## ECON8026
### Diploma Macroeconomics

<table>
<thead>
<tr>
<th>Mode of Delivery</th>
<th>On campus</th>
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<tbody>
<tr>
<td>Tutorial</td>
<td>7am - 8am, MORAN-G008</td>
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<tr>
<td>Seminars</td>
<td>8am - 10am, MORAN-G008</td>
</tr>
<tr>
<td>Prerequisites</td>
<td>As listed in <em>Programs and Courses</em></td>
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<tr>
<td>Incompatible Courses</td>
<td>As listed in <em>Programs and Courses</em></td>
</tr>
<tr>
<td>Co-taught Courses</td>
<td>None</td>
</tr>
<tr>
<td>Course Convener</td>
<td>Associate Professor Timothy Kam</td>
</tr>
<tr>
<td>Student Consultation Hours</td>
<td>See <a href="http://wattle.anu.edu.au">WATTLE</a></td>
</tr>
<tr>
<td>Research Interests</td>
<td>Macroeconomic Theory and Policy, Monetary Economics, Computational Economics</td>
</tr>
<tr>
<td>Email(s)</td>
<td>Use <a href="http://wattle.anu.edu.au">WATTLE</a> open forum please</td>
</tr>
<tr>
<td>RSE Student Office Contact</td>
<td>Nicole Millar</td>
</tr>
<tr>
<td>Phone</td>
<td>02 612 50384</td>
</tr>
<tr>
<td>Email</td>
<td><a href="mailto:enquiries.rse@anu.edu.au">enquiries.rse@anu.edu.au</a></td>
</tr>
<tr>
<td>RSE Students Webpage</td>
<td><a href="https://www.rse.anu.edu.au/students/">https://www.rse.anu.edu.au/students/</a></td>
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</tbody>
</table>

This Outline will be superseded by its official version on [WATTLE](http://wattle.anu.edu.au). Enrolled students should rely on the latter for policies and on [WATTLE](http://wattle.anu.edu.au) for weekly task updates. Compiled on 2018/02/08 at 09:22:57 (AEST)
COURSE OVERVIEW

Course Description

This course will introduce you to some basic aspects of modern Macro-economics. In elementary macroeconomics courses we have been exposed to the following questions: On average why is each generation of people “better off” than its predecessors? Why do some nations catch up in economic well being, while others are persistently poor? What drives poverty and inequality of living standards? What is inflation? What is unemployment? What is the business cycle? Are they socially costly? How do we logically think about what drives these measurable economic outcomes? How do banking, finance and information play a role in these outcomes? What role do economic policies play in these various economic issues? How do we think about major Recessions and economic crises?

From undergraduate economics (e.g., ECON7074), we think we know most of the proposed answers, albeit informally. In this course, we will revisit these basic themes from the lens of more explicit model structures. These will provide more disciplined and precise logical paradigms for analyzing macroeconomic questions. They will also serve as training grounds for preparing the student for future jobs that require some mastery of analytical and computer modelling skills, or, for leadership of teams that engage in such tasks.

In order to analyze and understand a given macroeconomic reality, and in order to hopefully make useful predictions or policy prescriptions, we begin from basic and known logical paradigms. Once we learn how these baseline paradigms behave, we can step outside of these “boxes” to critique some of their deficiencies. We will also discuss how economists consider alternative solutions and modes of thinking.

This course will be presented at a level suitable for the working professional seeking a career “tooling-up”, the advanced undergraduate and graduate student. To do well in this course, you should possess an aptitude for critical/analytical thinking and an openness to learning new quantitative/computational skills. A logical progression from this course is ECON8022 Macroeconomic Theory (S1/S2). A prior completion of, or concurrent enrolment in, ECON8025 Diploma Microeconomic is desirable. Completion and mastery of the material in ECON7001 Introduction to Economic Models is strongly recommended.¹

Learning Outcomes

At the completion of this course, students should be able to:

1. Understand Key Empirical Facts and Issues relating to Macroeconomics;

2. Understand and apply some modelling and quantitative skills;

3. Interpret observational macroeconomic data and study dynamic policy design using well-structured theory;

4. Discuss the usefulness and limitations of existing competing theories; and

¹Students intending to proceed beyond a Graduate Certificate (GC) degree should have previously planned to have completed ECON7001 in their GC year in preparation for the second year of their Master’s degree.
5. Critically read and understand many research articles, newspaper and magazine articles covering current economic events.

