UNSW Course Outline

ECON5111 Economics of Strategy - 2024

Published on the 13 May 2024

General Course Information

Course Code : ECON5111
Year : 2024
Term : Term 2
Teaching Period : T2
Is a multi-term course? : No
Faculty : UNSW Business School
Academic Unit : School of Economics
Delivery Mode : Multimodal
Delivery Format : Standard
Delivery Location : Kensington
Campus : Sydney
Study Level : Postgraduate
Units of Credit : 6

Useful Links

Handbook Class Timetable

Course Details & Outcomes

Course Description

This course covers the fundamentals of Game Theory and its applications. Game Theory is a revolutionary way of analysing strategic interactive situations. It is basic to the understanding of market competition among large firms, the designing of incentive contracts, bidding at auctions,

bargaining, and other similar problems central to economics and business. This course covers simultaneous and sequential games and their solution concepts, games of imperfect information, repeated games, and a selection of applications and case studies.

Course Aims

The course aims to train students' strategic thinking and to provide them with basic tools and concepts to analyse strategic situations and behaviour. ECON5111 is one of the core elective courses in the Strategy and Innovation specialisation offered in the MCom (coursework) program. It may also be chosen as an elective in the Master of Applied Economics (MAppEc) and other MCom specialisations.

Course Learning Outcomes

Course Learning Outcomes	Program learning outcomes
CLO1 : Use game theoretical tools and solution concepts correctly, and explain competently your use of these tools.	• PLO1 : Business Knowledge
CLO2 : Apply game theoretic tools to real-world strategic situations, analyse incentives faced by players, and derive conclusions about behaviour.	• PLO2 : Problem Solving • PLO4 : Teamwork • PLO6 : Global and Cultural Competence
CLO3 : Explain insights into real-world phenomena derived from game theory to a non-technical audience.	• PLO1 : Business Knowledge • PLO2 : Problem Solving • PLO3 : Business Communication

Course Learning Outcomes	Assessment Item
CLO1 : Use game theoretical tools and solution concepts correctly, and explain competently your use of these tools.	• Blog post • Three Problem sets • Final exam
CLO2 : Apply game theoretic tools to real-world strategic situations, analyse incentives faced by players, and derive conclusions about behaviour.	• Blog post • Three Problem sets • Final exam
CLO3 : Explain insights into real-world phenomena derived from game theory to a non-technical audience.	• Blog post • Final exam

Learning and Teaching Technologies

Moodle - Learning Management System | Zoom | Echo 360

Learning and Teaching in this course

Use of your Webcam and Digital Devices: If you enrol in an online class, or the online stream of a hybrid class, teaching and associated activities will be conducted using Teams, Zoom, or similar a technology. Using a webcam is optional, but highly encouraged, as this will facilitate interaction with your peers and instructors. If you are worried about your personal space being observed during a class, we encourage you to blur your background or make use of a virtual background.

Please contact the Lecturer-in-Charge if you have any questions or concerns.

Some courses may involve undertaking online exams for which your own computer or digital devices will be required. Monitoring of online examinations will be conducted directly by University staff and is bound by the University's privacy and security requirements. Any data collected will be handled accordance with UNSW policies and standards for data governance. For more information on how the University manages personal information please refer to the UNSW Student Privacy Statement and the UNSW Privacy Policy.

Learning Activities and Teaching Strategies

Online Lecture

The main mode of content delivery will be through Online lectures. These will be delivered in a mix of synchronous and asynchronous modes.

- You should watch the content videos for the week **by or during the Monday lecture slot (hereafter called Session A)**. The lecturer will be available on Zoom during Session A for a live Q&A Session to answer any questions about the content videos. Attendance at the first lecture is recommended but optional. You should also participate in the scheduled experiments for the week by the end of Session A.
- The Wednesday lecture slot (hereafter called Session B) will feature applications, discussion of the results of the experiments, as well as time for more student-driven Q&A. You should have completed all content videos and experiments by Session B, and ideally asked any significant questions about content during Session A. Attendance at the second lecture is highly recommended, and there may be opportunities for earning bonus marks for those "present" in Session B.

Seminar Sessions

Seminar sessions with the tutor will be held weekly and trail lectures by one week. In these, we will review unmarked problems and problem sets, and you will have a chance to ask questions you may have about the lectures or other course content.

