

Department of Economics, Faculty of Liberal Arts & Professional Studies, York University
ECON 1540 3.00 Mathematics for Economists II (Sec T)
Winter 2021 Course Outline
(Updated version would be posted in eclass course page)

1.1 Course Webpage

eclass (Moodle): eclass.yorku.ca. After class starts, please check our course page on a regular basis.

1.2 Prerequisite / Co-requisite

Prerequisite: AP/ECON 1530 3.00 or equivalent.

Prerequisites or corequisites: AP/ECON 1000 3.00 or AP/ECON 1010 3.00, or equivalent. NCR: students who have successfully completed or who are currently enrolled in SC/MATH 1021 3.00, SC/MATH 1025 3.00, or SC/MATH 2221 3.00. Course credit exclusions: SC/MATH 1505 6.00, SC/MATH 1540 3.00, SC/MATH 1550 6.00, GL/MATH 2650 3.00, GL/MODR 2650 3.00. Note: Acceptable course substitutes are available in the Calendar.

1.3 Course Instructor/Contact

Instructor: Simin Seury (PhD)

Department of Economics, York University, 4700 Keele St., Toronto, ON M3J 1P3, CANADA

Office Hours: **Virtual** (Weekly schedule of Zoom meetings and links are posted in course page)

Phone: N/A. Email: seury@yorku.ca

1.4 Lecture/Course Components (asynchronous and synchronous components of lecture and tests/exams)

Lecture, Quizzes and Midterm exams: Online during originally scheduled class time: **W 11:30-14:30**

The delivery of this course depends on remote and online teaching and learning, using Learning Management System (LMS) of eclass (Moodle). There will be no in-person interactions or activities on campus.

You must be available online during the actual “class time” to attend in-class exams. All in-class exams would start at the beginning of scheduled class time. Please make sure you are available at that time, as we WILL NOT accommodate individual requests for alternative dates/times (NO EXCEPTIONS will be made).

Final Exam would be **synchronous, and date/time of the Final Exam would be determined by the Registrar’s Office during the Winter 2021 exam period.** You must be available online to attend the final exam accordingly. Again, we WILL NOT accommodate individual requests for alternative dates/times (NO EXCEPTIONS will be made).

For the online lectures, I would post recorded video lectures of the material sequentially during the scheduled class time (that is, I am going to post parts of each lecture one by one, as if you are listening in real time). In course webpage, under every section for a chapter, you will see a folder titled “Chapter “x” Lecture Videos/links”. The video clips would be in small segments, to give you comfort of finishing one part, reviewing if necessary, and then moving on to the next clip. I will also communicate with you live (synchronous component, usually every Wednesday during the first one hour of our class), using Zoom.

Eclass (Moodle) announcements, folders, and forums would be used extensively for communication. In course webpage, under every section for a chapter, you would find a forum, titled “Chapter “x” Questions/Discussion”. If you have a question related to that specific chapter, post it in the specified forum. If you can, try to answer another student’s questions, which would be a great learning experience even if the answers are not totally correct. It is also a good way for students to engage in a meaningful discussion and learn from each other. I would also monitor your response in the forum and include my comments, if needed,

usually once a day, during weekdays. It is expected that you would check and read all available information before asking a question and you would follow netiquette. Forums might be hidden during Midterms/Final Exam days.

A **Tentative Schedule** would be posted right below the “Course Outline” in our course page. This Tentative Schedule would be continuously updated as we would proceed, which would also provide a summary of our past/present/future (tentative) activities and serve as your calendar/schedule for this course.

Time-zones: Times for all activities, e.g. lectures, quizzes, tests, due dates for applications, are according to **local Toronto time (EDT)**. If you are in a different time zone, please make sure you know how Toronto time converts to where you are. Errors in calculations are not an acceptable reason to miss tests or deadlines.

