

EENG 4380
Power Distribution
Fall 2023
Syllabus

Instructor: Dr. Mahdi Ghamkhari

Email: ghamkhari_s@utpb.edu

Class Location: ENG 3103

Office Hours: Wednesdays 3:00 pm to 4:00 pm Faculty Suite – 3100 H

Prerequisites: EENG 4310 and 4340

Course Description

Semester Credit Hours: 3 sch power flow analysis, Power Systems Protection, Fault analysis, Renewable Energy, Demand Response, Frequency Control, Microgrids

Textbook

Allen J. Wood, Bruce F. Wollenberg, and Gerald B. Sheblé, Power Generation, Operation, and Control 3rd Edition, Wiley-Interscience; 2013, ISBN: 978-0471790556

Link to purchase from Amazon

https://www.amazon.com/Power-Generation-Operation-Control-Allen/dp/0471790559/ref=sr_1_1?crd=3P7QHP1FRJVF&keywords=Power+Generation%2C+Operation%2C+and+Control+2rd+Edition&qid=1692216752&srefix=power+generation%2C+operation%2C+and+control+rd+edition%2Caps%2C217&sr=8-1

Stephan Chapman, “Electric Machinery and Power System Fundamentals”, McGraw-Hill Higher Education, 2001, ISBN: 978-0072291353

Link to purchase from Amazon

https://www.amazon.com/Electric-Machinery-Power-System-Fundamentals/dp/0072291354/ref=sr_1_1?keywords=978-0-07-229135-3&qid=1692207208&sr=8-1

Course Components

Assignments (Homework/Quizzes/Projects): 40%

Midterm Exam: 30%

Final Exam: 30%

Conversion of the numerical grade to letter grade

A: 90 – 100%

B: 80 – 89%

C: 70 – 79%

D: 60 – 69%

F: 0 – 59%

Note: Final grades will be rounded to the nearest whole number. For example, 81.5 or 81.6 would be rounded to 82, but 81.4 would be rounded to 81.

Dates

Last Day to Drop without Creating a Record: September/13th

Last Day to Drop or Withdraw: November/3rd

Guideline

- Students must have the required prerequisites of the course.
- Late submissions to the assignments are not accepted and a grade of zero will be allocated.
- Makeup exams will not be given to students who are absent from the exams.
- Canvas is the platform for course announcements and assignments.
- Announcements are made on Canvas.
- Assignments are posted on Canvas and students' responses to the assignments should be uploaded on Canvas.
- Students are highly recommended to configure their Canvas account so that they could be notified immediately once an announcement or assignment is posted.
- Students should communicate with the instructor using their UTPB Email address.
- Requests for re-grading must be received no later than one week following the return of the assignment.
- Students are encouraged to take notes from the materials presented in the class

UTPB Student Conduct and Discipline

<https://www.utpb.edu/life-at-utpb/student-services/dean-of-students/student-conduct-and-discipline-utpb-revised-2020-final.pdf>

Attendance

Attendance in class is required.

Students with Disabilities

The University of Texas Permian Basin in compliance with the Americans with Disabilities Act and Section 504 of the Rehabilitation Act provides "reasonable accommodations" to students with disabilities. Only those students, who an instructor has received an official Letter of Accommodation (LOA) sent by the office of ADA for students, will be provided ADA academic accommodations.

ADA Office for Students

MR. Paul Leverington

Address: Mesa Building 4242, 4901 E. University, Odessa, Texas 79762

Phone: 4325524696

Email: ada@utpb.edu

Week 1-2: Power flow and economic dispatch

Week 3-6: Frequency control

Week 7-10: Power systems protection
Week 11-3: Estate estimation
Week 14: Cyber security of power systems
Week 15: Review

Topics

- 1- Power Flow and Economic Dispatch
- 2- Frequency Control
- 3- Power Systems Protection
- 4- Estate Estimation in Power Systems
- 5- Cyber Security of Power Systems

Disclaimer

The subject matter and dates for the course may evolve slightly and should be considered tentative. Updates will be announced.

Version

08/23/2023