

APK 3200 Motor Learning

Instructor: Dr. Stephen A. Coombes
Email: scoombes@ufl.edu
Office: FLG 170-H
Phone: 352-294-1768
Office Hours: M, W period 2

Section 2792 (Class Number: 10823)
Class Room: FLG 210
Class Days/Time: M, W, F (period 1)

Section 007G (Class Number: 10822)
Class Room: FLG 220
Class Days/Time: M, W, F (period 3)

Course Overview and Objectives

This is an introductory course in motor control and learning. It is designed to provide a basic understanding of theoretical concepts on how we learn to control movement and become skilled at movements. The course will blend behavioral evidence with cutting edge neuroscience research on motor learning and control. Specific learning objectives for the class are as follows:

At the completion of this course, students should:

1. Appreciate various theoretical concepts of how humans control movement and how new movements are learned and retained.
2. Understand factors that can affect the quality of movement performance and learning.
3. Understand the neurological and mechanical processes out of which complex movement behaviors are created.
4. Application of these concepts for therapeutic purposes.

Recommended Textbook

RA Schmidt and TD Lee. *Motor Control and Learning. A Behavioral Emphasis. 5th edition. Human Kinetics. ISBN 0-7360-7961-0*

Additional papers will be provided for specific topics.

General Course Policies

Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found in the online catalog at: <https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>.

Attendance: Make every effort to attend all lectures. Attendance will not directly affect your grade.

Make-up quizzes: Unexcused absences on quiz days will result in a zero on the quiz. If you are ill or have an emergency that prevents you from taking the quiz at the scheduled time, it is your responsibility to contact the instructor as soon as possible. There will be no make-up quizzes. Instead, in case of an excused absence, the following quiz will count twice. Documentation of the illness or emergency will be required for an excused absence.

Accommodations: Students requesting classroom or other special accommodations must first register with the Dean of Students Office—Disability Resource Center (DRC). The Dean of Students Office will provide documentation to the student who must then present the documentation to the instructor when requesting accommodation. For optimal consideration, you must see the professor within the first three days of class.

Technology: The use of cell phones (and the like) is strictly prohibited during lectures and exams. Any cell phone or other electronic device used during an exam will be considered a violation of the student honor code (i.e., cheating) and will result in stiff penalties. Laptop computers are welcome in class as long as you are using it for class-related work. Surfing the web, checking your email, making Facebook posts, or anything of that nature is strictly prohibited. Violation of this policy will result in point deductions at the discretion of the instructor.

Communication: You are responsible for checking announcements and course postings on CANVAS. This is how your course instructor will communicate with you. All course grades will be posted on CANVAS. Any discrepancies should be pointed out to the instructor on or before the last day of finals week.

Academic Honesty: UF students are bound by The Honor Pledge which states, “We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: “On my honor, I have neither given nor received unauthorized aid in doing this assignment.” The Honor Code (<http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/>) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obliged to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor. Any student found violating this honor code will receive a zero for that exam or assignment and may be assigned other educational sanctions at the instructor’s discretion.

COURSE GOALS: The following table describes the UF General Education student learning outcomes (SLOs) and the specific course goals for APK 3200. By the end of this course, students should be able to:

| Gen Ed SLOs | APK 3200 Course Goals | Assessment Methods |
|--|--|--|
| <ul style="list-style-type: none"> Content: Demonstrate competence in the terminology, concepts, methodologies and theories used within the discipline. | <ul style="list-style-type: none"> Appreciate various theoretical concepts of how humans control movement and how new movements are learned and retained. Understand factors that can affect the quality of movement performance and learning. Understand the neurological and mechanical processes out of which complex movement behaviors are created. Application of these concepts for therapeutic purposes. | <ul style="list-style-type: none"> Quizzes Exams |
| <ul style="list-style-type: none"> Critical Thinking: Analyze information carefully and logically from multiple perspectives, using discipline specific methods, and develop reasoned solutions to problems. | <ul style="list-style-type: none"> Predict motor dysfunctions if given the anatomical brain lesion Predict potential causes of deficits in motor control/learning Predict optimal conditions for motor control/learning | <ul style="list-style-type: none"> Quizzes Exams |

Course Examinations and Grading

| Activity/Assignment | Points |
|---------------------|------------|
| 1. Midterm I | 20 |
| 2. Final Exam | 30 |
| 3. Quizzes x 10 | 50 |
| TOTAL POINTS | 100 |

Midterm I: Questions will be based on modules 1-5

Final Exam: Questions will be based on modules 6-10

Quizzes: There will be a total of 10 quizzes. There will be a quiz after each module is completed.

Grades: The total points earned from quizzes and presentation will be summed. There is no curve for this course. Grades will not be rounded up. If you earn a 79.94%, you will receive a C+, not a B-. The following grading scale will be used to assess students in this course. For more detailed information on current UF grading policies, please see the undergraduate catalog web page:

www.registrar.ufl.edu/catalog/policies/regulationgrades

| Letter Grade | Percent of Total Points | GPA Equivalent |
|--------------|-------------------------|----------------|
| A | 94.00-100% | 4.0 |
| A- | 90.00-93.99% | 3.67 |
| B+ | 87.00-89.99% | 3.33 |
| B | 83.00-86.99% | 3.0 |
| B- | 80.00-82.99% | 2.67 |
| C+ | 77.00-79.99% | 2.33 |
| C | 73.00-76.99% | 2.0 |
| C- | 70.00-72.99 | 1.67 |
| D+ | 67.00-69.99% | 1.33 |
| D | 63.00-66.99% | 1.0 |
| D- | 60.00-62.99 | 0.67 |
| E | 0-59.99% | 0 |

Instructor Evaluations: Students are expected to provide feedback on the quality of instruction in this course based on 10 criteria. These evaluations are conducted online at <https://evaluations.ufl.edu>. Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open. Summary results of these assessments are available to students at <https://evaluations.ufl.edu>.

Tentative Lecture Schedule

This is an approximation of what the semester will consist of. This outline is subject to change at any point during the semester. Please make a habit to check the CANVAS announcements regularly as this is where schedule changes will be posted.

- Module 1 - Motor neuroscience methods
- Module 2 - Cortical and subcortical motor system
- Module 3 - Classification and measurements
- Module 4 - Information processing - Stimulus identification/information extraction
- Module 5 - Information processing – Response selection/programming
- Module 6 - Feedback control
- Module 7 - Feedforward control
- Module 8 – Motor control/learning and pain
- Module 9 - Speed/accuracy and coordination
- Module 10 – Conditions of practice

Final

Section 2792 (Class Number: 10823) Tuesday 11th Dec – 8am. Room 210

Section 007G (Class Number: 10822) Wednesday 12th Dec – 12:30pm. Room 220

Phone number and contact site for university counseling services and mental health services: 392-1575, <http://www.counseling.ufl.edu/cwc/Default.aspx>
University Police Department: 392-1111 or 9-1-1 for emergencies