

MOTOR LEARNING

APK3200 ~ 3 ~ SPRING 2022

INSTRUCTOR:	Stephen Coombes, PhD Office: FLG 170-H Office Phone: 352-294-1768 Email: scoombes@ufl.edu Preferred Method of Contact: Canvas
OFFICE HOURS:	Posted on Canvas or by appointment
CLASS NUMBER	21019
MEETING TIME/LOCATION:	T Period 4 (10:40 AM - 11:30 AM) FLG 210 R Period 4 - 5 (10:40 AM - 12:35 PM) FLG 210
ACCESS:	Access course through Canvas on UF e-Learning (https://elearning.ufl.edu/) & the Canvas mobile app by Instructure

COURSE DESCRIPTION: Provides background for understanding, analyzing, and teaching skills in sports and dance. Attention to specific aspects of psychomotor developments and theoretical models of skill acquisition.

PREREQUISITE KNOWLEDGE AND SKILLS: There are no prerequisites for this course. Junior status or higher.

REQUIRED AND RECOMMENDED MATERIALS: The following book is recommended but not required: 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 and made available on canvas.

COURSE FORMAT: The course includes 14 modules. All lectures have been recorded and will be available online. Each week you will complete 1 module. Every module includes recorded lectures, discussion of a research article, a quiz, and most modules also include a lab/experiment. For example, for module 1, the online lectures and materials will be made available on the first day of class. A discussion board for module 1 will be activated at the same time. The instructor will monitor the discussion board and answer questions within the discussion forum. Students are encouraged to collaborate and interact through the message board. In general, each week will follow the same format. Thursday: lab & discussion of research article and module content, following Tuesday = quiz. The next module will be made available after class on Tuesday and will follow the same timeline.

TIMELINE: A timeline that includes the dates of each module, required lab assignments, research articles, quizzes, the mid-term and the final exam is available online through canvas and is also pasted at the bottom of the syllabus.

LABS: Please go the "Lab" page on CANVAS for more specific instructions. In brief, for the laboratory experiments you will need to:

1) Download and install the Motorlab software from the following website:
<https://motorlab.ca/download/>

Each student will be provided with a license code by the instructor to activate the software.

2) Go to the lab page on CANVAS to download and extract the zipped file which has the instructions, activity, and analysis file for ALL labs. You only need to download once. Note: You will have to complete and submit the lab questions each week in class to receive credit for that lab. There will also be questions on the quiz and exams related to the labs.

There will be a mid-term after module 6 and a final exam after module 14.

FINAL EXAM: April 29 2022 | 7:30am - 9:00am

Students are responsible for checking announcements and course postings on Canvas, which may include updates to the course schedule.

COURSE LEARNING OBJECTIVES: Upon completion of this course, students will be able to:

1. Differentiate and explain learning theories applicable to skill acquisition and retention
2. Apply knowledge of instructional strategies for basic skill acquisition

3. Appraise current evidence and trends in motor learning and motor control
4. Recognize general (classic) research paradigms used in motor learning and control research

COURSE AND UNIVERSITY POLICIES:

ATTENDANCE POLICY: Students are expected to watch every lecture and read and watch all additional materials provided online through the course shell. While there are no points specifically for attendance, points can be obtained by completing the lab questions and quizzes in class. Note that labs and quizzes cannot be completed remotely. Make-up quizzes and exams will be given at the discretion of the instructor. To schedule a make-up quiz or exam, please fill out the make-up exam request form posted in Canvas and e-mail it to your course instructor. The form is available for download through the CANVAS syllabus page. Documentation will be required. Unexcused missed quizzes/labs/exams will result in a zero on that item (this includes contacting the instructor after the exam if you are ill). Please make travel arrangements accordingly, as this is not an excusable activity. If you have a serious emergency or life event, please contact the Dean of Students Office (www.dso.ufl.edu (Links to an external site.)) and they will contact your instructor so that you do not have to provide documentation to individual instructors to make-up a quiz or exam. 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/UGRD/academic-regulations/attendance-policies/>

PERSONAL CONDUCT POLICY: Students are expected to exhibit behaviors that reflect highly upon themselves and our University. Please read and refer to the syllabus. Please use professional and courteous standards for any exchanges with peers or the instructor via e-mails and online tools (e.g., discussion boards). 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. This includes sharing content between class sections, including quizzes and final exam. Honor code violations of any kind will not be tolerated and sanctions will be determined by the course instructor.

Furthermore, you are obliged to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult the instructor in this class.

NETIQUETTE AND COMMUNICATION COURTESY: All members of the class are expected to follow [rules of common courtesy](#) in all email messages, threaded discussions, and chats.

ACCOMMODATING STUDENTS WITH DISABILITIES: Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the Disability Resource Center by visiting their Get Started page at <https://disability.ufl.edu/students/get-started/>. It is important for students to share their accommodation letter with their instructor and discuss their access needs, as early as possible in the semester. You must submit this documentation prior to submitting assignments or taking the quizzes or exams. Accommodations are not retroactive; therefore, students should contact the office as soon as possible in the term for which they are seeking accommodations.

