Instructor:
Dr. Vijay Vaidyanathan
Office: NTDP B131
Office Hours: Monday & Wednesday 11 am to 12:30 pm or by appointment

Class Schedule:
M: 5:30 – 7:20 PM, D207B

Laboratory Schedule:
Friday 5:20 – 8:10 PM, NTDP F242

Required Textbooks:
None

Catalog Course Description:
Data acquisition and quantitative analysis of biomedical and physiological signals using LabVIEW; A/D conversion; basic transforms; power supply consideration for biomedical systems; filtering of biomedical signals; electrical circuits and analog representations of physiological systems.

Prerequisite(s): MATH 1720.

Course Objectives:
1. Understand data acquisition process for biomedical signals
2. Develop knowledge in circuit analysis with RLC networks, op. amps., and regulators
3. Build circuits to properly filter and amplify biomedical signals
4. Use software to simulate and verify circuit designs for biomedical applications

ABET Criteria:
BMEN 221 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
   g) Communicate effectively
   h) Achieve broad education necessary to understand the impact of Biomedical Engineering engineering solutions in a global and societal context
   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 lecture material.

**Grade Evaluation:**

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<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Homework/Quizzes</td>
<td>15%</td>
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<tr>
<td>Exam 1</td>
<td>20%</td>
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<tr>
<td>Exam 2</td>
<td>20%</td>
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<tr>
<td>Laboratory Assignments</td>
<td>25%</td>
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<tr>
<td>Final Project</td>
<td>20%</td>
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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](http://www.unt.edu/oda).

**Attendance:**
Attendance is not required for lecture, but highly recommended due to the constant coverage of information in the course. The student is responsible for obtaining information from missed classes. Exams and quizzes (when announced) will require attendance in classroom. Attendance is required for all labs. If lab, exam or quiz cannot be attended, student is required to give notice so that make up lab, exam or quiz can be scheduled accordingly.

Attendance for labs is mandatory and students will be required to make up missed labs.

**Labs:**
Labs are an essential part of the class, and count for a large part of the overall grade. It is important that students perform well in labs. Therefore, it is **required to receive a passing grade in the lab** to pass the course.

**Exams:**
Exams are given in class. A formula sheet will be given to students and calculators are allowed during the exam.