KINE3080: Physiological Basis of Human Performance

M: 4:00-5:30 PM
Room: New College Frisco 132

Instructor:
Dr. B. McFarlin, Associate Professor
Office Hours by Appointment (after class in Frisco, other times in Denton by appointment)
Use UNT e-mail

Prerequisites (Recommended): Junior Standing; 6 hrs of BIOLOGY or equivalent

Text (Optional): "Physiology of Sport and Exercise", 5th or 6th Edition. Kenney, Wilmore & Costill. Human Kinetics.

Course Description: Applied physiology course of study including bioenergetics, neuromuscular factors, and cardiovascular and pulmonary dynamics during exercise. Emphasis is placed on acute and chronic responses of human physiology to exercise stress.

Learning and Engagement Outcomes: This course uses a combination of traditional lecture, online lecture, and experiential learning components to complete following learning and engagement outcomes:
1. To integrate your expanding exercise physiology knowledge base into the design of an experiment to test a particular aspect of exercise physiology.
2. To be able to identify examples of research manuscripts that meet the guidelines of being a high-quality work based on a search of PubMed.
3. To be able to distill a given set of published research manuscripts into their basic components and use the components to design an exercise physiology experience.
4. To be able to explain and interrupt exercise physiology data that you collect as part of the experiential learning components using knowledge obtained during the lectures.

Role of Experiential Learning in this Course: During the course of this semester you will have the opportunity to participate in a series of experiential learning activities. These will come in the form of research experiments that you will design and conduct by working in small groups of 4-5 students. Dr. McFarlin will help you develop your ideas, but this part of the class will be student driven based on the exercise physiology concepts that your group decides to focus on.

How you will be Prepared for Experiential Learning in this Course: During this semester we will complete a series of traditional and online lectures aimed at teaching you about basic research skills and how to identify good research studies in the field of exercise physiology. We will also build your knowledge base in the area of exercise physiology. The goal is that by the end of this course you will have a working understanding of exercise physiology and most importantly an ability to apply the concepts you learn in class. Team work is important for this project to succeed and for you to earn a good grade.

Course Expectations:
1. **Lecture Attendance:**
   a. **If you miss more than 2 days of class**, Dr. McFarlin reserves the right to drop you from the course without notice.
2. If you have special learning needs, please inform me immediately.
3. Please respect others in class by leaving you cell phones/pagers, etc turned off. Phone calls are not to be taken at any time during class.
4. Participate in weekly peer-mentoring activities with your assigned group.
5. If at any point during the semester you are unhappy with your performance in this class, please contact me **immediately**.
6. **Academic dishonesty** will not be tolerated (i.e., copying, plagiarism, cheating, using cell phone during exam, etc.); individuals found violating this policy will be reported to the KHPR department chair. Any

individual who commits academic dishonesty at any point during the semester will receive a zero for the assignment in question.

Technical Skill Requirements: Downloading and uploading files, sending and receiving emails, and/or using Canvas.

Netiquette: Because of how important communication is in the online environment, I will expect each of you to log in to the course at least 3 evenly spaced times a week. Please check the Announcements area first, since that is where I will put important information. Communication online is different than that of face to face classes. Try to use good "netiquette" when communicating with your classmates. Remember that your fellow students can't see your facial expression, hear you giggling, or notice your gestures. All of these elements add to our face to face communication every day without us really noticing it. So, please keep this in mind when you are commenting on others ideas, giving constructive criticism on a writing project, or just interacting with the class in general. I expect that everyone will treat the others in this class with the same respect that they would wish to be treated! However, I also have confidence from the start that this will happen. I have taught many classes, and I am usually the most surprised by how supportive of each other students can be. Realize that although you may never meet many of your classmates, you can still create lasting friendships in the online environment. You may also want to think about the fact that just because individuals take an online course, it doesn't mean that they are necessarily at a distance from each other. During your introductions, take a minute to let others know what town and state you live in. You may find that you actually have a classmate that you can meet at the local coffee shop and continue a conversation with. To learn more about online etiquette, visit the following Web site: http://www.albion.com/netiquette/corerules.html

ADA Statement: When possible, and in accordance with 504/ADA guidelines, we will attempt to provide reasonable academic accommodations to students who request and require them. Please call the UNT Office of Disability Accommodation (http://disability.unt.edu/about) for more details.

Academic Dishonesty Policy (copying, plagiarism, cheating) per UNT Policy 18.1.6: Students are expected to conduct themselves in a manner consistent with the University's status as an institution of higher education. In the class setting, students shall follow their instructors' directions and observe all academic standards and requirements published in course syllabi and other course materials. A student is responsible for responding to an academic dishonesty report issued by an instructor or other University authority. If a student fails to respond after proper attempt at notification, the University may take appropriate academic actions in the absence of the student. Any student found to be in violation of the academic dishonesty policy will be given a grade of zero for the assignment in question and reported to the UNT administration through the reporting mechanism approved in UNT policy 18.1.6 (Office of Academic Integrity).

Evaluation: Final grades will be determined based on the total number of points that you accumulate during the semester.

Component	Points
Online Research Training (3, 5 points each)	15
Reflection Discussion (4 total, 15 points each)	60
Group Topic / Article Review	50
Group Methods Submission	50
Group Data Collection	25
Group Presentation	75
Exam I	150
Exam II	150
Total	**575**

Grade Scale: A: 90-100%, B: 80-89%, C: 79-70%, D: 69-50%, F: <50%

Note: Students will not be allowed to take an Incomplete in this course due to poor planning on their part. If you find you do have a legitimate reason for an Incomplete, please talk with me as soon as possible to discuss the situation and to identify the documentation that will be required to support your request. Please consult the UNT catalog to review conditions under which an incomplete may be granted.

