APPLIES TO ACADEMIC YEAR 2014/2015

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
GRA6031 Microeconomics or equivalent.

Compulsory reading
Books:
Watson, Joel. 2013. Strategy : an introduction to game theory. 3rd 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
It's learning

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
Three hour written exam.

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

Examination support materials
Berck, Peter & Knut Sydsæter. 1993. Economists' Mathematical Manual. 2nd ed. Berlin: Springer Verlag.
BI approved exam calculator. A bilingual dictionary.

Examination support materials at written examiniations are explained under examination information in the student portal @bi. Please note use of calculator and dictionary in the section on support materials.

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.
Where this is not the case, all of the assessed components of the course must be retaken.
All retaken examinations will incur an additional fee.

Additional information
Honour Code
Academic honesty and trust are important to all of us as individuals, and represent values that are encouraged and promoted by the honour code system. This is a most significant university tradition. Students are responsible for familiarizing themselves with the ideals of the honour code system, to which the faculty are also deeply committed.

Any violation of the honour code will be dealt with in accordance with BI's procedures for cheating. These issues are a serious matter to everyone associated with the programs at BI and are at the heart of the honour code and academic integrity. If you have any questions about your responsibilities under the honour code, please ask.