

Sul Ross State University
Kinesiology Department
Kinesiology 5316 – Neurological Basis for Motor Learning and Control
Syllabus

Instructor: Dr. Stefanie A. Latham

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Course Description: This course is designed to provide an understanding of psychological/physiological principles involved in motor learning, control, and performance. The emphasis will be in understanding the muscular and nervous system control and in skill acquisition for school age children and adult populations.

Textbook: None, notes and supplemental material will be loaded on Blackboard

Course Objectives:

- A. To develop a functional understanding of the psychological and physiological bases of movement behavior.
- B. To be able to apply learning theory to the learning and performance of motor skills.
- C. To understand the factors that influences the learning and performance of motor skills.
- D. To understand the developmental influences on motor behavior.
- E. To be able to apply instructional and training procedures to school age and athletic populations.

Student Learning Outcomes – Masters of Science in Health and Human Performance

1. Students in the M.S. program in Health and Human Performance program will demonstrate content knowledge in physiology, nutrition, sports law, tests and measurements, motor learning, group dynamics and health and human behavior necessary for successful performance in their field.
2. Students in the M.S. Health and Human Performance program will be able to conduct research using appropriate methods, analysis, and dissemination of results.
3. Degree candidates in M.S. Health and Human Performance program will promote authentic learning, social and emotional development, and a commitment to social justice in their field.

Exams and Grading Procedures:

1. A total of two (2) exams worth 60 points each.
2. Weekly article critiques (8) worth 10 points each from professional refereed journals. (SportDiscus in Library) **Articles due every Friday** See the template at the end of the syllabus for help
3. An examination of a disorder assignment worth 100 points will be due and submitted at the end of the eight weeks. See below end of syllabus for instructions. **Due 3/3**

4. Viewing and critical analysis of a youth sports program worth 100 points **Due Feb 17th**
5. Viewing and critical analysis of a collegiate or advanced program worth 100 points **Due March 3rd**

Under no circumstances will late work be accepted, unless prior arrangements have been made or an unforeseen emergency has occurred.

Grading

500-450=A

449-400=B

399-350=C

TENTATIVE CLASS SCHEDULE

Week 1 Chpt. 0 Understanding Muscle Tissue, Chpt. 01 Understanding Muscle Contractions, Article 1 due Friday

Week 2 Chpt 001 Understanding the Nervous System, Chpt. 1 Basic Concepts of Motor Learning, Article 2 due Friday

Week 3 Chpt. 2 Development of Motor Responses, Chpt. 3 The Nature of Motor Learning, Article 3 due Friday

Week 4 Chpt. 4 Feedback, Article 1 due Friday

Friday Feb 10 Exam 1 Due by Midnight

Week 5 Chpt. 5 Timing, Chpt. 6 Information Processing, Article 5 due Friday

Week 6 Chpt. 7 Transfer, Chpt. 8 Perception, Article 6 due Friday

Week 7 Chpt. 9 Personality and Performance, Chpt. 10 Motivation, Article 7 due Friday, Youth Program Critical Analysis due Friday

Week 8 Chpt. 11 Practice Conditions, Article 8 due Friday, Collegiate Program Critical Analysis due Friday, Research Paper Due Friday

Friday March 10 Exam 2 Due by Midnight

APPENDIX A
Article Critique Template

Contributing Editor: Your name

Date: January, 2014

Reference: Christie, J. S. (2014). Health and obesity: The benefits of exercise and lowered risk of diabetes. *Journal of Sport Nutrition*, 13(4), 21–29.

Sample size: 38 men, 39 women (experimental, control groups)

Duration of study: 3 months

Measurement tools: glucometer, scales, calipers, questionnaire's

Editor's critique: 200 words or <, single spaced – this is NOT a summary it is a critical analysis. Please good what a critical analysis is if you are unclear.

APPENDIX B
MOTOR LEARNING
EXAMINATION OF DISORDER ASSIGNMENT

For this assignment you will investigate a motor learning/control disorder in exercise science. The topic selected must be related to your career goals. For example, you should investigate a disorder you are likely to encounter in practice. It may be a good idea to select a topic and use all your article critiques to help you write this paper. There is no length on how long your paper must be, as long as the five areas below are addressed. Please check for spelling and grammatical errors on your paper.

1. **What has gone wrong in the disorder?** (this often includes a discussion of the physiology of the normal functioning of the system or structure in question).

