



Midwestern State University

Department of Athletic Training and Exercise
Physiology

EXPH 2503 – Physiology of Sport and Fitness

Day and Time: Lecture: Monday/Wednesday/Friday - 8:00 - 8:50 am

Location: Room 223, D.L. Ligon Coliseum

Instructor: Brett Crossland, Ph.D.

Email: brett.crossland@msutexas.edu

Telephone: 940-397-4956

Office: 208 Ligon Coliseum

Office Hours: M/W: 11:00 am – 1:00 pm; T/TH 9:00 - 11:00 am

Important Dates:

First Day of Class – Monday, August 28

Labor Day – Monday, September 4 (No Class)

Last Day to Drop – Monday, October 30

Thanksgiving Holiday – November 21-25 (No Class)

Exam I - Friday, September 15

Exam II - Wednesday, October 11

Exam III - Wednesday, November 8

Final Exam – Wednesday, December 13 (8:00 am – 10:00 am)

Textbook: The following text is required for the course. Material presented in class will NOT be exclusively from the text, but will enhance the contents introduced in the readings.

Boone, Tommy (2014). Introduction to Exercise Physiology. Jones & Bartlett Learning, Publishers. Burlington, MA.

Course Objectives:

1. Explain the energy systems, energy transfer during exercise and how best to train these systems for maximum performance in the development of physical fitness and performance.
2. Describe the basic physiology of muscular contraction and the principles related to the development and maintenance of strength, muscular endurance and flexibility.
3. Describe the function of the respiratory and circulatory system during rest and during exercise.
4. Describe the function of the cardiovascular system including the associative factors and theories in the prevention/rehabilitation of cardiovascular disease.
5. Describe the physiological responses and adaptations to environmental changes at rest and during exercise.
6. Develop an understanding of sport training methods for strength, power and endurance and the physiological effects.
7. Describe hormonal regulation of exercise as it relates to metabolism and energy transfer.

Course Evaluation: Evaluation of the course material will be broken down between four (4) exams throughout the semester, five (5) quizzes taken on D2L, and ten (10) participation opportunities. Exams will be in person and worth 66% of your overall grade. **MAKE UP EXAMS WILL NOT BE GIVEN AFTER THE SCHEDULED DATE.** Quizzes taken on D2L will account for 17% of total grade. Participation opportunities will be unannounced and will consist of activities related to the daily lecture.

A. Participation (10 @ 10pts each)	100 pts	17%
B. Quizzes (5 @ 20pts each)	100 pts	17%
C. Exams (4 @ 100pts each)	<u>400 pts</u>	<u>66%</u>
	Total: 600 pts	100%

GRADING SCALE:

Grades will be assigned on the following points needed:

A: $\geq 90.00\%$	≥ 540
B: 80.00-89.99%	480-539
C: 70.00-79.99%	420-479
D: 60.00-69.99%	360-419
F: $\leq 59.99\%$	359 pts and below

Attendance

Attendance at class is **compulsory** if you intend on performing well in this course. Attendance will be taken for each class period. If you are not feeling well, I encourage you to stay away from the classroom. Lectures will not be recorded so it is your responsibility to get notes from fellow classmates.

Classroom Policies: It is assumed that everyone enrolled in this course is here to pursue further knowledge in the area of human movement. The following list provides what will be expected by the instructor and should also be expected by the students:

1. Attendance in class is expected. If you will not be able to participate in a class session please notify the instructor **PRIOR** to your absence in a timely manner. Only those with excuses that are related to University events (academic, athletic, etc.) or religious purposes may make-up work. If you have an excused absence and will not be available for an exam (**EXCLUDING the FINAL EXAM**) you must take the exam **PRIOR** to your absence (**NO EXCUSES!!**). Those individuals who do not have an excuse for an absence will receive a zero score for that day's evaluation. If you fail to inform the instructor in a timely manner of your absence, then any make-up work performed will be worth 50% of the original work.
2. Turn off all cell phones, pagers, and any other electronic devices before class begins. It is disrupting to other students, and disturbing to the instructor if these electronic devices are active during the class period.
3. If you have a question that was not answered during the class period please feel free to stop by my office or email me your question (see front page).
4. Neither academic dishonesty nor plagiarism will be tolerated and as such, disciplinary action will be issued in accordance with university guidelines.

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 see: <http://www.mwsu.edu/studentlife/disability>.

Tentative Course Schedule

Week	Date	Topic	Reading	Assignments
1	8/28	Course Introduction		
1	8/30	Passive & Active Ventilation	Ch. 1	
1	9/1	Ventilation Control During Exercise	Ch. 1	Quiz # 1 – Due 9/3
2	9/6	Ventilation Response to Exercise	Ch. 1	
2	9/8	Pulmonary Ventilation	Ch. 2	Quiz # 2 – Due 9/10
3	9/11	Pulmonary Ventilation Cont.	Ch. 2	
3	9/13	Pulmonary Ventilation Cont.	Ch. 2	
3	9/15	EXAM #1		
4	9/18	Cardiovascular System Introduction	Ch. 3	
4	9/20	Cardiovascular System Cont.	Ch. 3	
4	9/22	Cardiovascular System Cont.	Ch. 3	
5	9/25	Cardiovascular System Cont.	Ch. 3	
5	9/27	Maximal Oxygen Uptake	Ch. 4	
5	9/29	Maximal Oxygen Uptake Cont.	Ch. 4	Quiz # 3 – Due 10/1
6	10/2	Maximal Oxygen Uptake Cont.	Ch. 4	
6	10/4	Electrophysiology	Ch. 11	
6	10/6	Autonomic Nervous System	Ch. 11	
7	10/9	Heart Rate Variability		
7	10/11	EXAM #2		
7	10/13	Muscle Physiology & Function	Ch. 6	
8	10/16	Muscle Physiology & Function Cont.	Ch. 6	
8	10/18	Muscle Physiology & Function Cont.	Ch. 6	

8	10/20	Muscle Physiology & Function Cont.	Ch. 6	
9	10/23	Muscular Adaptations to Exercise	Ch. 8	
9	10/25	Cardiovascular Adaptations to Exercise	Ch. 8	
9	10/27	Muscle Damage		Quiz # 4 – Due 10/29
10	10/30	Muscle Damage Cont.		
10	11/1	Inflammatory Response to Exercise		
10	11/3	Endocrine System & Exercise		
11	11/6	Endocrine System & Exercise Cont.		
11	11/8	EXAM #3		
11	11/10	Biochemistry of Exercise	Ch. 5	
12	11/13	Biochemistry of Exercise Cont.	Ch. 5	
12	11/15	Biochemistry of Exercise Cont.	Ch. 5	
12	11/17	Biochemistry of Exercise Cont.	Ch. 5	Quiz # 5 – Due 11/19
13	11/20	Introduction to Environmental Factors		
14	11/27	Environmental: Heat		
14	11/29	Environmental: Cold		
14	12/1	Environmental: Altitude		
15	12/4	Agents to Enhance Performance	Ch. 10	
15	12/6	Agents to Enhance Performance Cont.	Ch. 10	
15	12/8	Review for Final Exam		
	12/13	FINAL EXAM		8:00 – 10:00 am

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.