HHPK 450.01E/01L/02L EXERCISE PHYSIOLOGY

COURSE SYLLABUS: SPRING 2025

INSTRUCTOR INFORMATION

Instructor: Dr. Vipa Bernhardt
Office Location: NHS 165D
Office Hours: TR 10-11 and 2-3:30, or by appointment
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COURSE INFORMATION

Course Description

Topics include neural control during physical activity, skeletal muscle contraction, pulmonary and circulatory physiology, gas exchange and transport, aerobic and anaerobic energy sources for muscular activity, temperature regulation during exercise, body composition and weight control.

Student Learning Outcomes

Upon successful completion of this course, you will be able to

1. Describe and explain immediate physiological responses to exercise and long-term adaptations to training, including cardiorespiratory and neuromuscular systems.
2. Describe the effects of internal and external factors on exercise performance (e.g., fatigue, fitness level, metabolism, ergogenic aids).
3. Conduct and interpret common laboratory tests used in exercise physiology.

COURSE REQUIREMENTS

Required Materials

Required Textbook:

Powers & Howley. Exercise Physiology-Connect Access. 12th edition. McGraw-Hill. ISBN: 9781260813470.

Since this course is using Inclusive Access, you are automatically given access to this ebook with Connect Access via D2L. No need to do anything else.

The *syllabus/schedule are subject to change.*

Required Lab Manual:
Purchase the lab manual from the bookstore (https://www.amcbookstore.com). The manual is needed to complete the lab assignments.

Student Responsibilities or Tips for Success in the Course

- Keep up with the course content and the weekly assignments.
- Make good use of the Connect access resources.
- Test yourself early and often! It helps you identify what you know and don't know, so that you can focus your studies on the areas where you need improvement. Utilize the Connect SmartBook Previews/Reviews for this purpose.
- Space it out! Cramming does not work. Instead, space out your study time and practice. Studying for the scheduled in-class quizzes will help.
- Reflect! Take a few minutes to review what you learned and ask yourself questions about how this new learning fits in with what you already know and what you hope to learn. Step it up: reflect after every class, write down any questions you have for your instructor to ask in the class.
- Explain it to somebody else! Your study partner/group, your friend, your mom… Step it up: In your explanation, include how the material relates to you and their life outside of class.
- Believe you can! Adopt a "growth mindset" and understand that learning takes effort. With deliberate practice, you can improve.
- Communicate early and often with the instructors. We are here to help you succeed.

GRADING

Final grades in this course will be based on the following scale:

A = 90%-100%

B = 80%-89%

C = 70%-79%

D = 60%-69%

F = 59% or Below

1. Exams (4 x 100 pts)	40%	SLO #1,2
2. Quizzes (7 x 10 pts)	14%	SLO #1,2
3. Connect Previews/Reviews (11 x 10 pts)	11%	SLO #1,2
5. In-class Engagement/Participation (100 pts)	10%	SLO #1,2
6. Lab (250 pts)	25%	SLO #3
Pre-labs (10*10 pts)		
Lab reports (10*10 pts)		
Lab final exam (50 pts)		
Total (1,000 pts)	100%	

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Assessments

Exams
There will be three (3) regular exams throughout the semester and one (1) cumulative final exam. Exams will cover lectures, class activities, and the textbook.

Quizzes
There will be seven (7) scheduled quizzes, taking place during the first 10 minutes of class time. Quizzes may cover material from previous lectures, class activities, and the textbook.

Previews/Reviews via McGraw-Hill Connect Access
There will be 11 SmartBook assignments within the McGraw-Hill Connect online access, including both reading and practicing the material learned in each chapter.

Engagement/Participation
To engage students with the class material, tasks will be assigned throughout the semester. These tasks may include case studies, quizzes, questionnaires, surveys, discussions, exit tickets, etc. to be completed either in class or online. It's the participation in and completion of these tasks, rather than "right/wrong" answers, that counts towards this grade.

Laboratory
The lab sessions provide hands-on learning experiences to strengthen the information learned during lectures. Participation in the lab session is required. The lab graduate assistant will conduct all labs and score grade all assignments and exam.

Prelabs and Lab Reports
There will be ten (10) labs, each with a prelab and lab report assignment. The prelab explains lab procedures and may offer supplemental video instruction to introduce the lab topic for the week. Prelabs are due BEFORE the respective lab session. In the subsequent lab report, you will present and discuss the results obtained from lab session. You are responsible for recording the results of demonstrations during lab.

Lab final Exam
The lab final exam will be a comprehensive written exam that may cover any of the 10 labs.

Extra Credit
There MAY be extra credit opportunities provided throughout the semester. Extra credit is capped at 4% of the total grade. I will not offer individual extra extra credit at the end of the semester.

