

# Syllabus for Mathematical Statistics 1 (MAT3022)

## Spring 2015

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### Course Description

The goal of the course is to introduce probability and statistics and understand basic concepts of probability, random variables, and some common distributions. This course provides an introduction to probability and statistics. It covers probability, random variables, common discrete and continuous distributions, and functions of random variables. In this course, a strong background for theoretical statistics will be provided.

**Prerequisites:** Principles of Statistics (MAT2022) and Calculus

### Textbook

Probability and Statistical Inference, 8<sup>th</sup> edition. Hogg and Tanis. Pearson. 2009.

### Reference book

Introduction to Mathematical Statistics, 7<sup>th</sup> edition. Hogg and Craig. Pearson. 2013.

### Plan

1-3 weeks: Ch1. Probability  
4-6 weeks: Ch2. Discrete Distribution  
7-9 weeks: Ch3. Continuous Distributions  
10-12 weeks: Ch4. Bivariate Distributions  
13-15 weeks: Ch5. Distributions of functions of Random Variables  
16 week: Final Exam