

WESTERN KENTUCKY UNIVERSITY
COLLEGE OF HEALTH & HUMAN SERVICES
SCHOOL OF KINESIOLOGY, RECREATION & SPORT

EXS 325 – Section M02
Applied Exercise Physiology
Summer 2017 (3 credits)

I. MEETING TIME: *In-person:* May 15 – May 26
M/T/W/R/F 9:00 a.m. – 11:00 a.m.
Online: May 26 – June 15
LOCATION: Smith Stadium 1063
INSTRUCTOR: Cody Morris, PhD, EP-C
OFFICE HOURS: By appointment
OFFICE LOCATION: 1074B Smith Stadium
PHONE: (270)745-4931
E-MAIL: cody.morris@wku.edu

II. COURSE DESCRIPTION

Applied concepts introduced in exercise physiology and kinesiology. Aspects of the human body's reaction to differing exercise stressors. Emphasis on metabolic, musculoskeletal, and cardiorespiratory systems. Laboratory and field experience applying theoretical concepts of exercise physiology and kinesiology.

III. PRE-REQUISITES

CHEM 109 – Chemistry for the Health Sciences (grade of "C" or above)
EXS 311 – Exercise Physiology (grade of "C" or above)
Failure to adhere to the prerequisites will result in being dropped from the course at any point during the semester. If you are not an EXS major and have not passed CHEM 109 and EXS 311 with a C or better, you may not take this course.

IV. REQUIRED TEXT

Powers, S. & Howley, E. (2012). *Exercise Physiology: Theory and Application to Fitness and Performance, 8th Edition*. McGraw-Hill Humanities/Social Sciences/Languages. (ISBN: 9780078022531)

V. COURSE OBJECTIVES

At the conclusion of this course, students are expected to be able to have gained a basic understanding of the following:

- 1) Understand the key aspects of muscle fatigue and why it occurs.
- 2) Understand the role hormones play in regulating exercise.
- 3) Understand the anatomy of the cardiovascular system, key aspects of the heart, and how it functions during exercise.
- 4) Understand the anatomy of the respiratory system and how it functions during exercise.
- 5) Understand the acute and chronic responses of the neuromuscular system to resistance training.
- 6) Understand how muscle injury occurs and its impact of performance.
- 7) Understand the acute and chronic responses of the neuromuscular, metabolic, cardiovascular, and respiratory systems to aerobic exercise training.
- 8) Understand the process of thermoregulation and the acute and chronic physiological changes that occur during exercise in hot environments to maintain thermoregulation.
- 9) Understand the acute and chronic physiological changes that occur during and after exercise in response to exercise at altitude.
- 10) Understand the impact of body composition and body weight on exercise performance.
- 11) Understand how exercise and diet can alter body composition.

VI. POLICIES AND PROCEDURES

- a. **Code of Student Conduct:** Following the procedures of due process, if the WKU Code of Student Conduct is violated, the responsible parties will go through the University's disciplinary process, which is intended to be a fair and educational experience. Any WKU student may be expelled, suspended, placed on probation or given a lesser sanction for one or more of the following causes:
 1. ***Dishonesty*** – Plagiarism or cheating as described in the student handbook and in this course syllabus (see below).
 2. ***Destruction of property*** – Any act of vandalism, malicious or unwarranted damage or destruction to any institutionally owned or controlled property.
 3. ***Disrupting the academic process*** – Interference or disruptive activity which impedes, impairs or obstructs teaching, research ...which inhibits full exercise of rights by others.
 4. ***Unruly conduct*** – Disorderly conduct or lewd, indecent or obscene conduct or expression.
 5. ***Academic Freedom, Offenses, and Dishonesty*** – The University desires that every student experiences freedom in academic pursuits. Academic freedom, however, is not irresponsibility – it is the opportunity to pursue truth. The maintenance of academic integrity is of fundamental importance to the University. Thus it should be clearly understood that acts of plagiarism or any other form of cheating will not be tolerated and that anyone committing such acts risks punishment of a serious nature. Students who commit any act of academic dishonesty may receive from

the instructor a failing grade in that portion of the coursework in which the acts were detected or a failing grade in the course without possibility of withdrawal. The faculty member may also present the case to the Office of Student Life for disciplinary sanctions. A student who believes a faculty member has dealt unfairly with him/her in a course involving academic dishonesty may seek relief through the Student Complaint Procedure.