Online Research Training: As part of the first learning module in this course, you are required to complete online training for: CITI Human Subjects, UNT Biological Safety, and UNT Bloodborne Pathogens. In each of these trainings you will learn about how to be safe when conducting research. You will submit proof of training

via links in Canvas and be awarded 5 points for each training that you complete. In order to participate further in the course, **you have to complete the training, this is not optional**.

Reflection Discussion: In order to document your experiences with experiential learning in this class, you will write a short discussion post (max of 200 words) every 3-weeks. The goal of this activity is to reflect on what you learned for the week using a supplied starter topic (refer to Canvas for the specific topic) and how you plan to use your new knowledge going forward. In addition to your post, you must reply to the posts of at least two classmates in order to receive full credit for the discuss.

Group Article Review: Your group will identify a specific topic within exercise physiology and present it to Dr. McFarlin by the 3rd week of class. Once your topic has been approved, your group will select a minimum of 5 research articles from PubMed that includes methods or outcomes related to the approved topic. As a group you will write a 500-word summary or the key findings and a bulleted list of the key methods used across the studies. This article review will be due by **September 24th**. Each member of the group will receive the same grade for the assignment.

Group Methods Submission: Using the previously review articles, the group will write a short proposal for what methods that they would like to test. Dr. McFarlin will meet individually with each group to discuss and finalize methods that will be used. Your group's final methodology will be due on the **October 8th**. Each member of the group will receive the same grade for the assignment.

Group Data Collection: During the class you will be working with your group and Dr. McFarlin to collect your desired exercise physiology data using members of your group for the testing. This data will be collected in a "field setting" at the UNT Frisco Campus. Your group will be expected to submit an excel spreadsheet of your final data for approval by Dr. McFarlin by **November 5th**.

Group Presentation: Each group will create a PowerPoint presentation to include a minimum of introduction (1 slide), purpose (1 slide), methods (2 slides), results (1-2 slides), conclusions (1 slides), and what you learned from this experience (1 slide). Each member of the group will be expected to contribute to the development of the slides for the presentation and speak during the presentation. Each group will be allotted 20-min to present on **December 3rd**. Your grade on this project will be determined by evaluations submitted by other members of the class and Dr. McFarlin.

Examinations: Exam I will cover the topics 1-3 (Research Methods, Bioenergetics, and Exercise Metabolism) and Exam II will cover topics 4-6 (Muscle Physiology, Neuromuscular adaptations to resistance training, and Sport Nutrition/Metabolism). You will be taking your exams on a Canvas using a laptop provided by UNT. The exams will consist of a combination of multi-choice and short answer questions. More detail on exam structure will be presented before Exam I. **Please be in class to take examinations. If you are late or do not show up, NO make-up exam will be offered.**

How do I get answers to my Questions? Dr. McFarlin is here to help you achieve success in this class. Unfortunately it is very difficult from a time perspective for me to reply to individual e-mail questions about course content. Also, there is a good chance that several of your classmates may have a similar question as you. Thus, if you have a question concerning lecture material, please post these in the discussion forum on Canvas. This will allow all students in the course to view my responses. If you prefer to ask a question in person, feel free to ask Dr. McFarlin after class or schedule an appointment to meet him in his office. If you have a grade related question, you are welcome to e-mail Dr. McFarlin directly via Canvas e-mail.

Tentative Order of Topics:

Week	Topic	In-class	Online
8/27	Syllabus & Course Overview	X	
8/27	Research Methods	X	X
9/3	Bioenergetics	Holiday, No Class	X
9/10	Bioenergetics & Exercise Metabolism	X	X
9/17	Work in Groups, Finalize Article Review	X	**
9/24	Groups 1, 2, & 3 Meet with Dr. McFarlin	X	**
10/1	Groups 4, 5, & 6 Meet with Dr. McFarlin	X	**
10/8	**Exam 1 (Research Methods, Bioenergetics, and Exercise Metabolism)**	**X**	
10/15	Data Collection Groups 1 & 2	X	
10/15	Muscle Physiology		X
10/22	Data Collection Groups 3 & 4	X	
10/22	Neuromuscular Adaptations to Strength Training		X
10/29	Data Collection Groups 5 & 6	X	
11/5	Career Development & Promotion	X	
11/12	Groups 1, 2, & 3 meets with Dr. McFarlin, interrupt data, prepare presentation	X	**
11/19	Basic Sport Nutrition		X
11/19	Groups 4, 5, & 6 meets with Dr. McFarlin, interrupt data, prepare presentation	X	**
11/26	**Exam 2 (Muscle Physiology, Neuromuscular Adaptations to Strength Training, and Basic Sport Nutrition)**	**X**	
12/3 & 12/10	Groups 1, 2, 3, 4, 5, & 6 Present	X	

* This is an approximate date that this lecture component will be started
** You may need to work with your group outside of class to finalize

Note: The following information is designed to help the class run smoothly. The instructor reserves the right to make additions and adjustments as necessary. Some of the writings, lectures, films, or presentations in this course may include material that conflicts with the core beliefs of some students. Please review the syllabus carefully to see if the course is one that you are committed to taking. If you have a concern, please discuss it with me at your earliest convenience.