Motor Learning

APK3200 | Class # 27366 | 3 Credits | Spring 2025

Department of Applied
Physiology and Kinesiology
College of Health and Human Performance
UNIVERSITY *of* FLORIDA

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Course Info

INSTRUCTOR	**Daphne Schmid, Ph.D.** Office: FLG 106-E Email: daphs03@ufl.edu Preferred Method of Contact: email
OFFICE HOURS	Tuesday/Thursday 8:30 – 10:00 AM or by appointment *PLEASE NOTE: Office hours will be held in person unless otherwise indicated by the instructor.
MEETING TIME/LOCATION	CSEE 221 MWF, period 2, 8:30 AM-9:20 AM

COURSE DESCRIPTION

Provides background for understanding, analyzing, and teaching motor skills. Attention is given to specific aspects of psychomotor development and theoretical models of skill acquisition.

PREREQUISITE KNOWLEDGE AND SKILLS

Junior standing or higher and APK major

REQUIRED AND RECOMMENDED MATERIALS

Recommended Textbook: Motor Control and Learning: A Behavioral Emphasis by Schmidt. Lee, Winstein, Wulf, and Zelaznik. Copyright Human Kinetics 2019, 6th edition. ISBN: 9781492547754

Additional materials will be provided on the course website via Canvas. Students will be informed when to bring materials to class OR materials will be provided by the instructor.

COURSE FORMAT

Students will attend live, in-person lectures three times each week. In the case of a guest lecturer, some classes may be held on Zoom or another online meeting platform for ease of communication. Students will be notified ahead of class if this occurs.

COURSE LEARNING OBJECTIVES:

1. To become familiar with the theoretical basis of movement control and motor learning.
2. To demonstrate basic knowledge of key content areas of skill acquisition and motor behavior.

3. To design practical instructional programs that promote the acquisition and maintenance of learned motor behavior.
4. To identify individual difference factors that mediate skill learning and performance.
5. To recognize general (classic) research paradigms used in motor learning and control research.

Course & University Policies

ATTENDANCE

Attendance is not required *but is strongly encouraged*. Due to the course content, students may be asked to perform motor tasks (if they are able) to participate in active learning activities. Students are responsible for all material presented in class and any material posted on the Canvas page. Lectures will not be recorded, so it is the student's responsibility to get notes from a classmate following an absence. Exam questions will be derived from lecture material presented in class, assigned readings, and online material.

PERSONAL CONDUCT & ACADEMIC INTEGRITY

University of Florida students are bound by the Honor Pledge. On all work submitted for credit by a student, the following pledge is required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment." The Student Honor Code and Conduct Code (Regulation 4.040) specifies a number of behaviors that are in violation of this code, as well as the process for reported allegations and sanctions that may be implemented. All potential violations of the code will be reported to Student Conduct and Conflict Resolution. If a student is found responsible for an Honor Code violation in this course, the instructor will enter a Grade Adjustment sanction, which may be up to or including failure of the course.

APPROPRIATE USE OF AI TECHNOLOGY

The UF Honor Code strictly prohibits *cheating.* The use of any materials or resources prepared by another person or Entity (inclusive of generative AI tools) without the other person or Entity's express consent or without proper attribution to the other person or Entity is considered *cheating.* Additionally, the use of any materials or resources, through any medium, which the Faculty / Instructor has not given express permission to use and that may confer an academic benefit to a student, constitutes *cheating*.

The use of AI tools will facilitate student development of skills and knowledge acquisition within the stated learning objectives of the course and are permitted in this course. When students opt to leverage AI tools to augment their submitted products, they will be expected to appropriately cite the tool(s) utilized. Further, students will be held accountable under the scope of the UF Student Honor Code & Conduct Code for the content of all work they submit (including the portions that may have been produced in part or whole by an external Entity—including AI). Thus, students should engage in active editorial and underwriting efforts to ensure the totality of the work submitted.

