

# George Mason University

## ***MATH 110 002 Introductory Probability Spring 2022***

Mondays & Wednesdays, 10:30 – 11:45  
Planetary Hall 124

**Instructor:** Stephanie Gaffney

**Email:** [sgaffne@gmu.edu](mailto:sgaffne@gmu.edu) (*Note: Students must use their Mason email to contact me*)

**Phone:** 772-501-5546 (only use in case of emergency)

**Office:** Exploratory Hall 4309 (math adjunct offices, knock on the door if it's not open)

**Office Hours:** Mondays & Wednesdays: 9:15 – 10:15, Tuesdays: 10:30 – 11:30

**Text:** Finite Mathematics and Its Applications, 12<sup>th</sup> ed., Goldstein, Schneider and Seigel

**Calculator:** A scientific calculator is required (personal recommendation: TI-30XIIS). A graphing calculator is acceptable, but not necessary. Cell phones and laptops are **NOT** acceptable calculators and may not be used on in-class quizzes or exams.

**Course Description:** This course will cover elementary set theory, probability, and statistics. This course meets the quantitative reasoning requirement of the Mason Core.

### **Learning Outcomes:**

1. Students are able to interpret quantitative information (i.e., formulas, graphs, tables, models, and schematics) and draw inferences from them.
2. Given a quantitative problem, students are able to formulate the problem quantitatively and use appropriate arithmetical, algebraic, and/or statistical methods to solve the problem.
3. Students are able to evaluate logical arguments using quantitative reasoning.
4. Students are able to communicate and present quantitative results effectively.

### **Class Procedures**

**Attendance:** I take attendance at each class meeting. Attendance is not part of your grade; however, I take attendance into consideration for borderline grades at the end of the semester. You will also need to be present to participate and receive a grade in the in-class projects and quizzes.

**Participation:** I encourage your participation in class. The more you are willing to participate, especially by asking and answering questions, the more you will likely learn and take away from the class.

**Electronics:** Regarding electronic devices (such as laptops, cell phones, etc.), please be respectful of your peers and your instructor and do not engage in activities that are unrelated to class. Such disruptions show a lack of professionalism.

**Safety:** All students are required to follow the university's public health and safety precautions and procedures outlined on the university Safe Return to Campus webpage (<https://www2.gmu.edu/safe-return-campus>). Similarly, all students must also complete the Mason COVID Health Check daily, seven days a week. The COVID Health Check system uses a color code system and students will receive either a Green, Yellow, or Red email response. Only students who receive a "green" notification are permitted to attend courses with a face-to-face component. If you suspect that you are sick or have been directed to self-isolate, please quarantine or get testing. Faculty are allowed to ask you to show them that you have received a Green email and are thereby permitted to be in class.

**Facemasks:** Students are required to follow Mason's current policy about facemask-wearing. All community members are required to wear a facemask in all indoor settings, including classrooms. An [appropriate facemask](#) must cover your nose and mouth at all times in our classroom. If this policy changes, you will be informed; however, students who prefer to wear masks either temporarily or consistently will always be welcome in the classroom.

**Announcements:** If the campus closes, or if a class meeting needs to be canceled or adjusted due to weather or other concern, students should check Blackboard for updates on how to continue learning and for information about any changes to events or assignments.

**Academic Integrity:** The integrity of the University community is affected by the individual choices made by each of us. Mason has an Honor Code with clear guidelines regarding academic integrity. Three fundamental and rather simple principles to follow at all times are that: (1) all work submitted be your own; (2) when using the work or ideas of others, including fellow students, give full credit through accurate citations; and (3) if you are uncertain about the ground rules on a particular assignment, ask for clarification. No grade is important enough to justify academic misconduct. *Some kinds of participation in online study sites violate the Mason Honor code: these include accessing exam or quiz questions for this class; accessing exam, quiz, or assignment answers for this class; uploading of any of the instructor's materials or exams; and uploading any of your own answers or finished work.*

