



Course and Examination Fact Sheet: Spring Semester 2024

4,910: Economics: Micro for Computer Science

ECTS credits: 3

Overview examination/s

(binding regulations see below)

decentral - Programming, Digital, Group work group grade (20%)

Examination time: Term time

decentral - Digital written examination, Digital, Individual work individual grade (60%, 90 mins.)

Examination time: Term time

decentral - Presentation, Analog, Group work group grade (20%)

Examination time: Term time

Attached courses

Timetable -- Language -- Lecturer

[4,910.1.00 Economics: Micro for Computer Science](#) -- English -- [Häfner Samuel](#)

Course information

Course prerequisites

Familiarity with basic algebra and analysis. Basic knowledge of Python.

Learning objectives

This course introduces students to some core topics in microeconomic theory, a branch of economics that analyzes individuals' and firms' (market) behavior to understand their decision-making processes. In particular, the students will (1) learn how economists think about markets and the different market forms they distinguish (perfect competition, oligopoly, and monopoly) and (2) get acquainted with some of the basic game-theoretic tools that are employed to analyze strategic situations more generally.

Course content

Microeconomics is a branch of economics that studies small economic units, such as individuals, households, and firms. It examines the behavior of these entities in making decisions regarding the allocation of scarce resources and the interaction between supply and demand. The course consists of two parts.

Part I: Market Analysis: Microeconomics analyzes the functioning of specific markets, exploring topics like pricing, production, consumption, and market structures. This part will analyze how firms and consumers shape markets and evaluate different market forms, including perfect competition, oligopolistic competition, and monopoly.

Part II: Game Theory: Game theory is an important toolbox for studying individuals' decisions in strategic situations. This part will introduce the basic game theory concepts and discuss some important applications to various topics and issues, like moral hazard, adverse selection, and auctions.

Course structure and indications of the learning and teaching design

The course consists of in-class lectures (including exercise sessions) and self-studies.

The in-class lectures are based on the material (slides, textbook chapters) provided on Canvas.

The self-studies consist of two group assignments: (1) Prepare and give a short presentation on a recent big tech antitrust case. (2)



Implement (in Python) a Nash equilibrium solver for simple two-player games.

Course literature

There is no single textbook that covers all topics of the course. I will draw from two sources:

- Kolmar, Martin. Principles of Microeconomics. Springer, 2017.
- Jehle, G. A., Reny, P. J. Advanced Microeconomic Theory. Pearson Education, 2011.

The relevant literature will be available on Canvas.

Additional course information

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Examination information

Examination sub part/s

1. Examination sub part (1/3)

Examination modalities

Examination type	Programming
Responsible for organisation	decentral
Examination form	Practical test
Examination mode	Digital
Time of examination	Term time
Examination execution	Asynchronous
Examination location	On Campus
Grading type	Group work group grade
Weighting	20%
Duration	--

Examination languages

Question language: English
Answer language: English

Remark

Implement a simple Nash equilibrium solver.

Examination-aid rule

Open Book

Students are free to choose aids, apart from the following restrictions:

- pocket calculator models which are not part of the Texas Instruments TI-30 series, as well as any programmable electronic devices that are capable of communication such as electronic dictionaries, notebooks, tablets, smartphones, headsets, additional screens, etc. are not admissible;
- there is an option for faculty members to explicitly define exceptions under supplementary aids.

Procuring any aids, as well as ensuring their working order, is the exclusive responsibility of students.

Supplementary aids

none.



2. Examination sub part (2/3)

Examination modalities

Examination type	Digital written examination
Responsible for organisation	decentral
Examination form	Written exam
Examination mode	Digital
Time of examination	Term time
Examination execution	Synchronous
Examination location	On Campus
Grading type	Individual work individual grade
Weighting	60%
Duration	90 mins.

Examination languages

Question language: English
Answer language: English

Remark

Based on in-class lectures.

Examination-aid rule

Closed Book

The use of aids is prohibited as a matter of principle, with the exception of pocket calculator models of the Texas Instruments TI-30 series and, in case of non-language exams, bilingual dictionaries without any handwritten notes. Any other aids that are admissible must be explicitly listed by faculty members in the paragraph entitled "Supplementary aids" of the course and examination fact sheet; this list is exhaustive.

Procuring any aids, as well as ensuring their working order, is the exclusive responsibility of students.

Supplementary aids

none.

3. Examination sub part (3/3)

Examination modalities

Examination type	Presentation
Responsible for organisation	decentral
Examination form	Oral examination
Examination mode	Analog
Time of examination	Term time
Examination execution	Asynchronous
Examination location	On Campus
Grading type	Group work group grade
Weighting	20%
Duration	--

Examination languages

Question language: English
Answer language: English

Remark

Present a case study.

Examination-aid rule



Free aids provision

Basically, students are free to choose aids. Any restrictions are defined by the faculty members in charge of the examination under supplementary aids.

Supplementary aids

none.

Examination content

The written exam is based on the in-class lectures and counts 60% of the grade. The topics are those described in the section "Course Content".

The presentation (20%) requires students to present a case study about a recent big tech antitrust case in class.

The programming exercise (20%) requires students to implement a Nash solver for simple games in Python and briefly discuss their approach in class.

Examination relevant literature

Lecture content (slides, relevant chapters in the textbook, exercises) up until the final week.

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 (CW21) at the latest. In the case of centrally organised mid-term examinations, the documents and materials up to CW 13 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 04 (Thursday, 25 January 2024);
- Examination information (supplementary aids, examination contents, examination literature) for decentralised examinations: in CW 12 (Monday, 18 March 2024);
- Examination information (supplementary aids, examination contents, examination literature) for centrally organised mid-term examinations: in CW 13 (Monday, 25 March 2024);
- Examination information (regulations on aids, examination contents, examination literature) for centrally organised examinations: Starting with de-registration period in CW 15 (Monday, 08 April 2024).