

EC 203 Syllabus
Quantitative Tools for Economics and Business
Summer 2020

Instructor: Tim Murray
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Office Hours: By appointment

Required Material

- Access to Microsoft Excel
- Graphing Calculator

Supplementary Material

There will be no required textbook in this class, but these textbooks may be a good resource:

- *Mathematics for Economics* by Michael Hoy, John Livernois, Chris McKenna, Ray Rees, and Thanasis Stengos.
- *Calculus and Statistics* by Michael C. Gemignani.

Prerequisites

MA 101 and MA 201 with a C or better

Course Description

In this course you will learn various mathematical and statistical techniques used to answer questions in economics and business. You will also learn how to apply these techniques in Microsoft Excel to analyze data. These are tools you will use in future classes and throughout your personal and professional life.

Grading and Assignments

Homework	30%
2 Midterm Exams	20% each
Final Exam	30%

Grading Scale

A	90-100	B	80-89	C	70-79	D	60-69	F	0-59
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Homework Assignments

Due to the condensed nature of a summer course, multiple homework assignments will be assigned each week throughout the course. Assignment due dates will be posted on Canvas, late assignments will receive a 50% reduction in points. Some assignments will be to solve problems on paper and some to solve problems on Excel. Homework will be a large part of how you learn in this class. The lowest non-Excel assignment homework grade will be dropped. All Excel assignments are required. Homework is graded on completeness using the following scale:

Grade	Description	% Grade
✓+	Attempted every problem and showed all work	100
✓	Attempted most problems and showed all work	80
✓-	Attempted some problems or did not show most work	60
✗	Does not meet criteria for ✓-	0

Exams

There will be two midterm exams and a comprehensive final exam. Midterm exam dates will be announced in class and on Canvas.

Exams will be given on what would be class time. Students requesting an alternative time must inform me prior to the exam.

Course Topics

The following is a tentative list of concepts and topics that will be discussed throughout the course. Any changes be announced on Canvas.

Introduction to Calculus	What is a derivative?
	Taking Derivatives
Solving Economic Models	Supply and Demand
	Elasticity
	Production Function and Marginal Products
	Profit and Cost Functions
	Marginal Cost and Marginal Revenue
Constrained Optimization	Utility Maximization
	Profit Maximization
Exam 1 (May 29th)	
Probability	Basic Probability
	Expected Value
Descriptive Statistics	Mean
	Median
	Standard Deviation
Probability Distributions	Normal Distribution
	Poisson Distribution
Hypothesis Testing	T-Test
	P-Values
Exam 2 (June 12th)	
Analyzing Data in Excel	
Final Exam (June 19th)	

Work for Grade Policy and Standards of Conduct

It is your responsibility to carefully read and understand these policies both from VMI, the Department, and the course. Copies of these policies are available on Canvas:

<https://vmi.instructure.com/courses/12658/pages/work-for-grade-policies>

Work for Grade Policy and Standards of Conduct

VMI abides by Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990 which mandate reasonable accommodations are provided for all Cadets with documented disabilities. If you have a registered disability and may require some type of instructional and/or examination accommodations, please contact me early in the semester so that I can provide or facilitate provision of accommodations you may need. If you have not already done so, you will need to register with the Office of Disabilities Services, the designated office on Post to provide services for Cadets with disabilities. The office is located on the 2nd floor of the VMI Health Center. Please call or stop by the office of LTC Sarah Jones, Director of Disabilities Services, for more information, 540-464-7667 or email at: jonessl10@vmi.edu.