

**YORK UNIVERSITY**  
**Department of Economics**

**ADVANCED MACROECONOMIC ANALYSIS**  
**ECON 4020**  
**Winter 2018**

Continuously updated, this version from 7 March, 2018

*Note: we will skip Section 2.11 of the book (see below); remember also that all classes and midterms continue as usual during the strike.*

**Instructor:** Nils-Petter (Nippe) Lagerlöf

**E-mail:** lagerlof@yorku.ca (indicate 4020 in e-mail correspondence). See further tips on communicating with me below.

**Office:** Vari Hall 1056

**Office hours:** Mondays 4.15-5.15 pm. *Note that I discuss marking and grading in writing only, if at all.*

You may also try to send questions by email (lagerlof@yorku.ca). I often reply relatively quickly if the questions are short and clearly formulated, but not always, and in particular not to repetitive or rude emails. It is important that you indicate your name and SID number. The relevant course code (in this case Econ 4020) should appear in the subject line of the email. I rarely reply if this information is missing. Also, if there is a TA, then you should ask the TA for help before contacting me (see below).

**Teaching Assistant:** Hongjiang Ji. Office hours: 10.30-11.30 am Thursdays in VH 1029. Email: ryanji@my.yorku.ca. *Note: the TA may be on strike; as of 7 March, 2018 I have received no information about that.*

**Teaching web site:** [www.nippelagerlof.com/teaching/teaching.htm](http://www.nippelagerlof.com/teaching/teaching.htm)

**Lecture hours:** Mondays 7-10 pm **in HNE 032. Note: Changed from CB 129!**

**Late enrollment:** I never sign any papers to let students enroll late.

**General course description:** This is an introduction to what is often called *modern* macro. This roughly means macro with lots of micro in it (so-called *micro foundations*). Topics-wise, the material here is similar to what you may have seen in other macro courses (growth, employment, money, inflation, etc.), but it is more technical, involves more equations, more of solving utility maximization problems, etc. Modern macro also uses a lot of *dynamic* models, meaning they have many time periods (more than two, usually infinitely many). A more conceptual difference is that economic policy is here often thought of as being endogenous (i.e., the outcome of a rational choice), rather than exogenous. Notably, this is not a course in everyone's taste; if you do not like math, and find it hard in the beginning already, you should drop it right away (it only gets harder later on). This course is meant to be a preparation for students who want to pursue graduate studies in economics at decently well-ranked North American schools.

**Textbook:** Romer, D., 2011, *Advanced Macroeconomics - 4th Edition*, McGraw Hill. As detailed below, we are only covering certain sections of the book, but we'll go through those in detail. This book covers many topics you may encounter in other macro courses (e.g. at the graduate level) so it is a good investment. It should be available in the York University bookstore, but I encourage you to look around for better deals in other bookstores and online.

**Grading scheme:** There are three midterm tests all held in class. Preliminary dates for these are posted below. There is no final exam. Therefore, concepts like "deferred standing" have little meaning in this course, as explained below.

Let your mark on the first midterm be  $M_1$ , the mark on the second be  $M_2$ , and the mark on the third be  $M_3$ . All these ( $M_1$ ,  $M_2$  and  $M_3$ ) are numbers between 0 and 1 (i.e., they lie on the interval  $[0, 1]$ ).

The overall mark (which can be labelled the "numerical grade") is denoted  $W$  and determined by this function:

$$W = 0.3M_1 + 0.5M_2 + 0.2M_3.$$

The (letter) grade, denoted  $G$ , is determined by the following function:

$$G = \begin{cases} \text{A+} & \text{if } W \geq 0.95 \\ \text{A} & \text{if } W \in [0.85, 0.95) \\ \text{B+} & \text{if } W \in [0.75, 0.85) \\ \text{B} & \text{if } W \in [0.7, 0.75) \\ \text{C+} & \text{if } W \in [0.65, 0.7) \\ \text{C} & \text{if } W \in [0.55, 0.65) \\ \text{D+} & \text{if } W \in [0.5, 0.55) \\ \text{D} & \text{if } W \in [0.45, 0.5) \\ \text{E} & \text{if } W \in [0.4, 0.45) \\ \text{F} & \text{if } W < 0.4 \end{cases}$$

Some remarks to note:

- Students who miss or do poorly on the first midterm should be aware that this is costly, since I am reluctant to deviate from the above grading scheme by giving higher “weight” to the other midterms. I suggest that students who are absent from, or do poorly on, the first midterm drop the course.
- Exams in this course cannot be “deferred.” The Registrar’s Office states in writing that:<sup>1</sup> “When students do not or cannot write a mid-term examination (not held during the formal examination period), alternate arrangements to write the mid-term examination should be made within the duration of the course by the course director and individual student *at the discretion of the course director. The Deferred Standing Agreement does not apply.*” (Italics added.)

