

**George Mason University**  
**College of Education and Human Development**  
**Exercise, Fitness and Health Promotion**

EFHP 610.DL1 – Advanced Exercise Physiology  
3 Credits, Spring 2017

**Faculty**

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**Prerequisites/Corequisites**

Graduate standing or permission of the instructor

**University Catalog Course Description**

Lecture, demonstration, and seminar experiences in applying research findings to understanding physiological function and effects of exercise on people.

**Course Overview**

Not Applicable

**Course Delivery Method**

This course will be delivered online (76% or more) using asynchronous format via the Blackboard learning management system (LMS) housed in the MyMason portal. You will log in to the Blackboard course site using your Mason email name (everything before @masonlive.gmu.edu) and email password. The course site will be available on Sunday, January 22<sup>nd</sup>.

**Under no circumstances, may candidates/students participate in online class sessions (either by phone or Internet) while operating motor vehicles. Further, as expected in a face-to-face class meeting, such online participation requires undivided attention to course content and communication.**

*Technical Requirements*

To participate in this course, students will need to satisfy the following technical requirements:

- High-speed Internet access with a standard up-to-date browser, either Internet Explorer or Mozilla Firefox is required (note: Opera and Safari are not compatible with Blackboard).

- Students must maintain consistent and reliable access to their GMU email and Blackboard, as these are the official methods of communication for this course.
- Students may be asked to create logins and passwords on supplemental websites and/or to download trial software to their computer or tablet as part of course requirements.
- The following software plug-ins for PCs and Macs, respectively, are available for free download:
  - [Adobe Acrobat Reader](#)
  - [Window Media Player](#)
  - [Apple Quick Time Player](#)

### *Expectations*

- Course Week:  
Because asynchronous courses do not have a “fixed” meeting day, our week will start on Wednesday, and finish on Tuesday.
- Log-in Frequency:  
Students must actively check the course Blackboard site and their GMU email for communications from the instructor, class discussions, and/or access to course materials at least 3 times per week.
- Participation:  
Students are expected to actively engage in all course activities throughout the semester, which includes viewing all course materials, completing course activities and assignments, and participating in course discussions and group interactions.
- Technical Competence:  
Students are expected to demonstrate competence in the use of all course technology. Students who are struggling with technical components of the course are expected to seek assistance from the instructor and/or College or University technical services.
- Technical Issues:  
Students should anticipate some technical difficulties during the semester and should, therefore, budget their time accordingly. Late work will not be accepted based on individual technical issues.
- Workload:  
Please be aware that this course is **not** self-paced. Students are expected to meet *specific deadlines* and *due dates* listed in the **Class Schedule** section of this syllabus. It is the student’s responsibility to keep track of the weekly course schedule of topics, readings, activities and assignments due.
- Instructor Support:  
Students may schedule a one-on-one meeting to discuss course requirements, content or other course-related issues. Those unable to come to a Mason campus can meet with the instructor via

telephone or web conference. Students should email the instructor to schedule a one-on-one session, including their preferred meeting method and suggested dates/times.

- **Netiquette:**

The course environment is a collaborative space. Experience shows that even an innocent remark typed in the online environment can be misconstrued. Students must always re-read their responses carefully before posting them, so as others do not consider them as personal offenses. *Be positive in your approach with others and diplomatic in selecting your words.* Remember that you are not competing with classmates, but sharing information and learning from others. All faculty are similarly expected to be respectful in all communications.

- **Accommodations:**

Online learners who require effective accommodations to insure accessibility must be registered with George Mason University Disability Services.

## **Learner Outcomes or Objectives**

This course is designed to enable students to do the following:

1. Describe the responses that occur during exercise in the body's various physiological systems.
2. Describe the physiological changes that occur as a result of aging and explain how these changes affect performance.
3. Explain how gender differences affect performance.
4. Prepare and present research findings on a topic related to a specific area of exercise physiology.
5. Demonstrate the ability to critically review current research and connect findings to topics discussed in class.

## **Required Texts**

McArdle, W.D., Katch, F.I, and Katch, V.L. (2014). *Exercise Physiology: Nutrition, Energy, and Human Performance*, 8<sup>th</sup> edition. Lippincott, Williams & Wilkins.

## **Course Performance Evaluation**

Students are expected to submit all assignments on time in the manner outlined by the instructor (e.g., Blackboard, Tk20, hard copy).

- **Assignments and/or Examinations**

Written Examinations (3) (65%)

*Exams will be essay and short answer. Each exam will cover approximate one third of the semester's material.*

Article Discussions (15%)

*Students will respond to Discussion Board topics associated with posted research articles.*

Quizzes and Assignments (20%)

*Periodic quizzes and assignments will be assigned throughout the modules.*

- **Grading**

**Grading Scale**

A = 94 – 100

A- = 90 – 93

B+ = 87 – 89

B = 84 – 86

B- = 80 – 83

C = 70 – 79

F = 0 – 69

Note: \* Although a B- is a satisfactory grade for a course, students must maintain a 3.00 average in their degree program and present a 3.00 GPA on the courses listed on the graduation application.

**Professional Dispositions**

Students are expected to exhibit professional behaviors and dispositions at all times.

