

**SYLLABUS: MATH 4434**  
**FALL 2011**

**COURSE TITLE:** Introduction to Probability

**INSTRUCTOR:** Dr. Raj S. Chhikara  
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**CLASS TIME:** TTh 5:30 – 6:50 pm, Bayou 1217

**OFFICE HOURS:** W 3:00 – 5:30 pm or by appointment

**TEXTBOOK:** *Probability and Statistical Inference* (7<sup>th</sup> Edition) by Hogg and Tanis

**PREREQUISITES:** Calculus II

**OBJECTIVE:** This is an introductory course in probability designed to provide students background in the theory and application of probability. The main objective is to cover the basic concepts of probability, to develop the knowledge of probability distributions and to apply the probabilistic approach to solving problems.

**TOPICS:** Basic Concepts of Probability, Conditional Probability and Bayes Theorem, Random Variable, Probability Distribution, Expectation, Moment Generating Function, Standard Discrete and Continuous Probability Distributions, Bivariate Distributions, Independent Random Variables, Sampling Distributions, and Central Limit Theorem.

**COVERAGE:** Chapters 1-5 in the Textbook

**METHODOLOGY:** The course methodology consists of lectures by the instructor with student's participation in the form of questions and answers. There will be help-sessions conducted by a Teaching Assistant (TA). (Time and place for help-sessions will be announced later on.)

**GRADING:** The following criterion will be the basis for determining grades for students:

Class Participation & Homework -	15%
Exam I	25%
Exam II	25%
Final Exam	35%

**EXAMS:** Testing will consist of two midterm exams and a comprehensive final. Arrangements must be made with the instructor at least 24 hours **prior** to missing an examination or it will be considered as failing of the exam. Make-up exams are allowed only in the case of emergencies.

**HOMEWORK:** Homework assignments will be made on a regular basis, consisting primarily of problems from the textbook. Unless otherwise stated, the homework assignments will be graded. Completion of the homework assignments is considered essential for learning the course contents and is to be turned in on time.

**HONESTY CODE:** Each student is expected to understand and abide by the UHCL Honesty Code: **I will be honest in all my academic activities and will not tolerate dishonesty.** See the catalog for a full description of the UHCL academic honesty policy.

**DISABILITY POLICY:** If you are certified as disabled and entitled to accommodation under the ADA, Section 503, please notify the instructor as soon as possible. If you are not currently certified and believe you may qualify, please contact the UHCL Health and Disability Services office @ 281-283-2627.

**COURSE OUTLINE\*:**

<u>Week</u>	<u>Section</u>	<u>Topics</u>
1	1.1-1.2	Concepts of Probability
2	1.3-1.4	Conditional Probability and Bayes Rule
3	1.5-1.6	Independent Events
4	2.1-2.2	Probability Distribution
5	2.3-2.4	Distribution Characteristics
<b>6</b>	<b>REVIEW AND EXAM I</b>	
7	2.4 & 2.6	Discrete Distributions
8	2.5	Moment Generating Function
9	3.1	Continuous-Type Data Summerization
10	3.2-3.5	Continuous Distributions
<b>11</b>	<b>REVIEW AND EXAM II</b>	
12	4.1-4.3	Bivariate Distributions
13	4.5-4.7	Independent Random Variables
14	5.1-5.3	Normal Distribution
15	5.4-5.5	Central Limit Theorem & Applications
<b>16</b>	<b>FINAL EXAM (Comprehensive)</b>	

\*This course outline is subject to change.