1.5 Technology Requirements

Access to a laptop or desktop computer with camera, microphone, and a strong, stable internet connection is required to fully participate in this course. Phones and tablets WILL NOT WORK for the Midterms and final exam. To check if you have high speed Internet connection, you can run tests, such as [Speedtest](#). It is your responsibility to ensure that you are preventing common mishaps. (For example, backup copies of your documents, use antivirus software, run scheduled updates well ahead of an exam/test, etc.). Computer virus/malware, crashed drives, broken devices, lost or corrupted files, incompatible file formats, faulty internet, and any other mishaps related to technology are not acceptable grounds for missing a test/exam/deadline. All exams in this course are synchronous and if required, you might need to appear online on webcam for purposes relating to grading or academic integrity concerns. If you are not comfortable with these requirements, please consider whether you wish to enroll in this section of the course. Here are some useful links for student computing information, resources and help:

[Student Guide to Moodle](#)

[Zoom@YorkU Best Practices](#)

[Zoom@YorkU User Reference Guide](#)

[Computing for Students Website](#)

[Student Guide to eLearning at York University](#)

Several platforms will be used in this course (e.g., Moodle, Zoom, etc.) through which students will be required to interact. Students shall note the following:

- Zoom is hosted on servers in the U.S. Only authenticated users would be allowed to join our Zoom meeting, which means **students will need to join the Zoom meeting(s) with their PPY (passport York) username and password**. For signing in to the Zoom application with Single Sign-On (SSO), see: https://lthelp.yorku.ca/94581-zoom/626184-logging-in-to-zoom-with-single-sign-on-ss0?from_search=51122503
- Should there be any Zoom session with the entire class (or a sub group of our class), if you have privacy concerns about your data, you can provide only your first name or a nickname when you join such a Zoom session and you can keep your webcam and microphone off. I am not providing permission to record any Zoom office hour session (unless you obtain written permission from me). Your instructor reserves the right to keep record of any potential Zoom/Internet security breach.
- For one-to-one Zoom session, I need to see you during our interaction and, therefore, you need to activate your webcam and microphone.
- For Technology requirements/FAQs for Moodle: <http://www.yorku.ca/moodle/students/faq/index.html>

1.6 Emails and Communication: Etiquette/Netiquette

Since we have online meeting session every week, in which I would answer your questions, and since you are supposed to post your questions in Moodle forum, emails are meant to be restricted solely **for administrative concerns**, which cannot be solved otherwise. For example: sending me **Accommodation information** is a valid administrative concern, for which you are encouraged to contact me asap. On the other

hand, all academic concerns are meant to be dealt through class lectures, virtual hours, and Moodle forums. Accordingly, **I am not going to respond to any content questions** (issues that are already explained in course outline/ Tentative Schedule/ Moodle Announcements etc.). *We have hundreds of students each semester; even if only a small percent of the students is sending emails, it results in a lot of emails.*

If, however, you have a question that is not explained in the contents and/or you cannot post it in forums, and you need to email me, follow standard formal/official etiquette. Here is a guideline about *how to write an email*, with only three easy steps:

[1]: Address your professor properly,
(*Tips: Start the email with “Hello Professor”. Just “Hi” or “Hey” cannot be a formal way to address anyone. If you do that, you would self-identify yourself as a person who did not read this outline.*)

[2]: State your administrative concern clearly, in a nice and precise manner.
(*Tips: Make sure your “Caps Lock” key is not stuck.*)

[3]: Sign off (best/ regards etc.), **Your full name** (no nicknames please), **full ID**, and course number **1540T**. (We teach hundreds of students, several courses, often at multiple universities. So, please be precise about your details).

I will not be able to respond to your emails (or forum posts) outside business hours/during weekends/holidays. During weekdays, I will check forum at least once a day and I would strive to respond to your emails in no later than two business days (which means I would try my best to respond to your emails much earlier than that).

Netiquette is a set of rules or standards for creating a positive learning space online. It is imperative that you follow proper netiquette in your online communication (emails/forums) with your professor and classmates. See information provided by York University (<http://www.albion.com/netiquette/corerules.html>) and some other sources: <http://www.bbc.co.uk/webwise/guides/about-netiquette>, and <https://www.memphis.edu/fcbe/students/netiquette.php>.