Assessment Summary

<table>
<thead>
<tr>
<th>Assessment Task</th>
<th>Value</th>
<th>Due Date</th>
<th>Feedback</th>
<th>Linked Learning Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tutorial Participation</td>
<td>0% to 10%</td>
<td>Weekly from Week 2</td>
<td>In-class</td>
<td>1-5</td>
</tr>
<tr>
<td>Assignments</td>
<td>0% to 40%</td>
<td>More below†</td>
<td>In-class</td>
<td>1-5</td>
</tr>
<tr>
<td>Final Examination</td>
<td>50% to 100%</td>
<td>ANU Exam Period</td>
<td>None</td>
<td>1-5</td>
</tr>
</tbody>
</table>

† Read ASSESSMENT REQUIREMENTS below for more details.
‡ See COURSE PLAN below for more details.

Research-Led Teaching

Some of the skillsets, major questions, insights and case studies learned in this course relate directly to the frontier work your instructor and his colleagues are engaged in. In particular, the instructor’s emphasis on physical presence of students in intellectual discourse, self-disciplined learning, critical and research-like independent thinking is designed to encourage students to become leaders in their own future spheres who are capable of tackling new and challenging issues. Your instructor is an active researcher in the fields of Macroeconomics and Monetary Economics. He sometimes develop new computational methods for solving difficult economic problems, such as dynamic public insurance games in the face of agent heterogeneity, or in models with endogenous market incompleteness in which monetary policy has a non-trivial redistributive role. He publishes regularly in the leading journals of his fields. He is also a regular visitor and contributor to leading policy institutions around the world, such as the U.S. Federal Reserve Bank system, the Reserve Bank of New Zealand, Bank of Japan, and the Hong Kong Monetary Authority. He currently serves as Treasurer and Chief Technology Officer of the not-for-profit Australasian Macroeconomics Society, and, as the convenor of Australia’s leading 4th-year Honours in Economics program.

Feedback

Staff Feedback

- In-class Activities.
  - To maximize your experience and feedback on your progress, please attempt all the tutorial problem sets before attending tutorials.
  - Most of the learning is reinforced through solving problems on your own and being able to discuss it with the class afterwards.

- Lecturer Office Hours.
– For maximal value, you should have read the relevant materials (textbook, lecture slides) and attempted problems, before turning up to office hours with questions. If you have any difficulties, please do not hesitate to come and see us; and do not wait until the end of semester to do so. I am here to assist your learning and also to ensure that your university experience continues to be a fun and rewarding one!

• **Tutorial Preparation, Participation and Feedback.**

  – Answers to these activities and general discussions relating to how you understood the material tested will be provided in class.

• **WATTLE Forum.**

  – Feel free to post short questions related to the course material on WATTLE Forum. The usual internet etiquette applies. The teaching team may answer your questions occasionally. However, please reserve long queries to physical office hours, as we can best help you there.

**Student Feedback**

ANU is committed to the demonstration of educational excellence and regularly seeks feedback from students. One of the key formal ways students have to provide feedback is through Student Experience of Learning Support (SELS) surveys. The feedback given in these surveys is anonymous and provides the Colleges, University Education Committee and Academic Board with opportunities to recognise excellent teaching, and opportunities for improvement.

