

**The Australian National University
College of Business and Economics
School of Economics**

Economics I (H) - ECON 1100

Course Outline (Syllabus)

Introduction: This class covers some of the most basic concepts of game theory with some mathematical rigor. It is designed as a first undergraduate course in its area. Students are expected to have some “mathematical maturity”, as the concepts will be explained via abstract mathematical models and examples. The best way to learn this material is by doing lots of exercises after the theory is presented. We will also cover introductory probability theory as this is an essential tool to learn game theory. The course is designed for top performing students who want to extend their exposure to economics beyond that offered in the standard first year courses in microeconomics and macroeconomics. It is expected that students read and study a lot of material between classes (much more than non honours courses). This outline presents administrative information about this class.

Lecturer: Dr. Jose R. Neto. **Office:** HW Arndt Building room 1024.

E-mail: jose.neto (plus the official anu.edu.au extension after the traditional @ symbol) – I will answer all e-mails. If you do not get an answer in 4 days, then I never received your e-mail. In this case, please, try to contact me again.

Office hours: Wednesday, from 3:05 pm to 4:15 pm.

School Administrator: Mrs. Maria Tatarow ([maria.tatarow](mailto:maria.tatarow@anu.edu.au) plus the official anu.edu.au extension after the @ symbol). **Office:** HW Arndt Building room 1014. **Phone:** 6125 3590 (ext. 53590)

Lectures: Wednesday, from 2:00 p.m. to 3:00 pm. – HW Arndt Theatre 1. Building 25A on the campus map. <http://campusmap.anu.edu.au/displaymap.asp?grid=gh32>

Course Homepage: <http://webct.anu.edu.au>

You need to type your student ID and PAC numbers. Then, go to the link of ECON 1100.

Grades: There will be only a final exam. The final grade for this class will be calculated as follows: + 80% of your final exam + 20% of your homework.

Problem Sets: There will be several problem sets posted on the course’s web page. Problems may be original or I may refer to an exercise in the textbook. All homework should be handed in at the beginning (first 2 minutes) of our class in the due date. Late homework will not be accepted regardless of the reason (please, do not ask). If you

cannot come to class, please, arrange for someone to bring it for you. Homework will not be corrected. Your homework grade is based on your effort, organization and punctuality. Homework will not be returned, so it is your responsibility to make a copy of it before handing in. Please, make a cover page with your name, ANU number, and the number of the problem set. I will only accept well-organized and stapled homework.

Tentative Course Outline (focus on the word “tentative”):

Day	Topic(s)
22/7	Introduction to probabilities 1
29/7	Introduction to probabilities 2
05/8	Introduction to probabilities 3
12/8	Preferences
19/8	Expected utility theory
26/8	Introduction to games
02/9	Best responses and domination
09/9	Nash equilibrium 1
16/9	Nash equilibrium 2
23/9	Extensive form games: Subgame perfection
Break	No class
14/10	Perfect Competition and Monopoly
21/10	Oligopoly: Cournot, Bertrand and Stackelberg Models
28/10	Minmax strategies, Repeated games, Review for the final exam

Main Textbook (required text; Make sure you have your copy of this book BEFORE the semester starts!):

- Martin J. Osborne, “*An Introduction to Game Theory*”, Oxford University Press, USA (August 1, 2003). ISBN-10: 0195128958.

Important References (optional, but strongly recommended):

- Dixit, A. and Skeath, S., “*Games of Strategy*”, Second Edition, W.W. Norton (1999). ISBN-10: 0393924998.

- Sheldon Ross, *A First Course in Probability*, Seventh Edition (2005), Prentice Hall, Upper Saddle River, New Jersey 07458, USA. ISBN-10: 0131856626.