**Class Schedule**

Week	Topic	Reading
1	Introduction, Energy	Chapter 5 Chapter 6
2	ATP, Phosphagen System, Carbohydrate Metabolism <i>Optional Lab Activity- 2/7, noon-1:15pm Freedom Center SMART Lab</i>	Chapter 6 Readings on Blackboard
3	Fat and Protein Metabolism, How Exercise Training Impacts the Anaerobic and Aerobic Systems	Chapters 6 & 21
4	Journal Article Discussions	Readings on Blackboard
5	<b>Exam 1</b>	
6	The Cardiovascular System	Chapter 15
7	Functional Capacity of the Cardiovascular System <i>Optional Lab Activity- 3/21, noon-1:15pm Freedom Center SMART Lab</i>	Chapter 17
8	Cardiovascular Regulation and Integration, Cardiovascular Adaptations <i>Optional Lab Activity- 3/28, noon-1:15pm Freedom Center SMART Lab</i>	Chapters 16 & 21
9	Journal Article Discussions	Readings on Blackboard
10	<b>Exam 2</b>	
11	Skeletal Muscle: Structure and Function	Chapter 18

12	Neural Control of Human Movement <i>Optional Lab Activity- 4/25, noon-1:15pm</i> <i>Freedom Center SMART Lab</i>	Chapter 19
13	Muscular Strength: Training Muscles to Become Stronger Part 2: Structural and Functional Adaptations to Resistance Training	Chapter 22
14	Exercise and Thermal Stress	Chapter 25
15	<b>Exam 3</b>	

Note: Faculty reserves the right to alter the schedule as necessary, with notification to students.

### **Core Values Commitment**

The College of Education and Human Development is committed to collaboration, ethical leadership, innovation, research-based practice, and social justice. Students are expected to adhere to these principles: <http://cehd.gmu.edu/values/>.

### **GMU Policies and Resources for Students**

#### *Policies*

- Students must adhere to the guidelines of the Mason Honor Code (see <http://oai.gmu.edu/the-mason-honor-code/>).
- Students must follow the university policy for Responsible Use of Computing (see <http://universitypolicy.gmu.edu/policies/responsible-use-of-computing/>).
- Students are responsible for the content of university communications sent to their Mason email account and are required to activate their account and check it regularly. All communication from the university, college, school, and program will be sent to students **solely** through their Mason email account.
- Students with disabilities who seek accommodations in a course must be registered with George Mason University Disability Services. Approved accommodations will begin at the time the written letter from Disability Services is received by the instructor (see <http://ods.gmu.edu/>).
- Students must follow the university policy stating that all sound emitting devices shall be silenced during class unless otherwise authorized by the instructor.

#### *Campus Resources*

- Support for submission of assignments to Tk20 should be directed to [tk20help@gmu.edu](mailto:tk20help@gmu.edu) or

<https://cehd.gmu.edu/aero/tk20>. Questions or concerns regarding use of Blackboard should be directed to <http://coursesupport.gmu.edu/>.

- The Writing Center provides a variety of resources and services (e.g., tutoring, workshops, writing guides, handbooks) intended to support students as they work to construct and share knowledge through writing (see <http://writingcenter.gmu.edu/>).
- The George Mason University Counseling and Psychological Services (CAPS) staff consists of professional counseling and clinical psychologists, social workers, and counselors who offer a wide range of services (e.g., individual and group counseling, workshops and outreach programs) to enhance students' personal experience and academic performance (see <http://caps.gmu.edu/>).
- The Student Support & Advocacy Center staff helps students develop and maintain healthy lifestyles through confidential one-on-one support as well as through interactive programs and resources. Some of the topics they address are healthy relationships, stress management, nutrition, sexual assault, drug and alcohol use, and sexual health (see <http://ssac.gmu.edu/>). Students in need of these services may contact the office by phone at 703-993-3686. Concerned students, faculty and staff may also make a referral to express concern for the safety or well-being of a Mason student or the community by going to <http://ssac.gmu.edu/make-a-referral/>.

**For additional information on the College of Education and Human Development, please visit our website <https://cehd.gmu.edu/>.**

## **Assessment Rubric(s)**

### **EFHP 610 Journal Article Discussion Rubric**

	Exceeds Expectations (4 points)	Meets Expectations (3 points)	Below Expectations (2 points)	Unacceptable (0 points)
Students will demonstrate understanding of the scientific process and critically evaluate published research in applied kinesiology	The student's comments are clearly connected to assigned readings, other course materials; addresses all required elements in the assignment; thoughtful and reflective posts.	The student's comments are somewhat connected to assigned readings and/or other course materials; usually addresses all required elements in the assignment; somewhat thoughtful and reflective posts	The student has difficulty making comments that are clearly connected to assigned readings or other course materials; frequently does not address all required elements in the assignment.	The student's comments are not clearly connected to assigned readings, other course materials; does not address all required elements in the assignment.
Quality of Writing and Proofreading	No spelling or grammar mistakes. Content easy to understand.	Few spelling or grammar mistakes. Content is generally easy to understand.	Many spelling or grammar errors. Content is difficult to understand. Inappropriate language used.	Content is illegible