ECE303: Introduction to Communications Principles

Brief Description: Probability and statistics in the context of electrical engineering applications

Location: TR 9:30pm-10:45pm, Wagar 133
Prerequisites: MATH261 and (concurrent) ECE311
Course Webpage: ramct.colostate.edu

Instructor: Prof. Diego Krapf
Contact Info: Scott 318, Tel. 970-491-4255, krapf@engr.colostate.edu
Office Hours: Wednesday 10:30–11:30pm
Extra Problem Sessions: Organized upon request
Grader: Arindam Batabyal

Calendar:
Aug. 26 First day of class
Oct. 2 Midterm 1
Nov. 13 Midterm 2
Nov. 22-30 Fall Recess
Dec. 11 Last day of class
Dec. 15, 11:50-1:50 pm Final Exam

Textbook:
It is OK to use the 2nd Edition as a textbook for the course.

References:

Homeworks:
Homework assignments will be posted on RamCT once a week. Each assignment will be due at the start of the class meeting a week from the assignment date. I plan for there to be a new assignment every week.
Your first and last name, homework number, and course number must be written in the first page.
Your homework must be stapled, and your solutions to the problems must be in the correct order. Your solutions must be clear and you must include how you reach your results. Writing only the final solution is not acceptable.
Homework turned in after the due date without prior approval from the instructor or not complying with these guidelines will not receive credit.
Exams:
Final exam is closed book, but you are allowed to bring one hand-written sheet of notes (front and back). You should bring to the exams enough blank paper to solve the problems, a calculator, and your handwritten note sheet. The use of cell phone, smart phone, or computer is not allowed.

Course Outline:
1. Experiments, Models, and Probabilities
2. Discrete Random Variables
3. Continuous Random Variables
4. Pairs of Random Variables
5. Random Vectors
6. Sums of Random Variables
7. Random Samples and Averaging
8. Random Processes (if time permits)

Applications of this course:
The topics covered are applicable in all of the following areas
  • Signal and Image Processing
  • Optics
  • Biomedical Engineering
  • Control and Robotics
  • Electronics and Solid-State Engineering
  • Finance
  • Reliability and Operations Research

Grading:
20%  Homework
25%  Midterm 1
25%  Midterm 2
30%  Final exam

Note:  Regular attendance in class is required.

Academic Integrity
The course will adhere to the Academic Integrity Policy of the CSU General Catalog (page 7, http://www.catalog.colostate.edu/FrontPDF/1.6POLICIES1112f.pdf) and the Student Conduct Code (http://www.conflictresolution.colostate.edu/conduct-code).