For more information on student surveys at ANU and reports on the feedback provided on ANU courses, go to

http://unistats.anu.edu.au/surveys/selt/students/ and

http://unistats.anu.edu.au/surveys/selt/results/learning/

**Policies**

ANU has educational policies, procedures and guidelines, which are designed to ensure that staff and students are aware of the University’s academic standards, and implement them. You can find the University’s education policies and an explanatory glossary at: http://policies.anu.edu.au/

Students are expected to have read the Academic Misconduct Rule before the commencement of their course.

Other key policies include:

• Student Assessment (Coursework)

• Student Surveys and Evaluations

**Required Resources**


• Class notes and slides (see link from WATTLE)

There is no need to acquire these books unless you have money to spare. Copies of some of these books are available from the ANU Chifley Library closed reserve system. (Take a walk there. Also, books will have online versions which you can locate via the ANU Library catalog.)

**Scientific Computation**

The modern economics student is expected to possess not just analytical skills but increasingly computational skills, both in academia and in the wider marketplace for economists. You are not expected to have any prior training in such skills, but you are expected to have a flexible and open mind towards learning it as we go.

In this course, we will use the high-level (i.e. user friendly) programming language called Python. These resources are available through the student computer labs and you can also install it for free via the Anaconda distribution: https://www.anaconda.com/download/. Install the version that says Python 3.6.

**Examination material or equipment**

Go here: https://exams.anu.edu.au/timetable/

**ASSESSMENT REQUIREMENTS**

Your overall course mark will be calculated according to this formula:

$$\max \left\{ (0.5 \times FE + 0.1 \times TP + 0.4 \times RA), (0.9 \times FE + 0.1 \times TP), (0.6 \times FE + 0.4 \times RA), FE \right\},$$

where $FE$, $TP$ and $RA$ refer to the Final Examination, Tutorial Participation and Regular Assignments, respectively. These components are graded out of 100%. The nature of these assessments and their requirements are further defined below. The instructor has the discretion in awarding bonus points for assessable work that is of exceptional quality.
Examination

(FE) Final Examination (50% to 100%). Completion of the final examination is necessary for a successful completion of the course. If you do not complete the final examination you will fail the course. Feedback will not be provided on the final examination, by the very definition of a final examination.

Tutorial Participation and Assignments

(TP) Tutorial Participations (0% to 10%). This is an optional and redeemable component, so you may choose to not participate, for whatever reason. Your choice to opt out of this assessment will automatically shift the weight of this component toward the final examination.

Assessment Rubric. Your tutorial participation will be assessed based on:

- (50%) the instructor’s observation of the level your prior preparation (evidenced through the quality of your live work and demonstration in class) and your willingness to contribute to discussions; and,
- (50%) the clarity of your presentation to the class. This includes the use of appropriate mathematical workings, graphical devices, and verbal explanations.

(RA) Regular Assignments (0% to 40%). This is an optional and redeemable component, so you may choose to not submit any work here, for whatever reason. Your choice to opt out of this assessment will automatically shift the weight of this component toward the final examination.

Assessment Rubric. Each assignment will be graded based on:

- (90%) Objective evidence of technical competency and understanding (e.g., in terms of logical thinking, clarity of solutions and code) and overall ability to communicate with the reader and to explain the subject matter and analysis. Equal weight will generally be assigned to both considerations.
- (10%) Proper citations of references and other sources of information used, and where relevant, replicability of human/machine computed results.

Feedback will be provided (in class) on weekly assessments either on the board or via paper handouts. There will be no online handouts here.

Online Submission. Assignments must to be submitted via WATTLE in PDF format or as Jupyter notebooks with replicable content.

If an assessment task is not submitted by the WATTLE-announced due date, a mark of 0 will be awarded. This course does not entertain requests for extension on redeemable assessment items.

Group work, self-discipline and taking ownership of your learning.

- Group work is encouraged to help reinforce your learning of the material: What better way to check if you have mastered the material than to be able to explain your
understanding to a fellow group member? Also, group work helps build your general and economic communication skills, skills that are commonly required in team-based projects in the professional setting.