For technical difficulties/issues during an exam, students can call York University’s number 416-736-5800 (as well as e-mail esohelp@yorku.ca). Students are expected to keep log and record of all such difficulties and inform me by email as soon as possible.

2.1 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. As in AP/ECON 1530 3.00, many topics and issues are addressed and problem framing, and problem-solving abilities are enhanced.

2.2 Course Text / Readings:

Required Textbook: Sydsæter, Knut, Peter Hammond, Arne Strøm and Andres Carvajal. *Essential mathematics for economic analysis*. 5e. Pearson education. 2016

2.3. Tentative Topics

The course would cover the following topics (as time permits); only brief highlights are posted here (more details to be covered, as course would proceed):

(1) Functions of two or more variables [Week 1-2. Ch 11]

Brief highlights: Understand and interpret functions of multiple variables. Calculate partial derivatives, partial elasticities. Apply Young’s Theorem.

(2) Functions of multiple variables [Week 3-4. Ch 12]

Brief highlights: Work with functions of multiple variables. Calculate total derivatives, elasticity of substitution. Identify and characterize homogenous and homothetic functions. Find and apply linear approximations.

(3) Optimization [Week 5-7. Ch 13, 14]

Brief highlights: Solve unconstrained and constrained optimization problems. Apply the Lagrangian Multiplier method. Apply and interpret comparative static and envelope theorem.

(4) Vectors and Matrices [Week 8-9. Ch 15]

Brief highlights: Understand and interpret vectors and matrices as short-hand notation of data, geometric objects, short-hand notation for systems of equations. Execute and apply: Addition. Inner Product. Scalar multiplication. Transpose. Symmetry. Parallel and orthogonal vectors.

(5) Open- System of Equations, Determinants [Week 10-11. Ch 16]

Brief highlights: Identify and set-up linear systems of equations (LSE). Matrix notation. Solve LSE using substitution, Gaussian elimination, inverse matrices. Calculate determinants of matrices of order 2 and higher. Interpret determinants in different contexts.

(6) Financial Maths [Week 12. Ch 10]

Brief highlights: Continuous compounding. Present value. Discount rate. Internal Rate of Return.

The lecture weeks and associated chapters posted above are tentative. A **Tentative (Weekly) Schedule** would be posted in the course page. The instructor reserves the right to make small changes to the coverage as the course develops. Students are encouraged to keep up with the material on a lecture-by-lecture basis, and they are responsible for studying materials in the main text that correspond to the materials covered in class. Online materials are NOT substitute of the main textbook. The lectures will focus on the most challenging parts of the material and problem-solving. Some basic materials will be left for the students to study on their own. Your instructor takes no responsibility for any adverse effect a student might experience as a result of not listening to the class lectures, and/or not reading the textbook, and thereby missing valuable information.

3.1 Evaluation

Components	Date/Time ⁽¹⁾	Chapters	Weight
Test 1	February 10, 2021	Chs 11, 12	20%
Test 2	March 17, 2021	Chs 13, 14	20%
Quizzes	Throughout the semester	TBA	10%
Final Exam	TBA, during W 2021 Exam period	Cumulative (all Chs)	40%
Participation & presentation	Throughout the semester	TBA	10%

Note: (1) If there are any changes, students would be notified on or before 3rd week.

3.2 Tests

All exams (Quizzes, Midterm Tests and Final Exam) are online and synchronous (which means, all student enrolled in the course will participate at the same time). More information about tests and exams would be provided in course website before the exams.

Midterm Tests will be held on the date mentioned above (starting at the beginning of our regular class time, unless otherwise notified). There would be short problem-solving questions; you need to answer all. Further instructions/details about midterm would be posted in Moodle several days before the exam.

Quizzes would be synchronous (held at the beginning of our regular class time). Further details would be provided during the first three weeks of lectures and relevant instructions would be posted in the course page.

Final exam will be held according to the Winter 2021 exam schedule (TBA). Syllabus would be **comprehensive**. That is, for the final exam, we will cover all the materials discussed in this course. There would be several problem-solving questions; you need to answer all (no Multiple-Choice Questions). **The Winter Exam Period runs from April 14 to April 28, 2021** (inclusive). It is your responsibility as a student to ensure that you are available to write the exam online. No alternative date for the exam will be offered. Further instructions/details about the Final exam would be posted in the course page several days before the exam.

