EASTERN WASHINGTON UNIVERSITY  
DEPARTMENT OF HEALTH, PHYSICAL EDUCATION AND RECREATION  
PHED 510  ADVANCED MOTOR CONTROL AND LEARNING  
WINTER 08  

INSTRUCTOR: Scott Melville, Ph. D., Professor  
Office 251 PECB  
Office Hours 8-9 TR, 9-10 MWF or by arrangement  
Office Phone 359-7069  
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FAX: 509 359 4833  

MAJOR TEXT:  

GENERAL DESCRIPTION OF COURSE CONTENT:  
Course designed to provide the student with an understanding of the research dealing with how physical movements are controlled and learned by. Such an understanding should provide a solid basis for the intelligent design of training programs and teaching progressions for sports and other motor skills. It should also develop a heightened appreciation of the human body and biology in general.  

OBJECTIVES:  
Provide the student with an understanding of...  
1. scientific methods in motor control research  
2. methodology in studying motor behavior  
3. information processing and memory systems  
4. the attentional demands of performance  
5. closed-loop processes -- sensory contributions to motor control  
6. open-loop processes -- motor programs  
7. the relationship between speed and accuracy in skill performance  
8.* coordination  
9. individual motor differences and capabilities  
10. research methods in motor learning  
11. various practice conditions which effect motor performance and learning  
12. the role augmented feedback plays in the performance and learning of motor skills
13. theories of motor learning
14. retention and transfer of motor skills

GENERAL DESCRIPTION OF MAJOR LEARNING EXPERIENCE/ASSIGNMENTS/PROJECTS

Lecture-discussion format. Weekly laboratory experiences. Instructor will attempt to facilitate the coming week's readings and supplement with practical application ideas.

Week 1

  Introductions
  Chapter 1: Evolution of a Field of Study
  Chapter 2: Methodology for Studying Motor Performance

Week 2

  Quiz on chapters 1 and 2
  Chapter 3: Human Information Processing
  Chapter 4: Attention and Performance

Week 3

  Quiz on chapters 3 and 4
  Chapter 5: Sensory Contributions to Motor Control
  Chapter 6: Central Contributions to Motor Control

Week 4

  Quiz on chapters 5 and 6
  Chapter 7: Principles of Speed and Accuracy
  (Chapter 8 Coordination will not be required)

Week 5

  Quiz on chapter 7
  Chapter 9: Individual Differences and Capabilities

Week 6

  Quiz on chapter 9
  Chapter 9: Motor Learning Concepts and Research Methods

Week 7

  Quiz on chapter 10
  Chapter 11: Conditions of Practice

Week 8

  Quiz on chapter 11
  Chapter 12: Augmented Feedback
  Chapter 13: The Learning Process

Week 9

  Quiz on chapters 12 and 13
  Chapter 14: Retention and Transfer

Week 10

  Quiz on chapter 14
  Review for the Final
Finals Week  Comprehensive essay exam as scheduled in the winter quarter announcement (the

GENERAL DESCRIPTION OF EVALUATION PROCEDURES

1. 8 quizzes (approximately 20 points apiece; multiple choice and short answer – APPROXIMATELY 160 TOTAL)

2. 8 Weekly laboratory assignments (5 points apiece) -- 40 TOTAL

2. Final comprehensive exam: this exam will consist of 7 questions being selected from the attached COURSE OBJECTIVES. Each question will be worth approximately 25 points for a total of 175.

Criterion Grading Scale: this should allow you to determine your G.P. in an on going fashion.

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