ECON 8080 (ECON 4480, ECON 3180)
Advanced Behavioural Economics

This course aims to expose students to modern advanced theories of behavioral economics, particularly with regard to strategic interaction (that is, in “games”) and with social and public policy (behavioral welfare economics). Theoretical models will be motivated and illustrated by economic applications, with an emphasis on implications for public policy design and implementation.

<table>
<thead>
<tr>
<th>Mode of Delivery</th>
<th>On campus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prerequisites</td>
<td>None</td>
</tr>
<tr>
<td>Incompatible Courses</td>
<td>Only one of ECON8080, ECON4480, and ECON3180 can be taken.</td>
</tr>
<tr>
<td>Course Convenor:</td>
<td>Dr Damien Eldridge</td>
</tr>
<tr>
<td>Phone:</td>
<td>6125 1178</td>
</tr>
<tr>
<td>Email:</td>
<td><a href="mailto:Damien.Eldridge@anu.edu.au">Damien.Eldridge@anu.edu.au</a></td>
</tr>
<tr>
<td>Office hours for student consultation:</td>
<td>Wednesday and Friday: 1:00 pm to 3:00 pm (Arndt Building Room 2029).</td>
</tr>
<tr>
<td>Research Interests</td>
<td>Microeconomics, Mathematical Economics, Industrial Economics, Public Economics.</td>
</tr>
<tr>
<td>Relevant administrator</td>
<td>Karissa Carkeet</td>
</tr>
<tr>
<td>Phone:</td>
<td>6125 0384</td>
</tr>
<tr>
<td>Email:</td>
<td><a href="mailto:Enquiries.rse@anu.edu">Enquiries.rse@anu.edu</a></td>
</tr>
</tbody>
</table>

SEMESTER TWO
2016

http://programsandcourses.anu.edu.au/course/ECON8080
COURSE OVERVIEW

Course Description

This course aims to expose students to modern advanced theories of behavioral economics, particularly with regard to strategic interaction (that is, in “games”) and with social and public policy (behavioral welfare economics). Theoretical models will be motivated and illustrated by economic applications, with an emphasis on implications for public policy design and implementation.

Learning Outcomes

On satisfying the requirements for this course, students will:

1. Understand how behavioural economists approach economic questions, especially those involving strategic interaction;

2. Understand the advantages and limitations of behavioural approaches to the economic analysis of situations involving strategic interaction;

3. Understand some aspects of game theory; and

4. Be able to solve some game theoretic problems.

Assessment Summary

<table>
<thead>
<tr>
<th>Assessment Task</th>
<th>Value</th>
<th>Due Date</th>
<th>Date for Return of Assessment</th>
<th>Linked Learning Outcomes (optional)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Mid-Semester Exam.</td>
<td>0 % or 40 %</td>
<td>TBA.</td>
<td>Tutorial Class in Week 9.</td>
<td>All learning outcomes.</td>
</tr>
<tr>
<td>2. Final Exam</td>
<td>100 % or 60 %</td>
<td>TBA.</td>
<td>Viewable upon request sometime after the official grades for the unit have been released.</td>
<td>All learning outcomes.</td>
</tr>
</tbody>
</table>
Feedback

Staff Feedback

Students will have the opportunity to obtain verbal feedback during classes and consultation times.

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 Student Academic Integrity Policy before the commencement of their course.

Other key policies include:
- Student Assessment (Coursework)
- Student Surveys and Evaluations

Recommended Resources

If the ANU library system has one or more copies of the following books, then at least one copy will made available as a two-hour loan through short-loan at the Chifley Library at ANU.

Core References

- Camerer, CF (2003), Behavioral game theory: Experiments in strategic interaction, Princeton University Press, USA.
**Supplementary References**

- A detailed reading list is provided at the end of this course outline.

