BMEN 5210 Biomedical Lab
Fall 2019

Instructor: Dr. Venkat Keshav Chivukula (Keshav)
Office: NTDP K240H
Class: 2:30 pm – 3:20 pm, F NTDP D202
Laboratory: 3:30 pm – 6:20 pm, F NTDP D202
Office Hours: 1:00 pm – 2:00 pm, TR or by appointment
Email: venkatkeshav.chivukula@unt.edu

Textbook:
Required Text(book)s: None

Specific course information:
Laboratory-based course designed to develop hands-on experimental skills relevant to the design and application of biomedical instrumentation and devices. Students are presented with open-ended, real-world, design process starting with the project definition, specification development, management, team interactions and communication, failure and safety criteria, progress reporting, marketing concepts, documentation and technical presentation of the final project outcome.

Specific goals for the course:

a. Specific outcomes of instruction: Upon successful completion of this course, students will gain an understanding of the design process and other criteria required to design and develop a medical device or technology such as software to address a specific clinical need. This will also include exposure to computational modeling, quantitative estimation, prototyping and presenting the product / technology to a wide audience.

Brief list of topics to be covered:

• Equations and numerical analysis techniques
• Solution alternatives and limitations
• Finite element modeling
• Mathematical models of physiological control systems and devices
• Physiological control systems
• Design / rapid prototyping process

**Grade Evaluations:**

Laboratory assignments and reports 60%
Final Project 40%
A – 90-100%
B – 80-89%
C – 70-79%
D – 60-69%
F - < 60%
This scale may be lowered at the instructor’s discretion (but not raised).

**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.