



Course and Examination Fact Sheet: Autumn Semester 2020

6,240: Game Theory and Applications

ECTS credits: 6

Overview examination/s

(binding regulations see below)

Central - Written examination (60%, 90 mins.)

Examination time: inter-term break

Decentral - Active participation (10%)

Examination time: term time

Decentral - Group examination paper (all given the same grades) (30%)

Examination time: term time

Attached courses

Timetable -- Language -- Lecturer

[5,240.1.00 Game Theory and Applications](#) -- Englisch -- [Gizatullina Alia](#)

Course information

Course prerequisites

The target audience of this course is students in economics or business with a strong interest in learning how to solve strategic problems (encountered in economics and business) while reasoning formally, using the language of game theory. To learn effectively from this course, students must have already taken at least one formal course in Microeconomics. However, all relevant concepts will be reviewed during the course as well.

Learning objectives

At the end of the course, the students will be able to solve a game and articulate formally what is the optimal strategic behaviour in a given business or economic situation. The students will be able to apply the acquired skills to write an independent model of a strategic situation (that could be used, e.g., as one of building blocks of a Bachelor or Master thesis). Knowing the key concept of the game theory will also simplify students' understanding of the material from other microeconomics-based classes and will provide the necessary preparation for Master-level microeconomics courses.

Course content

The key idea of the course is to teach students how to reason formally in game-theoretic terms and how to find optimal behaviour within any possible strategic situation, e.g., encountered in business, politics or even private interaction with friends. The introduction of the material will be gradual, starting with the simplest classical games and proceeding to build up the necessary skills to work with the most recently developed concepts in game theory. Among the applications that we will cover are the models from business, digital economics, politics and financial markets.

The course is divided, roughly speaking, into four large blocks, each corresponding to a specific type of games: static games of complete information, repeated games, static games of incomplete information, dynamic games of incomplete information. Each block will contain three main parts: 1. theoretical concepts; 2. real-life applications; 3. problem sets and exercises.

Course structure

The course is held weekly and consists of a mixture between lectures and tutorials focused on problem-set solving.

Course literature

Main textbook:

Tadelis, Steve (2013), *Game Theory: An Introduction*, Princeton University Press.



Extra literature:

Scientific papers relevant for applications will be posted on Studynet in due course

Additional course information

The course will primarily be taught face-to-face. In case circumstances will change, the lecturer will inform about any changes by e-mail.

In the case of the President's Board having to implement new directives due to the SARS-CoV-2 pandemic in AS2020, the course information listed above will be changed as follows:

- The course is conducted online via the platform Zoom;
- The lecturer informs via StudyNet on the changed implementation modalities of the course;

The examination information listed below would be changed as follows:

- There are no changes necessary to the examination information.

Examination information

Examination sub part/s

1. Examination sub part (1/3)

Examination time and form

Central - Written examination (60%, 90 mins.)

Examination time: inter-term break

Remark

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Examination-aid rule

Extended Closed Book

The use of aids is limited; any additional aids permitted are exhaustively listed under "Supplementary aids". Basically, the following is applicable:

- At such examinations, all the pocket calculators of the Texas Instruments TI-30 series and mono- or bilingual dictionaries (no subject-specific dictionaries) without hand-written notes are admissible. Any other pocket calculator models and any electronic dictionaries are inadmissible.
- In addition, any type of communication, as well as any electronic devices that can be programmed and are capable of communication such as notebooks, tablets, mobile telephones and others, are inadmissible.
- Students are themselves responsible for the procurement of examination aids.

Supplementary aids

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Examination languages

Question language: English

Answer language: English

2. Examination sub part (2/3)

Examination time and form

Decentral - Active participation (10%)



Examination time: term time

Remark

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Examination-aid rule

Practical examination

No examination-aid rule is necessary for such examination types. The rules and regulations of the University of St. Gallen apply in a subsidiary fashion.

Supplementary aids

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Examination languages

Question language: English

Answer language: English

3. Examination sub part (3/3)

Examination time and form

Decentral - Group examination paper (all given the same grades) (30%)

Examination time: term time

Remark

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Examination-aid rule

Term papers

Term papers must be written without anyone else's help and in accordance with the known quotation standards, and they must contain a declaration of authorship which is a published template in StudentWeb.

The documentation of sources (quotations, bibliography) has to be done throughout and consistently in accordance with the chosen citation standard such as APA or MLA.

For papers in law, the legal standard is recommended (by way of example, cf. FORSTMOSER, P., OGOREK R. et SCHINDLER B., Juristisches Arbeiten: Eine Anleitung für Studierende, newest edition respectively, or according to the recommendations of the Law School).

The indications of the sources of information taken over verbatim or in paraphrase (quotations) must be integrated into texts in accordance with the precepts of the applicable quotation standard, while informative and bibliographical notes must be added as footnotes (recommendations and standards can be found, for example, in METZGER, C., Lern- und Arbeitsstrategien, newest edition respectively).

For any work written at the HSG, the indication of the page numbers is mandatory independent of the chosen citation standard. Where there are no page numbers in sources, precise references must be provided in a different way: titles of chapters or sections, section numbers, acts, scenes, verses, etc.

Supplementary aids

Lecture material and academic papers

Examination languages

Question language: English

Answer language: English

Examination content

Central written exam: solving problems (similar to homework)

Term paper: based on a published academic paper



Examination relevant literature

Lecture notes and the main textbook

Please note

Please note that only this fact sheet and the examination schedule published at the time of bidding are binding and takes precedence over other information, such as information on StudyNet (Canvas), on lecturers' websites and information in lectures etc.

Any references and links to third-party content within the fact sheet are only of a supplementary, informative nature and lie outside the area of responsibility of the University of St.Gallen.

Documents and materials are only relevant for central examinations if they are available by the end of the lecture period (CW51) at the latest. In the case of centrally organised mid-term examinations, the documents and materials up to CW 42 are relevant for testing.

Binding nature of the fact sheets:

- Course information as well as examination date (organised centrally/decentrally) and form of examination: from bidding start in CW 34 (Thursday, 20 August 2020);
- Examination information (regulations on aids, examination contents, examination literature) for decentralised examinations: in CW 42 (Monday, 12 October 2020);
- Examination information (regulations on aids, examination contents, examination literature) for centrally organised mid-term examinations: in CW 42 (Monday, 12 October 2020);
- Examination information (regulations on aids, examination contents, examination literature) for centrally organised examinations: two weeks before the end of the registration period in CW 44 (Thursday, 29 October 2020).