

KINE 442 - Exercise Physiology

Fall 2021 MWF 9:00-9:50 AM Blow 332

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or by appt.

Course Description

An in-depth study of the physiological response to both acute and chronic exercise focusing on the neural, hormonal, and humoral factors that regulate the responses of the musculoskeletal, cardiovascular, pulmonary and renal systems; functional tests with normal and abnormal subjects; investigations and independent readings. For the COLL300 attribute particular emphasis will be focused on the differences in approaches to these topics in both Taiwan and Japan as well as the impact of different cultural norms physiologic responses to exercise as well as the value of sport and exercise in the lifestyle management of health.

Objectives

Upon successful completion of this course, the student will be able to:

1. Demonstrate an understanding of the relationship between nutrition and human performance
2. Describe how energy is transferred within the body in order to perform muscular work.
3. Calculate energy expenditure.
4. Describe oxygen delivery, utilization, transport and consumption during exercise.
5. Demonstrate and understanding of how physical training improves health and human performance.
6. Describe how the environment affects the physiological response to exercise.
7. Demonstrate an understanding of body composition.
8. Demonstrate an understanding of how age and other conditions affect the physiological response to exercise.
9. *Demonstrate an understanding of how cultural differences may contribute to physiological responses to exercise.*
10. Describe and perform current techniques used to evaluate the physiologic and metabolic responses to exercise.
11. Demonstrate and integrated understanding of the physiological response to exercise.

Prerequisites and/or Course Requirements

Students enrolled in this course should have demonstrated successful completion of KINE 304 – Human Physiology

Required Textbook

Kraemer, W. J., Fleck, S. J., & Deschenes, M. R. (2015). *Exercise physiology: integrating theory and application, 2e*. Lippincott Williams & Wilkins

*It is highly recommended that students obtain access to the textbook for the course either in print form or on-line. The course follows many of the chapters in the textbook fairly closely and makes use of the figures. However, I do not make use of the supplemental (access code required) resources provided by the publisher. Therefore, a used copy or even an older edition will usually have what you need.

Course Evaluation

The student's final grade will be determined as follows:

Exam #1	= 20%
Exam#2	= 20 %
Exam#3	= 20%
Lab	= 20%
Final Exam	= 20%

Grade cut-offs are as follows:

>89.49%	A
>87.49%	B+
>79.49%	B
>77.49%	C+
>69.49%	C
>67.49%	D+
>59.49%	D
<59.49%	F

Accommodations & Diversity

It is the policy of William & Mary to accommodate students with disabilities and qualifying diagnosed conditions in accordance with federal and state laws. Any student who feels s/he may need an accommodation based on the impact of a learning, psychiatric, physical or chronic health diagnosis should be referred to [Student Accessibility Services](#) staff at 757-221-2512 or at sas@wm.edu . SAS staff will work with you to determine if accommodations are warranted, and if so, to help you obtain an official letter of accommodation.

Our department is committed to continually promoting diversity and creating a welcoming environment for all. For more information please read our [departmental diversity plan](#).