BMEN 1300 – Discover Biomedical Engineering
Fall 2015

Instructor:
Dr. Vijay Vaidyanathan
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(940) 565-3268
Office: B 131
Office Hours: TR: 10 AM-12 PM or by appointment

Class Schedule:
MW: 1:30 – 2:20 PM , Room: B 185

Lab Schedule:
W: 4:30 – 7:20 PM , Room: F 242
F: 10:00 AM – 12:50 PM , Room: F 242

Required Textbook:
Introduction to Biomedical Engineering, 3rd edition, 2011
John Enderle and Joseph Bronzino
ISBN-10: **0123749794**-0; ISBN-13: **978-0123749796**

Additional Reference:
Engineering Ethics – Concepts & Cases, 4th Edition, Wadsworth Publishing, 2009
Charles E. Harris, Michael S. Pritchard, Michael J. Rabins
ISBN-10: 0-495-50279-0; ISBN-13: 978-0-495-50279-1

Catalog Course Description:
Exploratory Core course in Biomedical Engineering (BMEN) which shapes the BMEN student's first year experience. Topics include experiences of practicing engineers; engineering ethics, professional conduct, and values; and an introduction to the best practices in BMEN industry and research. The project is a major, team-based, competitive engineering design-and-build effort. The laboratory exercises and project teach students to think critically and creatively by applying a range of analysis techniques borrowed from many engineering and science disciplines.

Prerequisite(s): None

Course Objectives:
1. Give an understanding of engineering ethics and professionalism.
2. Allow students to gain insight into engineering through invited guest lecturers.
3. Teach problem solving skills useful in engineering.
4. Gain an understanding of engineering and mathematics fundamentals.
5. Perform data manipulation and analysis in Excel.
6. Familiarize the students with programming with LabVIEW and MATLAB.

7. Familiarize the students with Biopac software.
8. Gain experience working in teams.
9. Apply learned knowledge through a team-based project.

ABET Criteria:
BMEN 1300 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 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.