



Course Syllabus: **Advanced Exercise Physiology & Assessment**
EXPH 5023-280
Spring 2020, W 6-8:50pm, CO223
Department of Athletic Training & Exercise Physiology

Contact Information

Instructor: Soon-Mi Choi, Ph.D.
Office: Ligon Hall Room 208
Office phone: (940) 397-4956
E-mail: soonmi.choi@msutexas.edu
Office hours: By appointment

Course Description

Advanced concepts in a selected field of exercise physiology. Emphasis will be placed on six fundamental areas; Neuromuscular, Metabolism and Bioenergetics, Endocrine, Immune, and Exercise Training. This course will be based on lectures and presentations on given topics.

Suggested Textbook

There is no required book. Necessary materials such as power points, chapter notes, and articles will be posted on D2L.

1. Powers, S. K & Howley, E. T. Exercise Physiology: Theory and Application to Fitness and Performance, 8th edition, McGraw-Hill.
2. Ehrman, J. K., Kerrigan, D. J., & Keteyian, S. J. Advanced Exercise Physiology: Essential Concepts and Applications, Champaign, IL: Human Kinetics.
3. Kenney, W. L., Wilmore, J. H., and Costill, D. L. Physiology of Sport and Exercise, 6th edition, Champaign, IL: Human Kinetics.
4. Kraemer, W. J., Fleck, S. J., and Deschenes, M. R. Exercise Physiology: Integrating Theory and Application, 2nd edition, Philadelphia, PA: Wolters Kluwer.

Academic Misconduct Policy & Procedures

Academic Dishonesty: Cheating, collusion, and plagiarism (the act of using source material of other persons, either published or unpublished, without following the accepted techniques of crediting, or the submission for credit of work not the individuals to whom credit is given). Additional guidelines on procedures in these matters may be found in the Office of Student Conduct.

Grading

Course Grade - Grades will be based on your performance in the following areas:
Table 1: Percentages allocated to each assignment.

Assignments	%
Exam 1	25
Exam 2	35
Research article critique	10
Presentation	20
Active class participation (discussion)	5
Class attendance	5
Total	100

Table 2: Total percentages for final grade.

Grade	%
A	90-100
B	80-89
C	70-79
D	60-69
F	< 60

Exams

Take all exams at the scheduled times and dates (No accommodation will be made for requests to take the exam on a different day).

- The format of the test will be multiple choice questions and few short answers questions.
 - Preparation: Scantron form, pencil, and black/blue pen
- **Any form or sign of academic dishonesty during an exam will result in a zero for the exam grade.**

Presenting & Critiquing Scientific Papers

A. Paper selection essentials:

1. Scheduled papers will be presented and discussed each assigned date.
2. Assigned papers related lecture topics:
 - 1) Ch8. Skeletal muscle and Ch7. Nervous system: 0-5
 - 2) Ch3. Basic bioenergetics and Ch4. Exercise metabolism:6-9
 - 3) Ch5. Hormonal responses: 10-13
 - 4) Ch23. Immune system: 14-17
3. All scientific papers must be approved by instructor. To facilitate the approval process, have the full text of at least 3-4 different papers, preferably from the

approved journals list (PubMed), ready to be evaluated. The deadline to select the papers is following as: 1) paper 1-5 by Feb 12 (Wed), 2) paper 6-9 by March 13 (Fri), 3) paper 10-13 by March 25 (Wed), 4) paper 14-17 by April 8 (Wed). Keep in mind that your selections may be turned down your first try.

4. The focus of the papers must be on a topic addressed in the class and include some aspect of acute or chronic physical activity/exercise training. The papers should be "original articles" (no review papers). The subject should be either elderly population or athletes.

5. The primary emphasis/significance may be performance/functional capacity (applied science) physiological regulation (basic science), or aging/disease (clinical science).

6. Due to a conflict of interest, papers published by Departmental faculty members (including your instructors) must be excluded.

B. Instructions for Article Critique: Presenter

1. Dress professionally as if you are presenting at a conference.

2. Practice and rehearse your presentation several times.

3. Presentation Format (15 min): use visual aids (e.g., overhead or Power Point presentation); use font size larger than 16 pts)

- Overview: Give a brief overview of importance/significance of topic

Provide a reason why you chose the particular paper.

- Description: Succinctly describe the purpose of the study, the experimental design and methodology employed, key results (3 or 4 at most) and conclusions. Make sure to present key figures and tables

- Discussion: Do not include the discussion section (limitations, weaknesses, etc.) in your presentation. We will do at the Q&A session.

4. Presenters will turn in their presentation materials (hard copy) at the beginning of the presentation or send them to all classmates included instructor before the presenting time.

5. Points will be deducted if your presentation time deviates from the allocated 15 minutes.

6. Question/Answer/Discussion Period (15 min): Answer to each question succinctly as if you have performed the study

C. Instructions for Article Critique: Readers:

1. Read each of the articles carefully using the "scholarly approach" and be ready to discuss.

2. Come to class with at least 2 questions and 2 comments (typewritten) for each paper to be used to stimulate discussion.

- Make sure to type in the title of the article and your name on your assignments. If you do not return them by the given time, 10 points will be deducted from "Active" participation in discussion points (100 pts) in each time.
- These assignments (hardcopy) MUST be turned in at the beginning of the class period.
- Remember that you will be graded on how actively you participate in the classroom discussion.

General Tips for Making Classroom Presentations:

1. Content/Graphics:

- Make sure you start by establishing the significance and by describing why/how the issue is controversial.

