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 2020   Tuesday and Thursday 4:30-5:50 PM   Online

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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.*

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Addendum: Covid-19 Policies

Required COVID-19 Training

Before the semester starts, the ECE Department requires all its students to complete a training module, which includes a video developed in large part by students and hosted by the President of the Student Government Association. Follow the link to this module:

https://covidfstraining.questionpro.com/

Before you come to campus

Before coming to campus all ECE students should conduct a daily self-screening to ensure that they are symptom-free before coming to campus. The screening includes taking your temperature and assessing for the following symptoms:

- Fever or chills

- Cough

- Shortness of breath or difficulty breathing

- Fatigue

- Muscle or body aches

- Headache

- New loss of taste or smell

- Sore throat

- Congestion or runny nose

- Nausea or vomiting

- Diarrhea

Cough, shortness of breath or difficulty breathing

Fever or chills

Muscle or body aches

Vomiting or diarrhea

New loss of taste or smell

Source: https://www.cdc.gov/coronavirus/2019-ncov/downloads/COVID19-symptoms-24x36-en.pdf

If you have any of these symptoms, you must stay at home, seek medical attention, and report to your professor. If you show any of the following signs, **seek emergency medical care immediately:**

- Trouble breathing

- Persistent pain or pressure in the chest

- New confusion

- Inability to wake or stay awake

- Bluish lips or face

In addition, everyone MUST complete a COVID-19 screening before coming to campus. The link for reporting is

https://screening.utep.edu

This screening includes three required questions:

- In the last 5 days have you (or someone you live with) experienced any one of the COVID-19 symptoms above?

- If you have been tested for COVID-19 in the past 2 weeks, was the result positive?

- In the last 2 weeks, have you spent 15 minutes or more within 6 feet of anybody that you know has tested positive for COVID-19?

Before coming to campus, wash your hands, and pack a hand sanitizer bottle and a clean face mask.

Source: https://www.cdc.gov/

While on campus

UTEP is now requiring that *everyone* on the campus wear a CDC-approved face covering over the mouth and nose in all public spaces. This requirement includes classrooms, building entrances and exits, lobbies and lounges, as well as in hallways, stairwells, restrooms and elevators. UTEP will maintain and adjust its face-covering requirement as the pandemic evolves.

While on campus, ECE faculty will wear a face mask when giving in-person instruction. Likewise, students on campus will wear face masks in classrooms and laboratories and maintain social distancing (6 feet). Anyone refusing to face covering or to social distance themselves will be asked to leave the premises. Any escalation situations will be considered a public disruption and may require actions such as calling the UTEP campus police department and reporting the case to the Chair of the ECE Department and the Office of Student Conduct and Conflict Resolution (OSCCR).

One of the most effective ways of avoiding catching the corona virus, flu, or common cold is to wash your hands thoroughly after touching surfaces in common areas of places with high traffic. If this is not possible, use hand sanitizer as often as needed.

COVID-19 Testing on Campus

UTEP will test for COVID-19 in the fall. This will help us to rapidly identify individuals who have COVID-19 and do not have symptoms so they can isolate and avoid spreading it to others. The testing will focus on faculty, staff, and students who are on campus. Help us stop the spread of the corona virus and agree to participate in this voluntary testing program. Get tested when invited for testing at one of several on-campus locations.

Resources

UTEP Return to Campus Presentation https://www.utep.edu/resuming-campus-operations/_Files/docs/COVID_Return_to_Campus_Safety_Traning_8-7-20.pdf

UTEP Counseling and Psychological Services: 747-5302 or CAPS@utep.edu

UTEP Student Health and Wellness Center: https://www.utep.edu/chs/shc/

UTEP COVID-19 website: https://www.utep.edu/ehs/COVID-19/

El Paso Strong statistics website: http://epstrong.org/

El Paso COVID 19 information website: https://www.epcovid19.org/

Ciudad Juarez COVID-19 resources website: https://www.juarezcovid19.com/

US Centers for Disease Control and Prevention website: https://www.cdc.gov/