APPLIES TO ACADEMIC YEAR 2016/2017

GRA 6664 Game Theory

Programme
Master of Science in Business

Responsible for the course
Leif Helland, Tom-Reiel Heggedal

Department
Department of Economics

Term
According to study plan

ECTS Credits
6

Language of instruction
English

Introduction
Firms frequently operate in strategic environments, in which performance depends on the decisions of the firm as well as the decisions of its competitors. Game theory is the formal analysis of strategic decision making.
This course teaches you the main principles of game theory, while developing your ability to think and act strategically.
A wide range of business applications are used. These include price setting, contract design, agency relations, voting in boards, auctions, bargaining, advertising, and reputation building.

Learning outcome
Students should:
Gain a proper understanding of game theoretic concepts and modeling: covering equilibrium in static and dynamic games, with varying information structures
Be able to apply game models to the analysis of various business decisions.

Prerequisites
GRA 6031 Microeconomics or equivalent
All courses in the Masters programme will assume that students have fulfilled the admission requirements for the programme. In addition, courses in second, third and/or fourth semester can have spesific prerequisites and will assume that students have followed normal study progression. For double degree and exchange students, please note that equivalent courses are accepted.

Compulsory reading
Books:
Watson, Joel. 2013. Strategy : an introduction to game theory. 3rd ed., International student ed. Norton

Other:
During the course there may be hand-outs and other material on additional topics relevant for the course and the examination

Recommended reading

Course outline
- Extensive and normal form games
-Iterated dominance and rationalizability
-Nash equilibrium in pure and mixed strategies
-Bayesian Nash equilibrium
-Sub game perfect Nash equilibrium
-Repeated games and folk theorems
-Perfect Bayesian Nash equilibrium
-Signaling and reputation

Participation in two laboratory experiments.

Computer-based tools

Learning process and workload
A course of 6 ECTS credits corresponds to a workload of 160-180 hours. Students are expected to participate actively during the lectures.

Please note that while attendance is not compulsory in all courses, it is the student's own responsibility to obtain any information provided in class that is not included on the course homepage/It's learning or text book.

Examination
Written examination 3 hours

Form of assessment	Weight	Group size
Written examination 3 hours	100%	

Specific information regarding student assessment will be provided in class. This information may be relevant to requirements for term papers or other hand-ins, and/or where class participation can be one of several components of the overall assessment. Candidates may be called in for an oral hearing as a verification/control of written assignments.

Examination code(s)
GRA 66641 (three hour written exam) accounts for 100% of the grade in GRA 6664.

Examination support materials
BI approved exam calculator
Bilingual dictionary
Peter Berck og Knut Sydsæter. 1993. Economists' Mathematical Manual. 2nd ed. Berlin: Springer Verlag
Permitted examination support materials for written examinations are detailed under examination information in the student portal @bi. The section on support materials and the use of calculators and dictionaries should be paid special attention to.

Re-sit examination
It is only possible to retake an examination when the course is next taught. The assessment in some courses is based on more than one exam code. Where this is the case, you may retake only the assessed components of one of these exam codes. All retaken examinations will incur an additional fee. Please note that you need to retake the latest version of the course with updated course literature and assessment. Please make sure that you have familiarised yourself with the latest course description.

Additional information
Honour code. Academic honesty and trust are important to all of us as individuals, and are values that are integral to BI's honour code system. Students are responsible for familiarising themselves with the honour code system, to which the faculty is deeply committed. Any violation of the honour code will be dealt with in accordance with BI's procedures for academic misconduct. Issues of academic integrity are taken seriously by everyone associated with the programmes at BI and are at the heart of the honour code. If you have any questions about your responsibilities under the honour code, please ask. The learning platform itslearning is used in the teaching of all courses at BI. All students are expected to make use of itslearning.