"Classroom" experiments

Each week, you will participate in digital experiments with your classmates and will experience many different strategic situations first-hand. This trains your empathy, strategic thinking, and social interaction skills. Links to the experiments will be provided on Moodle.

In dedicated lectures, descriptions of the situations (experimental instructions) and a number of questions on each experiment will be discussed. The questions guide you in the analysis of the situations and data. Analysing the situations and your own decisions with formal and informal tools lets you practice logical thinking, sharpens your economic intuition, and improves your knowledge about social and economic behaviour of real people.

Additional Course Information

Assessments

Assessment Structure

Assessment Item	Weight	Relevant Dates	Program learning outcomes
Blog post Assessment Format: Individual	5%	Start Date: Not Applicable Due Date: Not Applicable	• PLO1 : Business Knowledge • PLO2 : Problem Solving • PLO3 : Business Communication • PLO6 : Global and Cultural Competence
Three Problem sets Assessment Format: Individual	45%	Start Date: Not Applicable Due Date: Week 3: 10 June - 16 June, Week 7: 08 July - 14 July, Week 9: 22 July - 28 July	• PLO1 : Business Knowledge • PLO2 : Problem Solving • PLO6 : Global and Cultural Competence
Final exam Assessment Format: Individual	50%	Start Date: Not Applicable Due Date: Not Applicable	• PLO1 : Business Knowledge • PLO2 : Problem Solving • PLO3 : Business Communication • PLO6 : Global and Cultural Competence

Assessment Details

Blog post

Assessment Overview

Students are expected to post a blog on the course Moodle page at some point during the term. The blog post is to describe an application of course material to a real-world business problem (current or past).

Precise guidelines will be available on the course website.

Course Learning Outcomes

- CLO1 : Use game theoretical tools and solution concepts correctly, and explain competently your use of these tools.
- CLO2 : Apply game theoretic tools to real-world strategic situations, analyse incentives faced by players, and derive conclusions about behaviour.
- CLO3 : Explain insights into real-world phenomena derived from game theory to a non-technical audience.

Detailed Assessment Description

Students are expected to post a blog on the course Moodle page at some point during the term. The blog post is to describe an application of course material to a real-world business problem (current or past).

Precise guidelines will be available on the course website.

What to do:

In your blog entries, you are to identify a real-world situation in which the payoff of any given decision-maker depends on what the other decision-makers do.

This real-world situation can be something that has actually happened or is happening (e.g. a financial bubble, a price war that was covered in the news, etc.) or can be a hypothetical situation. If you write about a hypothetical situation, make sure it is realistic and interesting - ideally your topic will be about something we regularly observe in the real world but don't fully understand, and your game theoretic analysis sheds some light on the phenomenon.

You should then try to model the situation as a game, identifying the features that comprise your game (e.g. the players, the actions available to each player and the payoffs realized by all players for any combination of actions taken). Recall that the payoffs don't need to be "true", they only need to make sense relative to each other and be consistent with the story you're telling.

How you'll be marked:

The blog entry is worth 5 points. You will be marked on three main criteria: 1) correct use of game theoretic analysis, 2) creativity and 3) exposition.

Regarding criteria 2, you will be rewarded for challenging yourself by choosing a non-trivial strategic situation to analyse, or for looking for a particularly interesting historical case study.

Some topics covered in the course are easier to find real-world applications for than others. For instance, examples of prisoners' dilemmas abound, whereas applications of signalling games like those covered later in the course may be more challenging to find. This will be taken into account when your posts are evaluated on criteria 2: if you choose a challenging topic to cover, it is fine if the real-world story you apply it to is less "creative", and if you choose a topic for which applications are easier to find, you will be rewarded for finding a unique case study to apply it to.

Regarding criteria 3, you will be rewarded for clear and concise explanation of your analysis. Imagine you're writing for an audience of people who are unfamiliar with game theoretical jargon, so if you use a term like "reaction function", make sure to also give an intuitive, simple explanation of what the term means.

Due date and length penalties:

There are two possible due dates for the case study. Which applies to you depends on the topic you choose to write about. If you are writing about a simultaneous move game (of complete or incomplete info), your due date is the Friday of Week 6 at 4pm. If you are writing about a sequential move game (of complete or incomplete info), your due date is the Friday of Week 10 at 4pm. Late submissions receive a mark of 0.

Submissions should be 500-550 words long. You can write up to 600 words before incurring a length penalty. After that, the following penalties apply to the raw mark of your blog post:

601-700 words: 1 mark

701-800 words: 2 marks

801+ words: 4 marks

Assessment Length

500-550 words, no more than 600.