In addition:
1. Phones must be turned to silent or off during all lectures and exams. They should never be visible during an exam and, if seen, will be looked upon as an attempt to use it, resulting in an academic honesty violation

2. Students will be expected to respect the instructors and all students in the class. Students behaving disrespectfully (talking during lectures, making inappropriate or threatening statements to instructor or students, using phones in class, etc.) will be dismissed from the lecture or exam. All university regulations governing student behavior will be enforced.

3. Lectures will begin at the scheduled times. Students will be expected to arrive on-time, and in the event of tardiness, to enter the room with as little disruption as possible.

4. Lecture notes posted on the class website are the property of the instructor. They are posted solely for students in this course and solely to facilitate note-taking and studying. No part of the materials may be re-distributed, reproduced, or used for any purpose other than note-taking and studying.

IN-CLASS RECORDING

Students are allowed to record video or audio of class lectures. However, the purposes for which these recordings may be used are strictly controlled. The only allowable purposes are (1) for personal educational use, (2) in connection with a complaint to the university, or (3) as evidence in, or in preparation for, a criminal or civil proceeding. All other purposes are prohibited. Specifically, students may not publish recorded lectures without the written consent of the instructor.

EXAM MAKE-UP POLICY

Unexcused availability for exams will result in a zero on the exam. Students who are ill or have an emergency that prevents them from taking the exam during the time available are responsible for contacting the instructor before the exam takes place. **Make-up exams are offered at the discretion of the instructor given that there is a medical, family, or other emergency that deems the need for a make-up.** Requirements for make-up exams, assignments, and other work are consistent with university policies that can be found in the online catalog at: https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx. Make-up exams must be scheduled within 7 days of the initial exam date.

A student experiencing an illness should visit the UF Student Health Care Center to seek medical advice and obtain documentation. Canvas: A ticket number received from UFIT Helpdesk must accompany requests for make-ups due to technical issues (see Academic Resources below). The ticket number will document the time and date of the problem. The request may not be granted if the time and date are past the assignment deadline. You must e-mail your instructor within 24 hours of the technical difficulty if you wish to request a make-up.

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. When the student communicates accommodation requests through the DRC, the instructor will make adjustments as necessary to best support the student. However, no retroactive alterations to prior assessments will be permitted.

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://my-ufl.bluera.com/. Summaries of course evaluation results are available to students at https://gatorevals.aa.ufl.edu/public-results/.

Getting Help

HEALTH & WELLNESS

- *U Matter, We Care:* If you or someone you know is in distress, please contact umatter@ufl.edu, 352-392-1575, or visit U Matter, We Care website to refer or report a concern and a team member will reach out to the student in distress.

- **Counseling and Wellness Center**: Visit the Counseling and Wellness Center website or call 352-392-1575 for information on crisis services as well as non-crisis services.
- **Student Health Care Center**: Call 352-392-1161 for 24/7 information to help you find the care you need, or visit the Student Health Care Center website.
- **University Police Department**: Visit UF Police Department website or call 352-392-1111 (or 9-1-1 for emergencies).
- **UF Health Shands Emergency Room / Trauma Center**: For immediate medical care call 352-733-0111 or go to the emergency room at 1515 SW Archer Road, Gainesville, FL 32608; or visit the UF Health Emergency Room and Trauma Center website.
- **GatorWell Health Promotion Services**: For prevention services focused on optimal wellbeing, including Wellness Coaching for Academic Success, visit the GatorWell website or call 352-273-4450.

ACADEMIC RESOURCES

- **E-learning technical support**: Contact the UF Computing Help Desk at 352-392-4357 or via e-mail at helpdesk@ufl.edu.
- **Career Connections Center**: Reitz Union Suite 1300, 352-392-1601. Career assistance and counseling services.
- **Library Support**: Various ways to receive assistance with respect to using the libraries or finding resources.
- **Teaching Center**: Broward Hall, 352-392-2010 or to make an appointment 352- 392-6420. General study skills and tutoring.
- **Writing Studio**: 2215 Turlington Hall, 352-846-1138. Help brainstorming, formatting, and writing papers.
- **Student Complaints & Grievances**: Students are encouraged to communicate first with the involved person(s), but here is more information on the appropriate reporting process.

