

**York University**  
**Faculty of Liberal Arts & Professional Studies**  
**Department of Economics**  
**Winter 2022**

**AP/ECON 1540 3.0 Q : Mathematics for Economists II**

**Course Webpage:** <https://eclass.yorku.ca>

**Course Instructor/Contact:**

Name: Shafkat Ali  
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**Lecture Time and Location:**

Lectures: Online at eclass up to 31<sup>st</sup> January T R 10:00-11:30

**Prerequisite / Co-requisite:**

AP/ECON 1530 3.00

**Course Description:** This course extends the analysis of basic Economics ideas, topics and problems begun in AP/ECON 1530 3.00. Again, relevant mathematical ideas and techniques are recalled and/or derived so as to provide a deeper understanding of Economic issues and how they can be resolved. The issues and problems covered require functions of more than one variable for their resolution. The notion of Quantity Supplied is combined with the notion of Quantity Demanded and notions of Market Equilibrium are introduced and discussed. Equilibria are evaluated through the introduction of mathematical notions and properties of systems of equations, eventually in matrix form. A deeper understanding of theories of demand (supply) and the foundations of demand (supply) functions is developed through the introduction of mathematical notions of unconstrained and constrained optimization and linear and nonlinear programming.

**Weighting of Course**

40% Midterm (28th February)

60% Final (Final Exam period)

**Missed exams/Tests:**

**There will be no make-ups for the midterm exam.** If, for some reason students miss the midterm, the weight will be transferred to the final. The deferred exam for the final exam will be granted **only for medical reasons**. In such cases students should submit a deferred exam application together with the supporting documents (attending physician's statement) to the economics department to my attention. The date and time of the deferred exam will be set at a later date. Students who may require further extensions or accommodation will have to submit a formal petition to the Faculty.

## **Grading**

The grading scheme for the course conforms to the 9-point grading system used in undergraduate programs at York (e.g., A+ = 9, A = 8, B+ = 7, C+ = 5, etc.). Assignments and tests will bear either a letter grade designation or a corresponding number grade (e.g. A+ = 90 to 100, A = 80 to 90, B+ = 75 to 79, etc.)

## **Course Text:**

K. Sydsaeter and P. Hammond, “Essential Mathematics for Economic Analysis”, 5th Edition

## **Organization of the Course (Topics):**

Chapter 11: Functions of Many Variables

Chapter 12: Tools for Comparative Statics

Chapter 13: Multivariate Optimization

Chapter 14: Constrained Optimization

Chapter 15: Matrix & Vector Algebra

Chapter 16: Determinants & Inverse Matrices

Chapter 17: Linear Programming (if time permits)

## **Important Course Information for Students:**

All students are expected to familiarize themselves with the following information, available on the Senate Committee on Curriculum & Academic Standards webpage;

<http://www.yorku.ca/secretariat/policies/index-policies.html/>

- York's Academic Honesty Policy and Procedures/Academic Integrity Website

**Academic Honesty and Integrity:** Conduct that violates the ethical or legal standards of the University community or of one's program or specialization is subject to severe penalties. Students are responsible for understanding the nature and consequences of these offences, as contained in the Senate Policy on Academic Honesty, found on the York University Senate WEB page:

<http://www.yorku.ca/secretariat/policies/document.php?document=69>

- Ethics Review Process for research involving human participants  
<http://www.yorku.ca/secretariat/policies/document.php?document=94>
- Course requirement accommodation for students with disabilities, including physical, medical, systemic, learning and psychiatric disabilities  
<http://www.yorku.ca/secretariat/policies/document.php?document=68>
- Student Conduct Standards  
<http://www.yorku.ca/oscr/standards.html>
- Religious Observance Accommodation  
<https://w2prod.sis.yorku.ca/Apps/WebObjects/cdm.woa/wa/regobs>