ASSUMPTION OF RISK FOR PARTICIPATING IN PHYSICAL ACTIVITY CLASS
Participating in any physical activity class may pose a physical risk. "By continuing participation in the course, the student waives any claim resulting from participation in

the above mentioned course. The participating student agrees to indemnify, defend, and hold harmless the State of Texas, the Texas A&M University System, Texas A&M University-Commerce, and the Department of Health and Human Performance, and all of the officers, trustees, directors, agents, representatives, and employees of the foregoing entities against any and all claims, including attorneys' fees and costs, which may be brought against any of them by anyone claiming to have been injured as a result of the student's participation in the course." If you have any questions about this statement, please ask the instructor.

TECHNOLOGY REQUIREMENTS

LMS

All course sections offered by Texas A&M University-Commerce have a corresponding course shell in the myLeo Online Learning Management System (LMS). Below are technical requirements.

LMS Requirements: https://community.brightspace.com/s/article/Brightspace-Platform-Requirements
LMS Browser Support: https://documentation.brightspace.com/EN/brightspace/requirements/all/browser_support.htm

ACCESS AND NAVIGATION

You will need your campus-wide ID (CWID) and password to log into the course. If you do not know your CWID or have forgotten your password, contact the Center for IT Excellence (CITE) at 903.468.6000 or helpdesk@tamuc.edu.

Note: Personal computer and internet connection problems do not excuse the requirement to complete all course work in a timely and satisfactory manner. Each student needs to have a backup method to deal with these inevitable problems. These methods might include the availability of a backup PC at home or work, the temporary use of a computer at a friend's home, the local library, office service companies, a coffee shop, a ETAMU campus open computer lab, etc.

COMMUNICATION AND SUPPORT

If you have any questions or are having difficulties with the course material, please contact your instructors. The best way to reach us is via email. In most cases, we will reply within 2 business days.

Technical Support

If you are having technical difficulty with any part of Brightspace, please contact Brightspace Technical Support at 1-877-325-7778. Other support options can be found here: https://community.brightspace.com/support/s/contactsupport

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Counseling Center

The Counseling Center at A&M-Commerce, located in the Halladay Building, Room 203, offers counseling services, educational programming, and connection to community resources for students. Students have 24/7 access to the Counseling Center's crisis assessment services by calling 903-886-5145. For more information regarding Counseling Center events and confidential services, please visit www.tamuc.edu/counsel.

Mental Health and Well-Being

The university aims to provide students with essential knowledge and tools to understand and support mental health. As part of our commitment to your well-being, we offer access to Telus Health, a service available 24/7/365 via chat, phone, or webinar. Scan the QR code to download the app and explore the resources available to you for guidance and support whenever you need it.

COURSE AND UNIVERSITY PROCEDURES/POLICIES

Course Specific Procedures/Policies

- Lecture presentations and supplemental lecture and lab materials, as well as the gradebook will be made available on D2L.
- See syllabus for due dates on all assignments. Late assignments will not be accepted, unless you have made prior arrangements with the instructor(s).

Lecture Specific Procedures/Policies

- Regular attendance of lectures is highly advised. Powerpoint slides and supplemental videos will be made available via D2L as well. You are responsible for obtaining information that was covered in class from your classmates in case you cannot attend.
- All quizzes and exams will be taken in person in class. Make-up quizzes or exams may be granted only if you inform me IN ADVANCE.
- SmartBook previews/reviews are due online via McGraw Hill Connect (accessible via D2L).

Lab Specific Procedures/Policies

- Lab attendance is mandatory in order to receive credit for the lab report. If you are unable to attend your designated lab meeting time, email the lab instructor in advance so that arrangements may be made for you to attend the other lab session.

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- Pre-labs are due by 1:59 pm on your scheduled lab day; i.e., if you are in Tuesday's lab, the pre-lab is due on Tuesday, if you are in Thursday's lab, the pre-lab is due on Thursday.
- All lab reports are due by 11:59 pm on the Sunday following each particular lab.
- Late assignments are capped at a maximum of 70%. Assignments more than 3 days late will receive a zero.
- During the semester, we will be in the Human Performance Laboratory. You must show respect for the all equipment found in the lab. Failure to follow this rule will result in removal from the lab for the duration of the semester.
- Wear proper attire. Throughout the semester, there will be times when you will perform different types of exercises. You must dress appropriately for exercise each day; indecent attire will not be tolerated and will result in dismissal from class and no credit will be given for the lab report.

Syllabus Change Policy

The syllabus is a guide. Circumstances and events, such as student progress, may make it necessary for the instructor to modify the syllabus during the semester. Any changes made to the syllabus will be announced in class/via D2L/email.

University Specific Procedures

Student Conduct

All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment. The Code of Student Conduct is described in detail in the Student Guidebook.
http://www.tamuc.edu/Admissions/oneStopShop/undergraduateAdmissions/studentGuidebook.aspx

ETAMU Attendance

For more information about the attendance policy please visit the Attendance webpage and Procedure 13.99.99.R0.01.
http://www.tamuc.edu/admissions/registrar/generalInformation/attendance.aspx

http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/academic/13.99.99.R0.01.pdf

Academic Integrity

Texas A&M University-Commerce acknowledges that there are legitimate uses of Artificial Intelligence, ChatBots, or other software that has the capacity to generate text, or suggest replacements for text beyond individual words, as determined by the instructor of the course.

