Summer, 2011 M. G. Fischman

KINE 7650 – ADVANCED MOTOR LEARNING AND PERFORMANCE (3 cr.)
Monday, Wednesday 1:00 – 3:00 PM

Instructor
Dr. Mark G. Fischman, Motor Behavior Center, 1459 Haley.
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Office hours: Mon. – Thurs., 9 – 10 AM. Other times by appointment.

Course Description
Overview of factors affecting the learning and performance of motor skills; review of experimental studies and current issues in motor skill acquisition. This course is an introductory graduate survey of psychomotor behavior. We will study principles of learning and control applied to motor skill performance.

Objectives
To have the student acquire an understanding of the behavioral principles, theories, methods, and experimental literature concerning psychomotor behavior (learning and control) factors relevant to the acquisition, performance, and retention of motor skills.

Textbook
No required textbook for the course. There will be readings for the course that will be posted on Blackboard, or can also be retrieved electronically through the University library's website or available in the library directly.

Prerequisite
Students entering this course should have a basic textbook knowledge of motor learning which is at least equivalent to that given in the undergraduate course *KINE 3650 – Motor Learning and Performance*. Four recommended texts for such knowledge are:

Coker, C. A. (2009). *Motor learning and control for practitioners* (2nd ed.). Scottsdale, AZ: Holcomb Hathaway.

Magill, R. A. (2011). *Motor learning and control: Concepts and applications* (9th ed.). New York: McGraw–Hill.

Rose, D. J., & Christina, R. W. (2006). *A multilevel approach to the study of motor control and learning* (2nd ed.). San Francisco: Pearson Education, Inc.

Schmidt, R. A., & Wrisberg, C. A. (2008). *Motor learning and performance* (4th ed.). Champaign, IL: Human Kinetics.

The first seven lectures (minimum) will cover background material/topics that are relevant to the course.

Requirements and Evaluation

1. 20 pts. = Exam (given around mid–term, **June 27 or 29**)
2. 30 pts. = Term paper (for Option 1 only)
3. 50 pts. = Participation (evidence of thorough reading of all assigned materials, and discussion of them in class. Discussion leader, including a PowerPoint presentation, on a selected article. This component is based, in part, on my subjective evaluation of your understanding of the course content).

Option 1 (100 pts.)	Final Letter Grade
Exam – 20 pts.	90 – 100 = A
Term Paper – 30 pts.	80 – 89.9 = B
Participation – 50 pts.	70 – 79.9 = C
	60 – 69.9 = D
	Under 60 = F

Option 2 (70 pts.)	Final Letter Grade
Exam – 20 pts.	56 – 70 = B
Participation – 50 pts.	49 – 55.9 = C
	42 – 48.9 = D
	Under 42 = F

Note. Choosing to write a term paper does not automatically confer a grade of "A," nor does not doing a paper automatically lead to a grade of "B." It is the quality of the written work, exam, and class participation that determines the final grade.

Class Policy Statements

Unannounced quizzes - There are no unannounced quizzes in this course.

Attendance - It is expected that students taking a graduate class will attend **every** class meeting and actively participate in class discussions. If you must miss class because of illness or other emergency, please try to notify the instructor in advance. You are still responsible for any work missed during an absence.

Plagiarism - Unless explicitly announced by your instructor, there are no group assignments or projects in this course. The mid-term exam and any other written work must reflect the individual efforts of each student.

E-mail - The University requests that all students use their AU e–mail accounts. The easiest way for an instructor to communicate with an entire class is via your AU e–mail address and I ask that you check your e–mail account regularly.

Cell Phones - As a courtesy to everyone, please turn off your cell phone in class. No text-messaging, either.

Disability Accommodations - Students who need accommodations are asked to arrange a meeting during office hours the first week of classes, or sooner if accommodations are needed immediately. If you have a conflict with my office hours, an alternate time can be arranged. To

set up this meeting, please contact me by e–mail. Bring a copy of your Accommodation Memo and an Instructor Verification Form to the meeting. If you do not have an Accommodation Memo but need accommodations, make an appointment with **The Program for Students with Disabilities**, 1228 Haley Center, 844-2096.

Course Calendar

Week Number & Date	Topic and Reading Assignment
1. May 23 & 25	Introduction; course outline; requirements; background material.
2. June 1	Background material; Rosenbaum (2005)
3. June 6	Background material
4. June 13 & 15	Background material; Video: *"Of Men and Machines";* "Memory Drum Theory" articles: Henry & Rogers (1960); Christina (1992); Fischman et al. (2008). **Term paper topic identified.**
5. June 20 & 22	Memory Drum Theory (cont'd.)
6. June 27 & 29	Memory Drum Theory (cont'd.); **EXAM**
7. July 6	Student–selected articles.
8. July 11 & 13	Student–selected articles; **Term paper outline due.**
9. July 18 & 20	Student–selected articles
10. July 25 & 27	Student–selected articles; **Term paper due (2 copies).**

No Class

May 30 (Monday)	—	Memorial Day Holiday
June 8 (Wednesday)	—	NASPSPA Conference (Burlington, VT)
July 4 (Monday)	—	Independence Day Holiday

Reading List (Required Articles):

Rosenbaum, D.A. (2005). The Cinderella of psychology: The neglect of motor control in the science of mental life and behavior. *American Psychologist, 60,* 308–317.

Franklin Henry's Memory Drum Theory and the Mystery of the Response Complexity Effect

Henry, F.M., & Rogers, D.E. (1960). Increased response latency for complicated movements and a "memory drum" theory of neuromotor reaction. *Research Quarterly, 31,* 448–458.

Christina, R.W. (1992). The 1991 C. H. McCloy Research Lecture: Unraveling the mystery of the response complexity effect in skilled movements. *Research Quarterly for Exercise and Sport, 63,* 218–230.

Fischman, M. G., Christina, R. W., & Anson, J. G. (2008). Memory drum theory's C movement: Revelations from Franklin Henry. *Research Quarterly for Exercise and Sport, 79,* 312–318.

Term Paper (30 pts.)

Acceptable topics for term papers

(1) Review of Literature – This is a standard research paper in which the student selects a broad, overall topic related to some aspect of motor learning and performance (such as found in many textbooks), and reads and synthesizes the available research literature (from refereed journals and edited book chapters) on that topic. The paper should be organized around several subtopics related to the main topic, and must contain a conclusions section and recommendations for further research.

Examples of broad topics include, but are not limited to, (1) practice, (2) feedback, (3) transfer of learning, (4) attention, (5) information processing, (6) human factors and ergonomics, (7) speed-accuracy tradeoffs, (8) dynamical systems theory, (9) expertise, (10) other . . .

(2) Mini-Experiment – Select a topic related to motor learning and performance and perform a small experiment in which you take a few participants, gather data, and write a paper using IMRAD format (introduction, method, results, and discussion).

Term papers must be typed according to format of the *Publication Manual of the American Psychological Association* (APA, 6th edition, 2010). The minimum acceptable length of the paper is 20 double–spaced pages (12-pt. font), including the list of references.

Term Paper Due Dates

June 15 –	Topic identified
July 13 –	**Outline** of paper, organized by specific subtopics
July 27 –	Final typed paper (**one hard copy; one electronic**)