

**BMEN 2320 – Biomedical Instrumentation  
Spring 2016**

**Instructor:**

Dr. Vijay Vaidyanathan

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(940) 565-4203

Office: B 131

Office Hours: TR: 10 AM -12 NOON

**Class Schedule:**

MWF: 12:30 – 1:20, Room: B 185

**Laboratory Schedule:** M: 2 – 5 PM

**Required Textbook:**

Introduction to Biomedical Engineering

Enderle and Bronzino

**Catalog Course Description:**

Introduction to biomedical instrumentation design; design, building and testing of bioinstrumentation circuits including power supplies, analog signal amplifiers and analog filter circuits.

Prerequisite(s): BMEN 1300 and (ENGR 2405 or EENG 2610).

**Course Objectives:**

1. Give an understanding of biomedical instrumentation design.
2. Understand the product lifecycle of biomedical instrument design.
3. Understand the applications of engineering and mathematics fundamentals.
4. Gain more programming experience with LabVIEW and MATLAB.
5. Gain more programming experience with Biopac software.
6. Gain experience working in teams.
7. Apply learned knowledge through a team-based project.

**ABET Criteria:**

BMEN 2320 addresses the following ABET program outcomes:

- a) Apply knowledge of mathematics, engineering and science
- c) Develop project-based learning skills through design and implementation of a system
- d) Function in multi-disciplinary teams
- e) Identify, formulate and solve engineering problems
- f) Have an understanding of professional and ethical responsibility
- g) Communicate effectively
- h) Achieve broad education necessary to understand the impact of Biomedical Engineering engineering solutions in a global and societal context
- j) Achieve knowledge of contemporary issues
- k) Use techniques, skills and computer-based tools for conducting experiments and carrying out designs

**Homework and Quizzes:**

Homework assignments will be given using UNT's Blackboard Learn online program. In-class quizzes will cover reading material from the textbook and reference material.

**Grade Evaluation:**

Homework/Quizzes	15%
Exam 1	20%
Exam 2	20%
Laboratory Assignments	25%
Final Project	20%

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

**Disability Policy:**

All reasonable accommodation will be made to facilitate special needs. If special accommodations are required, the student must first meet with the staff of the Office of Disability Accommodation (ODA), Union Suite 322, (940) 565-4323. After meeting with that office, please contact me to discuss what accommodations will be necessary. For more information, see <http://www.unt.edu/oda>.