# EMET7001
## Introduction to Economic Models

The course teaches the mathematical foundations of models in economics, business and finance and its applications. Mathematical topics covered include set theory, functions, series, limits, univariate and multivariate calculus, unconstrained and constrained optimisation, matrix algebra. Applications include effective interest rates, present value, annuities, production functions, average and marginal cost functions, profit maximisation.

<table>
<thead>
<tr>
<th><strong>Mode of Delivery</strong></th>
<th>On campus</th>
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<tbody>
<tr>
<td><strong>Prerequisites</strong></td>
<td>-</td>
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<tr>
<td><strong>Incompatible Courses</strong></td>
<td>EMET1001</td>
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<tr>
<td><strong>Co-taught Courses</strong></td>
<td>-</td>
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<tr>
<td><strong>Course Convener:</strong></td>
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<tr>
<td><strong>Office hours for student consultation:</strong></td>
<td>See the Wattle course site. Prior to the semester start: by appointment.</td>
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<tr>
<td><strong>Research Interests</strong></td>
<td>Econometrics</td>
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<tr>
<td><strong>RSE Student Office Contact</strong></td>
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<tr>
<td><strong>RSE Students Webpage</strong></td>
<td><a href="http://www.rse.anu.edu.au/students">www.rse.anu.edu.au/students</a></td>
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<tr>
<td><strong>Tutor</strong></td>
<td>See the Wattle course site</td>
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**SEMESTER 1, 2018**
COURSE OVERVIEW

Learning Outcomes

By the end of the course students will:
• have a sound knowledge of mathematical techniques discussed
• formulate economic problems in mathematical terms and apply the tools provided in the module for analysing them
• demonstrate solid knowledge of many of the common functional forms used in economics and their derivatives
• apply matrix algebra to simple economic problems and models
• make use of some basic principles of financial arithmetic in economic and financial problems

Assessment Summary

The assessment tasks and due dates may be revised. See the Wattle course site for information.

<table>
<thead>
<tr>
<th>Assessment Task</th>
<th>Value</th>
<th>Approximate Due Date</th>
<th>Approximate Date for Return of Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test to probe pre-existing knowledge and skills</td>
<td>2%</td>
<td>Week 1</td>
<td>Week 2</td>
</tr>
<tr>
<td>Homework problems</td>
<td>18%</td>
<td>Weekly</td>
<td>Following week</td>
</tr>
<tr>
<td>Midsemester exam</td>
<td>20%</td>
<td>Exam period</td>
<td></td>
</tr>
<tr>
<td>Final exam</td>
<td>60%</td>
<td>Exam period</td>
<td></td>
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</table>

The test in week 1 is optional. If you do not complete the test, the 2% weighting will be transferred to the final exam.

The mid-semester exam is compulsory. There will be no special examinations for the mid-semester exam. Instead, for students who would normally meet the requirements for a special exam (e.g. medical certificate), the weighting will be moved to the final exam. Students who do not sit the mid-semester exam and do not meet the necessary requirements for a special exam will receive a mark of zero.

Research-Led Teaching

The course incorporates activities that are designed to develop the students’ research skills as well as facilitate understanding about abstract concepts.

Feedback

Staff Feedback

Students will be given frequent, individual feedback in the form of marked homework problems, as well as feedback after the midsemester exam.

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

None

Additional course costs

None

Examination material or equipment

Details will be posted on the Wattle course site in due course.

Recommended Resources

Essential textbook (available on reserve in the library):


The aim is to cover nearly the entire book, starting around chapter 4, about 45 pages per week. Additional or alternative readings from other sources may be assigned later if needed.

Weekly reading assignments will be posted progressively on the Wattle course site.

Students who want to review basic material before the semester start (or later) could begin with chapters 1-3 in the book by Sydsæter et al.

COURSE SCHEDULE

See the Wattle course site. Details will be amended and added continuously during the semester depending on class progress.

ASSESSMENT REQUIREMENTS

The ANU is using Turnitin to enhance student citation and referencing techniques, and to assess assignment submissions as a component of the University’s approach to managing
Academic Integrity. For additional information regarding Turnitin please visit the ANU Online website.

Students may choose not to submit assessment items through Turnitin. In this instance you will be required to submit, alongside the assessment item itself, copies of all references included in the assessment item.

Assessment Tasks

Assessment Task 1: Test of pre-existing knowledge and skills

Details of task: There will be a small test in the first week in order to probe the level of pre-existing knowledge and skills and to identify gaps. The test can either be taken during the lecture on Wednesday 21 February, or completed at home and submitted on Friday 23 February. No preparation is necessary. Full marks are given for attempting this test, whether the answers are correct or not.

Assessment Task 2: Homework problems

Details of task: There will be a weekly homework set with problems covering the current topics. Neatly handwritten solutions are quite acceptable. Solutions must be submitted in hardcopy as explained below. The two problem sets with the lowest marks will be ignored when computing the final mark.

Assessment Task 3: Midsemester exam

Details of task: Closed-book written examination.

Assessment Task 4: Final exam

Details of task: Closed-book written examination.

Examination(s)

As stated above.

Assignment submission

Homework assignments must be submitted in hard-copy in the appropriate box on level one of the H W Arndt building (near the Research School of Economics enquiries desk).

In exceptional circumstances, when approved by the course convenor in advance, homework assignments may be submitted via email.

Assignments must include the cover sheet.

The marked assignments will be returned to you within two weeks - usually the following week. Nevertheless, you may wish to keep a copy.

Extensions and penalties

Extensions and late submission of assessment pieces are covered by the Student Assessment (Coursework) Policy and Procedure.

The Course Convener may grant extensions for assessment pieces that are not examinations or take-home examinations. If you need an extension, you must request it in writing on or before the due date. If you have documented and appropriate medical evidence that demonstrates you were not able to request an extension on or before the due date, you may be able to request it after the due date.
No submission of assessment tasks without an extension after the due date will be permitted. If an assessment task is not submitted by the due date, a mark of 0 will be awarded.

**Returning assignments**

Student work will be returned in class within two weeks.

**Resubmission of assignments**

N/A

**Referencing requirements**

N/A

**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.

If necessary, the raw marks for the midsemester exam may themselves be scaled (using an order-preserving transformation) prior to their release in order to avoid unduly unbalancing the overall final distribution of marks.

**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 licensor’s 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 student’s ‘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 licensor’s 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/](http://students.anu.edu.au/studentlife/)

**OTHER INFORMATION**

Building Access Hours
Both CBE and HW ARNDT are:

**TEACHING PERIOD** = Mon-Fri 07.45 to 21.15 and SAT, SUN and Public Holidays is not accessible by students.

Both CBE and HW ARNDT are:

**NON TEACHING PERIOD** = Mon-Fri 08.00 to 18.00 and SAT, SUN and Public Holidays is not accessible by students.

RSE has a Frequently Asked Questions page where you can find relevant policies and information on a broad range of topics

[https://www.rse.anu.edu.au/students/frequently-asked-questions/](https://www.rse.anu.edu.au/students/frequently-asked-questions/)