

APK 4115
Neuromuscular Aspects of Exercise
Fall 2017

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Office Hours: By Appointment

Class Room: FLG 0270
Class Days: MWF
Class Time: Period 10 (5:10-6:00 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 (11 quizzes will be given - will drop lowest 3)	40
2. Presentation	15
3. Presentation attendance	5
4. Exam 1	25
5. Exam 2	15
TOTAL POINTS	100

Exams

There will be no final exam for this course. Grading will be based on weekly quizzes, presentation, presentation attendance, and research article summary.

Quizzes (40%)

There will be a total of 11 quizzes and you will be allowed to drop three.

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. 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.

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 (25%)

This exam will cover the lectures and presentations from August 25th to October 9th. It will comprise of short answer questions. This exam will count for 25% of your grade.

Exit Exam 2 (15%)

This exam will be identical to the entry exam* you will take on August 23rd. It will cover all the lectures and presentations from the entire class. It will comprise of multiple choice questions. This exam will count for 15% 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 – Aug 21	Syllabus explanation / Organization How to present scientific data	Syllabus; <i>Slides</i>
	W – Aug 23	How to present a scientific article in 15 minutes Entry Exam	
	F - Aug 25	The Neuromotor system - overview	<i>Slides</i>
2	M - Aug 28	Synaptic transmission	<i>Chapter 5</i>
	W - Aug 30	<i>Presentation – Groups 1, 2</i>	
	F - Sept 1	<i>Quiz 1</i>	Quiz 1
3	M – Sept 4	No class – Labor Day	
	W - Sept 6	<i>Presentation – Groups 3, 4</i>	
	F - Sept 8	<i>Quiz 2</i>	Quiz 2
4	M - Sept 11	Muscle Anatomy / Structure	<i>Chapter 6</i>
	W - Sept 13	<i>Presentation – Groups 5, 6</i>	
	F - Sept 15	<i>Quiz 3</i>	Quiz 3
5	M – Sept 18	Muscle mechanics	<i>Chapter 6</i>
	W - Sept 20	<i>Presentation – Groups 7, 8</i>	
	F - Sept 22	<i>Quiz 4</i>	Quiz 4
6	M – Sept 25	Motor units I - Structure	<i>Chapter 6</i>
	W - Sept 27	<i>Presentation – Groups 9, 10</i>	
	F - Sept 29	<i>Quiz 5</i>	Quiz 5
7	M – Oct 2	Motor units II - Activation	<i>Chapter 6</i>
	W - Oct 4	<i>Presentation – Groups 11, 12</i>	
	F - Oct 6	Homecoming	
8	M - Oct 9	Neural control of force	<i>Slides</i>
	W - Oct 11	<i>Presentation – Groups 13, 14</i>	
	F - Oct 13	<i>Exam 1</i>	Exam 1
9	M - Oct 16	Voluntary actions	<i>Chapter 7</i>
	W - Oct 18	<i>Presentation – Groups 15, 16</i>	
	F - Oct 20	<i>Quiz 6</i>	Quiz 6
10	M – Oct 23	Spinal reflexes and Automatic responses	<i>Chapter 7</i>
	W – Oct 25	<i>Presentation – Groups 17, 18</i>	
	F - Oct 27	<i>Quiz 7</i>	Quiz 7
11	M – Oct 30	Acute Adjustments – <i>Stress</i>	<i>Chapter 8</i>
	W – Nov 1	<i>Presentation – Groups 19, 20</i>	

	F - Nov 3	Quiz 8	Quiz 8
12	M - Nov 6	Acute Adjustments – <i>Fatigue</i>	Chapter 8
	W - Nov 8	Quiz 9	Quiz 9
	F - Nov 10	Veterans Day	
13	M - Nov 13	Chronic Adaptations – Aging	
	W - Nov 15	<i>Presentation – Groups 21, 22</i>	
14	F - Nov 17	Quiz 10	Quiz 10
	M - Nov 20	Chronic Adaptations – Movement Disorders	Slides
	W - Nov 22	Thanksgiving	
	F - Nov 24	Thanksgiving	
15	M - Nov 27	Chronic Adaptations – Motor Learning	Slides
	W - Nov 29	<i>Presentation – Groups 23, 24</i>	
	F - Dec 1	Quiz 11	Quiz 11
16	M - Dec 4	<i>Exit Exam</i>	
	W - Dec 6	<i>Roger Enoka lecture</i>	Extra points
	F - Dec 8	Reading Day	
	T- Dec 12	FINAL 12C – make up time if needed	12:30-2:30 pm