



Measurements and Instrumentation Lab

BIOMEDE 3702

Credit Hours:

3.00 - 3.00

Course Levels:

Undergraduate (1000-5000 level)

Course Components:

Lecture

Lab

Course Description:

Engineering fundamentals and hands-on experiments for measuring and interpreting data from living systems; Analysis of signals generated by bioelectrical potentials; Interpretation of bioelectrical signals to human physiology and functions.

Prerequisites and Co-requisites:

Prereq: 2000, 2800, and Stat 3450, and enrollment in BiomedE major; or permission of instructor. Concur: 2700.

Course Goals / Objectives:

- Properly measure biopotentials from the human body
 - Analyze biopotentials measured from the human body, and apply engineering and mathematical methods to interpret the data
 - Design experiments to make measurements and interpret data from living systems by applying basic principles of scientific investigation and experimentation
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Course Topics:

- 1. Biopotentials: definition and modeling
 - 2. Electroencephalography (EEG)
 - 3. Electrocardiography (ECG)
 - 4. Instrumentation for measuring biopotentials
 - 5. Experimental design, measurement, and analysis of biopotentials for understanding human physiology.
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Designation:

Required