making
4. Characteristics of the learning environment & practice conditions which affect skill acquisition and performance

**N: Course Content:**

1. The basis of motor skill acquisition, specifically with respect to:
  - 1.1 learning and performance
  - 1.2 the nature of skill
    - 1.2.1 discrete/serial/continuous
    - 1.2.2 motor/cognitive
    - 1.2.3 closed/open
  - 1.3 stages of learning
  - 1.4 methodology & measurement
    - 1.4.1 validity, objectivity, reliability
    - 1.4.2 correlation and basic statistics
    - 1.4.3 graphical representation
2. Factors influencing skill acquisition, specifically with respect to:
  - 2.1 Individual differences
  - 2.2 Motor abilities
  - 2.3 Developmental factors related to motor skill learning and performance
  - 2.4 Novice versus expert
3. Information Processing & Decision Making Factors influencing skill acquisition, specifically:
  - 3.1 Stages of informational processing
  - 3.2 Human information processing model
  - 3.3 Reaction time
    - 3.3.1 Stimulus Response Alternative and Compatibility
  - 3.4 Decision Making
  - 3.5 Arousal
    - 3.5.1 Inverted U
    - 3.5.2 Perceptual Narrowing
  - 3.6 Attention
    - 3.6.1 Task Interference
  - 3.7 Anticipation
  - 3.8 Memory
4. Sensory Contributions to skilled performance, specifically with respect to:
  - 4.1 sensory information
    - 4.1.1 exteroceptive
    - 4.1.2 proprioceptive
  - 4.2 Closed loop control systems
  - 4.3 Open-loop control systems
  - 4.4 Motor program theory
  - 4.5 Generalized Motor Programs
  - 4.6 Novelty and Storage

5. Principles of Motor Control and Movement Accuracy, specifically with respect to:

- 5.1 invariance in motor control
- 5.2 role of speed and amplitude in movement accuracy
- 5.3 Causes of inaccuracy in quick movements

6. Motor Learning

- 6.1. Goal setting
  - 6.1.1. Outcome
  - 6.1.2 Performance
  - 6.1.3 Process
- 6.2 Transfer of learning
- 6.3 The learner
  - 6.3.1 Motivation
  - 6.3.2 Past experiences
  - 6.3.3 Abilities
  - 6.3.4 Stage of Learning
- 6.4 Assessing Progress
  - 6.4.1 Outcome and process indicators
  - 6.4.2 Observable products of learning
  - 6.4.3 Performance Curves
  - 6.4.4 Retention Tests
- 6.5 Role of the movement practitioner

7. Practice Conditions, specifically with respect to:

- 7.1 Communication
- 7.2 Directing attention
- 7.3 Managing arousal
- 7.4 Practice Schedules
  - 7.4.1 Massed
  - 7.4.2 Distributed practice
  - 7.4.3 blocked versus random practice
  - 7.4.4 constant versus varied practice
  - 7.4.5 random and varied practice combined
- 7.5 Varying Tasks
  - 7.5.1 schema
  - 7.5.2 contextual interference
  - 7.5.3 practice variability
- 7.6 Skill Presentation Techniques
  - 7.6.1 Instructions
  - 7.6.2 Demonstrations
  - 7.6.3 Guided practice
- 7.7 Rehearsal Strategies
  - 7.7.1 Physical rehearsal
  - 7.7.2 Mental rehearsal
  - 7.7.3 Whole – part - whole

8. Feedback during the learning experience, specifically with respect to:

- 8.1 Intrinsic feedback
- 8.2 Extrinsic feedback
- 8.3 augmented feedback
- 8.4 knowledge of results / performance
- 8.5 reinforcement
- 8.6 Feedback factors
  - 8.6.1 precision
  - 8.6.2 frequency
  - 8.6.3 amount
  - 8.6.4 bandwidth

**O: Methods of Instruction**

Lectures  
 Discussion Groups  
 Practical Applications  
 Field Observation  
 Technology Assisted Learning

**P: Textbooks and Materials to be Purchased by Students**

Schmidt, R. A. & Lee T.D. (2002) Motor Control & Learning : A Behavioural Emphasis Champaign, IL: Human Kinetics.

**Q: Means of Assessment**

Mid-term Examination	20%
Final Examination	20%
Case Study	20%
Research Project	20%
Assignments, labs and quizzes	<u>20%</u>
Total	100%

**R: Prior Learning Assessment and Recognition: specify whether course is open for PLAR**

Not at this time

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 Course Designer(s)

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 Education Council / Curriculum Committee Representative

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 Dean / Director

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 Registrar