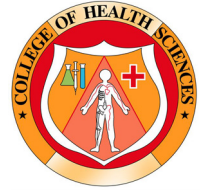




The University of Texas at El Paso  
College of Health Sciences  
Department of Kinesiology



## KIN 5831 Muscle Physiology and Health

Spring 2024

- Course number: KIN 5381 (CRN 26449)
- Course Hours: 3 credit hours
- Instructor: Kisuk Min, Ph.D.
- Email: kmin@utep.edu
- Office hours: Email to make an appointment
- Course hours: Tuesday 10:30 am ~ 1:20 pm
- Classroom: HSSN 136

### **COURSE DESCRIPTION**

KIN 5381 Muscle Physiology and Health (KIN 5381) is designed to provide mechanisms of cardiac and skeletal muscle homeostasis against disease, injury, and exercise. This course covers physiological and biological concepts associated with cardiac and skeletal muscle. This course consists of a combination of lectures, students' presentations with research articles, and discussion prompts. This course is based on the latest cardiac and skeletal muscle research. Students in this course will submit mini-review manuscripts and selected excellent manuscripts will be submitted and published in a peer-reviewed journal. This course meets the needs of students who want to pursue a career in medicine, biomedical research, or teaching topics related to physiology, biology, and medicine.

### **COURSE GOALS**

The goal of this course is for students to develop an understanding of the integrated mechanisms and functions of cardiac and skeletal muscle systems. This course provides; 1) a foundation understanding of basic functions of cardiac and skeletal muscle systems; 2) mechanisms of pathophysiology in cardiac and skeletal muscle; 3) the effects of exercise on cardiac and muscle homeostasis.

### **LEARNING OUTCOMES**

Upon completion of this course, students will be able to:

- Describe the structure and functions of cardiac and skeletal muscle.
- Describe mechanisms responsible for cardiac and skeletal muscle disease.
- Explain how exercise prevents and/ or treats cardiac and skeletal muscle disease.
- Understand the latest trends in cardiac and skeletal muscle research
- Apply the knowledge obtained from this course to students' research.

## COURSE PREREQUISITES

This course requires a strong foundation with B.S. related to physiology, biology, and chemistry.

## COURSE MATERIAL

- Review and research articles posted on Blackboard

## EVALUATION OF STUDENTS

Evaluations	% GRADE	GRADING SCALE*
Exam I	15%	A = 90-100%
Exam II	15%	B = 80-89.9%
Research article Presentation	45%	C = 70-79.9%
Mini review manuscript	25%	D = 60-69.9%
		F = Below 60%

- Grades will not be rounded.

## COURSE REQUIREMENTS AND POLICIES

- Students are required to check Blackboard and email for the announcements on a daily basis. Students must use their UTEP email.
- Students can request the make-up exam by providing verification for unusual circumstances. The instructor and students will set up a date and time for the make-up exam.
- Review of exams is allowed within a week after the grades are posted. ***The exams cannot be reviewed at the end of the semester or after finalized grades.***
- Any attempt to record the exam questions is ***strictly prohibited***. Any student(s) suspected of copying, recording, or photographing these materials will be immediately reported to the Dean of Students. ***No questions asked.***
- Lecture slides were developed by Dr. Min for KIN 5381 lectures only. ***The lecture slides must not be copied, quoted, or cited by others for other purposes.***

## EXAM

- All exams will be completed in the classroom ***through Blackboard using Respondus Lockdown Browser and Monitor***. Each student must download Respondus Lockdown Browser and Monitor via Blackboard. Exams will cover information presented in lectures. Exams will only cover the materials for the corresponding module.
- Please see the links below for Respondus Lockdown Browser and Monitor.  
[https://www.utep.edu/technologysupport/\\_Files/docs/MM\\_Respondus-Student.pdf](https://www.utep.edu/technologysupport/_Files/docs/MM_Respondus-Student.pdf)  
<https://www.youtube.com/watch?v=bF27uqRWiJA&feature=youtu.be&t=2m39s>

- If you have technical problems with Respondus Lockdown Browser and Monitor, please contact the HELP desk

### **MINI-REVIEW MANUSCRIPT**

See “Mini-Review Manuscript Guideline” on Blackboard.

- Topic and outline selection deadline: **January 30<sup>th</sup>**
- Submission deadline: **April 14<sup>th</sup>**

### **RESEARCH ARTICLE ORAL PRESENTATION**

Students select a research article related to the topic in this course. Students discuss with the instructor to decide whether to present the article. The selected research articles are shared with classmates before their presentation. Students prepare their questions for class discussion by reviewing the selected papers before the presentation.

- Topic and outline submission: **January 23<sup>rd</sup>**

### **SCHOLASTIC HONESTY AND DISCIPLINE**

Students are encouraged to study together and to share their knowledge freely during the learning process. However, assistance from other students or unauthorized sources are not allowed (materials such as books and notes may not be used) during exams.

"Scholastic dishonesty is a serious offense and will subject the student to disciplinary action. Scholastic dishonesty includes the attempt of any student to present the work of another as his or her own, or any work which s(he) has not honestly performed or attempting to pass any examination by improper means. The aiding and abetting of a student in any dishonesty are held to be an equally serious offense. Any act of academic dishonesty attempted by a UTEP student will not be tolerated. All suspected violations of academic integrity at the University of Texas at El Paso must be reported to the Office of Student Conduct and Conflict Resolution (OSCCR) for possible disciplinary action.

### **ACCOMMODATIONS AND SUPPORT SERVICES**

UTEP and the Department of Kinesiology seek to provide reasonable accommodations for all qualified individuals who need accommodations or support for their learning. UTEP adheres to all applicable federal, state, and local laws, regulations, and guidelines with respect to providing reasonable accommodations as required, affording equal educational opportunity. It is the student's responsibility to register with the **Center for Accommodations and Support Services** (CASS) (<http://sa.utep.edu/cass/>), located in the UTEP Union Bldg. East Wing, Room 106, and inform the faculty member to arrange for appropriate accommodations or support.

The UTEP Help Desk Center provides to students for technological issues.  
([helpdesk@utep.edu](mailto:helpdesk@utep.edu) 915-747-4357)

## **TENTATIVE COURSE SCHEDULE**

<b>Date</b>	<b>Topic</b>	<b>Chapter</b>
1/16	Course Introduction	
1/23	Literature Review	
1/30		
2/6	Exercise and Skeletal Muscle Stem Cell	1
2/13	Exercise and Muscle Protein Synthesis	2
2/20	Exercise and Cardiac Muscle Function	3
2/27	Exercise and Cancer Cachexia	4
3/5	Review for Exam	
3/19	<b>Exam 1</b>	
3/26	Exercise and Sarcopenia	5
4/2	Exercise and Muscle Degradation	6
4/9	Exercise and Muscle Redox Control System	7
4/16	Exercise and Myopathy	8
4/23	Review for Exam	
4/30	<b>Exam 2</b>	