

**York University**

**Faculty of Liberal Arts & Professional Studies**

**Department of Economics  
Fall 2020**

**Course # and Title:**

Intermediate Mathematics for Economists – ECON 3530 3.00 A  
**Please note that this is an online course. See details below.**

**Course Webpage:**

Will be available through Moodle/eClass.

**Course Instructor/Contact:**

Name: Mat Brzozowski  
Office: 1086 Vari Hall  
Email: [brzozows@yorku.ca](mailto:brzozows@yorku.ca) **use your York email account when contacting the professor.**

Office Hours: Monday: 4:00-5:00 PM via Skype see details below.

**NOTE:** The instructor reserves a right not to be disturbed under ANY circumstances during the one hour immediately preceding the lecture time – this applies especially to the days the tests are held.

**Lecture Time and Location:**

Lecture: Monday: 7 PM-10:00 PM  
Location: This course will be offered through remote/online delivery and will have synchronous sessions during the day and time noted above. Lectures will be held live via Zoom. Prior to each lecture students will be provided with the link to a Zoom session via Moodle/broadcast email. Lectures will be held live during regularly scheduled class hours. Lectures will be recorded and links to lectures will be subsequently available through Moodle. The lectures can be re-watched at any time during the semester. The lectures are not available for permanent download.  
TA hours: TBA

**Office Hours:**

Office hours will be held via Skype, instructor's name on Skype is:  
**matthew.brzozowski2**

Do NOT contact the instructor via Skype outside of office hours. If you want to talk to the instructor outside of office hours set up an appointment via email.

**Prerequisite / Co-requisite:**

Prerequisites: AP/ECON 1530 3.00 and AP/ECON 1540 3.00 or equivalents. Course credit exclusions: None. PRIOR TO FALL 2009: Course credit exclusion: AS/ECON 3530 3.00.

**Course Description:**

Develops and demonstrates the mathematics commonly used in the analysis of static economic models. Topics range from concavity and convexity to constrained optimization and comparative static analysis including the implicit function and envelope theorems.

This course is an introduction to some of the mathematical tools used in economic theory. It is designed to prepare students for the fourth-year courses in economic theory. In my experience, students who struggle with these courses do so because of inadequate mathematical preparation. This course is designed to help you avoid such troubles. It covers topics in calculus, linear algebra, optimization and difference and differential equations. While the main focus is on mathematical tools, illustrations will be drawn from economic applications. You will need to know your basic micro and macro theory.

**Problem sets:**

Multiple problem sets will be posted on Moodle. These will not be graded. These are meant as practice questions for the students. **Do not ask the instructor to send you answers to the problems sets.** The instructor is happy to discuss your solutions to those questions during office hours or during lectures (time permitting).

**Weighting of Course:**

Evaluation

Important dates and grading scheme are as follows:

Term Test 1	25%	October 19 <sup>th</sup> , regular class hours	Location: online
Term Test 2	25%	November 23 <sup>rd</sup> , regular class hours	Location: online
Final Exam	50%	Date: TBA	Location: TBA (probably online)

The tests and the final will not be re-weighted in order to benefit any single student or any group of students.

Tests will be submitted online through Moodle. Each test will be three hours long. On top of every hour students will be able to download a set of questions. Answers to those questions are to be submitted before the end of the hour and not after that. Thus a first set of questions will be available at 7:00PM, students are to answer those questions and submit them through Moodle by 8:00PM. A second set of questions will be available at 8:00PM, students are to answer those questions and submit them through Moodle by 9:00PM. A third set of questions will be available at 9:00PM, students are to answer those questions and submit them through Moodle by 10:00PM. Each set of questions is designed such that complete answers can be provided within forty minutes from the time of posting, Thus, students will have ample time to submit the answers. All late submissions will be penalized one mark for each minute late. This is not negotiable.

### **Missed exams/Tests:**

There will be no make-up for the term tests. If you are unable to take a term test **for a valid reason ONLY**, the weight of the test will be added to the final exam. Students missing a term test must provide detailed documentation in the manner required by York. The instructor must be contacted about missing the term test via e-mail at [brzozows@yorku.ca](mailto:brzozows@yorku.ca) or in person within 48 hours after the end of the test (*since it is student's responsibility to make sure that the instructor has been contacted e-mail works much better than any other means of communication*). Students missing the mid-term exam who do not provide such documentation will receive a grade of zero for the mid-term exam.

For both tests, students are responsible for **all** the material covered until the date of the test.

The final exam will be held during the university exam period. While it will be weighted towards the material covered after the second term test, it will cover **all** the material since the first lecture in September.

### **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 / Readings:**

#### **Required Text**

*Mathematics for Economists*, by Carl P. Simon and Lawrence Blume, 1994, W. W. Norton & Company

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

### **Topics and Readings**

Univariate Calculus (Chapters 2-5, Appendix 1)

Linear Algebra (Chapters 6-11, 26)

Multivariate Calculus (Chapters 12-15, parts of 30)

Static Optimization (Chapters 16-22)

Difference Equations, Differential Equations (Chapters 23, 24)

### **Additional Information/Notes:**

### **Important Dates**

	<b>Fall Term 2020 (F20)</b>
Last date to add a course <b>without permission</b> of instructor (also see Financial Deadlines)	September 22
Last date to add a course <b>with permission</b> of instructor (also see Financial Deadlines)	October 6
Last date to drop a course without receiving a grade (also see Financial Deadlines)	November 6
Course Withdrawal Period (withdraw from a course and receive a grade of "W" on transcript)	Nov. 7 - Dec. 8

### **Important Academic Forms**

- Religious Accommodation - [http://registrar.yorku.ca/sites/registrar/files/pdf/exam\\_accommodation.pdf](http://registrar.yorku.ca/sites/registrar/files/pdf/exam_accommodation.pdf)
- Deferred Standing - [http://registrar.yorku.ca/pdf/deferred\\_standing\\_agreement.pdf](http://registrar.yorku.ca/pdf/deferred_standing_agreement.pdf)
- Attending Physician's Statement Form - <http://registrar.yorku.ca/pdf/attending-physicians-statement.pdf>

### **Important Information for Students**

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

- York's Academic Honesty Policy and Procedures is located on the York University Senate webpage. As per Senate Policy, academic honesty and integrity is defined as 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. More information on academic integrity for students can be found on the York Academic Integrity Website.
- Ethics Review Process for research involving human participants located using the Senate Policy Research Involving Human Participants link
- Course requirement accommodation for students with disabilities, including physical, medical, systemic, learning and psychiatric disabilities can be accessed using the Academic Accommodation for Students with Disabilities link.
- Information on student conduct standards can be reviewed on the Code of Student Rights and Responsibilities webpage.
- Students requiring religious accommodation should review the Religious Accommodations Guidelines using the Religious Observance link.