ESE 540: Reliability Theory
Syllabus (Fall 2019)

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Learning Objective: To introduce students to the theory and practice of reliable system design and evaluation. This is a hybrid course, it meets one hour a week and the rest of the course is online.

Coverage
    (1) Introduction
    (2) Reliability of Systems and Components
    (3) System Analysis
    (4) Lifetime Distributions
    (5) Repairable Systems
    (6) Warranties
    (7) Preventive Maintenance & Inspection
    (8) Software Reliability
    (9) Event and Fault Trees
    (10)   Error Detection and Corrections
                    in communication systems
    (11)   Case Schedule

Schedule
Weeks 1-6, Chapters 1 and 2, Exam 1: March 4
Weeks 7-10, Chapters 3 and 4, Exam 2: April 8th
Weeks 11-14, Chapter 6 + special topics, Exam 3: April 29th
Essay 1 due Feb. 18th, Essay 2 due March 25th, Portfolio: due April 22nd

Text: L. Leemis, Reliability: Probabilistic Models and Statistical Methods, Prentice-Hall, (1st or 2nd edition). Also get a copy (paperback available) of Inviting Disaster by James Chiles.

Grading: Exam 1 (20 points), Exam 2 (20 points), Two Case Study Essays (10 points each), Portfolio (20 points) and Exam 3 (20 points).

The portfolio is a collection of five original reliability problems and solutions created by students.

 Note: *If you have a physical, psychological, medical or learning disability that may impact on your ability to carry out assigned course work, I would urge you to contact the staff in the Student Accessibility Support Center office 631-632-6748. The staff will review your concerns and determine with you what accommodations are necessary and appropriate. All information and documentation of disability are confidential.*