Submission notes

N/A

Assignment submission Turnitin type

This assignment is submitted through Turnitin and students do not see Turnitin similarity reports.

Three Problem sets

Assessment Overview

Each Problem Set (15% for each) will be in the form of a Moodle quiz.

Course Learning Outcomes

- CLO1 : Use game theoretical tools and solution concepts correctly, and explain competently your use of these tools.
- CLO2 : Apply game theoretic tools to real-world strategic situations, analyse incentives faced by players, and derive conclusions about behaviour.

Detailed Assessment Description

Each Problem Set (15% for each) will be in the form of a Moodle quiz.

Three problem sets will be submitted via Moodle, each worth 15%. Late submissions will not be accepted.

Submission notes

PS1 due Friday 4 pm in Week 3; PS2 due Friday 4 pm in Week 7; PS3 due Friday 4 pm in Week 9.

Assignment submission Turnitin type

Not Applicable

Final exam

Assessment Overview

The final exam will be scheduled during the University exam period. The final exam will be cumulative, covering material from the entire course.

Course Learning Outcomes

- CLO1 : Use game theoretical tools and solution concepts correctly, and explain competently your use of these tools.
- CLO2 : Apply game theoretic tools to real-world strategic situations, analyse incentives faced by players, and derive conclusions about behaviour.
- CLO3 : Explain insights into real-world phenomena derived from game theory to a non-technical audience.

Detailed Assessment Description

The final exam will be 2 hours long and scheduled during the University exam period. The final exam will be cumulative, covering material from the entire course.

The final exam will be in a similar format to the Problem Sets. It will be in the format of a Moodle

quiz, with a mix of multiple choice, calculated answer, and short essay questions.

Submission notes

N/A

Assignment submission Turnitin type

Not Applicable

General Assessment Information

Grading Basis

Standard

Requirements to pass course

In order to pass this course students must:

• Achieve a composite mark of at least 50 out of 100

• Engage actively in course learning activities and attempt all assessment requirements

• Meet any additional requirements specified in the assessment details

Course Schedule

Teaching Week/Module	Activity Type	Content
Week 1 : 27 May - 2 June	Lecture	Introduction to game theory, dominant strategies. Participate in "Apple Seller Game" experiment by 29 May 4pm.
	Seminar	Review practice problems from week 1.
Week 2 : 3 June - 9 June	Lecture	Simultaneous-move games and Nash equilibrium Participate in "Compensation Game" experiment by 5 Jun 4pm.
	Seminar	Review practice problems from week 2.
Week 3 : 10 June - 16 June	Lecture	Nash equilibrium applications: coordination and competition Participate in "0-100 Game" and "Minimum Effort Game" experiments by 12 Jun 4pm.
	Seminar	Review practice problems from week 3.
Week 4 : 17 June - 23 June	Lecture	Auctions Participate in "First Price Auction Game" and "Second price Auction Game" experiments by 19 June, 4pm.
	Seminar	Review PS1.
Week 5 : 24 June - 30 June	Lecture	Auctions continued, Introduction to Sequential games Participate in "common value Auction Game" and "Ultimatum Game" experiments by 26 June, 4pm.
	Seminar	Review practice problems from weeks 4-5.
Week 6 : 1 July - 7 July	Lecture	NO LECTURE THIS WEEK.
	Seminar	NO SEMINAR THIS WEEK.
Week 7 : 8 July - 14 July	Lecture	Sequential games
	Seminar	Review practice problems from weeks 5 and 7.
Week 8 : 15 July - 21 July	Lecture	Screening and signalling. Participate in "Advertisement Game" experiment by 17 July, 4pm.
	Seminar	Review PS2 + some practice problems from week 8.
Week 9 : 22 July - 28 July	Lecture	Screening and signalling wrap-up, Repeated games.
	Seminar	Review practice problems from weeks 8-9.
Week 10 : 29 July - 4 August	Seminar	Review PS3.

Attendance Requirements

Students are strongly encouraged to attend all classes and review lecture recordings.

Course Resources

Prescribed Resources

The website for this course is on UNSW Moodle.

Resources available to students consist of:

- Lecture videos and recordings of live lectures
- Data on experiment outcomes - will be provided online after class
- Lecture slides - will be provided online after class

Recommended Resources

No textbook is formally required, but students who feel they would benefit from extra exercises and readings on the material are highly recommended to obtain the following textbook:

- Avinash K. Dixit, Susan Skeath, and David Reiley, Games of Strategy. 3rd edition. W.W. Norton and Company, 2010.