**COURSE SCHEDULE**

<table>
<thead>
<tr>
<th>Week</th>
<th>Tentative Summary of Activities and Reading Guide</th>
</tr>
</thead>
</table>
| 1    | • An introduction to behavioural economics.  
|      |   - Behavioural decision theory. (A brief review of ECON2013).  
|      |   - Behavioural game theory. (The main focus of this course.)  
|      |   - Behavioural welfare economics.  
|      |   - Applications of behavioural economics. |
| 2, 3, and 4 | • A brief introduction to non-cooperative game theory. |
| 5, 6, and 7 | • Bounded rationality in games.  
|      |   - Cognitive hierarchy models.  
|      |   - Level-k reasoning.  
|      |   - Quantal response models.  
|      |   - Implications for equilibrium concepts.  
|      |   - Economic applications. |
| 8 (Part) | • Mid-Semester Exam.  
|      |   - Covers lecture material from weeks 1 to 6.  
|      |   - Covers tutorial material from weeks 2 to 7. |
| 8 (Part), 9, 10, and 11 | • Learning in games.  
|      |   - Rational (Bayesian) learning in games.  
|      |   - Reinforcement learning in games.  
|      |   - Imitation learning in games.  
|      |   - Experience-weighted-attraction (EWA) learning in games.  
|      |   - Functional-EWA learning in games.  
|      |   - Sophistication, learning, and strategic teaching.  
|      |   - Learning in repeated games.  
|      |   - Implications for equilibrium concepts.  
|      |   - Economic applications. |
| 12 and 13 | • Sociality in games.  
|      |   - Altruism.  
|      |   - Negative reciprocity.  
|      |   - Impure altruism and social image.  
|      |   - Economic applications. |
ASSESSMENT REQUIREMENTS

Assessment Tasks

Assessment Task 1: Mid-Semester Exam.

Details of task:
A two hour exam (including any reading time) will be held at a time to be determined in week eight. This exam will replace two of the lecture hours for that week. (Precise details of which lecture hours will be announced later.) The exam might potentially include material from the lectures in weeks one to six, and the tutorials in weeks two to seven. The mid-semester exam mark is redeemable, in the sense that it will only count towards your final grade if it exceeds your mark on the final exam. Note that sitting the mid-semester exam is optional. Since the mid-semester exam mark is redemptive, no deferred assessment for it will be allowed under any circumstances.

Value: 40 % or 0 % (Redeemable).
Date: Sometime in week eight. (To be determined.)

Assessment Task 2: Final Exam.

Details of task:
A three hour final exam (with an additional fifteen minutes of reading time) will be held during the official final exam period. The precise time and location will be set by the university administration later this semester. The exam will be comprehensive, in the sense that it might potentially include material from any part of the unit.

Value: 60 % or 100 %.
Date: During the official final exam period. (To be determined.)

Raw Unit Mark

Your raw final percentage mark for this unit will be determined according to the following formula:

- Raw Mark = \( \max(A, B) \), where:
  - A = Final exam percentage mark, and
  - B = (0.4) (Mid-Semester Exam Percentage Mark) + (0.6) (Final exam percentage mark).
**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 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/)
READING GUIDE

Topic 1: A brief introduction to behavioural economics

- Angner, E (2012), A course in behavioral economics, Palgrave Macmillan, China: Chapters 1 and 12 (pp. 3-8 and 207-211).


- Caplin, A, and A Schotter (Editors) (2008), The foundations of positive and normative economics: A handbook, Oxford University Press, USA:
  - Chapter 1: The case for mindless economics (by F Gul and W Pesendorfer);
  - Chapter 2: The case for mindful economics (by C Camerer);
  - Chapter 6: Mindless or mindful economics: A methodological evaluation (by D Hausman);
  - Chapter 10: Look-ups at the windows of the strategic soul (by VP Crawford); and
  - Chapter 11: Revealed preference and bounded rationality (by D Gale).


- Friedman, M (1953), “The methodology of positive economics”, pp. 3-43 in Friedman, M (1953), Essays in positive economics, The University of Chicago Press, USA.
• Kreps, DM (1990), *Game theory and economic modeling*, The Clarendon Lectures in Economics, Oxford University Press, Great Britain: Chapter 2 (pp. 5-7).


**Topic 2: A brief introduction to non-cooperative game theory**

• Angner, E (2012), *A course in behavioral economics*, Palgrave Macmillan, China: Chapter 10 (pp. 175-191).

• Fudenberg, D, and J Tirole (1995), *Game theory*, The Massachusetts Institute of Technology Press, USA.


• Osborne, M, and A Rubinstein (1994), *A course in game theory*, The Massachusetts Institute of Technology Press, USA.

**Topic 3: Bounded rationality in games**


**Topic 4: Learning in games**


• Fudenberg, D, and DK Levine (1998), *The theory of learning in games*, The Massachusetts Institute of Technology Press, USA.


**Topic 5: Sociality in games**


