

KINE 3311 PHYSIOLOGY OF EXERCISE

Department of Kinesiology
The University of Texas at Tyler

Course Syllabus

Course:	KINE 3311 - Physiology of Exercise
Meets:	Tu/Th 11:00 a.m. - 12:20 p.m. in HPC 2255
Instructor:	Scott Spier, Ph.D. (last name rhymes with <i>fire</i>)
Office:	Herrington Patriot Center (HPC) 2186 (Inside the Exercise Physiology Lab) Office phone: (903) 566-7427 Email: sspier@uttyler.edu (do NOT include “ <i>patriots</i> ” in email address)
Office hours:	Tu/Wed/Th 12:30 - 2:00 p.m.; Also by appointment or via Zoom (call or email to schedule)
Canvas:	All course materials and announcements will be provided in Canvas

ABOUT THIS COURSE

This course is designed to examine the physiological adjustments to a single bout of exercise (i.e., the transition from rest to exercise) and the physiological adaptations to repeated exercise (i.e., exercise training). Particular attention will be given to the neuromuscular, metabolic, cardiovascular, and respiratory responses to exercise.

COURSE PREREQUISITES

Prerequisites: BIOL 2301/2101, BIOL 2302/2102, KINE 3306

Corequisite: KINE 3112 Physiology of Exercise Lab

STUDENT LEARNING OUTCOMES

Upon successful completion of this course, students should be able to:

- Describe the separate and integrated responses of the neuromuscular, metabolic, cardiovascular, and respiratory systems to acute and chronic exercise;
- Discuss the effect of exercise intensity and duration on the physiological responses to a single bout of exercise;
- Explain the mechanisms of physiological adaptations in response to chronic exercise;
- Analyze physiological responses to exercise with respect to potential limitations in exercise performance;
- Describe the significance of physiological adaptations to chronic exercise in terms of health and performance.

COURSE MATERIALS

Textbook: There is no *required* textbook. The lectures and discussion will be based on content found in *Physiology of Sport & Exercise* (7th edition) by Kenney, Wilmore, & Costill (ISBN: 978-1492572299). The 6th edition or a similar Exercise Physiology textbook (e.g., Powers, Howley, & Quindry) may be used, if preferred.

Technology: Minimum technological requirements can be found in the *UT Tyler Student Resources* link in the **Getting Started** module in Canvas. Exams will be proctored by ProctorU; therefore, you must have access to a computer, webcam, microphone, and high-speed internet to complete the exams. These are also available at the library and computer labs.

Additional resources: All course materials and resources may be found in Canvas, including the syllabus, Tips for Success in this Class, How Knowledge and Skills Relate to Final Grades (or How to Get an A), assigned readings, and a detailed schedule.

COURSE GRADING

Your final grade will be determined by your performance on exams, quizzes, and optional homework assignments (see below for details). Your grade will be based on a total of 500 points. Grading will be based on a modified 10-point scale.

Exams (4 @ 100 points each)	400 points	89.5 – 100%	A (excellent)
Canvas Quizzes (10 @ 5 points each)	50 points	79.5 – 89.49	B (above average)
Team Quizzes (10 @ 5 points each)	50 points	69.5 – 79.49	C (average)
Cumulative Final Exam*		59.5 – 69.49	D (below average; fail)
*Optional; replaces lowest exam score		below 59.5%	F (well below average; fail)

Exams: There will be 4 midterm exams during the semester. If you miss an exam or are unhappy with one of your exam scores, you may take an optional cumulative final exam to replace the missed/poor exam. All exams will consist of multiple-choice, true-false, short answer, and/or short essay questions over material from lectures, discussions, and assigned readings.

Canvas Quizzes: There will be at least 10 Check for Understanding quizzes. These quizzes are not proctored and there are *unlimited* attempts, with only the highest score counting. You may use your notes to complete these. Students are encouraged to take these until a perfect score is achieved.