Your instructor reserves the right to re-write an exam. Exam questions would be similar to the end of the chapter questions from the textbook and problems solved in our class. As such, no further sample questions would be provided. Students are expected to treat all exams and tests in this class as closed book exams. Exam questions would be designed to provide tight timing for each question, so that the timing is just enough to write the answer when a student knows the answer (the way they would need to know in a closed-book setting), and not enough time to look-up. Exam questions will appear **sequentially** which means that you must complete the questions in order. You will not be permitted to go back, even if you left a question blank.

You will be **required to submit answers that are handwritten, clearly labelled pages, containing your full name, student ID and signature**. If the appropriate sheets are not submitted through Moodle in due time, you will receive a grade of 0 on that assessment. If we have concerns about your work, we will withhold your grade until we establish that the writing of the test/exam was consistent with academic integrity standards.

Participation and presentation score would be determined from several participation tasks. For presentation, students would require presenting online during class time. Further details would be provided during class lectures and relevant instructions would be posted in the course page.

3.3 Missed exams/Tests and Other details

No permission is ever given to a student to write a test or exam in advance of its scheduled date.

No permission is ever given to a student to rewrite a test or exam to improve their grade.

Students missing only one midterm may have the chance to write a make-up exam only if they were sick at the time of the test. Further instructions about how to submit a missed exam application would be provided in course page.

If the application is approved, the student will have the option to write one make-up exam (possible make-up exam date: March 31, 2021 during class time; details TBA after Test 2). To discourage last-minute cramming before the final exam, Make-up exam syllabus would include syllabus of both Midterm 1 and Midterm 2. Make-up exam questions and solutions would not be published after the exam. There are no other make-ups (that is, there is no make-up of a make-up exam).

There is no option to write make-up of more than one missed exam. If a student misses both midterms, even if they attend the make-up exam, they will receive 0 (zero) out of the 2nd missed midterm (0 out of 20%).

Students missing the final exam and requesting deferred exams must fill out the online Deferred Standing Agreement form (students can access by going to <https://myacademicrecord.students.yorku.ca/deferred-standing>). Students should complete this form with their personal and course details, sign, date the same and then should email the completed form along with supporting documentation to lapsecon@yorku.ca within 10 business days of the original exam date. Please make sure to include your first name, last name, student number, course and section in which you are registered in that email. Submitting the form does NOT guarantee permission to write the deferred exam. Only submissions that meet all requirements will be granted permission. Students whose submissions are not granted will receive a zero for their final exam score. Deferred exam applications are handled directly by the department. If York University resumes in-person activities, the Deferred Final Exam structure may change according to the University's policy. Further details would be available in course webpage.

3.4 Grading and Re-evaluation Policy

To achieve a grade, you must earn it. Unless I made any record-keeping error regarding the scores you have earned, I will not be able to adjust your grade.

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.). Exams and quizzes 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.) (For a full description of York grading system see the York University Undergraduate Calendar - <https://calendars.students.yorku.ca/>).

Should there be any request for re-grading, your Instructor/TA/Grader reserves the right to re-grade the entire content of the exam (for example maybe your instructor/TA/Grader overlooked a problem/mistake in your answer during the first evaluation, but it might get noticed during re-evaluation). As such, your marks may increase, may decrease or may remain the same after re-evaluation.

4.1 Academic honesty and integrity

In this course, we strive to maintain academic integrity to the highest extent possible. Please familiarize yourself with the meaning of academic integrity by completing SPARK's Academic Integrity module at the beginning of the course (<https://spark.library.yorku.ca/academic-integrity-what-is-academic-integrity>). Breaches of academic integrity range from cheating to plagiarism (i.e., the improper crediting of another's work, the representation of another's ideas as your own, etc.). All instances of academic dishonesty in this course will be reported to the appropriate university authorities, and can be punishable according to the Senate Policy on Academic Honesty. The following sample statement, to which you must agree, shows you how to be academically honest.

