



EXPH 6103 - Myocardial Physiology & ECG Analysis

Day and Time: Monday / Wednesday 1:30 - 2:50 pm

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/F: 9:00-11:00 am; T/TH 8:00 - 9:30 am

Important Dates:

First Day of Class – Monday, August 26

Last Day to Drop – Monday, November 25

Thanksgiving Holiday – November 27-29 (No Class)

Exam I - Tuesday, September 30

Exam II - Tuesday, November 4

Final Exam – Wednesday, December 11 (5:45 - 7:45 pm)

Textbook: No textbook is required for this course. All required reading materials will be provided via D2L by the instructor.

Course Objectives:

1. Gain an understanding of the anatomy and physiology of the heart.
2. Understand the effects of acute and chronic exercise on a variety of cardiovascular parameters.
3. Develop the skills necessary to administer and interpret an echocardiogram.
4. Identify abnormalities in heart rate, various waveforms, intervals, segments, and complexes associated with ECG.
5. Interpret the underlying mechanisms associated with ECG abnormalities.

Course Evaluation: Evaluation of the course material will be broken down between five (5) article review assignments throughout the semester, 3 (3) ECG analysis assignments, and three (3) exams. Exams will be in person and worth 50% of your overall grade. **MAKE UP EXAMS WILL NOT BE GIVEN AFTER THE SCHEDULED DATE.**

| | | |
|----------------------------------|----------------|-------------|
| A. Article Reviews (5 @ 30 pts) | 150 pts | 25% |
| B. ECG Analysis (5 @ 30pts each) | 150 pts | 25% |
| C. Exams (3 @ 100pts each) | <u>300 pts</u> | <u>50%</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. Lab assignments can not be completed without attendance of the weekly lecture therefore any missed class will result in a missed laboratory assignment.

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!!**).
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 | Assignments |
|-------------|--------------|---|-----------------------------|
| 1 | 8/26 | Class Introduction | |
| 1 | 8/28 | Cardiovascular System Overview | |
| 2 | 9/4 | Anatomy of the Heart | |
| 3 | 9/9 | The Cardiac Cycle | |
| 3 | 9/11 | Circulatory System | Article Review #1 Due 9/15 |
| 4 | 9/16 | Heart Rate | |
| 4 | 9/18 | Stroke Volume | Article Review #2 Due 9/22 |
| 5 | 9/23 | Cardiac Output | |
| 5 | 9/25 | Blood Pressure | |
| 6 | 9/30 | Exam #1 | |
| 6 | 10/2 | Cardiac Innervation | Article Review #3 Due 10/6 |
| 7 | 10/7 | Autonomic Regulation of the Heart | |
| 7 | 10/9 | Cardiovascular Adaptations | Article Review #4 Due 10/13 |
| 8 | 10/14 | Cardiac Monitors | |
| 8 | 10/16 | Introduction to Electrophysiology | Article Review #5 Due 10/20 |
| 9 | 10/21 | Waveforms, Intervals, Segments, and Complexes | |
| 9 | 10/23 | Analyzing a Rhythm Strip | ECG Analysis #1 Due 10/27 |
| 10 | 10/28 | Sinus Arrhythmias | |
| 10 | 10/30 | Sinus Arrhythmias | ECG Analysis #2 Due 11/3 |
| 11 | 11/4 | Exam #2 | |
| 11 | 11/6 | Atrial Arrhythmias | |
| 12 | 11/11 | Atrial Arrhythmias | |
| 12 | 11/13 | Junctional Arrhythmias & AV Blocks | ECG Analysis #3 Due 11/17 |
| 13 | 11/18 | Bundle Branch Blocks | |
| 13 | 11/20 | Premature Ventricular Contractions | ECG Analysis #4 Due 11/24 |
| 14 | 11/25 | Pacemakers | |
| 14 | 11/27 | NO CLASS THANKSGIVING | |
| 15 | 12/2 | Cardiac Drift | |
| 15 | 12/4 | Cardiac Drift | ECG Analysis #5 Due 12/1 |
| | 12/11 | FINAL EXAM | 5:45-7:45 pm |

College Policies

Change of Schedule

A student dropping a course (but not withdrawing from the University) within the first 12 class days of a regular semester or the first four class days of a summer semester is eligible for a 100% refund of applicable tuition and fees. Dates are published in the Schedule of Classes each semester.

Refund and Repayment Policy

A student who withdraws or is administratively withdrawn from Midwestern State University (MSU) may be eligible to receive a refund for all or a portion of the tuition, fees and room/board charges that were paid to MSU for the semester. HOWEVER, if the student received financial aid (federal/state/institutional grants, loans and/or scholarships), all or a portion of the refund may be returned to the financial aid programs. As described below, two formulas (federal and state) exist in determining the amount of the refund. (Examples of each refund calculation will be made available upon request).

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.

Campus Carry

Effective August 1, 2016, the Campus Carry law (Senate Bill 11) allows those licensed individuals to carry a concealed handgun in buildings on public university campuses, except in locations the University establishes has prohibited. The new Constitutional Carry law does not change this process. Concealed carry still requires a License to Carry permit, and openly carrying handguns is not allowed on college campuses. For more information, visit Campus Carry.

Active Shooter

The safety and security of our campus is the responsibility of everyone in our community. Each of us has an obligation to be prepared to appropriately respond to threats to our campus, such as an active aggressor. Please review the information provided by MSU Police Department regarding the options and strategies we can all use to stay safe during difficult situations. For more information, visit MSUready – Active Shooter. Students are encouraged to watch the video entitled “Run. Hide. Fight.” which may be electronically accessed via the University police department’s webpage: “Run. Hide. Fight.”

Grade Appeal Process

Update as needed. Students who wish to appeal a grade should consult the Midwestern State University MSU Catalog

*Notice: Changes in the course syllabus, procedure, assignments, and schedule may be made at the discretion of the instructor.