OFFICIAL SYLLABUS
STAT 480a - INTRODUCTION TO MATHEMATICAL STATISTICS
(Adopted - Fall 2003)

Catalog Description. Probability models, distributions of random variables, generating functions. Prerequisite: Math 250.


Course Outline and Topics

Chapter 1 Probability
  1.2 Notation and Terminology
  1.3 Definition of Probability
  1.4 Some Properties of Probability
  1.5 Conditional Probability
  1.6 Counting Techniques
Chapter 2 Random Variables and Their Distributions
  2.1 Introduction
  2.2 Discrete Random Variables
  2.3 Continuous Random Variables
  2.4 Some Properties of Expected Values
  2.5 Moment Generating Functions
Chapter 3 Special Probability Distributions
  3.2 Special Discrete Distributions
  3.3 Special Continuous Distributions
  3.4 Location and Scale Parameters
Chapter 4 Joint Distributions
  4.2 Joint Discrete distributions
  4.3 Joint Continuous Distributions
  4.5 Conditional Distributions
  4.6 Random Samples
Chapter 5 Properties of Random Variables
  5.2 Properties of Expected Values
  5.3 Correlation
  5.4 Conditional Expectation
  5.5 Joint Moment Generating Functions
Chapter 6 Functions of Random Variables
  6.2 The CDF technique
  6.3 Transformation Methods
  6.4 Sum of Random Variables
  6.5 Order Statistics

Any instructor should cover all of the material specified, additional sections are optional.