

YORK UNIVERSITY
Faculty of Arts
Department of Economics

Introductory Mathematics for Economists
AS/ECON1530 3.0 C and D
Fall 2005

This version updated 5 December 2005

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Lecture hours: Tuesdays and Thursdays 8:30-10:00 in CLH-E (Section 3.0 C); Tuesdays and Thursdays 10:00-11:30 in TEL 0010 (Section 3.0 D)

General course description: This is an introduction to some (but not all) mathematical tools used in economics and other social sciences.

Teaching Assistants:

Hohammad Zakir Hossen, Vari Hall 1094. Office hours: Fridays 4-6 pm and Mondays 8-9 am or by appointment; e-mail: mzhossen@yorku.ca

Francisco Santos-Arteaga, Vari Hall 1091. Office hours: Thursdays 2-4 pm and Mondays 10-11 am or by appointment; e-mail: jarteaga@econ.yorku.ca

Office hours: You should always go first to one of the TA's if you have problems. Their office hours and contact details are provided above.

In principle, I am available in my office Mondays and Wednesdays from some time after 12.45 pm (when I finish teaching ECON4010) until all students are happy and/or gone. However, I prefer to rather take questions after class, or by e-mail (but try keep those questions short and to the point).

Textbook: Sydsaeter, K., and P. Hammond, 2006, *Essential Mathematics for Economic Analysis* 2nd Edition, Financial Times Prentice Hall. ISBN 0 273 68180 X

Note: there are two other books out which can be confused with this one.

- There is one earlier (1st) edition with the same title, published in 2002, with ISBN 0 273 65543 4. This has a black-blue-green cover and seems to be quite similar to the one we use, as far as I have been able to determine. However, if otherwise indifferent, I recommend that you buy the latest edition, since each new edition usually has some improvements.
- There is also a related textbook by the same authors, published under the title “Mathematics for Economic Analysis,” by Prentice Hall, under the ISBN number 0 13 583600 X. This has a white cover and is quite different and not as good as the latest edition, so I recommend that you do not buy that.

Textbooks at reserves: Search under instructor “Lagerloef” under course reserve material at the library web site: <http://www.library.yorku.ca>

Grading scheme and exams: There will be two midterm tests held in class, each carrying 25% of the overall course grade; and one final exam held after classes are finished, carrying the remaining 50%. All exams (midterms and the final) will have multiple choice problems only.

Or, to be more precise: let your result on the first midterm be M_1 , your result on the second midterm be M_2 , and your result on the final exam be F ; and let the maximum (highest possible) result on each of these tests be \overline{M}_1 , \overline{M}_2 , and \overline{F} , respectively. Then your overall result (out of 100) is given by:¹

$$100 \left[0.25 \left(\frac{M_1}{\overline{M}_1} \right) + 0.25 \left(\frac{M_2}{\overline{M}_2} \right) + 0.5 \left(\frac{F}{\overline{F}} \right) \right].$$

¹Actually, for this semester only I’m giving you a more generous deal: you get

$$100 \left[0.5 \max \left\{ \frac{M_1}{\overline{M}_1}, \frac{M_2}{\overline{M}_2} \right\} + 0.5 \left(\frac{F}{\overline{F}} \right) \right]$$

if the best of the two midterms is better than the final, and $100F/\overline{F}$ otherwise.

Note also that all tests are cumulative: on each exam you will be tested on everything we have covered thus far in class. The second midterm will therefore be on *both* the first-midterm material, *and* the material covered after the first midterm (up until the second midterm). The final will be on everything covered in the course. Exactly what has been covered will be announced in due time before the midterms and the final.

Assignments: There will be no assignments, but we will do problems in class, both from the book and “home cooked.”

Dates for midterms: The first midterm will be held in class on 11 October and the second on 15 November.

Contents for midterms: The first midterm will cover Ch. 1-4, and the second Ch. 1-7 (excluding the parts we skip; see below)

Calculator policy for exams: Any calculators are allowed, including those which can draw graphs.

Old exams are not available since this is the first time I teach this course, but practice problems are available on my homepage.

Time plan and course contents: Since this is the first time I teach this course I will improvise a great deal as to what we cover. However, the contents and time plan of this course will relate closely to the contents and structure of the book. As a rough guide, we should cover the first 10 chapters of the book over the whole course; taking into account midterms and revision classes we should aim for an average pace of about one chapter per week.

Note that roughly the first 3 chapters are mostly revision of material which most of you would already know.

How to study: A good idea is to try to do as many problems you can. In particular you should try and solve all review problems at the end of each chapter, at least those problems to which you have solutions at the end of the book.

Note on academic integrity: Conduct that violates the ethical or legal standards of the University community or of one’s program or specialization may result in serious consequences. You should look at the SENATE POLICY

ON ACADEMIC HONESTY found in the following locations: The New Students' Handbook (pp. 93-102) and on the Web:

<http://www.yorku.ca/secretariat/legislation/senate/acadhone.html>

Segments of Chapters 1-9 of textbook that we skip in this course

- In Chapter 1:
 - On pp. 28-30: sign diagrams
- In Chapter 3:
 - On pp. 61-63: Newton's Binomial Formula
 - Sections 3.4-3.7
- In Chapter 4:
 - Section 4.7
- In Chapter 5:
 - Sections 5.5.-5.6
- In Chapter 7:
 - In Section 7.5: higher-order approximations
 - Sections 7.6, 7.8, 7.10-7.11
 - In Section 7.9: skip everything except "limits that do not exist," and "limits at infinity"
- In Chapter 8:
 - In Section 8.4: The man-value theorem
 - Section 8.7
- In Chapter 9:
 - In Section 9.3: skip the Riemann Integral
 - Sections 9.5, 9.6, and 9.8
- Everything in Ch. 10 and on

Policy on deferred standing:

If you have valid documentation for your absence, the general rule is that the weight of the exam(s) that you miss is moved forward to the following exam. More precisely:

- Students who miss the first midterm exam – and have valid documentation to explain their absence, such as a doctor’s note – will have the second midterm carry 50% of the overall course grade (and the final carry the remaining 50%).
- Students who miss the second midterm exam (with valid documentation) will have the final carry 75% of the overall course grade (and the first midterm carry the remaining 25%).
- Students who miss both midterm exams (and have valid documentation) will have the final carry 100% of the overall course grade.
- Students who miss the final (with valid documentation) will probably get to sit a make-up final exam, carrying the same weight as the regular final (50%); the midterms will carry 25% each.
- Students who miss *both* midterms, *and* the final, *and* have valid documentation for *all* absences, *may* get a chance to sit the make-up final exam (if there is one), which will then carry 100% of the overall course grade.