Bea471
MACROECONOMICS (HONOURS)

Semester 1, 2019
Unit Outline

Dr Oscar Pavlov
CONTACT DETAILS

Unit coordinator

Unit coordinator: Dr Oscar Pavlov
Campus: Hobart
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Phone: (03) 6226 2335
Room location and number: Room 214, Centenary Building, Sandy Bay
Consultation hours: Appointments can be made with the lecturer either during class or via email.
# CONTENTS

**WHAT IS THE UNIT ABOUT?**

- UNIT DESCRIPTION 2
- INTENDED LEARNING OUTCOMES 2
- GRADUATE STATEMENT 3
- ALTERATIONS TO THE UNIT AS A RESULT OF STUDENT FEEDBACK 3
- PRIOR KNOWLEDGE &/OR SKILLS 3

**HOW WILL I BE ASSESSED?**

- ASSESSMENT SCHEDULE 4
- ASSESSMENT DETAILS 4
- HOW YOUR FINAL RESULT IS DETERMINED 6
- SUBMISSION OF ASSIGNMENTS 6
- ACADEMIC REFERENCING 8
- ACADEMIC MISCONDUCT 9

**WHAT LEARNING OPPORTUNITIES ARE THERE?**

- MyLO 10
- RESOURCES 10
- ACTIVITIES 11
- COMMUNICATION 12
- CONCERNS AND COMPLAINTS 13
- FURTHER INFORMATION AND ASSISTANCE 13
- UNIT SCHEDULE 14

**ACCREDITATION**

- AACSB ACCREDITATION 15
WHAT IS THE UNIT ABOUT?

Unit description

The objective of this unit is:

1. To introduce you to some of the most important recent developments in macroeconomics.

2. To demonstrate how macroeconomists use dynamic general equilibrium models to obtain quantitative answers to some very intriguing questions.

3. To provide you with some standard tools and models required to deal with the modern macroeconomic literature.

The unit starts with a brief introduction to simple representative agent models. Here, you will learn how to optimize under certainty.

You will then examine the role of expectations and the rational expectations hypothesis. First, you will learn how to solve simple linear rational expectations models analytically. Then, you will learn practical programming skills in Dynare (a free software package for MATLAB) to aid you in solving more complex multivariate models.

In the next segment of the unit, you will learn how to optimize under uncertainty. Upon completion you will be expected to be able to derive and interpret the optimality conditions for a variety of macroeconomic models.

The final segment of the unit focuses on development of practical model solving skills. You will learn how to use a dynamic stochastic general equilibrium models as a measurement device. In particular, you will learn how to parameterize the models, solve them numerically and analyse their empirical performance. Practical programming in Dynare is an essential part of this segment.

Intended Learning Outcomes

On completion of this unit, you will be able to:

1. Apply optimization techniques and the rational expectations hypothesis to solve and analyse macroeconomic models.

2. Numerically solve and analyse the quantitative performance of several business cycle models.

3. Communicate your modelling approach, solution technique and research findings.
Graduate Statement

Successful completion of this unit supports your development of course learning outcomes, which describe what a graduate of a course knows, understands and is able to do. Course learning outcomes are available from the Course Coordinator. Course learning outcomes are developed with reference to national discipline standards, Australian Qualifications Framework (AQF), any professional accreditation requirements and the University of Tasmania’s Graduate Statement.

The University of Tasmania experience unlocks the potential of individuals. Our graduates are equipped and inspired to shape and respond to the opportunities and challenges of the future as accomplished communicators, highly regarded professionals and culturally competent citizens in local, national, and global society. University of Tasmania graduates acquire subject and multidisciplinary knowledge and skills, and develop critical and creative literacies and numeracies and skills of inquiry. They demonstrate the ability to apply this knowledge in changing circumstances. Our graduates recognise and critically evaluate issues of social responsibility, ethical conduct and sustainability, are entrepreneurial and creative, and are mindful of their own wellbeing and that of the community. Through respect for diversity and by working in collaborative ways, our graduates reflect the values of the University of Tasmania.

Alterations to the unit as a result of student feedback

Dynare will be used instead of MATLAB to streamline the coding/programming part of the unit.

Prior knowledge &/or skills

Computing skills: Although no prior programming skills are expected, you will be required to learn the fundamentals of Dynare during the course.
# HOW WILL I BE ASSESSED?