You may submit a joint assignment. (Maximum group size is SIX.) How much effort you contribute, how much you learn within your group, and how you manage the group collaboration is up to you. The same mark will be awarded to all group members of a joint assignment.

– Joint assignments will be marked under a more demanding expectation of quality in terms of substance and presentation.

– On occasions, the instructor reserves the right to award bonus points for exceptional work that exceeds expectations.

– Please keep a copy of the assignment for your records.

– A signed declaration by all group members is mandatory and must be attached to your submission on WATTLE. This form must be used: https://www.rse.anu.edu.au/media/724472/Assignment-Group-Cover-Sheet.pdf.

If your group is a singleton set, then use this cover sheet: https://www.rse.anu.edu.au/media/720171/Assignment-Cover-Sheet.pdf

**Returning assignments.** Marked assignments will not be returned so please keep a copy of your work. Feedback will be given separately in class and/or in a handout note in class and you are expected to read and think about the feedback and compare that with your own work.

**Referencing requirements.** In all written submissions for assessment, students must pay attention to citing the original source of information used. This includes quotes of other people’s writings, information obtained from the internet, data and software code that is reused from elsewhere, and etc. Failure to do so may attract disciplinary actions for academic dishonesty and/or plagiarism. The more transparent you are with citing your sources, the less likely you are in committing the offence of plagiarism.

References cited should be listed as part of a bibliography at the end of your work. If software code or web resources are used, relevant URL links should also be included.

Your working code should also be included as part of your submission. In this course, you should submit working code along with explanations to evidence your understanding of the work in the form of a Jupyter notebook. We will demonstrate how to create and use a Jupyter notebook early on in the tutorials.

Students may use any accepted bibliographic style. For a professional look and ease of writing using scientific notation, students are encouraged to use \LaTeX (with BibLaTeX referencing). The ANU Library offers classes on how to use these tools, or, you can pick this up online.

**Scaling**

Your final mark for the course will be based on the raw marks allocated for each of your assessment items. However, your final mark may not be the same number as produced by that formula, as marks may be scaled. Any scaling applied will preserve the rank order of raw marks (i.e. if your raw mark exceeds that of another student, then your scaled mark will exceed the scaled mark of that student), and may be either up or down.
Privacy Notice

The ANU has made a number of third party, online, databases available for students to use. Use of each online database is conditional on student end users first agreeing to the database licensors terms of service and/or privacy policy. Students should read these carefully.

In some cases student end users will be required to register an account with the database licensor and submit personal information, including their: first name; last name; ANU email address; and other information.

In cases where student end users are asked to submit content to a database, such as an assignment or short answers, the database licensor may only use the students content in accordance with the terms of service including any (copyright) licence the student grants to the database licensor.

Any personal information or content a student submits may be stored by the licensor, potentially offshore, and will be used to process the database service in accordance with the licensors terms of service and/or privacy policy.

If any student chooses not to agree to the database licensors terms of service or privacy policy, the student will not be able to access and use the database. In these circumstances students should contact their lecturer to enquire about alternative arrangements that are available.

SUPPORT FOR STUDENTS

The University offers a number of support services for students. Information on these is available online from http://students.anu.edu.au/studentlife/
**COURSE PLAN**

