

George Mason University
Math 551
Course Syllabus

Term Spring 2021
Title Advanced Mathematical Statistics
Location Blackboard Collaborate Ultra
Time Thursday 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 covers various aspects of statistical modeling, starting with regression and proceeding to more advanced topics. The student can choose to work in either Excel or a statistical package such as R. Or pick and choose as desired. However, I will not be teaching how to use any particular statistical package in this course.

For those who are interested, this course satisfies the coursework requirement relating to Statistics in the Society of Actuaries examination sequence.

The book is Regression Modeling with Actuarial and Financial Applications, Edward W. Frees, 2010, New York: Cambridge. ISBN: 978-0521135962.

The title of the book is somewhat of a misnomer. We will have 3 units. Generally speaking, the first unit is regression, the second is forecasting, and the third is advanced topics.

Procedures

The class will consist mostly of a series of lectures.

Grading will be on a 100-point scale (90/80/70/60) divided as follows:

Progress Exams (3)	60
Final exam	40

The final will be cumulative.

Calendar

<u>Date</u>	<u>Topic</u>	<u>Reference to Book</u>
28-Jan	Single Variable Regression	Ch 2
04-Feb	Multiple Regression	Ch 3
11-Feb	Variable Selection	Ch 5
18-Feb	Interpreting Results	Ch 6
25-Feb	Progress Exam #1	
04-Mar	Trends	Ch 7
11-Mar	Autoregression and Autocorrelation	Ch 8
18-Mar	Forecasting	Ch 9
25-Mar	Progress Exam #2	
01-Apr	Categorical Variables	Ch 11
08-Apr	Count Variables	Ch 12
15-Apr	Generalized Linear Models	Ch 13
22-Apr	Progress Exam #3	
29-Apr	Review	
07-May	Final Exam	