- Include physiological/biological background on the topic.

- Power Point--use large font
 - space between lines
 - use bold and italics to highlight different sections
 - use "bullet" phrases and elaborate verbally (not full sentences)
 - focus on the major points, not trivial details
 - present key figures and tables

2. Verbal Presentation:

- Speak clearly at an "easy" pace--be articulate. Do not "speed" speak or mumble.

- Speak to the audience (not to the screen).

- "Monitor" your audience to make sure they understand what you are saying.

- Use "inflections" to add tone/dynamics and to emphasize the most important points--do not speak in a monotone.

- Use your PowerPoint as your notes--do not read from a script.

- Practice your presentation several times in front of different people or small groups of people--this will help reduce nervousness and improve the quality of the real class presentation.

- During the question/answer period: 1) listen to the question; 2) determine what is being asked (if you can't, ask for clarification).

Late Work

Late assignments will not be accepted.

Make Up Work/Tests

No make-up exams/assignments will be given for any personal reasons, except under medical/ family emergency situations/ authorized participation in official school functions.

Attendance

Attendance at class is **compulsory** not optional. Any student whose absence was caused by (1) personal illness (must bring a receipt or note from a doctor), (2) death in the immediate family, or (3) authorized participation in official school functions will be given an opportunity to rectify in a manner acceptable to the professor, any deficiencies which may have resulted from such absence. The professor has the prerogative of determining whether or not a student may rectify deficiencies occasioned by absences for other reasons.

- Only one absence will be permitted without penalty. Each additional absence will lead to a **10-point deduction** of your attendance points (100 pts). More than 4 absences will result in your dismissal from the class with a failing grade.
- Students are expected to be on time for class and stay till the end of class. We will start promptly. (**2 times late=1 absence**)

Instructor Class Policies

1) Class preparation

- Students are expected to **READ assigned chapters prior to class**. Failure to do so will likely result in unsatisfactory performance.

2) Use of electronic devices

- Turn off your cell phones. If you are unable to for legitimate reasons, set them on vibration mode before the class starts. Failure to do so the first time will lead to dismissal from the class and an absence. Each additional offense will lead to the loss of 3% points from the student's semester overall total grades. Put away your cell phones in your bag or pocket before the start of class to avoid penalties.
- You may bring your tablet PC or laptop to have your classroom materials without internet access. Surfing the web, checking your email, making Facebook posts, or anything of that nature is strictly prohibited (each offense will lead to **3%-point deduction** from overall total grades).

3) Respect for instructor and classmates

- If you are talking when class starts and do not stop, I will ask you to leave.
- There is no savory smell food allowed in the classroom.

Services for Students With Disabilities

In accordance with Section 504 of the Federal Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990, Midwestern State University endeavors to make reasonable accommodations to ensure equal opportunity for qualified persons with disabilities to participate in all educational, social, and recreational programs and activities. After notification of acceptance, students requiring accommodations should make application for such assistance through Disability

Support Services, located in the Clark Student Center, Room 168, (940) 397-4140. Current documentation of a disability will be required in order to provide appropriate services, and each request will be individually reviewed. For more details, please go to <http://www.mwsu.edu/student-life/disability>.

College Policies

Campus Carry Rules/Policies

Refer to: [Campus Carry Rules and Policies](#)

Smoking/Tobacco Policy

College policy strictly prohibits the use of tobacco products in any building owned or operated by WATC. Adult students may smoke only in the outside designated-smoking areas at each location.

Alcohol and Drug Policy

To comply with the Drug Free Schools and Communities Act of 1989 and subsequent amendments, students and employees of Midwestern State are informed that strictly enforced policies are in place which prohibits the unlawful possession, use or distribution of any illicit drugs, including alcohol, on university property or as part of any university-sponsored activity. Students and employees are also subject to all applicable legal sanctions under local, state and federal law for any offenses involving illicit drugs on University property or at University-sponsored activities.

Tentative Course Schedule:

This may very well change.

***Exam 1 date will be determined by class progress at least one week prior to giving the exam.

*** Example of reading: *Exercise Physiology: Theory and Application to Fitness and Performance* by Powers & Howley.

Week	Date	Lecture topic	Reading	Article Presentation
1	1/22	Introduction & Overview		
2	1/29	Skeletal muscle	Ch8	
3	2/5	Skeletal muscle Nervous system	Ch8 Ch7	0
4	2/12	No lecture: Take home assignment on D2L Skeletal muscle Nervous system	Ch8 Ch7	0
5	2/19	Nervous system	Ch7	1
6	2/26	Basic bioenergetics & Exercise metabolism	Ch3, 4	2, 3
7	3/4	Basic bioenergetics & Exercise metabolism	Ch3, 4	4, 5
8	3/11	Exam #1 (Ch3,4,7,8 plus articles)		
9	3/18	Spring Break-No Class		
10	3/25	EXAM Review Hormonal responses	Ch5	6, 7

11	4/1	Hormonal responses	Ch5	8, 9
Week	Date	Lecture topic	Reading	Article Presentation
12	4/8	Hormonal responses Immune system	Ch5 Ch23	10, 11
13	4/15	Immune system	Ch23	12, 13
14	4/22	Immune system	Ch23	14, 15
15	4/29	Training for performance	Ch21	16, 17
16	5/6	<i>Training for the female athlete, Children, special populations, and the masters athlete</i>	Ch22	
	5/13	Final: Exam #2 (Cumulative exam, plus articles)		