6. **Plagiarism** – To represent written work taken from another source as one's own is plagiarism. Plagiarism is a serious offense. The academic work of a student must be his/her own. One must give any author credit for source material borrowed from him/her. To lift content directly from a source without giving credit is a flagrant act. To present a borrowed passage without reference to the source after having changed a few words is also plagiarism.
7. **Cheating** – No student shall receive or give assistance not authorized by the instructor in taking an examination or in the preparation of an essay, laboratory report, problem assignment or other project which is submitted for purposes of grade determination.
8. **Disciplinary Actions** – The following list describes University sanctions that may be administered as a result of violating the WKU Code of Conduct: Warning and/or reprimand, creative discipline, disciplinary probation, suspension, expulsion.

- b. **Disability Support Services:** The Office of Disability Support Services assists students who have disabilities to gain access to its programs and activities on campus. Students with disabilities receive accommodations specific to their individual disability and/or impairment. These accommodations may include note takers, extended time on tests, priority in academic advising/registering and particular attention given to accessible classes. In compliance with university policy, students with disabilities who require accommodations (academic adjustments and/or auxiliary aids or services) for this course must contact the Office for Student Disability Services in DUC A-200 of the Student Success Center in the Downing Student Union. The phone number is 745-5004. Please DO NOT request accommodations directly from the professor or instructor without a letter of accommodation from the Office for Student Disability Services.
- c. **University Attendance Policy:** Registration in a course obligates the student to be regular and punctual in class attendance. Students should make certain that their names are on the class roll. If an error has been made in registration, it is the student's responsibility to see that the error is corrected in the Office of the Registrar. It is the individual instructor's responsibility to inform students, in writing, on the first day the class meets of the guidelines for implementing the instructor's attendance policy. Students who cease attending class are expected to report to the Office of the Registrar to initiate withdrawal procedures.

Withdrawal deadlines are published each semester in the schedule bulletin. Excessive and frequent absenteeism often contributes to poor academic achievement. An instructor who determines that a student's absenteeism is inconsistent with the instructor's stated policy should either counsel with the student or request that the Academic Advising and Retention Center arrange a counseling session with the student. Excessive absenteeism may result in the instructor's dismissing the student from the class and recording a failing grade, unless the student officially withdraws from the class before the withdrawal deadline. If the student withdraws from the University after the end of the official withdrawal period, excessive absenteeism may be one of the considerations in the instructor's deciding whether circumstances justify a "W" or an "F" in the course. The normal appeal process is available to the student who wants to appeal the decision of the instructor.

When a student is absent from class because of illness, death in the family, or other justifiable reasons, it is the student's responsibility to consult the instructor at the earliest possible time. If personal emergencies arise, written notification of absences must be supplied through the Academic Advising and Retention Center. The instructor is *NOT* responsible for ensuring the student get the information that was missed due to absence, nor will the instructor re-teach the information. The student will ask the instructor for any handouts that were missed due to the absence/tardy. Students cannot turn in any in-class assignment they were not in class to complete without expressed written consent.

- d. **Chain of Command:** If you would like to discuss an issue related to the course, please schedule a time to communicate and/or meet with the instructor. It is your responsibility to go to the instructor first. The student will be referred to the Department Chair if the issue cannot be resolved.