Other References (optional):

- Dutta, Prajit K., *Strategies and Games Theory and Practice*, The MIT Press (1999). This book is an intermediary text in Game Theory and can help students that want to go a bit deeper into games of strategy. Recommended for students that think our class is too easy and want a more challenging approach.
- Binmore, Ken, *Playing for Real: A Text on Game Theory*, Oxford University Press, USA (March 2, 2007). It is strongly recommended for students wishing to go further in game theory.
- Kreps, David M., *Microeconomics for Managers*, W. W. Norton & Company – New York – London (2004). This book covers more than game theory and is recommended for students that want to study commerce, finance and business.
- Tirole, Jean (1988), *The Theory of Industrial Organization*, MIT Press. This book covers more advanced material and focus in Industrial Organization (IO). Actually, it is THE classic reference in IO.
- Salanie, Bernard (2000), *The Microeconomics of Market Failures*, MIT Press. This book covers more advanced material and does not focus exclusively in game theory.
- Varian, Hal R. (1992), *Microeconomic Analysis*, 3rd edition, Norton. This book is a classic. It covers much more advanced material and does not focus in game theory. I use this book in the graduate level course on microeconomics.

A few places where you can buy the books online (there are other online retailers – google your preferred one):

- <http://www.coop-bookshop.com.au/bookshop>
- <http://www.footprint.com.au/>
- <http://www.johnwiley.com.au/highered/engine.jsp>
- <http://www.amazon.com>
- <http://www.barnesandnoble.com/>

IMPORTANT POLICIES AND EXPECTATIONS

I will never answer e-mail questions which are related to exam content or with which material will/will not be in the final exam. For the sake of transparency and fairness, this kind of question MUST be made and answered only during our lectures.

The final exam may include problems related to any part of the material previously covered. This includes all material covered or discussed in lectures, plus the corresponding chapters of the textbook (regardless of how brief the discussion was), additional notes, or texts available on the webCT, and also all material (even if not

explicitly covered in any previous item) which can be deduce from the material we covered.

Students in this course are expected to be mature both in scientific terms and in personal/professional matters. They are expected to take all necessary steps to maximize the value of the education opportunity they are receiving. This includes practicing as much as necessary to master all techniques, finding the adequate times and places to study regularly, obtaining all books and academic material from ANU libraries, internet, webCT or elsewhere on their own, and adjusting quickly to the intense rhythm of studies. In sum, they are expected to act as students in the TOP University of Australia, as the leading professionals of the future.

Students who completed ANU Honours in Economics in the past have obtained placement in some of the leading PhD programs around the world.

Best of luck,

Jose

July/2009

ANU College of Business & Economics – General Information for Enrolled Students

The following College offices provide assistance with program and course selection, enrolment, change of program, variation to enrolment, status and other general matters.

College Office

The College Office is located on the 1st floor of the Copland Building (room 1120), contact details are: phone (61) 02 6125 3807; Email info.cbe@anu.edu.au or via the web: <http://www.cbe.anu.edu.au/>.

Students enrolled in the Master of Business Administration, the Master of Management and the Graduate Certificate in Management should visit the Student Office located in the Sir Roland Wilson Building (No.120) room 2.07. Contact details are: phone (61) 02 6125 9830; Email:

ngsm@anu.edu.au

Main Administrative Dates 2009

The main administrative dates regarding teaching sessions, course census dates, examination period, graduation and enrolment variations (ie add and drop courses) are available from the ANU SEAP Guide 2009 - http://www.anu.edu.au/sas/SEAP_guide/

Associate Dean (Education)

Associate Professor Alex Clarke is the Deputy Dean/Associate Dean (Education) in the ANU College of Business & Economics.

ANU Student Support

Academic Skills and Learning Centre

The Academic Skills and Learning Centre, in the Pauline Griffin Building, offers services to students regarding a range of academic issues including essay writing, note-taking, referencing, reading, examination preparation, and plagiarism. More information about the services and on-line materials can be found on their website: <http://www.anu.edu.au/academicskills/>.

ANU College - <http://www.anucollege.com.au/>

ANU College offers the following introductory and extended programs:

- maths bridging courses; and
- English language support for students from non-English-speaking backgrounds.

