

COURSE IMPLEMENTATION DATE: September 2012
 COURSE REVISED IMPLEMENTATION DATE: _____
 COURSE TO BE REVIEWED: June 2018
(six years after UEC approval) *(month, year)*

OFFICIAL UNDERGRADUATE COURSE OUTLINE INFORMATION

Students are advised to keep course outlines in personal files for future use.
 Shaded headings are subject to change at the discretion of the department – see course syllabus available from instructor

<u>ECON 207</u>	<u>Arts/Economics</u>	<u>3</u>
COURSE NAME/NUMBER	FACULTY/DEPARTMENT	UFV CREDITS
Introduction to Strategic Thinking		
COURSE DESCRIPTIVE TITLE		

CALENDAR DESCRIPTION:

This course provides an introduction to the concepts of game theory in economics. Game theory is the study of decision making in situations characterized by strategic interaction; that is, where an individual's optimal decision is dependent not only on exogenous factors, but also on the choices made by other individuals. As game theory is simply the study of human interaction, its ability to explain and predict behavior is applicable in a wide range of settings including economics, business, political science, law, psychology, history, anthropology, and other social sciences. To help translate theory into practice, students participate in in-class teaching games.

PREREQUISITES: ECON 100 and ECON 101.
 COREQUISITES: _____
 PRE or COREQUISITES: _____

SYNONYMOUS COURSE(S):

- (a) Replaces: _____
- (b) Cross-listed with: _____
- (c) Cannot take: _____ for further credit.

SERVICE COURSE TO: *(department/program)*

TOTAL HOURS PER TERM: 45

STRUCTURE OF HOURS:

Lectures:	<u>45</u>	Hrs
Seminar:	_____	Hrs
Laboratory:	_____	Hrs
Field experience:	_____	Hrs
Student directed learning:	_____	Hrs
Other (specify):	_____	Hrs

TRAINING DAY-BASED INSTRUCTION:

Length of course: _____
 Hours per day: _____

OTHER:

Maximum enrolment: 36
 Expected frequency of course offerings: Every semester
(every semester, annually, every other year, etc.)

WILL TRANSFER CREDIT BE REQUESTED? (lower-level courses only) Yes No
WILL TRANSFER CREDIT BE REQUESTED? (upper-level requested by department) Yes No
TRANSFER CREDIT EXISTS IN BCCAT TRANSFER GUIDE: Yes No

Course designer(s): <u>Michael Maschek</u>	Date approved: <u>March 1, 2012</u>
Department Head: <u>Vladimir Dvoracek</u>	Date of meeting: <u>March 23, 2012</u>
Supporting area consultation (Pre-UEC)	Date approved: <u>April 13, 2012</u>
Curriculum Committee chair: <u>Tetsuomi Anzai</u>	Date approved: <u>April 13, 2012</u>
Dean/Associate VP: <u>Jacqueline Nolte</u>	Date of meeting: <u>June 22, 2012</u>
Undergraduate Education Committee (UEC) approval	

LEARNING OUTCOMES:

Upon successful completion of this course, students will be able to:

- Classify games in terms of their key characteristics and constraints.
- Illustrate simultaneous move games using the normal form representation.
- Use various equilibria concepts, such as Nash equilibrium and sub-game perfect Nash equilibrium, to solve simultaneous and sequential move games.
- Detail how trigger-strategies can support superior outcomes in infinitely repeated, simultaneous move games.
- Illustrate sequential move games using the extensive form representation.
- Model and solve games of incomplete information.

METHODS: *(Guest lecturers, presentations, online instruction, field trips, etc.)*

Lecture/seminar format with in-class participation in teaching games, problem-solving and discussion.

METHODS OF OBTAINING PRIOR LEARNING ASSESSMENT RECOGNITION (PLAR):

Examination(s) Portfolio assessment Interview(s)

Other (specify):

PLAR cannot be awarded for this course for the following reason(s):

TEXTBOOKS, REFERENCES, MATERIALS:

[Textbook selection varies by instructor. An example of texts for this course might be:]

An Introduction to Game Theory, Osborne, M., Oxford University Press, 2009.

Game Theory for Applied Economists, Gibbons, R., Princeton University Press, 1992

Games of Strategy, Dixit, A., Skeath, S., and Reily, D., 3rd Ed., Norton, New York, 2009.

SUPPLIES / MATERIALS:

STUDENT EVALUATION:

[An example of student evaluation for this course might be:]

Quizzes and midterms	20%
Final exam	30%
Presentations	20%
Assignments and paper	20%
Participation	10%

COURSE CONTENT:

[Course content varies by instructor. An example of course content might be:]

What is Game Theory?

Basic Theory: Normal-Form Representation of Games

Dominant Strategies and Dominant Strategy Equilibria

Iterated Elimination of Strictly/Weakly Dominated Strategies

Motivation and Definition of Nash Equilibrium

Mixed Strategies

Existence of Nash Equilibrium

Infinitely Repeated Simultaneous Move Games and Trigger Strategies

Basic Theory: Extensive-Form Representation of Sequential Games

Backward Induction and Sub-game Perfect Nash Equilibrium

Sequential Games of Complete but Imperfect Information

Static Games of Incomplete Information: Normal Form Representation of Bayesian Games

Definition of Bayesian Equilibrium