APK ADMINISTRATORS

For suggestions or concerns related to APK courses or programming, please reach out to any of the following:
- Dr. David Vaillancourt (he/him), APK Department Chair, vcourt@ufl.edu
- Dr. Demetra Christou (she/her), APK Department Vice Chair, ddchristou@hhp.ufl.edu
- Dr. Steve Coombes (he/him), APK Graduate Coordinator, rachaelseidler@ufl.edu
- Dr. Joslyn Ahlgren (she/her), APK Undergraduate Coordinator, jahlgren@ufl.edu

Grading

General Guidelines: All assignments uploaded to canvas should be in the form of a word document or a pdf and follow the following formatting guidelines: double-spaced, Times New Roman or Calibri 12-point font , 1" margins. No late work is accepted except under extreme extenuating circumstances as deemed appropriate by the instructor.

Exams: There will be a total of three exams given throughout the semester. Each exam will be worth 24 % of your final grade. You will be told in class exactly what content you will be expected to learn for each exam, as none of the exams are cumulative. Exams generally consist of 2/3 multiple choice or true-false questions and 1/3 fill-in-the-blank or short answer questions. Exam dates are listed in the syllabus on the course schedule page. You must take the exam in person during your regularly scheduled class time (i.e., the section you are assigned to in ONE.UF) unless prior arrangements were made with the instructor or with the DRC. Students are expected to come prepared with a personal computer that they can use to complete the exam.

Application Assignments: These assignments aim to help you synthesize and apply all of the information from the semester into guidelines outlining an instructional strategy. They aim to help you feel more capable of translating the information we cover in the classroom to a real-world scenario. Across four writing assignments,

you will describe how you prepare to teach a skill, how you introduce the skill to the novice, how you will measure skill performance, and how you modify training conditions as the learner transitions through the three phases of the learning curve: novice, intermediate, and advanced. Grades will be based on content accuracy, understanding of skill progression, and writing and grammar. Assignment instructions and rubrics will be uploaded to Canvas, explaining the details of this task.

Introduction Paper: The first week of class, students will be asked to write a short, informal paper (one-page, 12 point, double-spaced, Times New Roman, 1" margins) in which they address the following points:
1. Share a little about yourself and what made you take this course.
2. What do you look forward to learning about in this course? Is there a topic not mentioned in the course outline that you'd like to be included in the course?
3. Before this course, what knowledge (if any) did you have of Motor Learning?
4. How do you see yourself applying the content you learn in this course to your future goals or career?

Up to 2 points will be awarded based on communication (25%: A clear, compelling, respectful, and effective communication of the questions you are asked to address in the reflection), connection (25%: A thoughtful, profound, and insightful connection of the course learning experiences to previous learning), content (25%: A detailed and thorough response to each of the questions you are asked to address, as well as meeting the 1-page minimum), and critical thinking (25%: An insightful and perceptive analysis of the learning experience and its value to the student's personal and professional growth).

Extra Credit: Throughout the semester, students will be asked to participate in labs and activities during class time. Each activity provides students with unique opportunities to engage with the material and actively participate in a learning session with their peers. Students will be made aware of these activities before they occur, and the instructor will encourage attendance and engagement. Extra credit opportunities may be offered for participation in these activities. Accommodations will be made for students who cannot participate and have submitted requests through the DRC as needed.

