

ECE 302 Midterm 1 Information

June 27, 2016

- Midterm 1 is in class on Thursday, June 30, 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 June 28, 2016.
- A review session will be held in class on Wednesday, June 29.

Exam Topics:

- Random Experiments
 - Definition of outcomes, events, probability and sample space
 - Types of sample spaces
 - Finding sample spaces and events from description of random experiment.
- Probability Theory
 - Set theory (definitions, operations, properties)
 - Axioms of probability
 - Properties of probability
 - Conditional probability
 - Bayes rule
 - Total probability theorem
 - Independence of Events
 - Sequences of independent experiments (binomial probability law, geometric probability law)
- Random Variables
 - Definition of a random variable
 - Types of random variables (discrete, continuous, mixed)
 - Distribution functions (pmf, cdf, pdf)
 - Function of random variables (distribution method, density method)
 - Expectation
- Practice problems: 2.14, 2.22, 2.62, 2.77, 2.79 (a)-(c), 2.95, 2.106, 3.7, 3.20, 4.16, 4.17, 4.54 find the cdf and pdf of Y (a)