- e. **Title IX Sexual Misconduct/Assault Policy:** *Western Kentucky University (WKU) is committed to supporting faculty, staff and students by upholding WKU's Title IX Sexual Misconduct/Assault Policy (#0.2070) at <https://wku.edu/eoo/documents/titleix/wkutitleixpolicyandgrievanceprocedure.pdf> and Discrimination and Harassment Policy (#0.2040) at https://wku.edu/policies/hr_policies/2040_discrimination_harassment_policy.pdf.*
Under these policies, discrimination, harassment and/or sexual misconduct based on sex/gender are prohibited. If you experience an incident of sex/gender-based discrimination, harassment and/or sexual misconduct, you are encouraged to report it to the Title IX Coordinator, Andrea Anderson, 270-745-5398 or Title IX Investigators, Michael Crowe, 270-745-5429 or Joshua Hayes, 270-745-5121.

*Please note that while you may report an incident of sex/gender based discrimination, harassment and/or sexual misconduct to a faculty member, WKU faculty are "Responsible Employees" of the University and **MUST***

report what you share to WKU's Title IX Coordinator or Title IX Investigator. If you would like to speak with someone who may be able to afford you confidentiality, you may contact WKU's Counseling and Testing Center at 270-745-3159.

- f. **Reference Format:** All written assignments must follow *Publication manual of the American Psychological Association*, 6th edition.
- g. **Other Responsibilities/Expectations:**
1. Students should read assigned chapter material before class.
 2. If you are a student-athlete and will be away at a game/competition on the day that an assignment is due, the assignment must be turned in to the instructor ***before*** departure.
 3. Turn off or silence your cell phone before the start of class. If you have an emergent situation requiring you to keep your cell phone handy, you must inform the instructor at the beginning of class.
 4. You will need a hand calculator (apart from the one on your cell phone).
 5. Taking notes on your laptop/tablet is acceptable. Under no circumstances should you be checking your social media accounts during class. If you decide to participate in such behavior and are caught by the instructor or another faculty member passing by the classroom, you will be asked to leave class, be counted absent, and will lose any points that would be given for that day plus a loss of 10 points from your total points earned.
 6. DO NOT work on assignments for other classes during scheduled class time. This is very rude and if you choose to do so then you will be asked to leave, be counted absent, and lose any points possible for that day.
 7. No children or pets are permitted in class at any time. The only people who should be in the classroom are the instructor, students, and any faculty/staff pre-arranged with the instructor.

Note: There is no provision for “extra credit” in this course.

VII. STUDENT EVALUATION AND ASSESSMENTS

1. **Course assessment:** Since a large component of the course is delivered online, please check your e-mail and Blackboard on a regular basis (throughout each day) for announcements concerning the course. It is incumbent upon YOU, the student, to keep up with the readings, assignments, quizzes, exams, etc. Please be very careful in regards to the due dates of the exams, assignments, etc. and make sure to follow the instructions precisely to ensure you complete the work on time and in the appropriate manner. ***We are covering an entire semester in 5 weeks*** so we will cover a great deal of material very quickly. The course will require you to study, complete work, and turn in work on or before the due dates. Please be prepared to perform work every day/weekend and study the material. Waiting until the last minute before an assignment test/assignment is due is not advised.

2. Reading Assignments: You will be assigned 3 – 4 chapters per week. I suggest getting an early start as there is a large volume of reading associated with this course. The readings will come from your text as well as from other potential sources. Those “other sources” will be things that I post to Blackboard that you will be required to print for yourself (if you choose, you may opt simply to save these items to your computer). I do reserve the right to post additional readings, podcasts, etc. if I find something that I think would be appropriate. I will notify you via a Blackboard announcement if I add something not posted initially.

I have posted PowerPoint files containing outlines of the material. These will be “outlines,” not “notes,” so you will still need to read the assigned material to get the full understanding of the topics relevant to this class.

3. Completion of Quizzes/Exams: For the quizzes, you will be allotted twenty-five minutes for each quiz. For the exams, you will be allotted one hour and forty minutes for each exam. The quiz format will be fill-in-the-blank and short answer while the exams will be 50 multiple choice and true/false questions and you will only have one attempt to complete each quiz/exam. They will be due at or before 11:59 pm on the scheduled day (listed in Section VIII).