## Assessment schedule

<table>
<thead>
<tr>
<th>Assessment task</th>
<th>Date due</th>
<th>Percent weighting</th>
<th>Links to Intended Learning Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assessment Task 1: Assignment 1</td>
<td>Week 6</td>
<td>30%</td>
<td>1, 3</td>
</tr>
<tr>
<td>Assessment Task 2: Mid-semester test</td>
<td>Week 9</td>
<td>35%</td>
<td>1, 3</td>
</tr>
<tr>
<td>Assessment Task 3: Assignment 2</td>
<td>Examination period</td>
<td>35%</td>
<td>1, 2, 3</td>
</tr>
</tbody>
</table>

## Assessment details

### Assessment task 1: Assignment 1

**Task description**

You will be required to solve analytical problems and submit the results and derivations. The examinable material consists of topics covered in weeks 1-4.

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Measures Intended Learning Outcome:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Criterion 1</td>
<td>Formulate dynamic general equilibrium models and define their equilibria. 1</td>
</tr>
<tr>
<td>Criterion 2</td>
<td>Derive optimality conditions implied by the models and interpret them. 1</td>
</tr>
<tr>
<td>Criterion 3</td>
<td>Analytically solve simple linear rational expectations models via several methods. 1</td>
</tr>
<tr>
<td>Criterion 4</td>
<td>Describe your derivations and results clearly and precisely. 3</td>
</tr>
<tr>
<td>Criterion 5</td>
<td>Efficiently use mathematical notation. 3</td>
</tr>
</tbody>
</table>

**Task length**

You will be given one week to solve the problems.

**Due by date**

Week 6

### Assessment task 2: Mid-semester test

**Task description**

You will be required to solve analytical problems. The examinable material consists of topics covered in weeks 1-7.
<table>
<thead>
<tr>
<th>Criterion</th>
<th>Measure Intended Learning Outcome:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Criterion 1</td>
<td>Formulate dynamic general equilibrium models and define their equilibria. 1</td>
</tr>
<tr>
<td>Criterion 2</td>
<td>Derive optimality conditions implied by the models and interpret them. 1</td>
</tr>
<tr>
<td>Criterion 3</td>
<td>Analytically solve simple linear rational expectations models via several methods. 1</td>
</tr>
<tr>
<td>Criterion 4</td>
<td>Describe your derivations and results clearly and precisely. 3</td>
</tr>
<tr>
<td>Criterion 5</td>
<td>Efficiently use mathematical notation. 3</td>
</tr>
</tbody>
</table>

**Task length** 2 hours

**Due by date** Week 9

**Assessment task 3: Assignment 2**

<table>
<thead>
<tr>
<th>Task Description</th>
<th>Measure Intended Learning Outcome:</th>
</tr>
</thead>
<tbody>
<tr>
<td>You will be required to solve numerical problems and submit results, derivations and computer codes. The examinable material consists of topics covered in weeks 1-13, with a focus on weeks 7-13.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Measure Intended Learning Outcome:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Criterion 1</td>
<td>Formulate dynamic general equilibrium models and define their equilibria. 1</td>
</tr>
<tr>
<td>Criterion 2</td>
<td>Derive optimality conditions implied by the models and interpret them. 1</td>
</tr>
<tr>
<td>Criterion 3</td>
<td>Describe the numerical approach to solving the model and calibrate its parameters. 2</td>
</tr>
<tr>
<td>Criterion 4</td>
<td>Write computer codes that implement numerical solution algorithms. 2</td>
</tr>
<tr>
<td>Criterion 5</td>
<td>Evaluate the role of the model’s elements in propagation of stochastic disturbances. 2</td>
</tr>
<tr>
<td>Criterion 6</td>
<td>Describe your derivations and results clearly and precisely. 3</td>
</tr>
<tr>
<td>Criterion 7</td>
<td>Efficiently use mathematical notation. 3</td>
</tr>
<tr>
<td>Criterion 8</td>
<td>Produce well-documented computer codes that can be replicated by other economists. 3</td>
</tr>
</tbody>
</table>
How your final result is determined

To pass this unit, you need to demonstrate your attainment of each of the Intended Learning Outcomes.

Your grade will be determined in the following way:

Your overall mark blah in this unit will be determined by combining your results from each assessment task. These marks are combined to reflect the percentage weighting of each task. You need to achieve an overall score of at least 50% to successfully complete this unit. It is expected that you will seek help (from the unit coordinator in the first instance), well before the due date, if you are unclear about the requirements for an assessment task.