ACADEMIC HONESTY STATEMENT/AGREEMENT

- You will complete all your graded assignments, quizzes, tests, and exams solely by yourself unless explicitly directed by me as your instructor to do it differently. No other person will assist or complete the graded assignments/quizzes/exam/test for you. Impersonation, and receiving or giving any form of assistance, paid or not, from or to another person during the exam is cheating and breaches academic honesty principle, and will be subject to academic penalty. More specifically:
- You will complete the graded quizzes/exams/tests without any testing aids that are not approved by me as your instructor. This means that you are NOT ALLOWED to use your notes, the textbook, or any other paper or digital resources (including consulting others), unless explicitly allowed to do so by me as your instructor.
- You will not discuss the graded assignments/quizzes/exam/test questions or potential answers with anyone, including other students both in this course and elsewhere. This includes future online and in-person communication.

- Copying other people's words in your answers is not allowed and will be considered plagiarism/cheating. This means that you must put answers in your own words if you are using sources you have not written such as the course slides or other study notes.
- All test/exam materials are the property of the Department of Economics, York University, and unauthorized dissemination or recording of the test (including, but not limited to, unauthorized posting/emailing of any part of this exam) is prohibited. You will not replicate, copy, print, take picture or record any lecture and/or questions on the graded assignments/quizzes/exam/test to share with others.
- It is your responsibility as a student to conduct your academic work, including your exams, in the manner that adheres to the university's standards of academic integrity, as outlined in: "<https://spark.library.yorku.ca/academic-integrity-what-is-academic-integrity/>".
- You must comply with the above Academic Honesty Statement to be allowed to write any exam/test/assignment/quiz. For that reason, the above information would be presented as a one-question quiz format for every graded component.

4.2 Letters of Accommodation

If you require accommodations or have any accessibility concerns about the course or course materials, please contact Student Accessibility Services (<https://accessibility.students.yorku.ca>) as soon as possible. If you have an accommodation letter, please submit it to me via email (seury@yorku.ca), as soon as possible, so we can make the necessary arrangements. Please be sure to include your first name, last name, student number, course and section in which you are registered in the email.

4.3 Important Dates and ADD/Drop Deadlines for Winter 2021

	Winter 2021
Last date to add a course without permission of instructor (also see Financial Deadlines)	Jan 25
Last date to add a course with permission of instructor (also see Financial Deadlines)	Feb 08
Winter Reading Week (no classes/office hours. University remains open)	Feb. 13-19
Last date to drop a course without receiving a grade (also see Financial Deadlines)	Mar 12
Last Day of Classes – Winter Term The Winter classes end on April 12 which will be a make-up Friday for Good Friday on April 2. The final Monday meet will be held on April 5.	
Course Withdrawal Period (withdraw from a course and receive a grade of “W” on transcript – see note below)**	March 13 - April 12
Winter 2021 Final Exam period	April 14-28

****Policy and Guidelines on Withdrawn from Course:**

<http://secretariat-policies.info.yorku.ca/policies/withdrawn-from-course-w-policy-and-guidelines/>

4.4 Other 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](#).
- 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](#).
- Religious Accommodation: <https://secure.students.yorku.ca/pdf/religious-accommodation-agreement-final-examinations.pdf>
- Deferred Standing: <https://secure.students.yorku.ca/pdf/final-exam-assignment-deferred-standing-agreement.pdf>
- Attending Physician's Statement Form - <http://registrar.yorku.ca/pdf/attending-physicians-statement.pdf>
- 1) the audio-visual recordings provided as part of course material should be used for educational purposes only and as a means for enhancing accessibility; 2) students do not have permission to duplicate, copy and/or distribute the recordings outside of the class (these acts can violate not only copyright laws but also [FIPPA](#)); and 3) all recordings are to be destroyed after the end of classes.
- Student conduct standards: <http://oscr.students.uit.yorku.ca/student-conduct>

GOOD LUCK! I wish you all the success in this course and in your future endeavour.