

The University of Texas at Tyler
Department of Electrical Engineering

EENG 5304: Computer-Aided Power Systems Analysis

Syllabus

Catalog Description:

Modeling of electric power systems. Fault Analysis, symmetrical components, sequence networks, load flow, stability studies. Application of computer methods to power system analysis. Machine dynamics and transients in power system analysis. Three hours of lecture per week.

Prerequisites:

Electric Power Systems (EENG 4310), Matrix Methods for Engineers (MATH 3203)

Credits:

3 (3 hours lecture, 0 hours laboratory per week)

Text(s):

TBA

Additional Material:

MATLAB

Course Coordinator:

TBA

Topics Covered: (paragraph of topics separated by semicolons)

Modeling of electric power systems; fault analysis; design and analysis of sequence networks; stability analysis; computer methods for power system analysis.

Evaluation Methods: (only items in dark print apply):

1. Examinations / Quizzes
2. Homework
3. Report
4. Computer Programming
5. Project
6. Presentation
7. Course Participation
8. Peer Review

Course Objectives¹: By the end of this course students will be able to:

1. Develop models for the analysis of electric power systems
2. Evaluate computer simulation data for fault analysis, load flow, and stability of electric power systems
3. Assess and apply the computer algorithms used in power system analysis
4. Model transients in power system analysis

¹Numbers in brackets refer to method(s) used to evaluate the course objective.

Relationship to Program Outcomes²: This course supports the following Electrical Engineering Program Outcomes, which state that our students will:

1. Graduates of the program will possess a breadth and depth of knowledge in electrical and computer engineering.
2. Graduates of the program will possess and demonstrate oral and written communication skills.
3. Graduates of the program will demonstrate the capability to perform independent learning and investigation.

²*Numbers in brackets refer to course objective(s) that address the Program Outcome.*

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