Team Quizzes (in class): There will be at least 10 team quizzes that will take place in class. Only your 10 highest scores will be counted. Each team will be given one answer sheet to complete the quiz and you are encouraged to discuss each question with your assigned team.

Assignments: For each unit, students will be required to complete written responses to questions about the unit material, case studies, discussion questions, research articles, and/or current topics in exercise physiology. Your responses will be graded on the basis of the quality of your responses. These assignments allow you to demonstrate your comprehension of the course material and your ability to communicate that comprehension through writing. Details about each assignment will be provided in Canvas.

LIST OF GENERAL COURSE TOPICS

Unit 1: Exercise metabolism / Unit 1 Exam

Unit 2: Neuromuscular exercise physiology / Unit 2 Exam

Unit 3: Cardiorespiratory exercise physiology / Unit 3 Exam

Unit 4: Adaptations to Training and the Environment / Unit 4 exam

**A detailed course schedule, including exam dates, can be found below and will be available in Canvas*

POLICY ON ACADEMIC DISHONESTY

At the University of Texas at Tyler, students and faculty are responsible for maintaining an environment that encourages academic integrity. Students and faculty members are required to report an observed or suspected case of academic dishonesty immediately to the faculty member in charge of an examination, classroom, or laboratory research project, or other academic exercise.

Since the value of an academic degree depends on the absolute integrity of the work done by the student for the degree, it is imperative that students maintain a high standard of individual honor in scholastic work. Scholastic dishonesty includes but is not limited to cheating, plagiarism, and collusion.

This class will be conducted in full compliance with the UT Tyler “no tolerance” policies concerning documented cases of plagiarism and/or academic dishonesty. Any act of cheating or plagiarized work submitted will result in a grade of zero for that assignment and further disciplinary action may be taken. Extreme cases or repeated violations may result in an F in the course and/or exclusion from the university. Please make use of the [UT Tyler Writing Center](#) if you have concerns about plagiarism.

COURSE EXPECTATIONS

Attendance: Although class attendance is not mandatory, students are strongly encouraged to attend every lecture. Missing class will likely have a negative impact on learning and performance in the class. Students are responsible for any missed information or announcements given in class.

Professionalism: Students are expected to display a professional attitude in all aspects of the course, including online discussions, communication with the instructor and classmates, being attentive during lectures, and being respectful to the instructor and classmates. Please do not participate in any activity that may be a distraction to others.

Quality of Work: ALL assignments will be graded with rigor appropriate for upper-level undergraduate course work. All written assignments should incorporate correct grammar, spelling, and a logical flow of ideas. I have little tolerance for bad grammar and spelling mistakes. Please use the Spelling & Grammar tool in your word processing software.

Late Work: Assignment instructions and due dates will be clearly posted and students will be given adequate time to complete work. No assignments will be accepted past their deadlines.

Makeup Policy: Students will not be allowed to make up missed assignments or exams. The dates for these assignments will be known far in advance and students must plan accordingly. For a missed exam, the student will substitute the final exam in place of the missed exam.

COMMUNICATION

Instructors are required to use students' Patriot account email addresses for email correspondence. Therefore, any email messages originating from me will be sent to your Patriots account. You can send me email from either your Patriots account or through Canvas. Any email you send should have your first and last name, your course and section number (e.g., KINE 3311.001), and proper punctuation. Failure to do so may delay the response time. I will try to respond to appropriately addressed emails within 1-2 business days.

TECHNICAL SUPPORT

For technical problems with Canvas, contact **UT Tyler 24/7 Canvas Support**, which can be accessed by clicking **Help** at the bottom of the Global Navigation menu on the far left side of the browser window.

For login/password problems or support for other technical issues, contact Campus Computing Services in the Business Building (BUS 101) at 903-565-5555 or itsupport@uttyler.edu.

LIST OF IMPORTANT SEMESTER DATES AND DEADLINES

A list of important semester dates and deadlines can be found in the [UT Tyler Academic Calendar](#).

