

**MATH 419  
SPRING 2018  
DR. SHOEMAKER**

Text: John E. Freund's Mathematical Statistics with Applications, 8th edition, by Miller & Miller. Prentice-Hall Publishing Co., 2014.

<u>Day</u>	<u>Topic &amp; Readings</u>
Jan. 22	Introduction
29	Basic Probability Concepts – Chapter 2.1-2.5
Feb. 5	Conditional Probability and Independence – Chapter 2.6-2.8
12	Combinatorial Principles – Chapter 1
19	Random Variables and Probability Distributions – Chapter 3.1-3.4
26	Expectation and other Distribution Parameters – Chapter 4.1-4.5
March 5	Frequently Used Discrete Distributions – Chapter 5
12	<b>BREAK</b>
19	Frequently Used Continuous Distributions – Chapter 6
26	Joint, Marginal, and Conditional Distributions – Chapter 3.5-3.8, 4.6-4.8
April 2	Transformations of Random Variables – Chapter 7, 8.7
9	Expected Losses – Chapter 4
16	Practice Exam Part 1
23	Practice Exam Part 2
30	Practice Exam Part 3

**\*\*\*FINAL - TUESDAY 5/8 10:15 AM-12:15 PM\*\*\***

**MATH 419**  
**COURSE GUIDELINES**

1. You will be given 13 sets of approximately 10 multiple choice problems to hand in each week. These will be worth 2 points each and will be graded right or wrong – no partial credit. These problems are intentionally tough in order to prepare you for the Actuarial exam. We will discuss the answers each week.
2. There will be a final consisting of 20 multiple choice problems similar to the problems on the Actuarial exam. These will be worth 5 points each and will be graded right or wrong – no partial credit.
3. Your grade will be determined by the total number of points you earn on these problems. There is no partial credit since the Actuarial exam offers no partial credit. It is to your advantage to answer every problem since unanswered problems will be marked wrong and there is no added penalty for incorrect answers. The usual exam pass on the first Actuarial Exam is 63% or 19/30 correct answers. Approximately 40% of those taking the exam pass. An A for this course will be a 70% course average instead of the usual 90% due to the difficulty of the questions.

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**OFFICE HOURS: 11-12 MWF  
1-2 TuTh**

*“To understand God’s thoughts, we must study statistics for these are the measure of His purpose.”*  
Florence Nightingale (1820-1910)

*“Finally, brothers and sisters, whatever is true, whatever is noble, whatever is right, whatever is pure, whatever is lovely, whatever is admirable—if anything is excellent or praiseworthy—think about such things. Whatever you have learned or received or heard from me, or seen in me—put it into practice. And the God of peace will be with you.”* Paul of Tarsus (A.D. 5-67)

Course Objectives

- A. In depth review of probability theory.
- B. Prepare students for the Society of Actuaries Exam P and/or Casualty Actuarial Society Exam 1

*Millersville University and its faculty are committed to assuring a safe and productive educational environment for all students. In order to meet this commitment, comply with Title IX of the Education Amendments of 1972, 20 U.S.C. §1681, et seq., and act in accordance with guidance from the Office for Civil Rights, the University requires faculty members to report to the University’s Title IX Coordinator incidents of sexual violence shared by students. The only exceptions to the faculty member’s reporting obligation are when incidents of sexual violence are communicated by a student during a classroom discussion, in a writing assignment for a class, or as part of a University-approved research project. Faculty members are obligated to report to the person designated in the University Protection of Minors policy incidents of sexual violence or any other abuse of a student who was, or is, a child (a person under 18 years of age) when the abuse allegedly occurred.*

*Information regarding the reporting of sexual violence, and the resources that are available to victims of sexual violence, is available at <http://www.millersville.edu/socialq/title-ix-sexual-misconduct/index.php>.*