



## Course and Examination Fact Sheet: Spring Semester 2019

### 8,270: International Macroeconomics (MEcon)

ECTS credits: 4

#### Overview examination/s

(binding regulations see below)

Decentral - Written examination (64%, 90 mins.)

Decentral - examination paper written at home (individual) (36%)

#### Attached courses

Timetable -- Language -- Lecturer

[8,270,1.00 International Macroeconomics \(MEcon\)](#) -- Englisch -- [Torun David](#) , [Muendler Marc](#)

#### Course information

#### Course prerequisites

Macroeconomics II is a prerequisite for this course, including basic knowledge of dynamic optimization techniques. Familiarity with the software package Matlab can help, but is not necessary. The relevant aspects of dynamic optimization and Matlab coding will be covered in the course.

#### Course content

This course examines open-economy macroeconomics from a theoretical and quantitative perspective. Topics include theories of the trade balance and the current account and their relationship to domestic macroeconomic variables, the terms of trade and the real exchange rate, determinants of international capital flows. The course investigates real-side explanations and students put the models to work in quantitative exercises using software.

After completion of this course, you will be able to:

- Understand the identity of a country's net export outflows and its net capital outflows.
- Invoke the distinctions between the trade balance and the current account balance as well as the matching difference between gross domestic product and national income.
- Base predictions of the trade balance and the current account balance on optimal consumer and firm behavior as well as government interventions, both in simplified two-period models and more advanced infinite-horizon models using dynamic optimization.
- Use a fundamental current account equation to state predictions and relate the equation to empirical evidence on open-economy macroeconomics.
- Alternatively use optimality conditions in discrete time and continuous time to state the fundamental current account equation.
- Relate optimally chosen stocks of assets to their market value under certainty and uncertainty in the open economy.
- Derive and quantify an open-economy real-business-cycle model, including in an exercise that requires basic coding in Matlab.
- Infer how shocks to the terms of trade and the real exchange rate in the presence of traded and non-traded goods move the real business cycle in the open economy.
- Use a calibrated open-economy real-business-cycle model to predict consequences of terms of trade and real exchange rate shocks, including in exercises that require basic coding in Matlab.



- Assess empirical puzzles in international macroeconomics that continue to pose challenges to canonical models.

## Course structure

The course content is grouped into two main blocks and spans 11 weeks of instruction. The first five lectures in block I gradually lay the foundations of open-economy macroeconomics, progressing from households in an endowment economy to households and firms in a production economy, and moving from two-period to infinite-horizon models. Embedded in the first block is also a Tutorial on using Matlab for macroeconomic simulations in the open economy. At the end of block I stands an open-economy real-business-cycle model that unifies the insights for rigorous quantification. A software-based exercise concludes this first block.

Block II, after the break, starts out with a review of the software-based exercise, so as to prepare you for the remaining two exercises (one of which is optional). The four lectures in block II then consider the terms of trade and the real exchange rate, as well as shocks that move them, so as to assess how these shocks affect the real business cycle in the open economy. The terms of trade and the real exchange require an export-producing, an import-competing, and a non-traded goods sector. Two more software-based exercises apply the insights and show the practical relevance of the model. The final exercise is optional and, if you opt to conduct it, only the two best scores out of the three exercises will count towards your grade.

## Course literature

Lecture notes become available online at *StudyNet* before each lecture.

**Textbooks (required):** Obstfeld and Rogoff (1996)/Chapters 1, 2 and 4; Uribe and Schmitt-Grohé (2017)/Chapters 2, 3, 4, 7 and 8.

**Background Readings (recommended):** Lucas (1982); Obstfeld and Rogoff (2001); Chari, Kehoe, and McGrattan (2002); Nason and Rogers (2006).

The two textbooks complement each other. The recommended background readings help you review the lecture material beyond the textbooks. Background readings are available through the course web page. Web links to copyrighted readings may only work from on-campus domains.

### References:

CHARI, V. V., P. J. KEHOE, AND E. R. MCGRATTAN (2002): "Can Sticky Price Models Generate Volatile and Persistent Real Exchange Rates?," *Review of Economic Studies*, 69(3), 533-63.

LUCAS, R. E. J. (1982): "Interest Rates and Currency Prices in a Two-Country World," *Journal of Monetary Economics*, 10(3), 335-59.

NASON, J. M., AND J. H. ROGERS (2006): "The Present-Value Model of the Current Account Has Been Rejected: Round Up the Usual Suspects," *Journal of International Economics*, 68(1), 159-87.

OBSTFELD, M., AND K. ROGOFF (1996): *Foundations of international macroeconomics*. MIT Press, Cambridge, Mass. and London.