- PP (pass) at least 50% of the overall mark but less than 60%
- CR (credit) at least 60% of the overall mark but less than 70%
- DN (distinction) at least 70% of the overall mark but less than 80%
- HD (high distinction) at least 80% of the overall mark

All grades are provisional, until confirmation by the Assessment Board at the end of semester.

Submission of assignments

The act of submitting your assignment will be taken as certification that it is your own work.

Assignments must be submitted electronically through the relevant assignment tab in MyLO. You must ensure that your name, student ID, unit code, tutorial time and tutor's name (if applicable) are clearly marked on the first page. If this information is missing, the assignment will not be accepted and, therefore, will not be marked.

Where relevant, Unit Coordinators may also request you to submit a paper version of your assignment. You will be advised by the Unit Coordinator of the appropriate process relevant to your campus.

Please remember that you are responsible for lodging your assessment items on or before the due date and time. We suggest you keep a copy. Even in a perfect system, items sometimes go astray.
Requests for extensions

In this Policy:

1. (a) ‘day’ or ‘days’ includes all calendar days, including weekends and public holidays;
   (b) ‘late’ means after the due date and time; and
   (c) ‘assessment items’ includes all internal non-examination based forms of assessment

2. This Policy applies to all students enrolled in TSBE Units at whatever Campus or geographical location.

3. Students are expected to submit assessment items on or before the due date and time specified in the relevant Unit Outline. The onus is on the student to prove the date and time of submission.

4. Students who have a medical condition or special circumstances may apply for an extension.

Requests for extensions should, where possible, be made in writing to the Unit Coordinator on or before the due date. Students will need to provide independent supporting documentation to substantiate their claims.

Penalties

Late submission of assessment items will incur a penalty of 10% of the total marks possible for that piece of assessment for each day the assessment item is late unless an extension had been granted on or before the relevant due date.

Assessment items submitted more than five (5) days late will not be accepted.

Academic staff do NOT have the discretion to waive a late penalty, subject to clause 4 above.

Review of results and appeals

Review of Assessment is available to all students once the University has released the final result for a unit. If you are dissatisfied with your final result, you may apply to have it reviewed.

Review of Assessment consists of re-marking the final exam (where applicable), checking the addition of all marks, and a check to ensure that all marks have been included in the final result. Applications for a review of assessment are due within 10 working days of the release of the final result in the unit. When applying for a review, you must pay a $50 fee.

If you wish to have a piece of internal assessment reviewed as part of the review process, please state this clearly on the application form referred to above and include that assessment item with your application.
Please read and follow the directions provided by the University at:


**Academic referencing**

In your written work you will need to support your ideas by referring to scholarly literature, works of art and/or inventions. It is important that you understand how to correctly refer to the work of others, and how to maintain academic integrity.

Failure to appropriately acknowledge the ideas of others constitutes academic dishonesty (plagiarism), a matter considered by the University of Tasmania as a serious offence.

The appropriate referencing style for this unit is the Harvard style.

The University library provides information on presentation of assignments, including referencing styles and should be referred to when completing tasks in this unit.

Please read the following statement on plagiarism. Should you require clarification please see your unit coordinator or lecturer.

**Plagiarism**

Plagiarism is a form of cheating. It is taking and using someone else’s thoughts, writings or inventions and representing them as your own; for example, using an author’s words without putting them in quotation marks and citing the source, using an author’s ideas without proper acknowledgment and citation, copying another student’s work.

If you have any doubts about how to refer to the work of others in your assignments, please consult your lecturer or tutor for relevant referencing guidelines. You may also find the Academic Honesty site on MyLO of assistance.

The intentional copying of someone else’s work as one’s own is a serious offence punishable by penalties that may range from a fine or deduction/cancellation of marks and, in the most serious of cases, to exclusion from a unit, a course or the University.

The University and any persons authorised by the University may submit your assessable works to a plagiarism checking service, to obtain a report on possible instances of plagiarism. Assessable works may also be included in a reference database. It is a condition of this arrangement that the original author’s permission is required before a work within the database can be viewed.
For further information on this statement and general referencing guidelines, see the Plagiarism and Academic Integrity page on the University web site or the Academic Honesty site on MyLO.

