

UNIVERSITY OF FLORIDA
Department of Applied Physiology and Kinesiology
APK 4115: NEUROMUSCULAR ASPECTS (CLASS #10698)
Fall 2018, MWF 3:00 – 3:50 PM (Period 8), FLG 210

- Instructor:** Diba Mani, Ph.D.
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Office: FLG 131
Office Hours: Mondays 4:00 – 5:00 PM and by appointment
- Prerequisites:** APK 3110C — Completed with a grade of C or better
- Required text:** Enoka RM. *Neuromechanics of Human Movement* 5th edition. Champaign, IL: Human Kinetics, 2015.
Lecture notes and articles will be provided throughout the term.
- Overview:** Course description: Designed to provide an in-dept analysis of muscle structure and function; how muscles produce movement; adaptation of muscle to resistance training, endurance training, and various manipulations used in rehabilitation; adaptation of muscle to disuse; and muscle responses to injury.
- Communication:** Students are responsible for checking announcements and course postings on E-Learning. Grade discrepancies must be discussed with the instructor as they appear, but no later than the last day of class. When e-mailing the instructor, please clarify the course in the subject line (i.e. APK 4115, Neuromuscular Aspects).
- Grading:** Your final grade is based on scores earned on the exams, quizzes, and presentations. There is no curve; grades will not be rounded up.
1. **Midterm** (20 points) The midterm exam is scheduled for Monday, October 15 during the regular lecture time. It will include topics discussed up to this time. There will also be a take-home article component that will be distributed at the completion of the in-class exam on Monday for completion by the start of lecture on Monday, October 22.
 2. **Final** (20 points) The final exam is scheduled for Monday, December 10, from 10:00 AM to 12:00 PM (noon). It will have cumulative aspects but focus on material discussed since the midterm exam.
 3. **Quizzes** (30 points) Quizzes will comprise a series of questions to be answered closed-book in the classroom. Material will be based on the topics discussed in the lecture. There will be no make-up quizzes. Rather, of a total of nine quizzes, your lowest three scores will be dropped to accommodate (inclusive of university-sanctioned events, religious observances, etc.). Thus, you'll have six quizzes worth five points each that will be included in your grade.

4. Supplemental Learning Experiences (15 points) – These take-home activities are designed to allow students to expand and elaborate on topics discussed in lecture in a more hands-on method. Each activity is due at the start of the next class meeting (Mondays), and are worth 5 points each.
5. Presentation (10 points) The presentation will be based on an original research article or topic assigned to a group of 2-3 students. In the first week of class, students will sign up for groups and presentation days. Presentation formats should be in PowerPoint, and should be kept to about 15 minutes in duration. Advice: practice the presentation in advance. Grade evaluation forms will be presented prior to the start of presentations, and will comprise grades for conciseness, clarity, and information, provided by both the instructor and your group peers (each person in a group will grade one another based on contribution to the presentation). The total grade for your presentation will be 8 points from the instructor and 2 points from your peers (based on the average grade scored by the others in your group).
6. Participation (5 points) On presentation days, each student will submit two questions per article, and develop a figure to explain a key point from the article. These questions should be typed and printed, and be quality, relevant inquiries that demonstrate thought.

Grading is in alignment with University of Florida policies:

<https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>. Grade distribution in this course:

A	93 points (93.00 – 100% of total points)
A–	90 points (90.00 – 92.99% of total points)
B+	87 points (87.00 – 89.99% of total points)
B	83 points (83.00 – 86.99% of total points)
B–	80 points (80.00 – 82.99% of total points)
C+	77 points (77.00 – 79.99% of total points)
C	73 points (73.00 – 76.99% of total points)
C–	70 points (70.00 – 72.99% of total points)
D+	67 points (67.00 – 69.99% of total points)
D	63 points (63.00 – 66.99% of total points)
D–	60 points (60.00 – 62.99% of total points)
F	< 60 points (0 – 59.99% of total points)

Honor code:

All University of Florida students are responsible for knowing and adhering to the University academic integrity policy. Students found to be in violation of the academic integrity policy will be reported and may be subject to sanctions.

