

**George Mason University**  
**Math 110-DL1**  
**Course Syllabus**

Term           Spring 2022  
Title           Probability  
Location       Blackboard Collaborate Ultra  
Time           Monday evenings 7:20 – 09:55  
Professor:     Douglas Eckley  
                  [deckley2@gmu.edu](mailto:deckley2@gmu.edu)  
                  mobile #     571 277 7927 (use sparingly)  
                  office #      703 993 1682  
                  office hours   with appointment, via Zoom

**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 methods available for learning the material: mine and the authors'. But you should attend the lectures, because in them I will emphasize the particular areas that I think are most important, and are also the areas on which I will test you.

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

The progress exams and group assignments will be take-home. For the exams, you will have 24 hours. For the group assignments, 1 week. No two students will have exactly the same exam, for obvious reasons.

The final will NOT be take-home, meaning you will need to do it during the official GMU final exam time period.

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
24-Jan-21	Introduction to Excel
31-Jan-21	Growing Money and Flying Kites
07-Feb-21	Linear Algebra, Graphs; take home PE 1 visible on Blackboard; Group Assign 1 distributed
08-Feb-21	PE 1 due at 9:55pm
14-Feb-21	Matrices; Group Assign 1 due
21-Feb-21	Simultaneous Linear Equations
28-Feb-21	Set Theory; take home PE 2 visible on Blackboard
01-Mar-21	PE 2 due at 9:55pm
07-Mar-21	Permutations & Combinations
14-Mar-21	NO CLASS (spring break)
21-Mar-21	Probability
28-Mar-21	Expectation; take home PE 3 visible on Blackboard
29-Mar-21	PE 3 due at 9:55pm
04-Apr-21	Loans
11-Apr-21	Stock Market
18-Apr-21	Retirement Saving; take home PE 4 visible on Blackboard
19-Apr-21	PE 4 due at 9:55pm
25-Apr-21	Encryption; Group Assign 2 distributed
02-May-21	Simulation; Group Assign 2 due; take home PE 5 visible on Blackboard
03-May-21	PE 5 due at 9:55pm
09-May-21	Final Exam visible on Blackboard at 7:20pm
10-May-21	Final Exam due at 9:55pm