University of St.Gallen

# Course and Examination Fact Sheet: Autumn Semester 2020

# 7,260: Industrial Organization and Digitalization

# ECTS credits: 4

## Overview examination/s

(binding regulations see below)
Decentral - Presentation (in groups - all given the same grades) (50%)
Examination time: term time
Decentral - examination paper written at home (individual) (40%)
Examination time: term time
Decentral - Active participation (10%)
Examination time: term time

## Attached courses

Timetable -- Language -- Lecturer
7,260,1.00 Industrial Organization and Digitalization -- Englisch -- Eschenbaum Nicolas , Bühler Stefan

## Course information

### Course prerequisites

Students should have a firm background in microeconomic analysis and game theory (preferably at the level of Microeconomics III, at the minimum Microeconomics II).

### Learning objectives

In this course, students

1. learn how to analyze markets with workhorse models of imperfect competition;
2. acquire powerful additional tools for the analysis of modern real-world markets;
3. gain insights into and learn about the research frontier in issues related to the digitalization of markets, such as dynamic pricing, pricing algorithms, and market design.

### Course content

Industrial Organization (IO) is an important field in microeconomics that studies the behavior of consumers and firms in imperfectly competitive markets, and in particular when firms have market power. It brings classic, analytical economic thinking to bearing on questions arising in markets in the real world and plays an important role in areas such as market regulation and market design. In addition, in recent years digitalization has profoundly changed how many markets work. The goal of this course is to familiarize students with some of the most important models and methods of industrial organization, enable them to follow and critically assess recent research in this field, and provide insights into relevant issues in modern, digital markets. To this end, students will be able to shape the debate in class and partially the content of the course by i) presenting relevant research papers and discussing fellow classmates' papers, and ii) selecting the topic of the final lecture based on their interests. Two guest lectures from business professionals who work on the topics of the course in practice will allow students to connect the formal analysis studied in the classroom to the real world.

Students will have to complete a written examination paper - consisting of a short problem set and a research proposal/review of a research article - and give a group presentation on a recent research article (see below for details). In addition, each group will have to prepare in advance for the presentation of every other group, based on the research paper that will be presented. At the start of each presentation, one group will be randomly selected to provide the discussion to the presentation. The written examination, the group presentation, and the preparation/discussion will be graded.

## Course structure

Tentative structure (subject to change):

*Part I: Tools*

1. Extensions to Monopoly and Oligopoly Theory
2. Complementarity I: Monotone Comparative Statics
3. Complementarity II: Supermodular Games

*Part II: Applications*

1. Dynamic Pricing: Key Concepts
2. Dynamic Pricing: History-based Price Discrimination
3. Dynamic Pricing: Research Papers I
4. Dynamic Pricing: Research Papers II
5. Guest Lecture
6. Pricing Algorithms: Introduction
7. Pricing Algorithms: Research Papers
8. Guest Lecture
9. Market Design (or alternative topic proposed by students)

## Course literature

Belleflamme, P. and M. Peitz (2015), Industrial Organization: Markets and Strategies, Cambridge University Press, 2nd edition.

Martin, S. (2001), Advanced Industrial Economics, Blackwell, 2nd edition.

Motta, M. (2004), Competition Policy: Theory and Practice, Cambridge University Press.

Tirole, J. (1988), Theory of Industrial Organization, MIT Press.

Vives, X. (1999), Oligopoly Pricing: Old Ideas and New Tools, MIT Press.

Wolfstetter, E. (2002), Topics in Microeconomics. Industrial Organization, Auctions, and Incentives, Cambridge University Press.

Note: The lectures on monotone comparative statics and supermodular games will be based on the following article:

Amir, R. (2005), Supermodularity and Complementarity in Economics: An Elementary Survey, Southern Economic Journal, 71(3), 636 660.

Additional readings, including relevant journal articles, will be indicated during the course.

## Additional course information

At present the course is planned to take place on campus. Lectures and student presentations will be held in person and recordings of both lectures and presentations will be made available on Canvas (where they will be saved for 30 days). If necessary, the course - including student presentations - will be held online via Zoom on Canvas (see also "Additional course information"). Students will be informed about any changes to the course's format via Canvas. There will be no changes to the examination paper written at home.

# Examination information

## Examination sub part/s

## 1. Examination sub part (1/3)

### Examination time and form

Decentral - Presentation (in groups - all given the same grades) (50%)

Examination time: term time

Remark
--

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
--

Examination languages
Question language: English
Answer language: English

---

## 2. Examination sub part (2/3)

Examination time and form
Decentral - examination paper written at home (individual) (40%)
Examination time: term time

Remark
--

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
--

Examination languages
Question language: English
Answer language: English

---

## 3. Examination sub part (3/3)

Examination time and form
Decentral - Active participation (10%)
Examination time: term time

University of St.Gallen

Remark
--

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
--

Examination languages
Question language: English
Answer language: English

## Examination content

Students are expected to hold a presentation on an advanced research paper in groups. The presentation material has to be handed in on time before the presentation. The presentation accounts for 50% of the grade. Students are expected to solve one short take home problem set on the material discussed in class and to hand in their individual solutions on time. In addition, students either draft a short research proposal (max. 5 pages) or review and discuss a recent, published research article. A selection of articles to choose from will be made available. The research proposal must be related to the topics discussed in class and may serve as the starting point for an eventual master thesis. The written examination (problem set and research proposal/paper review) accounts for 40% of the final grade. Finally, students are also expected to prepare questions for the discussion of each other group and will be selected to lead the discussion based on their questions at least once during the course at the start of the presentation. The questions/discussion account for 10% of the grade.

## Examination relevant literature

The lecture notes and other material discussed in class is required as background knowledge for all parts of the examination. Furthermore, recommended textbooks should be consulted for solving the problem set. The presentation will be on an advanced research paper that is assigned to each group. To understand the paper fully, students are also required to perform additional literature research on their own. The same applies to the research proposal and written paper review.

## Please note

Please note that only this fact sheet and the examination schedule published at the time of bidding are is 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).

University of St.Gallen