2. **Causes for the disorder** should be discussed. If the cause is debated, discuss the different ideas. If the cause is unknown, discuss the hypothesized causes.
3. **Motor learning or control effects of the disorder** should be discussed and related to the motor learning or control principles discussed in class where possible.
4. **Treatments** should be discussed. State whether it is due to drug therapy or physical rehabilitative purposes.
5. **How would you work or mainstream this person with such a disorder.**

APPENDIX C

Sample Motor Learning / Control Disorder Topics

Speech disorders

Motor unit control

Cerebral palsy

Maximum voluntary contraction

Muscular dystrophy

Velocity of strength training

Multiple sclerosis

PNF

Spinal cord injury

Reflexes

Clumsy child syndrome,

a.k.a. developmental coordination disorder

Diabetic

Autism

Touretts syndrome

Essential tremor

Epilepsy

Down's syndrome

Parkinson's disease

Proprioceptive training

Neural basis of plyometric training

Muscle fiber changes with training

Neural contributions to hypertrophy

APPENDIX D Blackboard Instructions

1. Login to the blackboard course
2. Most things are "clickable". Once in click on every tab and read everything.
3. Announcements – click on this tab and check those daily. A copy is always sent to your email. So check your email often as well.
4. Syllabus & Course Materials tab – has everything in attachments for you to download that you need for the course. Read the Syllabus first day you log in. All other course materials are referenced to you in discussions and assignments for you to download and refer to. I suggest saving everything to a flash drive, hard drive, cloud database (i.e. drop box) so you have them forever.
5. Assignments – click on the assignment tab. Click on the Name of the assignment (usually named by week). Read all of the assignment information. If the assignment refers you to materials in the course materials tab be sure to use/read all of those. Due dates are always mentioned in the assignment information. When you are ready to submit (turn in) your assignment go to the Assignment Submission" area, click on browse my computer, search your computer for wherever you saved your finished/completed assignment, upload it to attach the file in the assignment submission area. **YOU MUST checkmark the box "I agree to submit mypaper(s) to the GRD" where the plagiarism tools are.** This ensures you did not copy/paste from the internet or from another student you may have had the course before. You can be kicked out of

the university, and/or fail a class for plagiarizing. The add comments are optional, but a place for you to leave me a comment. Ps. I like jokes when I am grading!!!! ☺ Click the SUBMIT button to actually turn in your assignment.

6. Discussions – click on discussions tab. Each week there are discussions (these are formal discussions not chat room type discussions) you must respond to as well as respond to at least one other classmate (see syllabus). Click on the Forum/Discussion Name (e.g. Week 1). To post your discussion post = click on create thread. Put your First and last name in the Subject line followed by 1-2 words describing your post/thread, e.g., StefanieLatham_Week1 Discussion. Type your response to the discussion/forum in the message. **I highly, highly, really really, highly recommend that you first type your response in a Word Doc spell check and grammar check (read it yourself as spell check doesn't fix grammar) and then copy/paste it into the message area. DO NOT attach a file for discussions. You will only use the browse my computer/attach file feature for assignments.** Click Submit to submit your work. If you need to edit whatever you turned in for some reason, find your thread in the discussion area, click on it, move your cursor around near the “reply” button, you will see an option to delete, edit, or email yourself. To respond to a classmate: click on the thread of a classmate you want to read his/her post then click reply. Type your response in the message area (again recommend using word to edit first...plus if you have a computer issue you can save your word doc...you can't save your message until you submit it). [Please Check your thread so read what others have said to you. If classmates or if I ask you a question in your thread and you never respond...points will be deducted from your weekly discussion points. It is also recommended for you to scan all the threads and read any feedback I am giving other students as that feedback may help you as well.](#)
7. MY Grades tab – you should be able to view your numerical grade here as well as written feedback. I will always provide written feedback. If you cannot view the written feedback please check your email as it is always emailed to you as well. If you do not see a numerical grade either I haven't graded it (I will grade all previous week's work by Wed of the week after it is due if not sooner). If you feel you turned it in and still see not grade email or text me and I will look into it.
8. Late work. Despite what the syllabus says if you are taking a Senior Level undergraduate course or a Graduate Level course with me...as long as you are in communication with me I will NOT deduct point for things that are 1 week late. Anything 1 week late or longer you MUST CALL ME for approval and let me know what is going on in your life. I am a fair and reasonable person and will most likely work something out with you as I want everyone to be successful in the least “stressful” way. This being said, if you are just lazy and waiting to do things last minute, most likely your work will reflect that and so will your grade that you earn. Communication is key to online learning. As long as the technology is working I will NOT be MIA (missing in action). There are multiple ways to communicate with me (cell phone text, call, sul ross email, personal email, and in blackboard under the questions forum in the discussion tab).

Don't worry be happy! Never Settle for Mediocrity in life! And always remember the 6 P's.PRIOR PROPER PLANNING PREVENTS POOR PERFORMANCE!