ECE 302 Midterm 2 Information

July 17, 2016

- Midterm 2 is in class on Thursday, July 21, 9:50-10:50 AM in PHYS 203.

- The exam will be closed-book, closed-notes, but a scientific calculator may be used. Some reference formula will be provided.

- The exam will contain a mixture of multiple choice questions and work-out problems. No partial credit will be given for multiple choice questions. Partial credit will be given for the work-out problems but work must be shown to receive credit.

- The exam will cover material from lecture, homework, and reading up through July 19, 2016.

- A review ression will be held in class on Wednesday, July 20.

Exam Topics:

- Material through Midterm 1:

- Random Variables

    - Functions of one random variable (distribution method, density method)
    - Expectation (mean, variance, moments, central moments, expected value of functions, properties)
    - Conditional distributions (pmf, cdf, pdf, expectation, total probability)
    - Gaussian random variables (pdf, cdf, properties)
    - Important random variables (properties)
    - Characteristic functions (definition, properties, theorems)

- Two Random Variables

    - Distribution functions (jpmf, jcdf, jpdf, properties)
    - Conditional distributions (pmf, pdf, expectation, total probability, bayes theorem)
    - Independence of random variables (definition, properties)
    - Joint expectation (correlation, covariance, properties)
    - Functions of two random variables (distribution method, density method)
    - Jointly Gaussian random variables (definition, properites)

- Practice problems: 3.31, 3.53, 3.69, 4.35, 4.56, 4.63, 4.77, 4.105, 4.106, 5.8, 5.105, 5.111