MATH 110 section 001, Spring 2020

Introductory Probability

MW, 10:30-11:45 am, Innovation Hall 206

Instructor: Dr. Sarah Khankan

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Office: Exploratory Hall 4219
Office Hours: F 8:30-10:30

Credit Hours: 3

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

Calculators: You will need a Scientific Calculator for the course.

Course Description: This course meets the quantitative reasoning requirement, one of theFoundation requirements of the Mason Core. The goal of the Foundation requirement is to helpensure that students are equipped with the tools and techniques necessary to succeed in collegeand throughout their lives and careers.The course will introduce some elementary concepts of counting and probability, laying afoundation 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/tutor-center.php University Honor Code: You are expected to follow the GMU Honor Code http://oai.gmu.edu/the-mason-honor-code/.

Exams:

- Exam 1: 02/24/2020
- Exam 2: 03/30/2020
- Final Exam: 05/04/2020

Grade Distribution:

Homework	20%
Exam 1	25%
Exam 2	25%
Final Exam	30%

Course Policies:

- Exams are closed book, closed notes.

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

Week	Content	Sections covered
1 (01/22)	• Sets	5.1
2 (01/27-01/29)	• A fundamental principle of counting • Venn Diagrams and counting	5.2, 5.3
3 (02/03-02/05)	• The multiplication principle • Permutations and combinations	5.4, 5.5
4 (02/10-02/12)	• Permutations and combinations • Further counting techniques	5.5, 5.6
5 (02/17-02/19)	• The Binomial theorem • Multinomial coefficients and Partitions	5.7, 5.8
6 (02/24-02/26)	• EXAM 1 • Experiments, outcomes, sample spaces and events	6.1
7 (03/02-03/04)	• Assignment of probabilities • Calculating probabilities of events	6.2, 6.3
8 (03/09-03/11)	• SPRING BREAK	
9 (03/16-03/18)	• Conditional probability and independence • Tree diagrams	6.4, 6.5
10 (03/23-03/25)	• Bayes' theorem, natural frequencies • Simulations	6.6, 6.7
11 (03/30-04/01)	• EXAM 2 • Visual representations of data	7.1
12 (04/06-04/08)	• Frequency and probability distributions • Binomial trials	7.2, 7.3
13 (04/13-04/15)	• The mean • The variance and standard deviation	7.4, 7.5
14 (04/20-04/22)	• The normal distribution • Normal approximation to the binomial distribution	7.6, 7.7
15 (04/27-04/29)	• Catch up + Review	