

ECEN 460 – Power System Operation and Control
Fall 2017 TR 12:45-2pm ETB 1020

Instructor: Prof. Thomas Overbye, 308C WEB, overbye@tamu.edu

Office Hours (tentative): Tuesday 3-5 pm

Instructor Website: overbye.engr.tamu.edu

Course Website: overbye.engr.tamu.edu/course/ecen460fa2017

Prerequisite(s): ECEN 215 or ECEN 314 or consent of instructor

Text: Glover, Overbye & Sarma *Power Systems Analysis and Design*, Sixth Edition, Cengage Learning, 2016

TAs: Tian Lan, 320H WEB, lantian@tamu.edu

Office Hours: Wednesday 10 am - 12 noon

Adam Birchfield, 308B WEB, abirchfield@tamu.edu

Office Hours: Wednesday 2-4 pm

Evaluation:	Two in-class exams (20 % each)	40%
	Comprehensive final exam	25%
	Homework /project	10%
	Laboratory	25%

Tentative Dates for Hour exams: Thursday, October 5 (in class)
 Tuesday, November 14 (in class)

Final Exam: Wednesday, December 13, 8-10 am

NoteSheets for Exams: All exams are closed-book, closed-notes. You may bring in one hand written notesheet (8.5” by 11”, front and back) and may use standard calculators.

Grading

All grading in the course is based on a percentage with final grades determined based on this percentage. If your final average falls within the below ranges you are guaranteed to receive at least the letter grad indicated: A: 90-100; B: 80-89; C: 70-79; D: 60-69; F: 59 or lower

Course Outline

Week of	Chapter(s)	Topics	Labs
Aug. 28	1,2	Review of Complex Power, Three-phase, Per Unit	No Lab
Sep. 4	1,2	Introduction to Power Systems	No Lab
Sep. 11	3,4,5	Modeling Transmission Lines, Transformers	Power Calculations
Sep. 18	6	Modeling Generators and Loads	Analysis of Three-Phase Circuits
Sep. 25	6	Bus Admittance Matrix,	Power System

		Power Flow Formulation	Operations, Transformers
Oct. 2	6	Power Flow Solution Methods, First Exam	No Lab
Oct. 9	6	Power Flow Sensitivity, Large System Studies,	Synchronous Generator Parameters
Oct. 16	6	Economic Dispatch,	Operation of Synchronous Generators
Oct. 23	6	Optimal Power Flow, Security-Constrained Optimal Power Flow	Power Flow, Contingency Analysis
Oct. 30	11	Power System Stability	Large System Power Flows
Nov. 6	11	Power System Stability	Power Markets
Nov. 13	12	Power System Controls, Second Exam	No Lab
Nov. 20	12	Power System Controls, Thanksgiving	Transient Stability, Critical Clearing Time
Nov 27	14	Distribution Systems	Power System Dynamics
Dec. 3		Emerging Topics	Lab makeup for Thanksgiving

Americans with Disabilities Act (ADA)

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact Disability Services, currently located in the Disability Services building at the Student Services at White Creek complex on west campus or call 979-845-1637. For additional information, visit <http://disability.tamu.edu>.

Academic Integrity

For additional information please visit: <http://aggiehonor.tamu.edu>

“An Aggie does not lie, cheat, or steal, or tolerate those who do.”