

## MATH 4751/6751 – Mathematical Statistics I – Syllabus

**Instructor:** Prof. Xiaojing Ye, E-mail: [xye@gsu.edu](mailto:xye@gsu.edu), Office: COE 704, Phone: 413-6444.

**Course Website:** <http://www.math.gsu.edu/~xye/course/mathstat.html>

**Textbook:** John E. Freund's Mathematical Statistics with Applications (8th edition) by Irwin Miller and Marylees Miller. Publisher: Pearson.

**Prerequisites:** A grade of C or higher in Math 2215 Multivariate Calculus.

**Course Outline:**

Chapter 1 Introduction .....	approx. 3 lectures
Chapter 2 Probability .....	approx. 5 lectures
Chapter 3 Probability Distributions and Probability Densities ..	approx. 6 lectures
Chapter 4 Mathematical Expectation .....	approx. 4 lectures
Chapter 5 Special Probability Distributions .....	approx. 3 lectures
Chapter 6 Special Probability Densities .....	approx. 3 lectures
Chapter 7 Functions of Random Variables .....	approx. 2 lectures

**Course Description:** Probability, random variables and their distributions, mathematical expectation, moment generating functions, sampling distributions.

<b>Grading Scales:</b>	Score	0–59	60–69	70–76	77–79	80–82	83–86	87–89	90–92	93–96	97–100
	Grade	F	D	C	C+	B–	B	B+	A–	A	A+

**Grading Weights:** Homework (30 pts). Midterm exam 1 (20 pts). Midterm exam 2 (20 pts). Final exam (30 pts).

**Homework:** 10 homework assignments are given during lectures. Each one has a total of 3 points.

**Exam:** There are two midterm exams and one final exam. All exams are held in lecture room.

**Academic Honesty:** All work submitted by a student for a grade must have been done without help from other persons. Cheating and plagiarism are strictly forbidden. A first occurrence will result in a grade of 0 on the assignment for all concerned parties as well as an Academic Dishonesty form being filed with the Dean of Students. A second occurrence will result in a grade of F for the course for the concerned parties and a second Academic Dishonesty form being filed. See the University's policy on academic honesty at <http://codeofconduct.gsu.edu/>.

**Attendance Policy:** Students are required to attend lectures. A student who incurs an excessive number of absences may be withdrawn from a class at the discretion of the professor.

**Makeup Policy:** Exams may be made up only in the event of a suitable verifiable excuse (e.g., a doctor's note is necessary).

**Remarks:**

- Whilst every effort will be made to adhere to the syllabus, the circumstances may make it necessary to deviate from it.
- Your constructive assessment of this course plays an indispensable role in shaping education at Georgia State. Upon completing the course, please take time to fill out the online course evaluation.

## MATH 4752/6752 – Mathematical Statistics II – Syllabus

**Instructor:** Prof. Xiaojing Ye, E-mail: [xye@gsu.edu](mailto:xye@gsu.edu), Office: COE 704, Phone: 413-6444.

**Course Website:** <http://www.math.gsu.edu/~xye/course/mathstat.html>

**Textbook:** John E. Freund's Mathematical Statistics with Applications (8th edition) by Irwin Miller and Marylees Miller. Publisher: Pearson.

**Prerequisites:** A grade of C or higher in Mathematical Statistics I (Math 4751).

**Course Outline:**

Chapter 7 Functions of Random Variables .....	6 lectures
Chapter 8 Sampling distributions .....	8 lectures
Chapter 9 Decision theory .....	7 lectures
Chapter 10 Point estimation .....	8 lectures
Chapter 11 Interval estimation .....	7 lectures
Chapter 12–13 Hypothesis testing .....	7 lectures

**Course Description:** Theory of estimation and hypothesis testing, applications of statistical inference, introduction to regression and correlation.

<b>Grading Scales:</b>	Score	0–59	60–69	70–76	77–79	80–82	83–86	87–89	90–92	93–96	97–100
	Grade	F	D	C	C+	B–	B	B+	A–	A	A+

**Grading Weights:** Homework (30 pts). Midterm exam 1 (20 pts). Midterm exam 2 (20 pts). Final exam (30 pts).

**Homework:** 10 homework assignments are given during lectures. Each one has a total of 3 points.

**Exam:** There are two midterm exams and one final exam. All exams are held in lecture room.

**Academic Honesty:** All work submitted by a student for a grade must have been done without help from other persons. Cheating and plagiarism are strictly forbidden. A first occurrence will result in a grade of 0 on the assignment for all concerned parties as well as an Academic Dishonesty form being filed with the Dean of Students. A second occurrence will result in a grade of F for the course for the concerned parties and a second Academic Dishonesty form being filed. See the University's policy on academic honesty at <http://codeofconduct.gsu.edu/>.

**Attendance Policy:** Students are required to attend lectures. A student who incurs an excessive number of absences may be withdrawn from a class at the discretion of the professor.

**Makeup Policy:** Exams may be made up only in the event of a suitable verifiable excuse (e.g., a doctor's note is necessary).

**Remarks:**

- Whilst every effort will be made to adhere to the syllabus, the circumstances may make it necessary to deviate from it.
- Your constructive assessment of this course plays an indispensable role in shaping education at Georgia State. Upon completing the course, please take time to fill out the online course evaluation.