EEE-707 – ENGINEERING ANALYSIS

Instructor: Dr. Eli Saber
Office Hours: Posted
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Course Structure: Lecture Hours = 2.5 hrs/wk, Total Credits = 3
Pre-requisites: Graduate Standing or Permission of the Instructor

Course Description:
This course trains students to utilize mathematical techniques from an engineering perspective, and provides essential background for success in graduate level studies. An intensive review of linear differential equations and Laplace transforms is provided. Laplace transform methods are extended to boundary-value problems and applications to control theory are discussed. Problem solving efficiency is stressed, and to this end, the utility of various available techniques are contrasted. The frequency response of ordinary differential equations is discussed extensively. Applications of linear algebra are examined, including the use of eigenvalue analysis in the solution of linear systems and in multivariate optimization. An introduction to Fourier analysis is also provided. Class 3, Lab 0, F, S

Required Textbook:

Grading Policy:
Homework 10%
Short Quizzes 15%
Midterm I 35%
Final 40%

Course Grade Evaluation Criteria:
1) Homework:
   a. Weekly mandatory homework will be assigned and collected on the agreed upon due date. Please follow the format discussed in class. In general, the homework is due when the next homework is assigned. Late homework is usually not accepted.
   b. Solutions will be made available in a timely manner.

2) Exams:
   a. A midterm and a final exam will be given during the quarter.
   b. The exams will be based on the homework, lectures, projects, and assigned reading.
General Guidelines:
1) Please do not wait to the last minute to do the homework, projects or study for the exams.
2) It is highly recommended that you make every effort to attend every lecture. The material covered in the lecture is designed to focus on the most pertinent concepts of the course. If you should miss a lecture, please make every effort to get a copy of the lecture material from your fellow students.
3) If you are having trouble with the material or need more personal attention, please do not hesitate to make use of my office hours as early as possible. Please do not wait to the last minute.

Special Needs:
Students that have special needs that go beyond those of the usual student – aside from students who are already classified as deaf or hearing-impaired and are listed as such on the class roster – must present documentation to the instructor to certify the nature of his/her needs at the beginning of the quarter. This will allow the instructor to plan ahead in order to assist the student(s) meet his/her course objectives.