

USC Dornsife
College of Letters,
Arts and Sciences

**HBIO400 –Motor Control and Learning (4 units) Spring
2019**

Lecture: M/W/F 1:00-1:50 p.m.

Location: LVL 17

Laboratory:

Location: PED B13

-Section number 38462R

Time 5:00-7:50 p.m.

Day Tuesday

-Section number 38463R

Time 2:00-4:50 p.m.

Day Tuesday

-Section number 38464R

Time 2:00-4:50 p.m.

Day Wednesday

-Section number 38465R

Time 11:00-1:50 p.m.

Day Thursday

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Office Hours: TBD

Lab Instructor: Gudrun Bára Floyd, M.S.

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Office Hours: TBD

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, from principles to application. 5th edition.
Schmidt and Lee Human Kinetics.

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

II. Grading Outline

Assignment	Points	% of Grade
Midterm 1	200	20
Midterm 2	250	25
Laboratory	250	25
Final	250	25
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. Quizzes are intended to be a learning tool and thus are only meant for students that attend lectures. Submitting a quiz from home is considered plagiarism and will be reported to SJACS. Please contact Dr. Polidori if you have to miss a lecture and would like to be excused from taking the quiz.
- 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 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.
- Blackboard automatically calculates a “total grade”, please ignore this as it is not a weighted grade and thus it is an overestimation of the actual grade.

V. Tentative Lecture Schedule

Date	Lecture Topic	Reading	Laboratory
Jan 7	Introduction		Intro
Jan 9	Skills	1	
Jan 11	Motor Skills	1	
Jan 14	Active Learning I		Reaction Time
Jan 16	Measurement of Motor Performance	notes	
Jan 18	Decision Making	2	
Jan 21	MLK Day	2	EEG
Jan 23	Memory Systems	2	
Jan 25	Attention	3	
Jan 28	Attention and Performance	3	Reflexes
Jan 30	Review		
Feb 1	Midterm I	4	
Feb 4	Sensory Information I	4	Vision
Feb 6	Sensory Information II	4	
Feb 8	Sensory Information III	4	
Feb 11	Active Learning II		Movement Complexity
Feb 13	Motor Control Theories I	5	
Feb 15	Motor Control Theories II	5	
Feb 18	Presidents' Day		Progress Report
Feb 20	Motor Control Theories III	5	
Feb 22	Active Learning III		
Feb 25	Speed and Accuracy	5	Fitt's Law
Feb 27	Performance	6	
Mar 1	Coordination	6	
Mar 4	Individual differences I	7	Motor Abilities
Mar 6	Individual differences II	7	
Mar 8	Individual differences III	7	
Mar 11	Spring Recess		No Lab
Mar 13	Spring Recess		
Mar 15	Spring Recess		
Mar 18	Review		Project
Mar 20	Midterm II		
Mar 22	Motor Learning	8	
Mar 25	Assessment of Motor Learning	8	Learning
Mar 27	Transfer of Learning	8	
Mar 29	Stages of Learning	9	
Apr 1	Active Learning IV	9	Massed vs.

Apr 3	Skill Acquisition	9	distributed Practice
Apr 5	Practice	9	
Apr 8	Amount and Distribution of Practice	9	Feedback
Apr 10	Whole and Part Practice	9	
Apr 12	Variable and Constant Practice	10	
Apr 15	Active Learning V	10	Presentations
Apr 17	Instructions and Demonstrations	10	
Apr 19	Mental Practice	10	
Apr 22	Augmented Feedback I	11	
Apr 24	Augmented Feedback II	11	
Apr 26	Review		
Apr 27- 30	Study Days		
	Exam: see schedule of classes		

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/departement-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.