4. Delinquent Work: All work is due at or before the time stated. *NO EXCEPTIONS!* I suggest that you not wait until right before the time an assignment is due before turning it in. This is because if everyone does that the server could get jammed resulting in some people (and it may be you) having late work. Also, the time an assignment/exam/quiz is delivered to Blackboard will be based on Central Standard Time (CST). All assignments turned in after the “due time” will be penalized according to the policies listed below.

- -10% if turned in on the due date, but after the deadline.
- -20% if turned in the day after the due date.
- -30% if turned in 2 days after the due date.
- A zero will be given if the assignment/quiz is not turned in within 2 days of the due date.

5. Style: All work should be completed in Microsoft Word. If you don’t have a current version of MS Word (2003 or later) I suggest you do one of two things: find a computer lab with updated software or buy it for yourself.

Grading Scale:			
Quizzes (4 @ 25 pts each)	100 pts		
Labs (8 @ 20 pts each)	160 pts	A	90 – 100% of total pts
Exam 1	100 pts	B	80 – 89% of total pts
Exam 2	100 pts	C	70 – 79% of total pts
Exam 3 – Final	100 pts	D	65 – 69% of total pts
Total	560 pts	F	< 65% of total pts

The instructor reserves the right to revise or adjust activities and point distribution with prior announcement

VIII. TOPICAL COURSE OUTLINE (tentative)

In-class Portion (May 15 – May 26)				
Week	Day	Date	Content	Material Student is Responsible For
1	Mon	May 15	Course Introduction & Syllabus Review <i>Lab Activity #1 (HR & BP)</i>	
	Tues	May 16	Cell Signaling, Acid-Base Balance, & Exercise Performance	Chapters 5 & 11
	Wed	May 17	The Immune System & Exercise Risk Factors & Inflammation: Links to Chronic Disease	Chapter 6 Chapter 14
	Thurs	May 18	Body Composition & Nutrition for a Healthy Lifestyle <i>Quiz #1 (Chap 5, 6, & 11) (posted online at 11:00 am on 5/17)</i>	Chapter 18
	Fri	May 19	<i>Lab Activity #2 (Body Composition)</i> <i>Lab Activity #3 (Body Composition & Basic Data)</i>	
2	Mon	May 22	Exercise for a Healthy Lifestyle <i>Lab Activity #4 (Effect of Carrying Extra Weight on Exercise)</i>	Chapter 16
	Tues	May 23	<i>Lab Activity #5 (VO₂ max)</i> <i>Quiz #2 (Chap 14 & 16) (posted online at 11:00 am on 5/22)</i>	
	Wed	May 24	<i>Lab Activity #6 (VO₂ submax, Part I)</i> <i>Lab Activity #7 (VO₂ submax, Part II)</i>	
	Thurs	May 25	<i>Lab Activity #8 (Thermoregulation)</i>	
	Fri	May 26	Exam #1 DUE (posted online at 12:00 am on 5/24)	Chapters 5, 6, 11, 14, 16, 18
Online Portion (May 29 – June 15)				
Section	Dates	Material Student is Responsible For	Date Made Available	Date Due
2	Mon, May 29 – Wed, June 7	Chapters 13 & 19: Physiology of Training & Factors Affecting Performance Chapter 23: Body Composition & Nutrition for Performance <i>Quiz #3 (Chap 13 & 19)</i> EXAM #2 (Chapters 13, 19, 23)	5/29/17 (12:00 am) 5/29/17 (12:00 am)	6/5/17 6/7/17
3	Thurs, June 8 – Thurs, June 15	Chapters 12 & 24: Thermoregulation & Environmental Physiology Chapter 25: Ergogenic Aids <i>Quiz #4 (Chap 12 & 24)</i> EXAM #3 (Chapters 12, 24, 25)	6/8/17 (12:00 am) 6/8/17 (12:00 am)	6/13/17 6/15/17

The above schedule and procedures are tentative and subject to change in the event of extenuating circumstances.

The instructor reserves the right to deviate from or amend the syllabus