COURSE EVALUATIONS: Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at <https://gatorevals.aa.ufl.edu/students/>. Students will be notified when the evaluation period opens and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via <https://ufl.bluera.com/ufl/>. Summaries of course evaluation results are available to students at <https://gatorevals.aa.ufl.edu/public-results/>.

MINIMUM TECHNICAL SKILLS: To complete your tasks in this course, you will need a basic understanding of how to operate a computer, and how to use word processing software.

ZOOM: Zoom is an easy to use video conferencing service available to all UF students, faculty, and staff that allows for meetings of up to 100 participants. You can find resources and help using Zoom at <https://ufl.zoom.us>.

PRIVACY: Our class sessions may be audio visually recorded for students in the class to refer back and for enrolled students who are unable to attend live. Students who participate with their camera engaged or utilize a profile image are agreeing to have their video or image recorded. If you are unwilling to consent to have your profile or video image recorded, be sure to keep your camera off and do not use a profile image. Likewise, students who un-mute during class and participate orally are agreeing to have their voices recorded. If you are not willing to consent to have your voice recorded during class, you will need to keep your mute button activated and communicate exclusively using the "chat" feature, which allows students to type questions and comments live. The chat will not be recorded or shared. As in all courses, unauthorized recording and unauthorized sharing of recorded materials is prohibited.

GETTING HELP:

Health and Wellness

- U Matter, We Care: If you or a friend is in distress, please contact umatter@ufl.edu or 352 392-1575
- Counseling and Wellness Center: <https://counseling.ufl.edu/>, 352-392-1575
- Sexual Assault Recovery Services (SARS) - Student Health Care Center, 392-1161
- University Police Department, 392-1111 (or 9-1-1 for emergencies)
<http://www.police.ufl.edu/>

Academic Resources

- E-learning technical support, 352-392-4357 (select option 2) or e-mail to Learning-support@ufl.edu. <https://lss.at.ufl.edu/help.shtml>
- Career Connections Center, Reitz Union, 392-1601. Career assistance and counseling. <https://career.ufl.edu/>
- Library Support, <http://cms.uflib.ufl.edu/ask>. Various ways to receive assistance with respect to using the libraries or finding resources.
- Teaching Center, Broward Hall, 392-2010 or 392-6420. General study skills and tutoring. <http://teachingcenter.ufl.edu/>
- Writing Studio, 302 Tigert Hall, 846-1138. Help brainstorming, formatting, and writing papers. <http://writing.ufl.edu/writing-studio/>
- Student Complaints On-Campus: <https://sccr.dso.ufl.edu/policies/student-honor-code-student-conduct-code/> On-Line Students Complaints: <http://distance.ufl.edu/student-complaint-process/>

GRADING:

Activity/Assignment	Points
1. Midterm Exam	20
2. Final Exam	25
3. Quizzes x 14	35
4. Labs	20
TOTAL POINTS	100

MIDTERM: Questions will be based on modules 1-6. The midterm exam will consist of 40 multiple-choice and true-false questions, each worth 0-5 points, for a total of 20 points. Students are not permitted access to any kind of materials or notes during this assessment. Questions are generated by the course instructor and the majority of focus should be given to the lecture notes and labs when studying. All assessments will be

taken through canvas using the lockdown browser. Students will be allowed 50 minutes to complete the midterm exam.

FINAL EXAM: Questions will be based on modules 7-14. The final exam will consist of 40-50 multiple-choice and true-false questions, each worth 0.25 to 1.0 point for a total of 25 points. Students are not permitted access to any kind of materials or notes during this assessment. Questions are generated by the course instructor and the majority of focus should be given to the lecture notes and labs when studying. All assessments will be taken through canvas using the lockdown browser. Students will be allowed 70 minutes to complete the final exam.

QUIZZES: There will be a total of 14 quizzes. There will be a quiz after each module is completed. Each quiz will consist of 5-10 questions, for a total of 2.5 points per quiz. Questions will be multiple choice and true/false. Students are not permitted access to any kind of materials or notes during these assessments. Questions are generated by the course instructor and the majority of focus should be given to the lecture notes and labs when studying. All assessments will be taken through canvas using the lockdown browser. Students will be allowed 10 minutes to complete the quiz.

LABS: There will be a total of 10 labs. Labs will be completed during classtime and students will submit lab answers to the lab questions at the end of class. Each lab will be worth 2 points for a total of 20 points. Specific details for the labs can be found [here](#).

EXTRA CREDIT: No extra credit is offered in this course.