Any use of such software must be documented. Any undocumented use of such software constitutes an instance of academic dishonesty (plagiarism).

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In any case, students are fully responsible for the content of any assignment they submit, regardless of whether they used an AI, in any way. This specifically includes cases in which the AI plagiarized another text or misrepresented sources.

Students at Texas A&M University-Commerce are expected to maintain high standards of integrity and honesty in all of their scholastic work. For more details and the definition of academic dishonesty see the following procedures:

Undergraduate Academic Dishonesty 13.99.99.R0.03
http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/undergraduates/13.99.99.R0.03UndergraduateAcademicDishonesty.pdf

Students with Disabilities-- ADA Statement

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you have a disability requiring an accommodation, please contact:

Office of Student Disability Resources and Services
Texas A&M University-Commerce
Gee Library- Room 162
Phone (903) 886-5150 or (903) 886-5835
Fax (903) 468-8148
Email: studentdisabilityservices@tamuc.edu
Website: Office of Student Disability Resources and Services
http://www.tamuc.edu/campusLife/campusServices/studentDisabilityResourcesAndServices/

Nondiscrimination Notice

Texas A&M University-Commerce will comply in the classroom, and in online courses, with all federal and state laws prohibiting discrimination and related retaliation on the basis of race, color, religion, sex, national origin, disability, age, genetic information or veteran status. Further, an environment free from discrimination on the basis of sexual orientation, gender identity, or gender expression will be maintained.

Campus Concealed Carry Statement

Texas Senate Bill - 11 (Government Code 411.2031, et al.) authorizes the carrying of a concealed handgun in Texas A&M University-Commerce buildings only by persons who have been issued and are in possession of a Texas License to Carry a Handgun. Qualified law enforcement officers or those who are otherwise authorized to carry a concealed handgun in the State of Texas are also permitted to do so. Pursuant to Penal

Code (PC) 46.035 and A&M-Commerce Rule 34.06.02.R1, license holders may not carry a concealed handgun in restricted locations.
For a list of locations, please refer to the Carrying Concealed Handguns On Campus document and/or consult your event organizer.
Web url:
http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/34SafetyOfEmployeesAndStudents/34.06.02.R1.pdf

Pursuant to PC 46.035, the open carrying of handguns is prohibited on all A&M-Commerce campuses. Report violations to the University Police Department at 903-886-5868 or 9-1-1.

COURSE OUTLINE / CALENDAR

Module	Dates	Lecture Topics	Lecture Assessments	Lab Topics
1	1/14	Intro and Syllabus		
	1/16	10) Respiratory system		
	1/21	10) Respiratory system	SB 10	1) Pulse ox, breath hold
	1/23	10) Respiratory system		1) Pulse ox, breath hold
	1/28	9) Cardiovascular system	SB 9, Quiz 1	2) VO2max cycle, RER, Lactate
	1/30	9) Cardiovascular system		2) VO2max cycle, RER, Lactate
	2/4	13) Physiology of endurance training	SB 13, Quiz 2	3) VO2max treadmill, RPE
	2/6	Case study - cardiorespiratory		3) VO2max treadmill, RPE
	2/11		Exam 1	
2	2/13	3) Bioenergetics	SB 3	4) Fatigue thresholds
	2/18	3) Bioenergetics		4) Fatigue thresholds
	2/20	No class – TACSM		
	2/25	4) Exercise metabolism	SB 4, Quiz 5	5) RMR, Met eq
	2/27	4) Exercise metabolism		5) RMR, Met eq
	3/4	18) Weight Management	SB 18, Quiz 6	6) DEXA
	3/6	Case study - metabolism		6) DEXA
	3/11+13	No class – Spring Break		
	3/18		Exam 2	
3	3/20	7) Nervous system	SB 7	
	3/25	7) Nervous system		7) Nerve cond, reaction time
	3/27	8) Skeletal muscle	SB 8, Quiz 3	7) Nerve cond, reaction time
	4/1	8) Skeletal muscle		8) Muscle EMG
	4/3	14) Physiology of resistance training	SB 14, Quiz 4	8) Muscle EMG
	4/8	14) Physiology of resistance training		9) Wingate
	4/10	Case study - neuromuscular		9) Wingate
	4/15		Exam 3	10) Alter-G
4	4/17	15/16) Exercise is Medicine	SB 15/16	10) Alter-G
	4/22	15/16) Exercise is Medicine		
	4/24	24) Ergogenic aids	SB 24, Quiz 7	
	4/29	Comp physiol changes with exerc		Lab Final
	5/1	Comp physiol changes with exerc		Lab Final
	TBA		Final Exam	

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