Information Literacy Program - <http://ilp.anu.edu.au/index.html>

Workshops are available to undergraduate and graduate students to develop skills in handling information and communication technologies.

ANU College of Business & Economics - Information for Enrolled Students - Policies, Procedures and Rules

Primary Reference - ANU SEAP Guide 2009 http://www.anu.edu.au/sas/SEAP_guide/

The Student Enrolment and Administrative Procedures Guide (SEAP) supplements the ANU Undergraduate Handbook information available on Study@ANU (<http://info.anu.edu.au/studyat/>), the ANU Rules (<http://www.anu.edu.au/cabs/rules/>), and the Graduate Research website (<http://www.anu.edu.au/graduate/>).

Information for Enrolled Students http://cbe.anu.edu.au/Current_Students/general_info/

Students are expected to be familiar with the ANU College of Business & Economics and universitywide policies and procedures in regard to:

- Code of Practice for Student Academic Honesty
- Assessment Arrangements for Students from Language Backgrounds Other Than English

- Academic Progress Rules and Procedures
- Special examinations/consideration

- Supplementary examinations
- Review of assessment procedures

Special Examinations

NOTE: You must contact the College Office for guidance on the procedure for special examinations. Do not approach your lecturer for this information.

Students who are unable to attend an examination for reasons outlined in the policies above, may apply to sit a special examination by lodging an application with the College Student Administration Office no later than 72 hours after the scheduled examination. It is important to emphasise that

travel arrangements are not normally an acceptable grounds for special examinations (Section 2, College 'Special Examination Policy':

<http://ecocomm.anu.edu.au/student/policy/specexam.asp>).

Please note: Section 7.7 of the 'Student Enrolment and Procedures Guide 2009' states:

Students must make themselves available for the duration of the examination period in order to attend any special examination that may be required.

If you know in advance of circumstances whereby you will be unable to sit the examination, you should lodge an application for consideration as soon as possible.

The dates on which Special Examinations will be held will be published on the School website when the final timetable is published.

Applications for special examinations must be correctly completed with all original supporting documentation attached. Where an application is made on the grounds of sickness, Section B of the application must be completed by a medical practitioner and a detailed medical certificate stating the effect on your capacity to sit the examination is required.

Please Note: The medical certificate must carry the stamp from the medical practice, and will not always be sufficient evidence.

Special examinations are not automatically granted. Once approved, successful candidates are required to contact the relevant School General Office to obtain details of the special exam. If you do not sit the examination, or your application for a special examination is declined, then you will fail the course as incomplete.

It is not grounds for a further special examination if students are not contactable and miss the scheduled examination date.

Special Consideration

If illness or other disruptive events have affected your preparation for, or performance during an examination, you can bring this to the attention of the examiners by making a request for special consideration using the Application for Special Consideration form.

Requests for special consideration must be lodged with the relevant School General Office before the scheduled date of the examination. However, if it relates to a problem that arose during the examination, it should be submitted immediately after the examination (see the invigilator).

Requests for special consideration must be accompanied by documentation of the illness and/or a letter setting out the reasons for the difficulties in studying for or sitting an examination. The examiners will take this into account in awarding the final grade.

Special Arrangements

If you have a disability or disorder (permanent or temporary) which makes undertaking a formal sitdown

examination difficult, then you are responsible for requesting special arrangements to be made for your examination. In the past these arrangements have included the use of special equipment, additional time, writing breaks, a scribe (someone to write for you), etc.

Please contact the Examination Office early in the semester and at least 10 days prior to the examination period.

Failure to make appropriate arrangements for an examination may result in a subsequent application for a special examination/consideration being declined.

Disabilities

If you have any queries about special arrangements with respect to disabilities, please refer to the Disabilities Officer. The ANU Disability Services Centre's website is

<http://www.anu.edu.au/disabilities/>.

Supplementary Examinations

Under University policy Examinations Rules 2007,

<http://www.anu.edu.au/cabs/rules/ExamsRules.pdf> you may be provided with a supplementary exam.

