MATH 411-502, 503, FALL 2015, INFORMATION

INSTRUCTOR  Dr. Roger Smith

OFFICE  Blocker 533B

E-MAIL  rsmith@math.tamu.edu

URL  http://www.math.tamu.edu/~rsmith/fall15/math411/homepage.html

CLASS TIME  Section 502: TTh 8–9:15, Blocker 163. Section 503: TTh 9:35-10:50, Blocker 163.

OFFICE HOURS  TR 2:30-3:30, W 2:30-4 or by appointment.

PREREQUISITES  Math 221 or permission of instructor.

BOOK  Elementary Probability for Applications by Rick Durrett.

GRADING  Your grade will be determined by two tests (25% each), final (30%), and weekly homework (20%). 90%–100%=A, 80%–89%=B, etc.

HOMEWORK  This will be assigned and collected on Thursdays. There will not be homework in a week containing a test. Late homework will not be accepted, but your two lowest scores will be dropped.

COURSE DESCRIPTION  Probability spaces, discrete and continuous random variables, special distributions, joint distributions, expectations, law of large numbers, the central limit theorem (the last two topics will only be included if time permits).

LEARNING OBJECTIVES  Students will become proficient in the topics listed in the Course Description with particular emphasis on mastering computational aspects of the material.
SYLLABUS  The following is approximate and subject to change depending on the needs of the class. There are 28 class periods in the semester and I expect to use 5 of them for reviews and tests. Material for the remaining 23 lectures is as follows:

# 1 § 1.1–1.2 Basic Concepts  # 13 § 4.2 Transitional Probabilities
# 2 § 1.3-1.4 Independence, RV’s  # 14 § 4.3 Stationary distributions
# 3 § 1.5 Expected value  # 15 § 4.4 Limit Behavior
# 4 § 1.6 Moments  # 16 § 4.5 Gambler’s Ruin
# 5 § 2.1–2.2 Permutations  # 17 § 5.1 Density Functions
# 6 § 2.3–2.4 Poisson distribution, urns  # 18 § 5.2 Distribution Functions
# 7 § 2.5 Unions  # 19 § 5.3 Functions of RV’s
# 8 § 3.1 Conditional Probability  # 20 § 5.4 Joint Distributions
# 9 § 3.2 Experiments  # 21 § 5.5 Marginal Distributions
# 10 § 3.3 Bayes  # 22 § 6.1 Sums of RV’s
# 11 § 3.4 Joint Distributions  # 23 § 6.2 Mean and Variance
# 12 § 4.1 Markov chains

IMPORTANT DATES  Note the following dates.

   Friday Nov. 20: Q-drop day
   Thursday/Friday Nov. 26-27 Thanksgiving Holiday.
   Friday Dec. 11: Final 12:30-2:30 (503)
   Monday Dec. 14: Final 1:00-3:00 (502)

MAKE-UPS  These will only be given in cases authorized under TAMU Regulations. If you miss an exam you must contact me immediately.

SCHOLASTIC DISHONESTY  Copying work done by others, either in-class or out of class, is an act of scholastic dishonesty and will be prosecuted to the full extent allowed by University policy. Collaboration on assignments, either in-class or out-of-class, is forbidden unless permission to do so is granted by your instructor. For more information on university policies regarding scholastic dishonesty, see University Student Rules.

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