



The University of Texas at El Paso

Department of Electrical and Computer Engineering

EE 4395/5390 - Special Topics in Electrical Engr: Power System Reliability

Fall 2021 Tuesday and Thursday 4:30-5:50 PM

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Office: Engineering Building, Room A-334

Office Hours: TBD

Course Description: This course covers the fundamental knowledge of power system reliability analysis at different levels including power generation, transmission, and distribution. The commonly used reliability modeling and analysis methods will be introduced. After taking this course, the students are expected to be able to use probabilistic approaches to perform reliability evaluation at different levels.

Textbook (Optional): R. Billinton and R. N. Allan, Reliability Evaluation of Power systems, 2nd Edition, Plenum Press, 1996. (There is an old version of this book on reserve for students in this course at the UTEP library, and you are welcome to use it.)

Topics to be Covered (Tentative):

1. Basics of power system reliability
2. Generation capacity evaluation
3. Interconnected reliability analysis
4. Operating reserve
5. Composite system reliability analysis
6. Distribution system reliability analysis
7. Other emerging topics in power system reliability

Grading Policy:

90 – 100	A
80 – 89	B
70 – 79	C
60 – 70	D
< 60	F



For EE 4395:

Homework	31% (Late submissions will not be accepted; the lowest score will be dropped.)
Three Exams	20% each (All exams are open-book, open-notes.)
Attendance	9% (each unexcused absence takes 3%; three unexcused absences will result in a 0 in the attendance score.)
Final Project (optional)	a bonus of up to 20%

For EE 5390:

Homework	20% (Late submissions will not be accepted; the lowest score will be dropped.)
Three Exams	17% each (All exams are open-book, open-notes.)
Final Project	20% (there will be a bonus of up to 10% if the final paper is submitted to a conference or journal.)
Attendance	9% (each unexcused absence takes 3%; three unexcused absences will result in a 0 in the attendance score.)

Policy on Scholastic Dishonesty:

Students are expected to be above reproach in all scholastic activities. Students who engage in scholastic dishonesty are subject to disciplinary penalties, including the possibility of failure in the course and dismissal from the university. Scholastic dishonesty includes but is not limited to reproducing test or quiz materials from memory, copy/paste or Xerox, cheating, plagiarism, collusion, the submission for credit or any work or materials that are attributable in whole or in part to another person, taking an examination for another person, and any act designed to give unfair advantage to a student or the attempt to commit such acts. Regents' Rules and Regulations, Part One, Chapter VI, Section 3, Subsection 3.2, Subdivision 3.22. See detailed procedure in the Handbook of Operating Procedures (HOP) available in the Office of the Dean of Students.

Policy on Accommodations:

If you have a condition, which may affect your ability to perform successfully in this course, you are encouraged to discuss this in confidence with the instructor and/or the director of the Disabled Student Services. Written guidelines r/t accommodations from The Center for Accommodations and Support Services (CASS) must be submitted to the course manager in two weeks after the start of the course. If you have a disability and need classroom accommodations, please contact CASS at 747-5148, or by email to cass@utep.edu, or visit their office located in UTEP Union East, Room 106. For additional information, please visit the CASS website at www.sa.utep.edu/cass. CASS' Staff are the only individuals who can validate and if need be, authorize accommodations for students with disabilities.

Copyright Notice

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COVID-19 Precautions

Please stay home if you have been diagnosed with COVID-19 or are experiencing COVID-19 symptoms. If you are feeling unwell, please let me know as soon as possible, so that we can work on appropriate accommodations. If you have tested positive for COVID-19, you are encouraged to report your results to



covidaction@utep.edu, so that the Dean of Students Office can provide you with support and help with communication with your professors. The Student Health Center is equipped to provide COVID-19 testing.

The Center for Disease Control and Prevention recommends that people in areas of substantial or high COVID-19 transmission wear face masks when indoors in groups of people. The best way that Miners can take care of Miners is to get the vaccine. If you still need the vaccine, it is widely available in the El Paso area, and will be available at no charge on campus during the first week of classes. For more information about the current rates, testing, and vaccinations, please visit epstrong.org.