This is an introductory course on the mathematical theory of probability, fundamental to further work in probability and statistics. Topics to be covered include basic probability properties, conditional probability and independence, various discrete and continuous random variables, expectation and variance, central limit theorem, and joint probability distributions.

Warning: This course carries the Quantitative Reasoning flag. Quantitative Reasoning courses are designed to equip you with skills that are necessary for understanding the types of quantitative arguments you will regularly encounter in your adult and professional life. You should therefore expect a substantial portion of your grade to come from your use of quantitative skills to analyze real-world problems.

Prerequisite. The prerequisite is M408D with a grade of at least C.

Class Time and Location. The class will meet MTWThF 10:00 AM - 11:30 AM @ RLM 6.118.

Instructor. Kui Ren
Office: RLM 10.170
Phone: 512-471-3152
Email: ren@math.utexas.edu
Office Hours: MTWThF 9:00AM-10:00AM + Appointments.

Homework and Exams. There will be seven homework sets to be graded, each based on 100 points. The lowest scores from your homework will be dropped when calculating your final score. No late homework will be accepted without compelling reasons. There will be one in-class midterm exam, based on 100 points, and a final exam, also based on 100 points. In general, no makeup exam will be arranged.

Grading Policy. The final grade will be weighted roughly as follows:

Homework 30%, Midterm 30%, Final 40%
Let $\{H_i\}_{i=1}^6$ be your scores on the 6 selected homework sets, $E$ be your scores on the midterm exam, and $F$ be your score on the final exam. Then your final score will be computed as

$$\text{Final Score} = \frac{1}{6} \sum_{i=1}^{6} H_i \times 0.3 + E \times 0.3 + F \times 0.4.$$ 

The final scores of the class will be linearly rescaled so that the highest score in the class is 100. The letter grades are distributed as follows:

- 90% – 100% : Grade A
- 80% – 89% : Grade B
- 70% – 79% : Grade C
- 60% – 69% : Grade D
- 0% – 59% : Grade F

**Course Webpage.** All the homeworks will be posted on the university teaching tool, the blackboard system:

https://courses.utexas.edu/webapps/portal/frameset.jsp

**Textbooks.**

A First Course in Probability (8th edition)
Sheldon Ross
Prentice Hall, 2010

**Computing Resources.** The mathematics undergraduate computer lab in RLM 7.122 is open to all students enrolled in a math course. The lab is open whenever the RLM building is open. You will need an account to use the lab. Bring your EID with you when you visit the lab to sign up for an account.

**Important Dates.**

- 07/15/2013, First day of class for M362K-92180
- 07/16/2013, Last day of official add/drop period
- 07/31/2013, Midterm for M362K-92180
- 08/02/2013, Last day to change registration to credit/no credit
- 08/16/2013, Last day of class for M362K-92180
Miscellaneous.

- The University of Austin provides upon request appropriate academic accommodations for qualified students with disabilities. For more information, contact the Office of the Dean of Students at 471-6259, 471-6441 TTY.

- It is the policy of The University of Texas at Austin that “a student who misses classes or other required activities, including examinations, for the observance of a religious holy day should inform the instructor as far in advance of the absence as possible, so that arrangements can be made to complete an assignment within a reasonable time after the absence”.

- The following recommendations regarding emergency evacuation are from the Office of Campus Safety and Security:

  1. Occupants of buildings on The University of Texas at Austin campus are required to evacuate buildings when a fire alarm is activated. Alarm activation or announcement requires exiting and assembling outside.

  2. Familiarize yourself with all exit doors of each classroom and building you may occupy. Remember that the nearest exit door may not be the one you used when entering the building.

  3. Students requiring assistance in evacuation shall inform their instructor in writing during the first week of class.

  4. In the event of an evacuation, follow the instruction of faculty or class instructors.

  5. Do not re-enter a building unless given instructions by the following: Austin Fire Department, The University of Texas at Austin Police Department, or Fire Prevention Services office.


  7. A link to information regarding emergency evacuation routes and emergency procedures can be found at: www.utexas.edu/emergency
M362K: Probability I, Summer 2013

Unique # 92180

Lecture Schedule

• 07/15 (MO): Section 1.1 & Section 1.2
• 07/16 (TU): Section 1.3 & Section 1.4
• 07/17 (WE): Section 2.1 & Section 2.2  HW#1 Handout
• 07/18 (TH): Section 2.3
• 07/19 (FR): Section 2.4
• 07/22 (MO): Section 2.5  HW#2 Handout
• 07/23 (TU): Section 3.1 & Section 3.2
• 07/24 (WE): Section 3.3
• 07/25 (TH): Section 3.4  HW#3 Handout
• 07/26 (FR): Section 4.1
• 07/29 (MO): Section 4.2
• 07/30 (TU): Section 4.3  HW#4 Handout
• 07/31 (WE): Midterm Exam
• 08/01 (TH): Section 4.4
• 08/02 (FR): Section 4.5
• 08/05 (MO): Section 4.6  HW#5 Handout
• 08/06 (TU): Section 4.7 & Section 4.9
• 08/07 (WE): Section 5.1 & Section 5.2
• 08/08 (TH): Section 5.3  HW#6 Handout
• 08/09 (FR): Section 5.4
• 08/12 (MO): Section 5.5
• 08/13 (TU): Section 6.1

• 08/14 (WE): Section 6.2

• 08/15 (TH): Section 6.3

• 08/16 (FR): Section 6.4

• 08/17 (SA): Final Exam, 7:00PM - 9:00PM, Location: TBA

Note that there are possibly minor changes on the schedule. Those changes will be announced in class.