--- (2001): "The Six Major Puzzles in International Macroeconomics: Is There a Common Cause?," in *NBER macroeconomics annual 2000*, ed. by B. S. Bernanke, and K. Rogoff, vol. 15, pp. 339-90. MIT Press, Cambridge and London.

URIBE, M., AND S. SCHMITT-GROHÉ (2017): *Open economy macroeconomics*. Princeton University Press, Princeton and Oxford.

## Additional course information

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## Examination information

### Examination sub part/s

#### 1. Examination sub part (1/2)



## Examination time and form

Decentral - Written examination (64%, 90 mins.)

## Remark

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## Examination-aid rule

Extended Closed Book

The use of aids is limited; any additional aids permitted are exhaustively listed under "Supplementary aids". Basically, the following is applicable:

- At such examinations, all the pocket calculators of the Texas Instruments TI-30 series and mono- or bilingual dictionaries (no subject-specific dictionaries) without hand-written notes are admissible. Any other pocket calculator models and any electronic dictionaries are inadmissible.
- In addition, any type of communication, as well as any electronic devices that can be programmed and are capable of communication such as notebooks, tablets, PDAs, mobile telephones and others, are inadmissible.
- Students are themselves responsible for the procurement of examination aids.

## Supplementary aids

None.

## Examination languages

Question language: English

Answer language: English

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## 2. Examination sub part (2/2)

### Examination time and form

Decentral - examination paper written at home (individual) (36%)

### Remark

2 Problem Sets, each counting 18% of total grade

### Examination-aid rule

Term papers

- Term papers must be written without anyone else's help and in accordance with the known quotation standards, and they must contain a declaration of authorship.
- The documentation of sources (quotations, bibliography) has to be done throughout and consistently in accordance with the APA or MLA standards. The indications of the sources of information taken over verbatim or in paraphrase (quotations) must be integrated into the text in accordance with the precepts of the applicable quotation standard, while informative and bibliographical notes must be added as footnotes (recommendations and standards can be found, for example, in METZGER, C. (2017), Lern- und Arbeitsstrategien (12th ed., Cornelsen Schweiz).
- For any work written at the HSG, the indication of the page numbers both according to the MLA and the APA standard is never optional.
- Where there are no page numbers in sources, precise references must be provided in a different way: titles of chapters or sections, section numbers, acts, scenes, verses, etc.
- For papers in law, the legal standard is recommended (by way of example, cf. FORSTMOSER, P., OGOREK R. et SCHINDLER B. (2018), Juristisches Arbeiten: Eine Anleitung für Studierende (6. Auflage), Zürich: Schulthess, or the recommendations of the Law School).

### Supplementary aids

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### Examination languages

Question language: English

Answer language: English

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## Examination content



**Exam:** The examination form is decentral and written. The final exam counts for 90 points, 64 percent of the total grade, and will take 90 minutes. The exam will contain three 30-minute questions and cover the material of the entire course.

**Papers/Problem Sets:** There will be three take-home problem sets. The problem sets ask you to make mathematical derivations that are variations of the material in class and to then implement a variation of existing Matlab code, available from <http://www.columbia.edu/~mu2166/book/> by Uribe and Schmitt-Grohé, to simulate the according variants of the model.

Each problem set counts for 25 points, but only two problem sets enter your final grade. The first two problem sets are mandatory. If you do not choose to submit the third problem set, then the scores of the first two problem sets count towards your final grade. The third problem set is optional. If you choose to work on and submit the third problem set, then the best two scores out of the three scores will count towards your final grade. The total possible score on the problem sets is therefore 50 points (around 36 percent of the total grade).

There are three scheduled tutorials for the course. The first tutorial provides an introduction to Matlab and an explanation of the existing code that you will use for your problem sets. The second tutorial, immediately after the due time of the first problem set, will review possible answers and code variations that enter the first problem set. The third tutorial, after the due time of the second problem set, will review possible answers and code variations that enter the second problem set.

**Assessment:** Papers/Problem sets: 50 points (25+25 points, best out of three); Final examination (90 minutes): 90 points; Total: 140 points

## Examination relevant literature

See Course Literature.

### Please note

We would like to point out to you that this fact sheet has absolute priority over other information such as StudyNet, faculty members' personal databases, information provided in lectures, etc. When will the fact sheets become binding?

- Information about courses and examination time (central/decentral and grading form): from the start of the bidding process on 24 January 2019
- Information about decentral examinations (examination-aid rule, examination content, examination relevant literature): after the 4th semester week on 18 March 2019
- Information about central examinations (examination-aid rule, examination content, examination relevant literature): from the start of the enrolment period for the examinations on 08 April 2019

Please look at the fact sheet once more after these deadlines have expired.