For a more intuitive, non-technical reading, the following is a good resource:

- Avinash K. Dixit, Barry J. Nalebuff: The Art of Strategy: A Game Theorist's Guide to Success in Business and Life. W. W. Norton & Company, 2008.

Course Evaluation and Development

Feedback is regularly sought from students and continual improvements are made based on this feedback. At the end of this course, you will be asked to complete the myExperience survey, which provides a key source of student evaluative feedback. Your input into this quality enhancement process is extremely valuable in assisting us to meet the needs of our students and provide an effective and enriching learning experience. The results of all surveys are carefully considered and do lead to action towards enhancing educational quality.

The School of Economics strives to be responsive to student feedback. If you would like more information on how the design of this course and changes made to it over time have taken students' needs and preferences into account, please contact the Director of Education at the School of Economics.

Consent for De-Identified Data to be Used for Secondary Research into Improving Student Experience

To enhance your student experience, researchers at UNSW conduct academic research that involves the use of de-identified student data, such as assessment outcomes, course grades, course engagement and participation, etc. Students of this course are being invited to provide

their consent for their de-identified data to be shared with UNSW researchers for research purposes after the course is completed.

Providing consent for your de-identified data to be used in academic research is voluntary and not doing so will not have an impact on your course grades.

Researchers who want to access your de-identified data for future research projects will need to submit individual UNSW Ethics Applications for approval before they can access your data.

A full description of the research activities aims, risks associated with these activities and how your privacy and confidentiality will be protected at all times can be found here.

If you consent to have your de-identified data used for academic research into improving student experience, you do not need to do anything. Your consent will be implied, and your data may be used for research in a format that will not individually identify you after the course is completed.

If you do not consent for this to happen, please email the opt-out form to seer@unsw.edu.au to opt-out from having your de-identified data used in this manner. If you complete the opt-out form, the information about you that was collected during this course will not be used in academic research.

Staff Details

Position	Name	Email	Location	Phone	Availability	Equitable Learning Services Contact	Primary Contact
Convenor	Aleksandra Balyanova				Mondays 7:30pm-8:30pm, or by appointment.	Yes	Yes
Tutor	Alison Lim					No	No

Other Useful Information

Academic Information

COURSE POLICIES AND SUPPORT

The Business School expects that you are familiar with the contents of this course outline and the UNSW and Business School learning expectations, rules, policies and support services as listed below:

- Program Learning Outcomes

- Academic Integrity and Plagiarism
- Student Responsibilities and Conduct
- Special Consideration
- Protocol for Viewing Final Exam Scripts
- Student Learning Support Services

Further information is provided on the key policies and support page.

Students may not circulate or post online any course materials such as handouts, exams, syllabi or similar resources from their courses without the written permission of their instructor.

STUDENT LEARNING OUTCOMES

The Course Learning Outcomes (CLOs) – under the Outcomes tab – are what you should be able to demonstrate by the end of this course, if you participate fully in learning activities and successfully complete the assessment items.

CLOs also contribute to your achievement of the Program Learning Outcomes (PLOs), which are developed across the duration of a program. PLOs are, in turn, directly linked to UNSW graduate capabilities. More information on Coursework PLOs is available on the key policies and support page. For PG Research PLOs, including MPDBS, please refer to the UNSW HDR Learning Outcomes.

Academic Honesty and Plagarism

As a student at UNSW you are expected to display academic integrity in your work and interactions. Where a student breaches the UNSW Student Code with respect to academic integrity, the University may take disciplinary action under the Student Misconduct Procedure. To assure academic integrity, you may be required to demonstrate reasoning, research and the process of constructing work submitted for assessment.

To assist you in understanding what academic integrity means, and how to ensure that you do comply with the UNSW Student Code, it is strongly recommended that you complete the Working with Academic Integrity module before submitting your first assessment task. It is a free, online self-paced Moodle module that should take about one hour to complete.

Submission of Assessment Tasks

SPECIAL CONSIDERATION

You can apply for special consideration when illness or other circumstances beyond your control interfere with your performance in a specific assessment task or tasks, including online exams. Students studying remotely who have exams scheduled between 10pm and 7am local time, are also able to apply for special consideration to sit a supplementary exam at a time outside of these hours.

