EEE 244 Electrical Engineering Computational Methods and Applications

Graduate Core Course

2006 – 2008 Catalog Data:  EEE 244. Electrical Engineering Computational Methods and Applications. Computational methods for solving problems in engineering analysis. Topics include variational methods, finite difference analysis, optimization methods, and matrix methods. Focuses predominantly on applications of the methods, and students are required to solve real world, engineering problems on the computer. Prerequisite: EEE 180. 3 units.


Course Goals:

1. To provide the student with an understanding of numerical analysis techniques and their application to Electrical Engineering analysis and design.
2. To provide the student with the capability to use MATLAB software as a tool in engineering analysis and design in future courses, design projects, and professional work assignments.

Prerequisites by Topic:

1. Knowledge of a structured programming language (i.e. C++, Fortran or Pascal).

Topics Covered/Class Schedule/Evaluation:

Topics

2. Matrix Methods in Linear Algebra
3. Numerical Integration and Differentiation
4. Ordinary Differential Equations
5. Partial Differential Equations

Course Outline

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Note: This course includes substantial applications of MATLAB software for both analysis and design.
Evaluation

One Mid-term Exam (40 pts.) One Final Exam (80 pts.) Class grades will be curved, with the average representing a B grade. An Honor Policy will be enforced for all assignments. (See below.)

Honor Policy

Each student will be required to include this signed statement at the end of each problem assignment submission.

“I certify that the work presented here is my own. I have not plagiarized the work of another author. I recognize that the penalty for violation of this honor policy will be a zero grade for this work.”

Course Coordinator: John Oldenburg, EEE

Office Hours RVR-3018:
MF 1-2 p.m., W 3-4 p.m.

Graduate Advising Hours:
MWF 2-3 p.m.

Date: January 15, 2007

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