**Academic misconduct**

Academic misconduct includes cheating, plagiarism, allowing another student to copy work for an assignment or an examination, and any other conduct by which a student:

a. seeks to gain, for themselves or for any other person, any academic advantage or advancement to which they or that other person are not entitled; or

b. improperly disadvantages any other student.

Students engaging in any form of academic misconduct may be dealt with under the Ordinance of Student Discipline, and this can include imposition of penalties that range from a deduction/cancellation of marks to exclusion from a unit or the University. Details of penalties that can be imposed are available in Ordinance 9: Student Discipline – Part 3 Academic Misconduct.
WHAT LEARNING OPPORTUNITIES ARE THERE?

**MyLO**

MyLO is the online learning environment at the University of Tasmania. This is the system that will host the online learning materials and activities for this unit.

**Getting help with MyLO**

It is important that you are able to access and use MyLO as part of your study in this unit. To find out more about the features and functions of MyLO, and to practice using them, visit the [Getting Started in MyLO unit](#).

For access to information about MyLO and a range of step-by-step guides in pdf, word and video format, visit the [MyLO Student Support page](#) on the University website. If something is not working as it should, [contact the Service Desk](#) (Service.Desk@utas.edu.au, phone 6226 1818), or [Request IT Help Online](#).

**Resources**

**Required readings**

There is no prescribed textbook for this unit and all required readings will be provided by the unit coordinator.

**Recommended readings**

Students may find the following textbooks useful for some parts of the course:


**Reading Lists**

Reading Lists provide direct access to all material on unit reading lists in one place. This includes eReadings and items in Reserve. You can access the Reading List for this unit from the link in MyLO, or by going to [the Reading Lists page](#) on the University Library website.
Equipment, materials, software, accounts

The software MATLAB will be provided by the university. The software package Dynare can be downloaded from [www.dynare.org](http://www.dynare.org).

Activities

Learning expectations

The University is committed to high standards of professional conduct in all activities, and holds its commitment and responsibilities to its students as being of paramount importance. Likewise, it holds expectations about the responsibilities students have as they pursue their studies within the special environment the University offers.

**Students are expected to participate actively and positively in the teaching/learning environment. They must attend classes when and as required, strive to maintain steady progress within the subject or unit framework, comply with workload expectations, and submit required work on time.**

Details of teaching arrangements

There will be one 3 hour face to face session per week.

Lectures will cover the core examinable material in the unit. Most reading materials will be handed out prior to each lecture. About 30% of class time will be dedicated to solving exercises and practical programming.

Specific attendance/performance requirements

Lectures will not be recorded so regular attendance is critical. If you cannot attend a lecture, please advise the unit coordinator and obtain notes from a classmate.

In this unit, your active engagement will be monitored in the following way:

1. Your attendance and participation will be noted by the unit coordinator.

If you do not demonstrate evidence of having engaged actively with this unit by completing these two activities by Week 4 of semester, your enrolment may be cancelled or you may be withdrawn from the unit.

Teaching and learning strategies

The University is committed to a high standard of professional conduct in all activities, and holds its commitment and responsibilities to its students as being of paramount importance. Likewise, it holds expectations about the responsibilities students have as they pursue their studies within the special environment the University offers. The University’s Code of Conduct for Teaching and Learning states:
Students are expected to participate actively and positively in the teaching/learning environment. They must attend classes when and as required, strive to maintain steady progress within the subject or unit framework, comply with workload expectations, and submit required work on time.

During the first four weeks of this semester, your participation and engagement in this unit will be monitored. If you do not demonstrate evidence of having engaged actively with this unit by Week 4 of semester, your enrolment may be cancelled or you may be withdrawn from the unit.

**Work Health and Safety (WHS)**

The University is committed to providing a safe and secure teaching and learning environment. In addition to specific requirements of this unit you should refer to the University’s [Work Health and Safety website](#) and policy.

**Communication**

**TO KEEP UP WITH ANNOUNCEMENTS REGARDING THIS UNIT**

Check the MyLO Announcement tool at least once every two days. The unit Announcement will appear when you first enter our unit’s MyLO site. Alternatively, click on the Announcement button (towards the top of the MyLO screen) at any time.

**WHEN YOU HAVE A QUESTION**

Other students may have the same question that you have. Please go to the Ask the Class Discussion forum on the unit’s MyLO site. Check the posts that are already there – someone may have answered your question already. Otherwise, add your question as a new topic. Students are encouraged to support each other using this forum – if you can answer someone’s question, please do. We will attempt to respond to questions within 48 business hours. If your question is related to a personal issue or your performance in the unit, please contact the appropriate teaching staff member by email instead.