COPYRIGHT

All handouts used in this course, including those delivered via Canvas, are copyrighted. The term handouts refers to all materials generated for this class, which include but are not limited to syllabi, quizzes, exams, assignment sheets, recorded lectures, outlines, lab problems, in-class materials, review sheets, and additional problem sets. Because these materials are copyrighted, students do not have the right to copy or distribute the materials, unless I expressly grant permission.

TENTATIVE COURSE SCHEDULE

Note: The following schedule is *tentative*. It may be adjusted, as needed, to better serve the educational needs of those enrolled in the class. Any modifications to the schedule will be posted in the Canvas Announcements.

*For all lectures, reading assignments and lecture slides will be posted in Canvas. Quizzes, study guides, extra credit assignments, and learning objectives are also listed in the Canvas Modules link.

	Tuesday	Book Chapter(s)
Week 1 (Jan 10/12)	Tu - Course Introduction/Work, Power, Energy Th - Introduction (cont'd)	Kenney: Introduction Powers: 1, 2
Week 2 (Jan 17/19)	Tu - Bioenergetics Th - Anaerobic Metabolism	Kenney: 2 Powers: 3
Week 3 (Jan 24/26)	Tu - Aerobic Metabolism Th - Substrate Metabolism	Kenney: 2, 4 Powers: 3
Week 4 (Jan 31/Feb 2)	Tu - Energy Expenditure Th - Energy Expenditure/Review UNIT 1 EXAM (Canvas) - due Tuesday, Feb 7 by 11:59 p.m.	Kenney: 5 Powers: 4, 5
Week 5 (Feb 7/9)	Tu - Nervous System Review Th - Skeletal Muscle Structure & Function	Kenney: 3 Powers: 7, 8
Week 6 (Feb 14/16)	Tu - Skeletal Muscle Fiber Types Th - Muscle Mechanics	Kenney: 1 Powers: 8
Week 7 (Feb 21/23)	Tu - Skeletal Muscle Fatigue/Injury Th - Review UNIT 2 EXAM (Canvas) - due Tuesday, Feb 28 by 11:59 p.m.	Kenney: 5 Powers: 8, 19
Week 8 (Feb 28/Mar 2)	Tu - Introduction to the CV System/Cardiac Function Th - Hemodynamics	Kenney: 6 Powers: 9
Week 9 (Mar 7/9)	Tu - Cardiovascular Response to Exercise Th - Respiratory System	Kenney: 7, 8 Powers: 10
Spring Break (No Classes)		
Week 10 (Mar 21/23)	Tu - Ventilatory Response to Exercise Th - Limitations to VO ₂ max/Review UNIT 3 EXAM (Canvas) - due Tuesday, Mar 28 by 11:59 p.m.	Kenney: 7 Powers: 10, 11
Week 11 (Mar 28/30)	Tu - Adaptations to Resistance Training Th - Adaptations to Detraining/Aging	Kenney: 10 Powers: 14
Week 12 (Apr 4/6)	Tu - Adaptations to Aerobic Training/Detraining Th - Exercise and Health	Kenney: 11, 20 Powers: 13, 15
Week 13 (Apr 11/13)	Tu - Adaptations to Heat & Cold (Thermoregulation) Th - Adaptations to Altitude	Kenney: 12, 13 Powers: 12, 20
Week 14 (Apr 18/20)	Tu - Adaptations to Spaceflight Th - Review UNIT 4 EXAM (Canvas) - due Tuesday, Apr 25 by 11:59 p.m.	Readings provided in Canvas
Week 15 (Apr 25/27)	FINAL EXAM (optional; cumulative)* - Due Friday 11:59 p.m. <i>*replaces lowest exam score</i>	Kenney: Powers:

UNIVERSITY POLICIES

(From the *Handbook of Operating Procedures* and the UT Tyler Website)

UT TYLER HONOR CODE

Every member of the UT Tyler community joins together to embrace: Honor and integrity that will not allow me to lie, cheat, or steal, nor to accept the actions of those who do.

