

USC Dornsife
College of Letters,
Arts and Sciences

**HBIO400 –Motor Control and Learning (4 units)
Fall 2015**

Lecture: M/W/F 12:00-12:50 p.m.
Location: THH 212

Laboratory:

Location: PED B13

- Section number 38463R
Time 11:00-1:50 p.m.
Day Tuesday
- Section number 38464R
Time 2:00-4:50 p.m.
Day Tuesday
- Section number 38465R
Time 2:00-4:50 p.m.
Day Wednesday
- Section number 38466R
Time 5:00-7:50 p.m.
Day Thursday

Instructor: Gioia Polidori Francisco, PhD
Office: AHF 253
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email: gpolidor@usc.edu
Office Hours: Wednesday 2:00-4:00 pm
Friday 1:30-3:30 pm

Lab Instructor: Gudrun Bára Floyd, M.S.
Office: PED 109b
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Office Hours: TBA

Ted Hsu, M.S.
Office: PED 109
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Office Hours: TBA

Course Description:

Theories and principles of learning applied to gross motor performance; analysis and evaluation of variables affecting learning and performance in exercise, games, sports, and dance.

Learning Objectives

- To develop a deeper comprehension of the cross-disciplinary concepts of motor learning to include physical, physiological, and psychological factors that affect motor skill acquisition, performance, retention and transfer.
- To foster the students' process of identifying, exploring, assessing and solving real world problems through independent study and self-directed group projects that solidify their understanding of the scientific method, and basic scientific principles as they apply to motor learning research.
- To understand and apply the scientific method, including forming hypotheses, designing experiments to test hypotheses, and collecting, analyzing, interpreting, and reporting data.
- To provide sufficient depth of knowledge and skill for entry-level employment in a variety of fields, or for graduate study in the health professions or other biology-related disciplines.

I. Required Texts:

Motor Learning and Performance. 5th edition. Schmidt, R. A., and Wrisberg, C. A. Human Kinetics, Champaign, IL, 2013.

Laboratory Manual for Motor Control and Learning by Matveyenko, M.

II. Grading Outline

Assignment	Points	% of Grade
Midterm 1	200	20
Midterm 2	200	20
Laboratory	250	25
Final	300	30
Quizzes	50	5
TOTAL	1000	100
JEP (Extra Credit)	25	2.5

- The grading scale is based on the traditional scale as follows:

	A (≥93%)	A- (≥90%)
B+ (≥87%)	B (≥83%)	B- (≥80%)
C+ (≥77%)	C (≥73%)	C- (≥70%)
D+ (≥67%)	D (≥63%)	D- (≥60%)
F (≤59.9%)		

III. Description and Assessment of Assignments/Exams

- Class material will be evaluated via quizzes and exams.
- Lab material will be evaluated via lab assignments, projects, presentations and exams.
- Quizzes will be given during lectures and will be based on the material discussed.
- Exams will not be given a letter grade. Only the final grade will be given a letter grade.
- A request to take a make-up midterm exam must be accompanied by evidence of necessity (ie: letter from a doctor) and must be made before the date of the scheduled exam. Make-up exams will be different from the scheduled exam and may be proctored by personnel who do not have extensive knowledge in the area being tested.

IV. Blackboard

- Blackboard will be used to post announcements, handouts, articles, rubrics, deadlines, feedback to quizzes and midterm exams so check this site periodically.
- Lecture slides will be posted on blackboard, however, please do not rely entirely on slides, these are meant as a starting point for note-taking. Class notes and textbook information will form the basis of the material that will be on the exams.

V. Tentative Lecture Schedule

Date	Lecture Topic	Reading	Laboratory
Aug 24	Introduction		Intro
Aug 26	Skills	1	
Aug 28	Motor Skills	1	
Aug 31	Motor Abilities	1	Reaction Time
Sep 2	Measurement of Motor Performance	notes	
Sep 4	Neuromotor basis of motor control	notes	
Sep 7	Labor Day		EEG
Sep 9	Decision Making	2	
Sep 11	Active Learning I (2.1)	2	
Sep 14	Memory Systems	2	Reflexes
Sep 16	Attention	3	
Sep 18	Attention and Performance	3	
Sep 21	Revision		Vision
Sep 23	Midterm I		
Sep 25	Sensory Information	4	
Sep 28	Sensory contribution I	4	Movement Complexity
Sep 30	Sensory contribution II	4	
Oct 2	Active Learning II (4.1)		
Oct 5	Motor Control Theories	5	Progress Report
Oct 7	Motor Control Theories II	5	
Oct 9	Motor Programs	5	
Oct 12	Motor Performance	5	Fitt's Law
Oct 14	Action Preparation	6	
Oct 16	Speed and Accuracy	6	
Oct 19	Coordination	6	Motor Abilities
Oct 21	Individual differences	7	
Oct 23	Revision		
Oct 26	Midterm II		Learning
Oct 28	Motor Learning	8	
Oct 30	Assessment of Motor Learning	8	
Nov 2	Stages of Learning	8	Project
Nov 4	Transfer of Learning	8	
Nov 6	Skill Acquisition	9	
Nov 9	Practice	9	Massed vs. distributed Practice
Nov 11	Organizing and Scheduling Practice	9	
Nov 13	Demonstrations and Instructions	notes	

Nov 16	Augmented Feedback I	11	Feedback
Nov 18	Augmented Feedback II	11	
Nov 20	Active Learning III		
Nov 23	Amount and Distribution of Practice	10	No Lab
Nov 25	Thanksgiving		
Nov 27	Thanksgiving		
Nov 30	Whole and Part Practice	10	Presentations
Dec 2	Mental Practice	10	
Dec 4	Revision		
Dec 5-8	Study Days		
Dec 11	Final 11-1pm		

VI. Statement on Academic Conduct and Support Systems

Academic Conduct

Plagiarism – presenting someone else’s ideas as your own, either verbatim or recast in your own words – is a serious academic offense with serious consequences. Please familiarize yourself with the discussion of plagiarism in *SCampus* in Section 11, *Behavior Violating University Standards* <https://scampus.usc.edu/1100-behavior-violating-university-standards-and-appropriate-sanctions/>. Other forms of academic dishonesty are equally unacceptable. See additional information in *SCampus* and university policies on scientific misconduct, <http://policy.usc.edu/scientific-misconduct/>.

Discrimination, sexual assault, and harassment are not tolerated by the university. You are encouraged to report any incidents to the *Office of Equity and Diversity* <http://equity.usc.edu/> or to the *Department of Public Safety* <http://capsnet.usc.edu/department/department-public-safety/online-forms/contact-us>. This is important for the safety whole USC community. Another member of the university community – such as a friend, classmate, advisor, or faculty member – can help initiate the report, or can initiate the report on behalf of another person. *The Center for Women and Men* <http://www.usc.edu/student-affairs/cwm/> provides 24/7 confidential support, and the sexual assault resource center webpage sarc@usc.edu describes reporting options and other resources.

Support Systems

A number of USC's schools provide support for students who need help with scholarly writing. Check with your advisor or program staff to find out more. Students whose primary language is not English should check with the *American Language Institute* <http://dornsife.usc.edu/ali>, which sponsors courses and workshops specifically for international graduate students. *The Office of Disability Services and Programs* http://sait.usc.edu/academicsupport/centerprograms/dsp/home_index.html provides certification for students with disabilities and helps arrange the relevant accommodations. If an officially declared emergency makes travel to campus infeasible, *USC Emergency Information* <http://emergency.usc.edu/> will provide safety and other updates, including ways in which instruction will be continued by means of blackboard, teleconferencing, and other technology.