It is a violation of the honor code (<http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/>) to obtain copies of assignments, exams, or quizzes for this course from individuals or vendors who distribute such material.

Accommodations: If you have a disability that needs to be accommodated, you must register with the Dean of Students Office – Disability Resource Center (DRC), who will determine the necessary accommodations based on your documented disabilities. Documentation will ideally be presented to the instructor within the first week of class for optimal consideration.

Other accommodations (i.e. academic, religious observances) may be considered if presented within the first week of class. Notes beyond those distributed by the instructor may be acquired from a colleague. Quizzes may not be made up, and absence will result in a 0. However, the three lowest quiz scores will be dropped to automatically adjust for any needs that may come up during the term (further need *must* be discussed with the instructor within the first week of class).

Attendance: Requirements for class attendance and make-up work in this course are consistent with University of Florida policies: <https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>.

Course material: Course material beyond the textbook is available via E-Learning.

Evaluations: Students are expected to provide feedback on the quality of instruction in this course. These are conducted online at <https://evaluations.ufl.edu>, and are typically open during the last 2-3 weeks of the semester.

Objectives: The learning goal for the course is to enable you to integrate knowledge (discuss, explain, and defend subject matter) relevant to neuromuscular physiology. Specifically, on the structure and function of the nervous and muscular systems. Beyond this, the ability to demonstrate proficiency in presenting and explaining relevant concepts in a professional manner is vital.

Counseling: The contact site for university counseling services and mental health services: <http://www.counseling.ufl.edu/cwc/Default.aspx>. The University Police Department can be reached via 392-1111 or 9-1-1 for emergencies.

Tentative course schedule:

The following approximates the planned schedule for this term's course (subject to change, will be announced in class and/or via E-Learning).

Week	Date	Topic
1	Wed, August 22	Syllabus, Scientific Data
	Fri, Aug 24	Introduction to the Motor System
2	Mon, Aug 27	Activation Signals, Synaptic Transmission
	Wed, Aug 29	Simulations
	Fri, Aug 31	Quiz 1
3	Mon, September 3	Labor Day – No Class
	Wed, Sept 5	Muscle Anatomy
	Fri, Sept 7	Take-Home Supplemental Learning Experience 1
4	Mon, Sept 10	Muscle Mechanics
	Wed, Sept 12	Presentation 1
	Fri, Sept 14	Quiz 2
5	Mon, Sept 17	Motor Units I
	Wed, Sept 19	Presentation 2
	Fri, Sept 21	Quiz 3
6	Mon, Sept 24	Motor Units II (Demo)
	Wed, Sept 26	Presentation 3
	Fri, Sept 28	Quiz 4
7	Mon, October 1	(Neural) Task Control (of Force)
	Wed, Oct 3	Presentation 4
	Fri, Oct 5	Quiz 5
8	Mon, Oct 8	Voluntary Actions
	Wed, Oct 10	Presentation 5
	Fri, Oct 12	Quiz 6
9	Mon, Oct 15	Midterm Examination
	Wed, Oct 17	Midterm Examination Article
	Fri, Oct 19	Take-Home Supplemental Learning Experience 2
10	Mon, Oct 22	Reflexes
	Wed, Oct 24	Presentation 6
	Fri, Oct 26	Quiz 7
11	Mon, Oct 29	Fatigue
	Wed, Oct 31	Presentation 7
	Fri, November 2	Homecoming – No Class
12	Mon, Nov 5	Aging
	Wed, Nov 7	Presentation 8
	Fri, Nov 9	Quiz 8
13	Mon, Nov 12	Veteran's Day – No Class
	Wed, Nov 14	Motor Learning
	Fri, Nov 16	Plasticity
14	Mon, Nov 19	Take-Home Supplemental Learning Experience 3
	Wed, Nov 21	Thanksgiving – No Class
	Fri, Nov 23	Thanksgiving – No Class
15	Mon, Nov 26	Proprioception (Kinesthesia)
	Wed, Nov 28	Presentation 9
	Fri, Nov 30	Quiz 9
16	Mon, December 3	Locomotion or Stretching
	Wed, Dec 5	Review
17	Mon, Dec 10	Final Examination