**WARNING:** This plan may be subject to refinement during the semester. Keep up with the WATTLE Lecture Log (*).

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<tr>
<th>Week/Session</th>
<th>Summary of Activities</th>
<th>Ongoing Assessments</th>
</tr>
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<tbody>
<tr>
<td>1-2</td>
<td><strong>Data and casual theorizing</strong> (refresher)</td>
<td>Assignment 1 (out W1)</td>
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<td></td>
<td>• Measuring business cycles</td>
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<td></td>
<td>• Understanding observational data using Python/Pandas</td>
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<td>• A common Keynesian policy framework; the MPC</td>
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<td></td>
<td>• Fiscal and Monetary Policy</td>
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<td></td>
<td><strong>Reading Assignment:</strong> Carlin-Soskice, Ch.1-2; Class Notes; Jones (optional)</td>
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<tr>
<td>3-4</td>
<td><strong>A Keynesian paradigm: more structure</strong></td>
<td>Assignment 1 (due W3)</td>
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<td></td>
<td>• A dynamic version of the Keynesian macroeconomic/policy model</td>
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<td>• Putting into action: simulation and counterfactual policies using Python</td>
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<td></td>
<td><strong>Reading Assignment:</strong> Carlin-Soskice, Ch.3 (and appendix); Class Notes; Jones (optional graphical refresher)</td>
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<tr>
<td>5</td>
<td><strong>Beliefs and policy in a Keynesian paradigm</strong></td>
<td>Assignment 2 (due W5)</td>
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<td></td>
<td>• Case Study: 1970's stagflation</td>
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<td></td>
<td>• What if people are not so naïve?</td>
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<td></td>
<td>• Rational Expectations vs. Learning</td>
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<td>• Putting into action: Designing “optimal” policies</td>
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<td>• Case Study: Zero nominal interest and deflation</td>
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<td></td>
<td><strong>Reading Assignment:</strong> Carlin-Soskice, Ch.4</td>
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<tr>
<td>6</td>
<td><strong>Capital, growth dynamics and long run wealth</strong></td>
<td>Tutorial participation</td>
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<tr>
<td></td>
<td>• Measuring and understanding growth facts</td>
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<td>• Neoclassical growth (Solow-Swan model) and the MPC (again)</td>
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<td>• Case Study: Institutions and growth</td>
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<td></td>
<td>• Putting into action: Simulating growth transitional dynamics and long run distributions using Python</td>
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<tr>
<td></td>
<td><strong>Reading Assignment:</strong> Romer, Ch.1</td>
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<tr>
<td>Week/Session</td>
<td>Summary of Activities</td>
<td>Ongoing Assessments</td>
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</tbody>
</table>
| 7            | **A deeper interpretation of the MPC**  
• A Diamond-Samuelson OLG example  
• Endogenizing the MPC in Solow-Swan; Beyond Adam Smith to Incomplete Markets  
• Putting into action: Transition dynamics using Python  
Reading Assignment: Romer Ch.2; Class notes | Tutorial Participation  
Assignment 3 (out W7) |
| 8            | **Fiscal policy, heterogeneity and redistribution**  
• How to overcome market incompleteness?  
• Social security systems from an OLG perspective  
• What is an efficient policy system?  
Reading Assignment: Romer Ch.2; Class Notes; De La Croix and Michel, Ch.3 | Tutorial Participation  
Assignment 3 (due W8) |
| 9            | **Why Money?**  
• An OLG perspective  
• Money as a bubble asset; overcoming market incompleteness  
• Inflation and monetary equilibria  
• Case Study: Rogue states and Hyperinflation  
Reading Assignment: Champ, Freeman and Haslag, Ch.1-2 | Tutorial Participation  
Assignment 4 (out W9) |
| 10           | **Monetary policy and expectations revisited**  
• An OLG perspective  
• The famous Lucas critique and the perils of macroeconometric policy modelling  
• Inflation and monetary equilibria  
• Case Study: Where Art Thou, O Phillips Curve?  
Reading Assignment: Champ, Freeman and Haslag, Ch.3 | Tutorial participation |
| 11           | **Modelling decisions and business cycles**  
• A toy OLG prototype  
• Putting into action: Solving and simulating stochastic and dynamic equilibrium  
Reading Assignment: Class notes | Assignment 4 (due W11)  
Tutorial participation |
| 12           | **Woodshed Sessions**  
• Course review and Looking ahead  
• Problem-solving workshop | Final Examination |