

APK 4115
Neuromuscular Aspects of Exercise
Spring 2018

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Office Hours: By Appointment

Class Room: FLG 0210
Class Days: MWF
Class Time: Period 1 (7:25-8:15 pm)

Course Overview

University of Florida Course Description: Designed to provide an in-depth 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.

Prereq: APK 3110C with grade of C.

Textbook

RM Enoka. Neuromechanics of Human Movement. 5th edition. Human Kinetics. ISBN 978-1-4504-5880-1 (optional – not required)

Handouts and review papers will be provided for specific topics (see schedule).

General Course Policies

Attendance: Make every effort to attend all lectures. Although attendance will not affect your grades directly, it could influence them indirectly. Numerous concepts that will be discussed only during class (and are not in the book) will be part of your weekly quizzes.

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 (after the 4 allowed to be dropped). Documentation of the illness or emergency will be required.

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 E LEARNING. This is how your course instructor will communicate with you. All course grades will be posted on E LEARNING. Any discrepancies should be pointed out to the instructor on or before the last day of finals week.

Academic Honesty: 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."*** 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.

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 the assessments will also be available to students at website.

Counseling and Wellness Center: <http://www.counseling.ufl.edu/cwc/Default.aspx>, 392-1575; and the University Police Department: 392-1111 or 9-1-1 for emergencies

Student Learning Objectives

Knowledge: Discuss, explain, and defend subject matter relevant to neuromuscular physiology.

Skills: Discuss, explain, and defend specific skills related to neuromuscular physiology.

Professional Behavior: Demonstrate proficiency in presenting and explaining neuromuscular physiology concepts in a professional manner.

Course Examinations and Grading

Activity/Assignment	Points
1. Quizzes x 8 (12 quizzes will be given - will drop lowest 4)	40
2. Presentation	15
3. Presentation attendance	5
4. Exam 1	30
5. Exam 2 (Exit exam)	10
TOTAL POINTS	100

Exams

There will be no final exam for this course. Grading will be based on weekly quizzes, midterm exam (Exam 1), Exit exam, presentation, and presentation attendance.

Quizzes (40%)

There will be a total of 12 quizzes and you will be allowed to drop four.

Your quiz grade will be based on the highest 8 quizzes (each is 5 % of your total grade). These quizzes will comprise of about 5-10 multiple choice (or short answer) questions or take home questions. These quizzes are intended to encourage reading and attendance. Questions will come from material (lectures and presentations) presented to you since the previous quiz.

Presentation (15%)

This presentation will be based on a research article that I will provide for you. At the first class you will sign-up to a presentation slot.

The length of the presentation should be **15 minutes** and should be in the format of a powerpoint presentation. The 15 minute limit is strict and you will be cut short if you go over your time. My suggestion, therefore, is to practice the presentation ahead of time. Conciseness, clarity, and information delivery will be part of your grade. There will be a 2 minutes question-answer session after each presentation. This presentation will worth 15% of your course grade.

There will be 2 people per presentation.

Presentation attendance (5%)

I will take attendance on presentation day. There are 12 presentation days. You can drop two. Each attendance will count for 0.5% of your grade.

Exam 1 (30%)

This exam will cover the lectures and presentations from Jan 8th to March 2nd. It will comprise of short answer questions. This exam will count for 30% of your grade.

Exit Exam 2 (10%)

This exam will be identical to the entry exam* you will take on Jan 10th. It will cover all the lectures and presentations from the entire class. It will comprise of multiple choice questions. This exam will count for 10% of your grade.

*The entry exam will not count towards your grade.

Grades: The total points earned from quizzes and presentation will be summed. There is no curve for this course. I reserve the right to round up grades for students who show exceptional participation in class. However, under most circumstances 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	Points Necessary for Each Letter Grade	Percent of Total Points	GPA Equivalent
A	93	93.00-100%	4.0
A-	90	90.00-92.99%	3.67
B+	87	87.00-89.99%	3.33
B	83	83.00-86.99%	3.0
B-	80	80.00-82.99%	2.67
C+	77	77.00-79.99%	2.33
C	70	70.00-76.99%	2.0
D+	67	67.00-69.99%	1.33
D	60	60.00-66.99%	1.0
E	<60	0-59.99%	0

Tentative Lecture Schedule

This approximates 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.

Week	Date	Lecture Topic	Reading/Assign.
1	M – Jan 8	Syllabus explanation / Organization How to present scientific data in 15 minutes	Syllabus; <i>Slides</i>
	W – Jan 10	Entry Exam	
	F – Jan 12	The Neuromotor system - overview	<i>Slides</i>
2	M – Jan 15	MLK	
	W – Jan 17	Synaptic transmission	<i>Chapter 5</i>
	F – Jan 19	<i>Quiz 1</i>	Quiz 1
3	M – Jan 22	Muscle Anatomy / Structure	<i>Chapter 6</i>
	W – Jan 24	<i>Presentation – Groups 1, 2</i>	
	F – Jan 26	<i>Quiz 2</i>	Quiz 2
4	M – Jan 29	Muscle mechanics	<i>Chapter 6</i>
	W – Jan 31	<i>Presentation – Groups 3, 4</i>	
	F – Feb 2	<i>Quiz 3</i>	Quiz 3
5	M – Feb 5	Motor units I - Structure	<i>Chapter 6</i>
	W – Feb 7	<i>Presentation – Groups 5, 6</i>	
	F – Feb 9	<i>Quiz 4</i>	Quiz 4
6	M – Feb 12	Motor units II - Activation	<i>Chapter 6</i>
	W – Feb 14	<i>Presentation – Groups 7, 8</i>	
	F – Feb 16	<i>Quiz 5</i>	Quiz 5
7	M – Feb 19	Neural control of force	<i>Chapter 6</i>
	W – Feb 21	<i>Presentation – Groups 9, 10</i>	
	F – Feb 23	<i>Quiz 6</i>	
8	M – Feb 26	Voluntary actions	<i>Chapter 7</i>
	W – Feb 28	<i>Presentation – Groups 11, 12</i>	
	F – Mar 2	EXAM 1	Exam 1
9	M – Mar 5	Spring Break	
	W – Mar 7	Spring Break	
	F - Mar 9	Spring Break	Quiz 6
10	M – Mar 12	Spinal reflexes and Automatic responses	<i>Chapter 7</i>
	W – Mar 14	<i>Presentation – Groups 12, 13</i>	
	F - Mar 16	<i>Quiz 7</i>	Quiz 7
11	M – Mar 19	Proprioception	<i>Slides</i>
	W – Mar 21	<i>Presentation – Groups 14, 15</i>	

	F - Mar 23	Quiz 8	Quiz 8
12	M – Mar 26	Acute Adjustments – Stress	Chapter 8
	W – Mar 28	Presentation – Groups 16, 17	Quiz 9
	F - Mar 30	Quiz 9	
13	M – April 2	Acute Adjustments – Fatigue	Chapter 8
	W – Apr 4	Presentation – Groups 18, 19	
	F - Apr 6	Quiz 10	Quiz 10
14	M – Apr 9	Chronic Adaptations – Aging	Chapter 9
	W – Apr 11	Presentation – Groups 20, 21	
	F - Apr 13	Quiz 11	Quiz 11
15	M – Apr 16	Chronic Adaptations – Motor Learning	Slides
	W – Apr 18	Presentation – Groups 20, 21	
	F - Apr 20	Quiz 12	Quiz 12
16	M – Apr 23	Exit Exam	
	W – Apr 25	Presentation – Make up day	
	F – Apr 27 F- May 4	Reading Day FINAL 4C – make up time if needed	12:30-2:30 pm