If you have qualified for a supplementary examination, your grade will be recorded as a PX on your Notification of Results. You must notify the School Office, in writing (email is satisfactory), within 7 days of the official publication date of examination results to indicate your acceptance or otherwise to sit the supplementary examination.

If you pass the supplementary examination you will receive the grade of PS (pass supplemental) and

a mark of 50. If you are unsuccessful, or you decide not to sit the supplementary examination, your grade will be recorded as N (fail) and your original mark will stand.

Supplementary examinations will be held early in the next semester on dates to be advised. For information regarding the timing and venues for Supplementary examinations please refer to the school websites in week 2 of the current semester:

ABIS: <http://www.cbe.anu.edu.au/schools/abis/>

ECONOMICS: <http://www.cbe.anu.edu.au/schools/eco/>

FAS: <http://www.cbe.anu.edu.au/schools/fas/>

MMIB: <http://www.cbe.anu.edu.au/schools/mmib/>

Travel plans should be made accordingly as failure to do so is not an acceptable reason to miss a supplementary examination.

Results and Examinations

ANU Grading Codes - in accordance with the University Assessment Grades/Codes, the CBE applies the following scale when awarding grades:

Final Pass Grades

HD - High Distinction 80 –100

D – Distinction 70 – 79

CR – Credit 60 - 69

P – Pass 50 – 59

PS – Pass at supplementary examination 50

Final Fail Grades

N – Fail 00 – 49

NCN – Not Completed/Fail

WN – Withdrawn with failure

Interim Codes (used when a result for a course has not yet been finalised)

DA – Deferred assessment

PX – Awarded supplementary assessment

RP – Result pending

WA – Withheld for administrative reasons

Scaling

Scaling can increase or decrease a mark but does not change the order of marks relative to the other students in the course.

If it is decided that scaling is appropriate, then the final mark awarded in a course may differ from the aggregation of the raw marks of each assessment component.

Results Notification

To access results students should check their ISIS accounts on the advertised date for release of examination results. After publication students enquiring about results must provide an ANU student card as proof of identification. For privacy reasons students should not make enquiries regarding the results of other students.

Examination Timetable – Final Examination Period

Details of the final examination timetable are available on the ANU Timetabling website (<http://timetable.anu.edu.au/default.asp>). The onus is upon students to acquire their own scheduling details.

Examination Timetable – Mid-Semester Examinations

When a mid-semester exam is scheduled, timetable information will be posted by the relevant School.

Misconduct

In relation to an examination, misconduct on the part of a student includes:

- cheating;
- plagiarism (including the reproducing in, or submitting for assessment for, any examination, by way of copying, paraphrasing or summarising, without acknowledgement and with the intention to deceive, any work of another person as the student's own work, with or without the knowledge or consent of that other person);
- submitting for an examination any work previously submitted for examination (except with the approval of the prescribed authority);
- failing to comply with the University's instructions to students at, or in relation to, an examination;

- acting, or assisting another person to act dishonestly, in or in connection with an examination;
- taking a prohibited document into an examination venue.

The administrative procedures regarding misconduct are incorporated in the ANU Discipline Rules – detailed here <http://www.anu.edu.au/cabs/rules/DisciplineRules.pdf>

Plagiarism

The College regards plagiarism as any appropriation of the ideas or expressions of another without relevant and appropriate acknowledgment. This includes un-attributed appropriation of text or content and may extend to improper referencing. Plagiarism will not be tolerated in any course and all discovered instances would be pursued to the full extent allowable under the rules.

Where students have doubts as to how to deal with or acknowledge source materials in course assignments they should consult the lecturer or tutor.

The penalties and administrative procedures regarding plagiarism are incorporated in the ANU Policy on Academic Honesty – see here for details

http://info.anu.edu.au/Policies/_DVC/Policies/Code_Practice_Student_Academic_Honesty.asp?tab=1).

On-line material discussing plagiarism and referencing styles is available from the Academic Skills and Learning Centre Web page (<http://www.anu.edu.au/academicskills/>).