**Disability Services:** George Mason University is committed to upholding the letter and spirit of the laws that ensure equal treatment of people with disabilities. Under the administration of University Life, Disability Services implements and coordinates reasonable accommodations and disability-related services that afford equal access to university programs and activities. Students can begin the registration process with Disability Services at any time during their enrollment at George Mason University. If you are seeking accommodations, please visit <http://ds.gmu.edu/> for detailed information about the Disability Services registration process. Disability Services is located in Student Union Building I (SUB I), Suite 2500.  
[Email:ods@gmu.edu](mailto:ods@gmu.edu) | Phone: (703) 993-2474

## Coursework

**Homework:** Homework will be assigned for every section covered. Assignments will be from the textbook. All assignments will be due on Fridays by 5pm or the day of the exam at the beginning of class. Homework can be handwritten or typed. You can submit your assignment on Blackboard or turn them in during class. There is a lot of homework assigned, with the intent to give you an opportunity to practice what we are learning in class. You will have opportunities to ask questions about the homework during class, so it is in your best interest to start the assignments sooner rather than later. Late assignments will receive half credit until the exam date. Once the exam date has passed, assignments will not be accepted. I will drop your lowest 3 homework scores.

**In-Class Quizzes:** You will periodically have in-class quizzes. I will announce quiz dates ahead of time in class and/or on Blackboard. If you are absent, you will receive a zero for that particular quiz; however, I will be dropping your lowest quiz score.

**Project:** You will have a project due by the end of the semester. The project consists of activities designed to help you understand the concepts we are covering in class. Most of the activities will be done during class time, but some may require additional work outside of class.

**Exams:** You will have 3 mid-term exams. There are no makeups for exams. If you receive an exception due to a documented, excused absence then I will replace your missed exam score with your final exam score.

**Final Exam:** The final exam will be comprehensive and given according to the registrar's final exam school. No exceptions will be made to the final exam schedule.

**Additional Assistance:** You are more than welcome to come see me during office hours if you need additional assistance outside of class time. You may also email me with questions.

The Math Tutoring Center is available to assist you. Check the website for hours of operation. <https://science.gmu.edu/academics/departments-units/mathematical-sciences/math-tutoring/tutoring-center-hours-and>

## Grading

*Grades will be calculated as follows:*

Homework	10%
Quizzes	15%
Project	10%
Exams	45%
Final Exam	20%

*Grading Scale:*

A+	99-100	A	92-98	A-	90-91
B+	88-89	B	80-89	B-	80-81
C+	78-79	C	70-79	C-	70-71
		D	60-69		
		F	0-59		

## Tentative Class Schedule *(subject to change)*

Date	Section Covered
January 24	5.1 Sets
January 26	5.2 Fundamental Principle of Counting
January 31	5.3 Venn Diagrams and Counting
February 2	5.4 Multiplication Principle
February 7	5.5 Permutations & Combinations
February 9	5.6 Counting Techniques
February 14	5.7 Binomial Theorem
February 16	5.8 Partitions
February 21	Catch-up/Review
February 23	<b>EXAM 1</b>
February 28	6.1 Experiments, Outcomes, Sample Spaces, and Events
March 2	6.2 Assignment of Probabilities
March 7	6.3 Calculating Probabilities of Events
March 9	6.4 Conditional Probability and Independence
March 14-18	<b>NO CLASS - SPRING BREAK</b>
March 21	6.5 Tree Diagrams
March 23	6.6 Bayes' Theorem
March 28	Catch-up/Review
March 30	<b>EXAM 2</b>
April 4	7.1 Visual Representation of Data
April 6	7.2 Frequency and Probability Distributions
April 11	7.3 Binomial Trials
April 13	7.4 Mean
April 18	7.5 Variance and Standard Deviation
April 20	Review/Catch-up
April 25	<b>EXAM 3</b>
April 27	7.6 Normal Distribution
May 2	7.7 Normal Approximation to Binomial Distribution
May 4	Review/Catch-up
May 11	<b>FINAL EXAM: 10:30 – 1:15</b>