BMEN 5315 - Computational Methods in Biomedical Engineering

Course Syllabus

Spring 2018

Instructor: Dr. Vijay Vaidyanathan
Office: B131
Office Hours: by appointment
Email: Vijay.vaidyanathan@unt.edu
Textbook: None

Class Notes

Course Description: Introduction to practical computational methods for data analysis and simulation of biomedical systems and instrumentation. Topics covered include compartmental modeling, numerical analysis, FEA, and other techniques, as applied to examples from biomechanics, electrophysiology and other areas of biomedical engineering.

Reference: Class notes and research pages

Prerequisites: Graduate classification

Course Objectives:

1. To provide an understanding of various biomedical engineering modeling tools
2. To provide experience in modeling various systems from diverse biomedical engineering areas.
3. To understand the applications of modeling biomedical control systems.

Grading Policies:

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

Additional Comments:
• Students are encouraged to discuss class material and homework in order to better understand concepts. However, all the homework you submit must be of your own. Direct copying of a solution (from a friend or a book) will be considered as plagiarism and a violation of the University Honor Code.

• Homework assignments are to be turned at the beginning of the class on the due date. Late submission (homework and project) will not be accepted.

• The exams (midterm and final) are closed book with one page (8.5 x 11) of notes allowed. Make up exams may be given only under exceptional circumstances and with prior approval of the instructor.

• All students are responsible for announcements made in lecture on the student access website or via the class email list.

• It is the responsibility of students with certified disabilities to provide the instructor with appropriate documentation from the Dean of Students Office (see http://www.unt.edu.oda).

Withdraws: Note that students wishing to drop the course must take appropriate action (Details can be found in the following link: http://essc.unt.edu/registrar/schedule/withdraw.html). It is your responsibility to make sure all of the requisite paperwork is submitted. Ceasing attendance does not automatically drop you from the course.

Americans with Disabilities Act: The University of North Texas does not discriminate on the basis of an individual’s disability and complies with Section 504 and Public Law 101-336 (Americans with Disabilities Act) in its admissions, accessibility, treatment, and employment of individuals in its programs and activities. A copy of the College of Engineering ADA Compliance Document is available in the Dean’s Office. It is the responsibility of the student to inform the instructor of any disabling condition that will require modifications by the 12th class day.