

DATE	PACKET	TOPIC
M 8.25	414-1	Course introduction: what is probability?
T 8.26	414-1	Probability spaces
W 8.27	414-1	Basic properties of probability spaces
R 8.28		<i>Activity:</i> Review of functions and inequalities
M 9.1		<i>No class - Labor Day</i>
T 9.2	414-1	Inclusion-exclusion problems
W 9.3	414-1	Conditional probability and independence HW Due: Problems 1-9
R 9.4	414-1	Law of Total Probability and Bayes' Law
M 9.8	414-2	Discrete random variables
T 9.9	414-2	Combinations and permutations
W 9.10	414-2	More combinatorics; hypergeometric random variables HW Due: Problems 10-21
R 9.11		<i>Activity:</i> Charts and pictures for I-E / Bayes style problems
M 9.15	414-2	The Bernoulli process and associated random variables (binomial, geometric, negative binomial)
T 9.16		Review for Exam 1
W 9.17		EXAM 1 - covers Packets 414-1 and 414-2 HW Due: Problems 22-31
R 9.18		<i>Activity:</i> Review of derivatives and integrals
M 9.22	414-3	Continuous random variables
T 9.23	414-3	Transformations of real-valued random variables I
W 9.24	414-3	Transformations of real-valued random variables II HW Due: Problems 32-37
R 9.25		<i>Activity:</i> Review of power series
M 9.29	414-3	The Poisson process and associated random variables (Poisson, exponential, gamma)
T 9.30	414-3	The gamma function
W 10.1	414-3	Normal distributions HW Due: Problems 38-48
R 10.2		<i>Activity:</i> Review of multivariable calculus
M 10.6	414-3	Stirling's formula
T 10.7		Review for Exam 2
W 10.8		EXAM 2 - covers Packet 414-3 HW Due: Problems 49-58
R 10.9	414-4	Discrete joint distributions I
M 10.13	414-4	Discrete joint distributions II
T 10.14	414-4	Multinomial and d -dimensional hypergeometric distributions
W 10.15	414-5	Continuous joint distributions I HW Due: Problems 59-69
R 10.16		<i>Activity:</i> Thinking about multiple integrals
M 10.20	414-5	Continuous joint distributions II
T 10.21	414-5	Conditional densities
W 10.22	414-5	Transformations in higher-dimensions I HW Due: Problems 70-77
R 10.23	414-5	Transformations in higher-dimensions II
M 10.27		<i>Activity:</i> Practicing transformation problems
T 10.28		Review for Exam 3
W 10.29		EXAM 3 - covers Packets 414-4 and 414-5 HW Due: Problems 78-94
R 10.30	414-6	Expected value

DATE	PACKET	TOPIC
M 11.3	414-6	Properties of expected value
T 11.4	414-6	Generalized expected value formula
W 11.5	414-6	Variance and covariance
R 11.6		<i>Activity:</i> Medians, means, modes and quartiles
M 11.10	414-6	Conditional expectation
T 11.11	414-7	Probability generating functions
W 11.12	414-7	Moments and moment-generating functions HW Due: Problems 95-112
R 11.13		<i>Activity:</i> Review of matrix operations
M 11.17	414-7	Applications of moment-generating functions
T 11.18	414-7	Joint moment-generating functions
W 11.19	414-7	Bivariate normal distributions HW Due: Problems 113-124
R 11.20	414-8	Markov and Chebyshev inequalities; laws of large numbers
M 11.24	414-8	Central Limit Theorem: statement and proof
T 11.25	414-8	Central Limit Theorem: applications HW Due: Problems 125-133
W 11.26		<i>No class - Thanksgiving break</i>
R 11.27		<i>No class - Thanksgiving break</i>
M 12.1	414-8	<i>Activity:</i> Applications of the Central Limit Theorem
T 12.2		Review for Exam 4
W 12.3		EXAM 4 - covers Packets 414-6, 414-7 and 414-8 HW Due: Problems 134-147
R 12.4		Review for Final Exam
T 12.9 ?		FINAL EXAM - cumulative (4 PM - 5:40 PM in SCI 336)