

MAT 271E – Probability and Statistics

Spring 2011

Instructor : İlker Bayram
EEB 1103
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Class Meets : 13.30 – 16.30, Wednesday
EEB ?

Office Hours : 10.00 – 12.00, Wednesday

Textbook : D. B. Bertsekas, J. N. Tsitsiklis, 'Introduction to Probability',
2nd Edition, Athena-Scientific.

Supp. Text : • S. Ross, 'Introduction to Probability and Statistics for Engineers and Scientists'.
• D. Wackerly, W. Mendenhall, R. L. Scheaffer,
'Mathematical Statistics with Applications'.

Grading : Homeworks (10%), 2 Midterms (25% each), Final (40%).

Webpage : <http://web.itu.edu.tr/ibayram/Courses/MAT271E/>

Tentative Course Outline

- Probability Space
Probability models, conditioning, Bayes' rule, independence.
- Discrete Random Variables
Probability mass function, functions of random variables, expectation, joint PMFs, conditioning, independence.
- General Random Variables
Probability distribution function, cumulative distribution function, continuous Bayes' rule, correlation, conditional expectation.
- Limit Theorems
Law of large numbers, central limit theorem.
- Introduction to Statistics
Parameter estimation, hypothesis testing.