Evaluation Components (number of each)	Approximate % of Total Grade
Exams (3)	75%
Application Assignments (4)	20%
Introduction paper (1)	5%

Grade Breakdown

Exams — 75.00%
Application Assignments — 20.00%
Introduction Paper — 5.00%
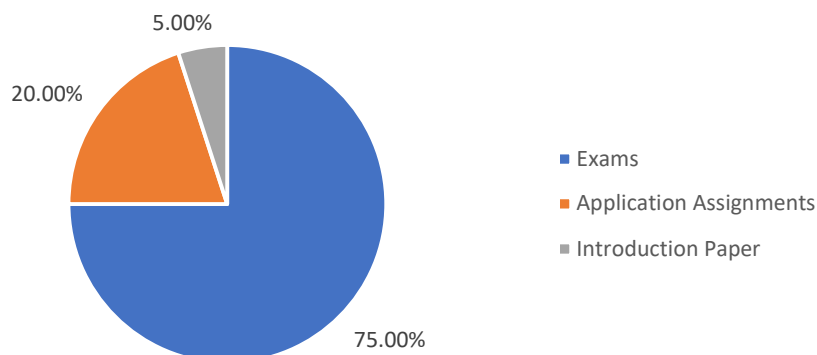
Any discrepancies with points displayed in the Canvas gradebook should be pointed out to the instructor *before* the third exam. There is no curve for this course. More detailed information regarding current UF grading policies can be found here. Any requests for additional extra credit or special exceptions to these grading policies will be respectfully ignored."

Letter Grade	Points Needed to Earn Each Letter Grade	Percent of Total Points Associated with Each Letter Grade	GPA Impact of Each Letter Grade
A	≥ 630	90.00-100%	4.0
A-			3.67
B+	609-629.99	87.00-89.99%	3.33
B	560-608.99	80.00-86.99%	3.0
B-			2.67
C+	539-559.99	77.00-79.99%	2.33
C	490-538.99	70.00-76.99%	2.0
C-			1.67
D+	469-489.99	67.00-69.99%	1.33
D	420-468.99	60.00-66.99%	1.0
D-			0.67
E	≤ 419.99	0-59.99%	0

Weekly Course Schedule

CRITICAL DATES & UF OBSERVED HOLIDAYS
- January 20: Martin Luther King, Jr. Day (Monday)
- March 17 – 21: UF Spring Break (Monday - Friday)
- April 24, 25: UF Spring Semester Reading Days (Thursday – Friday)

WEEKLY SCHEDULE
***The weekly schedule below is tentative. Adjustments may be made as needed. Refer to the Canvas page for the most up-to-date schedule.

January	13	Syllabus
	15	Introduction to Motor Learning and Basic Skill Classifications
	17	Introduction to Motor Learning and Basic Skill Classifications
	20	no class MLK day
	22	Conceptual Models of Human Movement
	24	Conceptual Models of Human Movement
	27	Cognition and Information Processing
	29	Cognition and Information Processing
	31	Cognition and Information Processing
February	3	Physiology of Movement
	5	Physiology of Movement (Application Assignment 1 Due by 11:59 PM)
	7	Physiology of Movement
	10	Exam 1

	12	Stimuli Processing and Schema Development
	14	Stimuli Processing and Schema Development
	17	Hick's Law and Fitts' Law
	19	Psychological Refractory Period and Fakes
	21	Psychological Refractory Period and Fakes
	24	Task Analysis
	26	Task Analysis
	28	Optimal Challenge, Task difficulty, IZOF
March	3	Optimal Challenge, Task difficulty, IZOF (Application Assignment 2 Due by 11:59 PM)
	5	Motivational Theories of Motor Learning
	7	Motivational Theories of Motor Learning
	10	Lab
	12	Exam 2
	14	Individual Differences/Adapted ML
	17	Spring Break - No class
	19	Spring Break - No class
	21	Spring Break - No class
	24	Instructional Methods and Conditions of Practice (guest speaker)
	26	Instructional Methods and Conditions of Practice (lab)
	28	Instructional Methods and Conditions of Practice (lab)
	31	Instructional Methods and Conditions of Practice (lab)
April	2	Variation and Contextual Interference (Application Assignment 3 Due by 11:59 PM)
	4	Variation and Contextual Interference
	7	Feedback
	9	Feedback (in-class lab)
	11	Feedback (in-class lab)
	14	Feedback
	16	Measuring Motor Learning/ Retention and Transfer
	18	Measuring Motor Learning/ Retention and Transfer
	21	Lab
	23	Exam 3
	25	(Application Assignment 4 Due by 11:59 PM)