STUDENT RIGHTS AND RESPONSIBILITIES

To know and understand the policies that affect your rights and responsibilities as a student at UT Tyler, please follow this link: <http://www.uttyler.edu/wellness/rightsresponsibilities.php>

CAMPUS CARRY

We respect the right and privacy of students 21 and over who are duly licensed to carry concealed weapons in this class. License holders are expected to behave responsibly and keep a handgun secure and concealed. More information is available at <http://www.uttyler.edu/about/campus-carry/index.php>

UT TYLER A TOBACCO-FREE UNIVERSITY

All forms of tobacco will not be permitted on the UT Tyler main campus, branch campuses, and any property owned by UT Tyler. This applies to all members of the University community, including students, faculty, staff, University affiliates, contractors, and visitors.

Forms of tobacco not permitted include cigarettes, cigars, pipes, water pipes (hookah), bidis, kreteks, electronic cigarettes, smokeless tobacco, snuff, chewing tobacco, and all other tobacco products.

There are several cessation programs available to students looking to quit smoking, including counseling, quitlines, and group support. For more information on cessation programs please visit www.uttyler.edu/tobacco-free.

GRADE REPLACEMENT/FORGIVENESS

Students repeating a course for grade forgiveness (grade replacement) must file a Grade Replacement Contract with the Enrollment Services Center (ADM 230) on or before the Census Date of the semester in which the course will be repeated. Grade Replacement Contracts are available in the Enrollment Services Center or at <http://www.uttyler.edu/registrar>. Each semester's Census Date can be found on the Contract itself, on the Academic Calendar, or in the information pamphlets published each semester by the Office of the Registrar.

Failure to file a Grade Replacement Contract will result in both the original and repeated grade being used to calculate your overall grade point average. Undergraduates are eligible to exercise grade replacement for only three course repeats during their career at UT Tyler; graduates are eligible for two grade replacements. Full policy details are printed on each Grade Replacement Contract.

The Census Date is the deadline for many forms and enrollment actions that students need to be aware of. These include:

- Submitting Grade Replacement Contracts, Transient Forms, requests to withhold directory information, approvals for taking courses as Audit, Pass/Fail or Credit/No Credit.
- Receiving 100% refunds for partial withdrawals. (There is no refund for these after the Census Date)
- Schedule adjustments (section changes, adding a new class, dropping without a "W" grade)
- Being reinstated or re-enrolled in classes after being dropped for non-payment
- Completing the process for tuition exemptions or waivers through Financial Aid

STATE-MANDATED COURSE DROP POLICY

Texas law prohibits a student who began college for the first time in Fall 2007 or thereafter from dropping more than six courses during their entire undergraduate career. This includes courses dropped at another 2-year or 4-year Texas public college or university. For purposes of this rule, a dropped course is any course that is dropped after the census date (See Academic Calendar for the specific date).

Exceptions to the 6-drop rule may be found in the catalog. Petitions for exemptions must be submitted to the Enrollment Services Center and must be accompanied by documentation of the extenuating circumstance. Please contact the Enrollment Services Center if you have any questions.

DISABILITY SERVICES

In accordance with Section 504 of the Rehabilitation Act, Americans with Disabilities Act (ADA) and the ADA Amendments Act (ADAAA) the University of Tyler at Texas offers accommodations to students with learning, physical and/or psychological disabilities. If you have a disability, including non-visible diagnosis such as a learning disorder, chronic illness, TBI, PTSD, ADHD, or you have a history of modifications or accommodations in a previous educational environment, you are encouraged to visit <https://hood.accessiblelearning.com/UTTyler> and fill out the New Student application. The **Student Accessibility and Resources (SAR)** office will contact you when your application has been submitted and an appointment with Cynthia Lowery, Assistant Director Student Services/ADA Coordinator. For more information, including filling out an application for services, please visit the SAR webpage at <http://www.uttyler.edu/disabilityservices>, the SAR office located in the University Center, # 3150 or call 903.566.7079.