Special consideration is primarily intended to provide you with an extra opportunity to demonstrate the level of performance of which you are capable. To apply, and for further information, see Special Consideration on the UNSW Current Students page.

Special consideration applications will be assessed centrally by the Case Review Team, who will update the online application with the outcome and add any relevant comments. The change to the status of the application immediately sends an email to the student and to the assessor with the outcome of the application.

Please note the following:

1. Applications can only be made through Online Services in myUNSW (see the UNSW Current Students page). Applications will not be accepted by teaching staff. The lecturer-in-charge/ course coordinator will be automatically notified when your application is processed.
2. Applying for special consideration does not automatically mean that you will be granted a supplementary exam or other concession.
3. If you experience illness or misadventure in the lead up to an exam or assessment, you must submit an application for special consideration, either prior to the examination taking place, or prior to the assessment submission deadline, except where illness or misadventure prevent you from doing so.
4. If your circumstances stop you from applying before your exam or assessment due date, you must apply within 3 working days of the assessment or the period covered by your supporting documentation.
5. Under the UNSW Fit To Sit/Submit rule, if you sit the exam/submit an assignment, you are declaring yourself well enough to do so and are cannot subsequently apply for special consideration.
6. If you become unwell on the day of – or during – an exam, you must stop working on your exam, advise your course coordinator or tutor and provide a medical certificate dated within 24 hours of the exam, with your special consideration application. For online exams, you must contact your course coordinator or tutor immediately via email, Moodle or chat and advise them you are unwell and submit screenshots of your conversation along with your medical certificate and application.
7. Special consideration requests do not allow the awarding of additional marks to students.

Further information on Business School policy and procedure can be found under “Special Consideration” on the key policies and support page.

LATE SUBMISSION PENALTIES

For assessments other than examinations, late submission will incur a penalty of 5% per day or part thereof (including weekends) from the due date and time. An assessment will not be accepted after 5 days (120 hours) of the original deadline unless special consideration has been approved. An assignment is considered late if the requested format, such as hard copy or electronic copy, has not been submitted on time or where the ‘wrong’ assignment has been submitted.

For assessments which account for 10% or less of the overall course grade, and where answers are immediately discussed or debriefed, the LIC may stipulate a different penalty. Details of such late penalties will be available on the course Moodle page.

FEEDBACK ON YOUR ASSESSMENT TASK PERFORMANCE

Feedback on student performance from formative and summative assessment tasks will be provided to students in a timely manner. Assessment tasks completed within the teaching period of a course, other than a final assessment, will be assessed and students provided with feedback, with or without a provisional result, within 10 working days of submission, under normal circumstances. Feedback on continuous assessment tasks (e.g. laboratory and studio-based, workplace-based, weekly quizzes) will be provided prior to the midpoint of the course.

Faculty-specific Information

PROTOCOL FOR VIEWING FINAL EXAM SCRIPTS

UNSW students have the right to view their final exam scripts, subject to a small number of very specific exemptions. The UNSW Business School has set a protocol under which students may view their final exam script. Individual schools within the Faculty may also set up additional local processes for viewing final exam scripts, so it is important that you check with your School.

If you are completing courses from the following schools, please note the additional school-specific information:

- Students in the **School of Accounting, Auditing & Taxation** who wish to view their final examination script should also refer to this page.

- Students in the **School of Banking & Finance** should also refer to this page.
- Students in the **School of Information Systems & Technology Management** should also refer to this page.

COURSE EVALUATION AND DEVELOPMENT

Feedback is regularly sought from students and continual improvements are made based on this feedback. At the end of this course, you will be asked to complete the myExperience survey, which provides a key source of student evaluative feedback. Your input into this quality enhancement process is extremely valuable in assisting us to meet the needs of our students and provide an effective and enriching learning experience. The results of all surveys are carefully considered and do lead to action towards enhancing educational quality.

QUALITY ASSURANCE

The Business School is actively monitoring student learning and quality of the student experience in all its programs. A random selection of completed assessment tasks may be used for quality assurance, such as to determine the extent to which program learning goals are being achieved. The information is required for accreditation purposes, and aggregated findings will be used to inform changes aimed at improving the quality of Business School programs. All material used for such processes will be treated as confidential.

TEACHING TIMES AND LOCATIONS

Please note that teaching times and locations are subject to change. Students are strongly advised to refer to the Class Timetable website for the most up-to-date teaching times and locations.