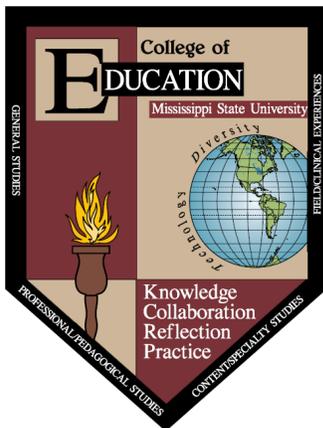


**MISSISSIPPI STATE UNIVERSITY  
COLLEGE OF EDUCATION**

**DEPARTMENT of KINESIOLOGY  
COURSE SYLLABUS**

<b>Course Prefix &amp; Number:</b>	EP 3613
<b>Course Title:</b>	Exercise Electrocardiography
<b>Credit Hours:</b>	Three (3) semester hours
<b>Course Type:</b>	Lecture
<b>Catalog Description:</b>	Basic and intermediate electrocardiography including cardiac function, lead systems, rate, rhythm, axis, infarction, ischemia, hypertrophy, and effects of cardiovascular drugs and exercise on ECG.

**College of Education Conceptual Framework:**



The faculty in the College of Education at Mississippi State University are committed to assuring the success of students and graduates by providing superior learning opportunities that are continually improved as society, schools, and technology change. The organizing theme for the conceptual framework for the College of Education at Mississippi State University is educational professionals - dedicated to continual improvement of all students' educational experiences. The beliefs that guide program development are as follows:

1. **KNOWLEDGE** - Educational professionals must have a deep understanding of the organizing concepts, processes, and attitudes that comprise their chosen disciplinary knowledge base, the pedagogical knowledge base, and the pedagogical content knowledge base. They must also know how to complement these knowledge bases with the appropriate use of technology.
2. **COLLABORATION** - Educational professionals must continually seek opportunities to work together, learn from one another, forge partnerships, and assume positions of responsibility.
3. **REFLECTION** - Educational professionals must be willing to assess their own strengths and weaknesses through reflection. They must also possess the skills, behaviors, and attitudes necessary to learn, change, and grow as life-long learners.
4. **PRACTICE** - Educational professionals must have a rich repertoire of research-based strategies for instruction, assessment, and the use of technologies. They must be able to focus that array of skills on promoting authentic learning by all students or clients, while exhibiting an appreciation and commitment to the value and role of diversity.

**Description:**

This course teaches the student to interpret the resting and exercise normal and abnormal EKG, as well as provide an overview of heart anatomy, function, neurophysiology, and the basics of important pharmacological agents used typically in cardiac rehabilitation programs.

## **Course Objectives:**

1. Review of the heart anatomy and the cardiac cycle as they relate to the electrical conducting system. CFPO 3
2. Properly prepare a subject for a 12-lead ECG. CFPO 3
3. An understanding of cardiac muscle contraction. CFPO 3
4. Comprehensive analysis of action potential propagation within the heart and how it is affected by and changed by disease processes. CFPO 3
5. A comprehensive overview of ECG interpretation involving the recognition of the most common abnormalities. CFPO 3
6. Understanding of basic cardiovascular pharmacology. CFPO 3

## **Topics to be Covered:**

1. Anatomy and electrophysiology of the heart
2. The electrocardiogram
3. Analyzing the electrocardiogram
4. Heart rate
5. Regularity
6. P waves
7. QRS complexes
8. PR intervals
9. ST segments, T waves, QT intervals, and U waves
10. Overview of dysrhythmias
11. Sinus dysrhythmias
12. Atrial dysrhythmias
13. Junctional dysrhythmias
14. Ventricular dysrhythmias
15. AV blocks
16. Pacemakers and implantable cardioverter-defibrillators
17. Overview of 12-lead ECGs and electrical axis
18. Atrial enlargement and ventricular hypertrophy
19. Bundle branch block
20. Myocardial ischemia, injury and infarction

## **Text:**

Shade, B. & Wesley, K. (2007). Fast & Easy ECGs. McGraw-Hill: Boston, MA.

## **Methods of Instruction:**

Lecture (Objectives 1-5)

## **Suggested Student Activities:**

None for this course.

## **MSU Honor Code:**

Mississippi State University has an approved Honor Code that applies to all students. The code is as follows:

**"As a Mississippi State University student I will conduct myself with honor and integrity at all times. I will not lie, cheat, or steal, nor will I accept the actions of those who do."**

Upon accepting admission to Mississippi State University, a student immediately assumes a commitment to uphold the Honor Code, to accept responsibility for learning, and to follow the philosophy and rules of the Honor Code. Students will be required to state their commitment on examinations, research papers, and other academic work. Ignorance of the rules does not exclude any member of the MSU community from the requirements or the processes of the Honor Code. For additional information please visit: <http://www.msstate.edu/dept/audit/1207A.html>

## **Technology:**

Students will use equipment and tools commonly associated with electrocardiography.

## **Diversity:**

Diversity is not specifically addressed in this course.

## **Disability statement:**

It is the policy of Mississippi State University to accommodate students with special needs and learning disabilities as per the MSU Student Support Services policy. Students seeking accommodations on the basis of a disability or special need must identify themselves to the Office of Student Support Services (325-3335) to verify eligibility. Additional documentation guidelines may be obtained by contacting the Office of Student Support Services directly, or via the web at <http://www.msstate.edu/dept/audit/91130.html>. Academic accommodations and services are based upon an individual's needs. All documentation is confidential.

## **Field Component:**

There is not a field component with this course.

## **Evaluation of Student Progress:**

*Assignments: 100 points – Quizzes: 100 points – 3 Exams: 300 points*

**A = 90 - 100%; B = 80 - 89%; C = 70 - 79%; D = 60 - 69%; F = 0 - 59%**

## **Bibliography:**

Dubin, D. (2000). *Rapid Interpretation of EKG's*. COVER Pub., Tampa, FL.

*ECG Interpretation Made Incredibly Easy!* (2010). Lippincott Williams & Wilkins, Baltimore, MD.

Garcia, T.B. & Holtz, N. (2000). *12-Lead ECG: The Art of Interpretation*. Jones & Bartlett Learning, Sudbury, MA.

O'Keefe, J.H., Hammill, S.C., Freed, M.S., & Poqwizd, S.M. (2008). *The Complete Guide to ECGs*. Jones & Bartlett Learning, Sudbury, MA.

Phibbs, B.P. (2005). *Advanced ECG: Boards and Beyond*. Saunders, Philadelphia PA.

Thaler, M.S. (2012). *The Only EKG Book You'll Ever Need*. Lippincott Williams & Wilkins, Baltimore, MD.