

COURSE OUTLINE: GAME THEORY

GENERAL

SCHOOL	ECONOMICS AND BUSINESS ADMINISTRATION		
ACADEMIC UNIT	ECONOMICS		
LEVEL OF STUDIES	UNDERGRADUATE		
COURSE CODE	OA803	SEMESTER	8th (Major B & C)
COURSE TITLE	GAME THEORY		
INSTRUCTOR(S)	Assoc. Professor A. Economou		
INDEPENDENT TEACHING ACTIVITIES <i>if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits</i>		WEEKLY TEACHING HOURS	CREDITS
		3	6
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).			
COURSE TYPE <i>general background, special background, specialised general knowledge, skills development</i>	ECONOMIC ANALYSIS SPECIAL BACKGROUND		
PREREQUISITE COURSES:	NO		
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	GREEK		
IS THE COURSE OFFERED TO ERASMUS STUDENTS	YES		
COURSE WEBSITE (URL)	https://www.econ.uth.gr		

LEARNING OUTCOMES

Learning outcomes

The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.

Consult Appendix A

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*
- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*

- *Guidelines for writing Learning Outcomes*

On successful completion of the course students will be able to:

- Think strategically.
- Understand the basic concepts and mathematical techniques of Game Theory.
- Critically use the tools of strategic analysis provided by Game Theory to interpret firms' behaviour and strategies.
- Critically apply the principles and tools of Game Theory to interpret and discuss real decision-making problems and optimal strategies among firms in markets, in the formation of international relations (between countries), and in other policy fields.
- Propose effective strategies to address decision-making problems in different contexts (between firms, countries, citizens, etc.).

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

Search for, analysis and synthesis of data and information, with the use of the necessary technology

Adapting to new situations

Decision-making

Working independently

Team work

Working in an international environment

Working in an interdisciplinary environment

Production of new research ideas

Project planning and management

Respect for difference and multiculturalism

Respect for the natural environment

Showing social, professional and ethical responsibility and sensitivity to gender issues

Criticism and self-criticism

Production of free, creative and inductive thinking

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Others...

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- Search for, analysis and synthesis of data and information, with the use of the necessary technology
- Working independently
- Team work
- Criticism and self-criticism
- Production of free, creative and inductive thinking

SYLLABUS

The aim of this course is to present principles and methods of Game Theory, with emphasis on applications to firms and markets.

Main topics:

- Introductory elements (overview, conceptual delimitation, key terms and application areas).

- Conflicts, strategy and games.
- Dominant strategies and social dilemmas.
- Nash equilibrium and rationalized strategies. Games with multiple Nash equilibria.
- Duopoly strategies and pricing.
- Nash equilibria in mixed strategies.
- Sequential-move games. Repeated games.
- Elements of cooperative games. Bargaining.

TEACHING and LEARNING METHODS – EVALUATION

DELIVERY <i>Face-to-face, Distance learning, etc.</i>	Lectures delivered in person	
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY <i>Use of ICT in teaching, laboratory education, communication with students</i>	• Use of the e-class electronic platform for posting: (a) lecture material, (b) announcements, (c) applications, case studies, and relevant articles. • Use of electronic tools for lecture presentations (PowerPoint). • Use of ICT for communication with students.	
TEACHING METHODS <i>The manner and methods of teaching are described in detail. Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.</i> <i>The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS</i>	Activity	Semester workload
	Lectures	39
	Study and analysis of academic literature	91
	Homework set of exercises	48
	Final exam	2
	Course total	180
STUDENT PERFORMANCE EVALUATION <i>Description of the evaluation procedure</i> <i>Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-</i>	The final course grade is determined by: a) Written examinations at the end of the semester (100% of the final grade). Or alternatively by participation in: b) Two exemption/progress written exams (100% of the final grade).	

<i>ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other</i> <i>Specifically-defined evaluation criteria are given, and if and where they are accessible to students</i>	ERASMUS students follow the same examination methods; teaching and assessment are conducted in English.
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ATTACHED BIBLIOGRAPHY

- McCain Roger A.(2019). Θεωρία Παιγνίων. 1η έκδ., εκδόσεις BROKEN HILL PUBLISHER LTD. (Κωδικός βιβλίου στον Εύδοξο: 86056102)
- Νεάρχου Ανδρέας (2022). Κατανοώντας την Στρατηγική των Παιγνίων-Μια Αναλυτική Προσέγγιση Μέσω Λυμένων Παραδειγμάτων. 1η έκδ., εκδόσεις BROKEN HILL PUBLISHER LTD. (Κωδικός βιβλίου στον Εύδοξο: 110447562)
- Osborne Martin A. (2010). Εισαγωγή στη Θεωρία Παιγνίων. Αθήνα: 1η έκδ., εκδόσεις ΚΛΕΙΔΑΡΙΘΜΟΣ (Κωδικός βιβλίου στον Εύδοξο: 35241)
- Gibbons Robert (2009). Εισαγωγή στη Θεωρία Παιγνίων. Αθήνα: 1η έκδ., εκδόσεις ΔΑΡΔΑΝΟΣ (Κωδικός βιβλίου στον Εύδοξο: 31325)

Additional bibliography and articles will be suggested during the lectures.