GRADING SCALE: Quiz and exam scores be uploaded directly into canvas following the completion of each assessment. Any discrepancies with points displayed in the gradebook must be brought to the attention of the instructor as soon as possible, or before the last day of class. There is no curve for this course and final grades will not be rounded up. More detailed information regarding current UF grading policies can be found here: <https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/>. *Any requests for additional extra credit or special exceptions to these grading policies will be interpreted as an honor code violation (i.e., asking for preferential treatment) and will be handled accordingly.*

Letter Grade	Percent of Total Points Associated with Each Letter Grade	GPA Impact of Each Letter Grade
A	94.00-100%	4
A-	90.00-93.99%	3.7
B+	87.00-89.99%	3.3
B	84.00-86.99%	3

B-	80.00-83.99%	2.7
C+	77.00-79.99%	2.3
C	74.00-76.99%	2
C-	70.00-73.99%	1.7
D+	67.00-69.99%	1.3
D	60.00-66.99%	1
E (F)	0-59.99%	0

WEEKLY COURSE SCHEDULE:

Month	Date	Day	Module
Jan	8	Thursday	1 Intro
Jan	11	Tuesday	1 EEG Demo Lab
Jan	13	Thursday	1 Sarnthein et al. -2006- Increased EEG power and slowed dominant frequency in patients.pdf
Jan	18	Tuesday	1 Quiz 1
Jan	20	Thursday	2 Bimanual Coordination Lab
			2 Liu et al. -2020- Evidence for an effector-independent action system from people born without hand.pdf
Jan	25	Tuesday	2 Quiz 2
Jan	27	Thursday	3 Error calculation lab
			3 Error calculation lab
Feb	1	Tuesday	3 Quiz 3
Feb	3	Thursday	4 Probe reaction time / stimulus-intensity effect
			4 Post et al. -2011- Self Controlled Amount of Practice Benefits Learning of a Motor Skill.pdf
Feb	8	Tuesday	4 Quiz 4
Feb	10	Thursday	5 Memory / Simon Effect
			5 Hutchinson et al. - 2016 - Action video game training reduces the Simon Effect.pdf
Feb	15	Tuesday	5 Quiz 5
Feb	17	Thursday	6 Donders subtractive method / Stim response compatibility
			6 Turilli et al. - 2016 - Beta band modulations underlie action representations for movement planning.pdf
Feb	22	Tuesday	6 Quiz 6
Feb	24	Thursday	mid-term
Mar	1	Tuesday	7 Visual-auditory RT
Mar	3	Thursday	7 Murrer, Murrer, Müller - 2015 - Neural correlates of error prediction in a complex motor task.pdf
			7 Quiz 7
Mar	8	Tuesday	Spring break
Mar	10	Thursday	Spring break
Mar	15	Tuesday	8 Quiz 8
Mar	17	Thursday	9 Slater-Hammel Anticipation timing
			9 Knapp, Taub, Bierman - 1963 - Movements in monkeys with deafferented forelimbs.pdf
Mar	22	Tuesday	9 Quiz 9
Mar	24	Thursday	10 Fitts Law
			10 Professional schools lecture
Mar	29	Tuesday	10 Quiz 10
Mar	31	Thursday	11 Feedback/KR
			11 Sherwood, Biedwidth, 1988.pdf
April	5	Tuesday	11 Quiz 11
April	7	Thursday	12 Contextual Interference / Practice variability
			12 Wu - 2011 - Contextual interference and augmented feedback: Is there an additive effect for motor learning?.pdf
April	12	Tuesday	12 Quiz 12
April	14	Thursday	13 & 14 Paris et al. - 2013 - Effects of a force production task and a working memory task on pain perception. -The Journal of pain official journal of the International Association for the Study of Pain.pdf
			13 & 14 Atzori - 2014 - Natural control capabilities of robotic hands by hand amputated subjects.pdf
April	19	Tuesday	13 & 14 Quiz 13 and 14
April	29	Friday	FINAL - 7:30AM - 9:30AM

INCLUSIVITY, DIVERSITY, EQUITY, AND ACCESSABILITY RESOURCES

For suggestions or concerns related to IDEA, please reach out to any of the following:

- Dr. Rachael Seidler, APK Graduate Coordinator, rachaelseidler@ufl.edu

- Dr. Joslyn Ahlgren, APK Undergraduate Coordinator, jahlgren@ufl.edu

SUCCESS AND STUDY TIPS:

Please recognize that people learn in different ways and there is no judgement on how you study (i.e. highlighting the textbook, using YouTube, drawing figures).

Nevertheless, here are some tips for success and studying in this course that appear to prove useful for the majority:

- The suggested (but not required) textbook can be helpful to some but is not required for success in the course. All quizzes and exams will be based on material provided in lectures, discussions, and articles.
- Engage with your peers and engage in the discussion forum. We are one another's greatest resources for learning.
- Look up material that inspires you. If we are talking about internal versus external focus and you want to apply it to your sport of choice – look it up and read about it or watch a video clip! Chances are, this will add to your depth of learning and better allow you to apply the principle to your future endeavors and interests!
- Check Canvas for announcements.
- Do not watch the lectures last minute. Watch them in advance and use the discussion forum to ask questions and prepare for the quiz/exams. The goal of the quiz is to encourage you to stay on top of the material so you are well prepared for the mid-term and final.
- Things happen. That's life. If there are some majorly overwhelming things happening during your semester, send me an email; we'll work together to figure out what steps you should take to help get you through the course.