



## MATH 110 section 001, Fall 2022 Introductory Probability

Instructor: Ermias Kassaye

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Lecture: TR: 3:00PM – 4:15 PM at Sandridge HALL 107

Office Hours: M W R 11am-12am or by appointment.

**Credit Hours:** 3

**Text(s):** Finite Mathematics and Its Applications, 13 Edition, by Goldstein, Schneider and Siegel, Pearson 2018

**Calculators:** You will need a Scientific Calculator (TI-83 or TI-84) for the course.

**Course Description:** This course meets the quantitative reasoning requirement, one of the Foundation requirements of the Mason Core. The goal of the Foundation requirement is to help ensure that students are equipped with the tools and techniques necessary to succeed in college and throughout their lives and careers. The course will introduce some elementary concepts of counting and probability, laying a foundation for further study in statistics.

**Disability statement:** If you are a student with a disability and you need academic accommodations, please see me and contact the Office of Disability Resources at 703.993.2474. All academic accommodations must be arranged through that office.

**Tutoring Center:** The Math Tutoring Center is located in the Johnson Center Room 344. Help is available on a walk-in basis. For hours of operation see <http://math.gmu.edu/tutorcenter.php> University Honor Code: You are expected to follow the GMU Honor Code <http://oai.gmu.edu/the-mason-honor-code/>.

**Exams:**

- Exam 1: 09/29/2022
- Exam 2: 11/03/2022
- Final Exam: 12/08/2022 at 1:30 PM

**Grade Distribution:**

Homework	35%
(MML + Written homework)	
Exam 1	20%
Exam 2	20%
Final Exam	25%

**Grading Scale:**

A+: 99-100	A: 92-98	A-: 90-91
B+: 88-89	B: 82-87	B-: 80-81
C+: 76-79	C: 70-75	
D: 60-69		
F: 0-59		

**Course Policies:**

- Lecture notes will be posted on Blackboard. Students are expected to attend the lectures.
- No makeup exams will be given.
- Assignments: Students are expected to work independently. Discussion amongst students is encouraged, but when in doubt, direct your questions to the professor or tutor.
- No late assignments will be accepted under any circumstances.
- Attendance is expected.
- Students are responsible for all missed work, regardless of the reason for absence. It is also the absentee's responsibility to get all missing notes or materials.

### **Tentative Course (FALL 2022)**

The weekly coverage might change as it depends on the progress of the class.

<b>Week</b>	<b>Content</b>	<b>Sections covered</b>
1 (08/23 - 08/25)	<ul style="list-style-type: none"><li>• Sets</li></ul>	5.1
2 (08/30-09/01)	<ul style="list-style-type: none"><li>• A fundamental principle of counting</li><li>• Venn Diagrams and counting</li></ul>	5.2, 5.3
3 (09/06-09/08)	<ul style="list-style-type: none"><li>• The multiplication principle</li><li>• Permutations and combinations</li></ul>	5.4, 5.5
4 (09/13-09/15)	<ul style="list-style-type: none"><li>• Permutations and combinations</li><li>• Further counting techniques</li></ul>	5.5, 5.6
5 (09/20-09/22)	<ul style="list-style-type: none"><li>• The Binomial theorem</li><li>• Multinomial coefficients and Partitions</li></ul>	5.7, 5.8
6 (09/27-09/29)	<ul style="list-style-type: none"><li>• EXAM 1</li><li>• Experiments, outcomes, sample spaces and events</li></ul>	6.1
7 (10/04-10/06)	<ul style="list-style-type: none"><li>• Assignment of probabilities</li><li>• Calculating probabilities of events</li></ul>	6.2, 6.3
8 (10/11-10/13)	<ul style="list-style-type: none"><li>• FALL BREAK</li></ul>	
9 (10/18-10/20)	<ul style="list-style-type: none"><li>• Conditional probability and independence</li><li>• Tree diagrams</li></ul>	6.4, 6.5
10 (10/25-10/27)	<ul style="list-style-type: none"><li>• Bayes' theorem, natural frequencies</li><li>• Simulations</li></ul>	6.6, 6.7
11 (11/01-11/03)	<ul style="list-style-type: none"><li>• EXAM 2</li><li>• Visual representations of data</li></ul>	7.1
12 (11/08-11/10)	<ul style="list-style-type: none"><li>• Frequency and probability distributions</li><li>• Binomial trials</li></ul>	7.2, 7.3
13 (11/15-11/17)	<ul style="list-style-type: none"><li>• The mean</li><li>• The variance and standard deviation</li></ul>	7.4, 7.5
14 (11/22) and (23-25) Thanksgiving Break	<ul style="list-style-type: none"><li>• The normal distribution</li></ul>	7.6, 7.7
15 (11/29-12/01)	<ul style="list-style-type: none"><li>• Normal approximation to the binomial distribution + Review</li></ul>	Review session
16 (12/08) at 1:30 PM	<ul style="list-style-type: none"><li>• FINAL EXAM</li></ul>	

## Course Materials

**An access code for MyMathLab is required for this course.** You can either purchase the access code only to access the ebook and MyMathLab **or** purchase the new book with access code. *If you buy a used book, make you have an access code.*

**To register:** Click the link MyMathLab in Blackboard – Course Content and follow the instructions. (Course ID: kassaye60822)

Please use your official GMU registration name and your GMU email address to register your MML account.