

George Mason University
Math 110-003
Course Syllabus

Term Spring 2021
Title Probability
Location Blackboard Collaborate Ultra
Time Monday evenings 7:20 – 09:45
Professor: Douglas Eckley
 deckley2@gmu.edu
 mobile # 571 277 7927 (use sparingly)
 office # N/A because of Covid
 office hours with appointment, via Skype or 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
25-Jan-21	Introduction to Excel
01-Feb-21	Growing Money and Flying Kites
08-Feb-21	Linear Algebra, Graphs; take home PE 1 visible on Blackboard; Group Assign 1 distributed
09-Feb-21	PE 1 due
15-Feb-21	Matrices; Group Assign 1 due
22-Feb-21	Simultaneous Linear Equations
01-Mar-21	Set Theory; take home PE 2 visible on Blackboard
02-Mar-21	PE 2 due
08-Mar-21	Permutations & Combinations
15-Mar-21	Probability
22-Mar-21	Expectation; take home PE 3 visible on Blackboard
23-Mar-21	PE 3 due
29-Mar-21	Loans
05-Apr-21	Stock Market
12-Apr-21	Retirement Saving; take home PE 4 visible on Blackboard
13-Apr-21	PE 4 due
19-Apr-21	Encryption; Group Assign 2 distributed
26-Apr-21	Simulation; Group Assign 2 due; take home PE 5 visible on Blackboard
27-Apr-21	PE 5 due
03-May-21	Final Exam (7:30pm to 10:15pm)