STUDENT ABSENCE DUE TO RELIGIOUS OBSERVANCE

Students who anticipate being absent from class due to a religious observance are requested to inform the instructor of such absences by the second class meeting of the semester.

STUDENT ABSENCE FOR UNIVERSITY-SPONSORED EVENTS AND ACTIVITIES

If you intend to be absent for a university-sponsored event or activity, you (or the event sponsor) must notify the instructor at least two weeks prior to the date of the planned absence. At that time the instructor will set a date and time when make-up assignments will be completed.

SOCIAL SECURITY AND FERPA STATEMENT

It is the policy of The University of Texas at Tyler to protect the confidential nature of social security numbers. The University has changed its computer programming so that all students have an identification number. The electronic transmission of grades (e.g., via e-mail) risks violation of the Family Educational Rights and Privacy Act; grades will not be transmitted electronically.

EMERGENCY EXITS AND EVACUATION

Everyone is required to exit the building when a fire alarm goes off. Follow your instructor's directions regarding the appropriate exit. If you require assistance during an evacuation, inform your instructor in the first week of class. Do not re-enter the building unless given permission by University Police, Fire department, or Fire Prevention Services.

STUDENT STANDARDS OF ACADEMIC CONDUCT

Disciplinary proceedings may be initiated against any student who engages in scholarly dishonesty, including but not limited to, cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable in whole or part to another person, taking an examination for another person, any act designed to give an unfair advantage to a student or the attempt to commit such acts.

- i. "Cheating" includes, but is not limited to:
 - a. Copying from another student's test paper;
 - b. using, during a test, materials not authorized by the person giving the test;
 - c. Failure to comply with instructions given by the person administering the test;
 - d. Possession during a test of materials which are not authorized by the person giving the test, such as class notes or specifically designed "crib notes". The presence of textbooks constitutes a violation if they have specifically been prohibited by the person administering the test;
 - e. Using, buying, stealing, transporting, or soliciting in whole or part the contents of an unadministered test, test key, homework solution, or computer program;
 - f. Discussing the contents of an examination with another student who will take the examination;
 - g. Divulging the contents of an examination, for the purpose of preserving questions for use by another, when the instructor has designated that the examination is not to be removed from the examination room or not to be returned or to be kept by the student;
 - h. Substituting for another person, or permitting another person to substitute for oneself to take a course, test, or any course-related assignment;
 - i. Paying or offering money or other valuable thing to, or coercing another person to obtain an unadministered test, test key, homework solution, or computer program or information about an unadministered test, test key, homework solution, or computer program;
 - j. Falsifying research data, laboratory reports, and/or other academic work offered for credit;
 - k. Taking, keeping, misplacing, or damaging the property of The University of Texas at Tyler, or of another, if the student knows or reasonable should know that an unfair academic advantage would be gained by such conduct; and
 - l. Misrepresenting facts, including providing false grades or resumes, for the purpose of obtaining an academic or financial benefit or injuring another student academically or financially.
- ii. "Plagiarism" includes, but is not limited to, the appropriation, buying, receiving as a gift, or obtaining by any means another's work and the submission of it as one's own academic work offered for credit.
- iii. "Collusion" includes, but is not limited to, the unauthorized collaboration with another person in preparing academic assignments offered for credit or collaboration with another person to commit a violation of any section of the rules on academic dishonesty.
- iv. All written work that is submitted will be subject to review by plagiarism software.

UT TYLER RESOURCES FOR STUDENTS

- [UT Tyler Writing Center](mailto:writingcenter@uttyler.edu) (903.565.5995), writingcenter@uttyler.edu
- [UT Tyler Tutoring Center](mailto:tutoring@uttyler.edu) (903.565.5964), tutoring@uttyler.edu
- The Mathematics Learning Center, RBN 4021, this is the open access computer lab for math students, with tutors on duty to assist students who are enrolled in early-career courses.
- [UT Tyler Counseling Center](tel:903.566.7254) (903.566.7254)