George Mason University
Math 110
Course Syllabus

Term Fall 2022
Title Probability
Course Math 110
Location
Time Mon and Wed
Professor: Douglas Eckley
deckley2@gmu.edu
mobile # 571 277 7927 (use sparingly)
office location Exploratory Hall room 4451 (on 4th floor)
office # 703 993 1682
office hours MW 1pm to 3pm

Goals

Goal #1 is to learn some math, especially probability.

Goal #2 is to learn something you can take away from this course: spreadsheets. If you do not want to learn to use a spreadsheet, then you are in the wrong class.

Description

This course meets the quantitative reasoning requirement, one of the Foundation requirements of the University General Education program. 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 learning objectives for this requirement are:

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.

To help achieve these objectives, we will learn to use Excel spreadsheets.

We will cover the following topics:

Introduction to Excel
Graphs (especially xy graphs)
Matrices
Linear Equations
Combinations and Permutations
Probability
Mathematics of Loans (Car, Home)
Mathematics of Retirement Saving
Craps, Simulation
Encryption

The book is Finite Mathematics and Its Applications, Eleventh or later edition, by Goldstein, Schneider and Siegel, Pearson 2014. The lectures are done my way (not from the book). The book serves as a useful source of practice problems and as a back-up resource. The idea is that you have two perspectives on learning the material: mine and the authors'.

Procedures

In this course, you must become hands-on with Microsoft Excel.

The class will consist mostly of a series of lectures. I will demonstrate calculations via spreadsheet, visible on the whiteboard.

Grading will be divided as follows:

Progress exams (5)	70
Final exam	20
Group Assignments (2)	10

The progress exams will be worth 15 marks, except #5 which will be 10 marks.
I will grade on a curve at the end of the semester. The curve will be no more harsh than 90/80/70/60.

Attendance

I do not take attendance, but I am in the habit of giving graded pop quizzes when I notice empty seats.

Calendar

Date	Topic
22-Aug	Introduction to Excel
24-Aug	Growing Money
29-Aug	Linear Algebra, Graphs

31-Aug	Group Assignment #1
05-Sep	NO CLASS (Labor Day)
07-Sep	Progress Exam 1
12-Sep	Intro to Matrices
14-Sep	Matrices in Excel
19-Sep	Simultaneous Linear Equations
21-Sep	Set Theory
26-Sep	Review
29-Sep	Progress Exam 2
04-Oct	Probability
06-Oct	Probability
12-Oct	Expectation
17-Oct	Expectation / Permutations and Combinations
19-Oct	Permutations and Combinations
24-Oct	Progress Exam 3
26-Oct	Math of Loans
31-Oct	Math of Loans
02-Nov	Intro to Stock Market
07-Nov	Retirement Saving
09-Nov	Retirement Saving
14-Nov	Progress Exam 4
16-Nov	Simulation
21-Nov	Encryption
23-Nov	NO CLASS (Thanksgiving)
28-Nov	Group Assignment #2
30-Nov	Progress Exam 5 (a 10-mark exam)
05-Dec	Reading Day
12-Dec	Final Exam 10:30am – 1:15pm