George Mason University
Math 110-001
Course Syllabus

Term	Fall 2020
Title	Probability
Course	Math 110-001
Location	Blackboard Collaborate Ultra
Time	Tue and Thu 10:30 - 11:45
Professor:	Douglas Eckley
	deckley2@gmu.edu
	mobile # 571 277 7927 (use sparingly)
	office # N/A because of Covid
	office hours N/A because of Covid

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. The lecture will be online (Blackboard Collaborate Ultra), with screen sharing. In effect, my computer screen becomes the whiteboard that I would use if we were meeting in person.

Grading will be divided as follows:

Progress tests (5)	75
Final exam	20
Group Assignments (2)	10

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, and I will TRY to remember to record each lecture. DON'T MISS any of the progress exams (or the final).

Calendar

Date	Topic
25-Aug-20	Introduction to Excel
27-Aug-20	Growing Money
01-Sep-20	Linear Algebra, Graphs
03-Sep-20	Group Assignment #1
08-Sep-20	Progress Exam 1

10-Sep-20	Intro to Matrices
15-Sep-20	Matrices in Excel
17-Sep-20	Simultaneous Linear Equations
22-Sep-20	Set Theory
24-Sep-20	Review
29-Sep-20	Progress Exam 2
01-Oct-20	Probability
06-Oct-20	Probability
08-Oct-20	Spring Break
13-Oct-20	Spring Break
15-Oct-20	Expectation
20-Oct-20	Permutations and Combinations
22-Oct-20	Review
27-Oct-20	Progress Exam 3
29-Oct-20	Math of Loans
03-Nov-20	NO CLASS (election day)
05-Nov-20	Math of Loans
10-Nov-20	Intro to Stock Market
12-Nov-20	Retirement Saving
17-Nov-20	Review
19-Nov-20	Progress Exam 4
24-Nov-20	Simulation
26-Nov-20	NO CLASS (Thanksgiving)
01-Dec-20	Encryption
03-Dec-20	Group Assignment #2
08-Dec-20	Progress Exam 5
10-Dec-20	Review
15-Dec-20	Final Exam