

**The University of Texas at Tyler
Department of Electrical Engineering**

EENG 5333: Power Systems Planning and Operation

Syllabus

Catalog Description:

Economic dispatch; unit commitment; power control; power system planning and supply costs; demand forecast; long-range distribution system planning; outage cost; shadow pricing and simulation of electricity markets. Three hours of lecture per week.

Prerequisites: Power Systems Analysis and Design (EENG 4319)

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)

Planning principles and criteria for power systems; economic considerations; power system topologies and distribution; short and long term electricity and load forecast.

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. Apply planning principles and criteria for design of power systems
2. Evaluate power system operations from economic considerations
3. Implement long-range power distribution systems
4. Model electricity markets for short and long term electricity and load forecast

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.*

Prepared By: David H. K. Hoe, Assistant Professor

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