**WHEN YOU HAVE AN ISSUE THAT WILL IMPACT ON YOUR STUDIES OR THE SUBMISSION OF AN ASSESSMENT TASK**

If you have a personal question related to your studies or your grades, please contact teaching staff by email.

For general questions about the unit, please add them to the Ask the Class Discussion forum on the unit’s MyLO site. This way, other students can also benefit from the answers.
Concerns and complaints

The University is committed to providing an environment in which any concerns and complaints will be treated seriously, impartially and resolved as quickly as possible. We are also committed to ensuring that a student may lodge a complaint without fear of disadvantage. If you have a concern, information about who to contact for assistance is available on the ‘How to resolve a student complaint’ page.

Further information and assistance

If you are experiencing difficulties with your studies or assignments, have personal or life-planning issues, disability or illness which may affect your course of study, you are advised to raise these with the unit coordinator in the first instance.

There is a range of University-wide support services available to you including Student Learning Support, Student Advisers, Disability Services, and more which can be found on the Student Support and Development page of the University website.

Should you require assistance in accessing the Library visit their website for more information.
## Unit schedule

<table>
<thead>
<tr>
<th>WEEK</th>
<th>DATE BEGINNING</th>
<th>TOPIC/S AND ACTIVITIES</th>
<th>RESOURCES/READINGS/FURTHER INFORMATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>4 March</td>
<td>Simple Representative Agent Models (continued). The Rational Expectations Hypothesis.</td>
<td>Stephen Williamson’s lecture notes, Chapter 1. Fabrice Collard’s lecture notes, Chapter 1.</td>
</tr>
<tr>
<td>3</td>
<td>11 March</td>
<td>Simple Linear Rational Expectations Models</td>
<td>Fabrice Collard’s lecture notes, Chapter 1.</td>
</tr>
<tr>
<td>4</td>
<td>18 March</td>
<td>Solving Simple Linear Rational Expectations Models</td>
<td>Fabrice Collard’s lecture notes, Chapter 1.</td>
</tr>
<tr>
<td>6</td>
<td>1 April</td>
<td>An Introduction to Dynare</td>
<td>Dynare manual and user guide.</td>
</tr>
<tr>
<td>7</td>
<td>8 April</td>
<td>Dynamic Optimization Under Uncertainty</td>
<td>Notes will be provided by the unit coordinator.</td>
</tr>
<tr>
<td>8b</td>
<td>25 April</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>29 April</td>
<td>Mid-semester test</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>6 May</td>
<td>The Real Business Cycle Model: log-linearization and Dynare</td>
<td>Notes will be provided by the unit coordinator.</td>
</tr>
<tr>
<td>11</td>
<td>13 May</td>
<td>The Real Business Cycle Model: Addressing Puzzles</td>
<td>Notes will be provided by the unit coordinator.</td>
</tr>
<tr>
<td>12</td>
<td>20 May</td>
<td>The Basic New Keynesian Model</td>
<td>Notes will be provided by the unit coordinator. Jordi Gali (2015), Chapter 3.</td>
</tr>
<tr>
<td>13</td>
<td>27 May</td>
<td>Dynare and Assignment 2 preparation</td>
<td></td>
</tr>
</tbody>
</table>

**Mid-semester break (18-24 April)**

**Exam Period 8 – 25 June (inclusive)**
ACCREDITATION

AACSB Accreditation

The Tasmanian School of Business and Economics (TSBE) is currently in the process of applying for business accreditation with the Association to Advance Collegiate Schools of Business (AACSB) – the lead program for accrediting business schools globally. AACSB seeks to connect educators, students, and business to achieve a common goal – to create the next generation of business leaders.

By joining AACSB and going through the accreditation process, TSBE is joining a global alliance committed to improve the quality of business education around the world, and to share the latest innovations in business education. Gaining Business Accreditation with AACSB is a multi-year process involving TSBE demonstrating our performance against the 15 accreditation standards.

Once complete, TSBE will join a select community of accredited business schools, with only 7% of all business schools globally having completed the AACSB process. This will further enhance the reputation of TSBE, and further enhance the global recognition of your qualifications. To find out more about AACSB click here.