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<sup>1</sup>See the RO’s Web site:

<http://www.registrar.yorku.ca/exams/deferred/index.htm>

- The second and third midterm exams cover all material taught in the course up until then (i.e., not only what has been taught since the most recent midterm).

**Assignments:** There will be no formal assignments to hand in, but we will do problems from the book and/or from old exams in class. You should make sure you at least *try* to solve them: it's valuable training.

**Dates for the midterm exams:** The *preliminary* dates for the midterm exams are as follows:

- The first midterm is held on 5 February, 2018.
- The second midterm is held on 19 March, 2018.
- The third midterm is held on 2 April, 2018.

Some **old exams** are downloadable from the course website.

**Time plan and course description:** As a very rough time plan the first third of the course will deal with the Solow growth model (Ch. 1 in the textbook). The second third will deal with the Ramsey and Diamond models (Ch. 2 and 3). The last third will deal with employment (the Shapiro-Stiglitz model).

**Note on academic integrity:** York University publishes information online about the consequences of cheating:

<http://www.yorku.ca/academicintegrity/>

Sections of the textbook covered (in 3rd and 4th editions)  
might be updated

**For Ch. 1-3, and for both the 3rd and 4th editions, we skip the  
following parts of the textbook (i.e., cover all except):**

In Ch. 1: Section 1.8

In Ch. 2: Sections 2.4 to 2.7 and 2.11-2.12, except that we cover (do not skip) the very beginning of Section 2.6, pp. 65-66, on shocks to  $\rho$  in the Ramsey model (Section 2.6, up until, but not including the segment titled “The Rate of Adjustment...”). (The information that we skip Section 2.11 was added on 7 March, 2018.)

In Ch. 3: Sections 3.4 to 3.7, and the whole of Part B (Sections 3.8-12)

**For the rest of the book we cover the following parts of the  
textbook (i.e., do not skip):**

If using the 3rd edition

In Ch. 9: Section 9.1 (good, short overview) and Section 9.4 (the Shapiro-Stiglitz model)

If using the 4th edition

In Ch. 10: Section 10.1 (good, short overview) and Section 10.4 (the Shapiro-Stiglitz model)

## List of problems to look at:

### First set of problems:

*End-of-chapter problems:*

1.2

1.5

1.9 (a) and (b)

*Special problem:*

Problem 1 from Econ 5011 Midterm Exam 2005 (about time paths in Solow model). See [www.nippelagerlof.com/teaching/5011/5011.htm](http://www.nippelagerlof.com/teaching/5011/5011.htm)

### Second set of problems:

*End-of-chapter problems:*

2.6 (a) to (c); try (d) and (e)

3.5

*Special problems*

Go to the link “Problems” on the Econ 5011 web site. Do Problem 3 under the heading “Problem Set 2” in that pdf file (about the Diamond model). See [www.nippelagerlof.com/teaching/5011/5011.htm](http://www.nippelagerlof.com/teaching/5011/5011.htm)

Go to the link “Problems” on the Econ 5110 web site. Do Problem 4 under the heading “Practice problems for midterm 1” (about the Ramsey model). See [www.nippelagerlof.com/teaching/5110/5110.htm](http://www.nippelagerlof.com/teaching/5110/5110.htm)

### Third set of problems:

9.3 in 3rd edition; 10.3 in 4th edition

*Old exam problems:*

Problem 2 from Final Exam December 2009

### Tips on communicating by e-mail

Below are some tips on how to translate mathematical expressions into text that you can write in the body of a standard e-mail.

Math	Text
$x^a$	<code>x^{a}</code>
$x_a$	<code>x_{a}</code>
$\frac{a}{b}$	<code>a/b</code>
$\frac{a+b}{c+d}$	<code>(a+b)/(c+d)</code>
$\alpha$	<code>alpha</code>
$\beta$	<code>beta</code>
$\gamma$	<code>gamma</code>
$\sum_{i=a}^b x_i$	<code>sum from i=a to i=b of x_{i}</code>
$\int_{i=a}^b x_i$	<code>integral from i=a to i=b of x_{i}</code>

You can also find out what Greek letters (others than those listed above) are called by going to

[http://en.wikipedia.org/wiki/Greek\\_alphabet](http://en.wikipedia.org/wiki/Greek_alphabet)