1112-MM120 Lectures on Probability

Second Semester 2011/2012

Lecture times and locations

Monday 09-10am ENG-G018

Thursday 10-11am ENG-G018

Course lecturer

Dr. Milovan Krnjajić

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office hours: open door policy (or use email to make an appointment)

Course web page

All information will be communicated through the Blackboard or during the lectures.

Course description

This is an introductory course to the basics probability theory for the first year Engineering students. Topics include: concept of probability; three interpretations of probability; set operations, events, sampling spaces; aximos of probability; probabilities of combinations of events; conditional probability, independence of events; combinatorial analysis, sampling (ordered, unordered, with/without replacement); concept of the random variable as a function from a sampling space to the real line; discrete and continuous random variables (r.v.), probability mass/density functions (PMF/PDF), cumulative distribution functions (CDF); Bernoulli, Binomial, Poisson distributions, Normal, Exponential distributions; expectation and variance of r.v.;

Reference books

C. Grinstead and L. Snell, *Introduction to Probability*, American Mathematical Society.

NOTE: a free PDF version of the book available online at
http://www.dartmouth.edu/ chance/teaching_aids/books_articles/probability_book/book.html

L. Gonick, W.Smith, *The Cartoon Guide to Statistics*, HarperPerennial (1993)

J.H.Freund, *Mathematical Statistics*, I.Miller and M.Miller.

D.Stirzaker, *Probability and Random Variables*, Cambridge University Press.

S.Ross, *A First Course in Probability*, Prentice Hall.

Y.A.Rozanov *Probability Theory: A Concise Course*, Dover Publications.