

MATH 1402 B – Elementary Mathematics for Economics II – WINTER 2021

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Objectives of the course:

- Learn and understand concepts related to multi-variable differential calculus, integral calculus and matrix algebra.
- Learn, understand, and properly use techniques related to these mathematical concepts.
- Become familiar with applications in the field of economics that make use of these concepts.

Prerequisites: ECON 1000 or FYSM 1003 with a grade of C– or higher, and ECON 1401/MATH 1401 with a grade of C– or higher.

Office Hours and appointments: I do not hold regular office hours, so send me an e-mail if you wish to communicate with me with a request or a question.

Textbook: *Maths for Economics*, 4th Edition, by Geoff Renshaw (3rd ed. is also usable).

Material covered: The lectures will cover selected topics from **Chapters 14–19** of the textbook, plus additional material. **Not all sections of every chapter will be covered.**

Lectures: Monday and Wednesday from 6:00 – 7:30am, online.

Tutorials/quizzes and tests: There are **8 tutorials/quizzes** and **3 term tests**, for a total of **11 sessions**, held on Monday from 7:30 – 8:30pm. The tutorials and tests are held online.

All the lecture, tutorial and test dates are detailed in a document entitled “**Term Schedule**”, on the home page of the course CULearn website.

Tutorials/quizzes: You are required to attend all tutorials. Your TA will go over examples from the material covered in class. **There will be a short quiz (out of 5 marks) at the end of the tutorial** (1 or 2 questions). Your quiz work must be handed in at the end of the tutorial hour for grading.

Details for tutorials/quizzes/tests will be communicated at the beginning of the semester. **The start date for tutorials is Monday January 25th.**

Note: it is advisable to learn how to create a single PDF file from several photos/scans. There are all sorts of approaches to this, ex. “Tapscanner” or “Camscanner” among others, so find out how to do this! I mention this because the onus will be on you to produce a single PDF file that is legible and easy to manage (not too large, but with decent resolution). One trick is to create the PDF file from photos/scans that are in shades of grey, rather than in colour.

Tests: There will be **three 50-minute (closed-book) tests** administered during the tutorial hour (in lieu of the tutorials and quizzes).

Dates for the three term tests are **February 8th, March 8th and March 29th**.

No make-up, early, or delayed tutorials and tests will be held.

Missed tests or tutorials: Missed tests or tutorials carry a mark of zero (0). However, students who can document a compelling reason for missing a test or quiz will be excused and their test/quiz grade will be based on their performance in the rest of the test/quiz work. Valid reasons include, for example, a medical reason with a doctor's note if possible, or bereavement with some form of documentation. If a doctor's note is not possible, then you are required to sign a Self-declaration form for Academic Accommodations. These can be found at the following link:
<https://carleton.ca/registrar/wp-content/uploads/self-declaration.pdf>

The form can also be found on the Deferred Examination webpage:
<https://carleton.ca/registrar/special-requests/deferral>

IMPORTANT: This documentation or form must be sent to me within a reasonable delay. You must email me the document as soon as possible, preferably during the week of the evaluation. In this e-mail, I expect to be informed on when you are able to return to class.

Note that it is advisable to warn me in advance if a justifiable absence during the semester is foreseen.

Term mark: Grades for quizzes and tests will be posted in CULearn. You have the responsibility to bring to the attention of your instructor any missing or incorrectly recorded grade within two weeks of the day the grade is available to you (i.e. posted in CULearn).

PLEASE NOTE that I use CULearn as a repository of raw evaluation marks ONLY. I do not use it to compute your term grade, overall grade, etc. Thus, columns like "Overall tutorial mark" in the grade book are meaningless up until the end of the semester, when I finally upload all the marks used to compute your final overall grade. In addition, it is entirely possible that the maximum score for term tests is incorrect. It might be, for example, set to a default value of '30' at the beginning of the semester, but a term test might end up being out of 28, 32, etc. I will correct this at the end of the semester when computing the term grade and the overall grade.

Your term grade (i.e. your mark out of 58 prior to writing the final exam) is based on the average mark for the quizzes, counting for a maximum of 16, and the average of the **best two** term test results counting for a maximum of 42.

IMPORTANT: This marking scheme for tests assumes that all three tests have been written and that a minimum of 25% on each test was obtained. If this minimum requirement is not met then the average of all three tests is used.

This marking scheme also assumes that a student is not under investigation for an academic offense.

Overall Marking Scheme:

- Quizzes 16%
- Tests 42%
- Final Exam 42%

Final Exam: The final exam is a cumulative **three-hour exam** scheduled by the university. Please consult the undergraduate calendar for the dates/location of the exam period for this semester. Failure to write the final examination when the student has achieved satisfactory performance during the term will result in a grade of F. See Academic Regulation 2.3

(<https://calendar.carleton.ca/undergrad/regulations/academicregulationsoftheuniversity/acadregsuniv2/>) for the official meanings of these grades, and note that it stipulates that no course grades are final until approved by the Faculty Dean. Application to write a deferred final examination must be made at the Registrar's Office.

Students who obtain a Term Grade of at least 17.5/58 but miss the Final Examination for **valid reasons** may be eligible for a deferred exam. Application for a deferral must be made, with appropriate documentation, to the Registrar's Office within five working days after the examination. Please consult schedule at: <http://calendar.carleton.ca/academicyear/> for the relevant dates.

Calculators: Only non-programmable, non-graphing calculators are allowed for all evaluations (quizzes, tests, final exam).

Math Help Centre (Tutorial Centre): You are encouraged to use the Math Help Centre when necessary. For more information, including availability of TA's, see: <http://www5.carleton.ca/math/math-tutorial-centre/>. More information is forthcoming.

Withdrawal: Consult the Undergraduate Calendar to know the last day for withdrawal from courses. The calendar is at <http://calendar.carleton.ca/academicyear/>.

Academic Accommodation: You may need special arrangements to meet your academic obligations during the term because of disability, pregnancy or religious obligations. Write to me with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist.

Make sure you respect these timelines particularly for tests and final exams. You can visit the Equity Services website to view the policies and to obtain more detailed information on academic accommodation at <http://carleton.ca/equity/accommodation>.

Students with disabilities requiring academic accommodations in this course must register with the Paul Menton Centre for Students with Disabilities (PMC) for a formal evaluation of disability-related needs. Documented disabilities include but are not limited to mobility/physical impairments, specific Learning Disabilities (LD), psychiatric/psychological disabilities, sensory disabilities, Attention Deficit Hyperactivity Disorder (ADHD), and chronic medical conditions. Registered PMC students are required to contact the PMC every term to have a Letter of Accommodation sent to the Instructor by their Coordinator. In addition, students are expected to confirm their need for accommodation with the Instructor no later than two weeks before the first assignment is due or the first in-class test/midterm. If you require accommodations only for formally scheduled exam(s) in this course, you must request accommodations by the last official day to withdraw from classes in each term. **Please consult the Undergraduate Calendar to know the deadline for submitting completed forms to the Paul Menton Centre for the final examination.**

IMPORTANT NOTES CONCERNING MARKING:

1. To pass the course, you must have accumulated at least 17.5 marks out of 58 (i.e. ~30%) from your term test and quiz work. Students who fail to achieve this minimum requirement will automatically receive a letter grade of **F** in the course.
2. Students who fail to achieve an equivalent mark of at least 30% on the final exam will automatically receive a letter grade of **F** in the course regardless of their term mark.