Course and Examination Fact Sheet: Spring Semester 2021

8,322: Real Estate Economics

ECTS credits: 4

Overview examination/s
(binding regulations see below)
Decentral - Written examination (80%, 90 mins.)
Examination time: term time
Decentral - examination paper written at home (individual) (20%)
Examination time: term time

Attached courses
Timetable -- Language -- Lecturer
8,322.1.00 Real Estate Economics -- Englisch -- Kürschner Rauck Kathleen

Course information

Course prerequisites
Students should be interested in microeconomics and macroeconomics, as well as in capital markets, and should have an intermediate knowledge of mathematics, statistics and econometrics.

Learning objectives

- Learn about real estate markets from an economist's point of view.
- Understand the functioning of property markets and their interaction with the overall economy.
- Understand current trends in real estate markets.
- Learn about and apply essential tools to conduct real estate market analyses.

Course content

The course Real Estate Economics provides students with an understanding of essential theoretical models and empirical tools to investigate micro- and macroeconomic forces that affect real estate markets. The course covers classical topics such as the relationship among house prices, rents, construction costs, location and the vacancy rate. It also discusses topics that have recently become important in real estate market analyses, such as geographic determinants of housing supply and neighborhood choice.

In particular, students will

- become familiar with the real estate space and asset markets, their fundamentals (such as the interaction between rent, vacancy rate, construction and absorption), the main underlying economic determinants of real estate supply and demand, the determinants of market equilibrium as well as short- and long-term adjustments to disequilibrium, all of which are essential for choosing locations;
- examine how urban growth and public policies at federal, state and local level (such as taxation, subsidies, regulation and planning) impact the development of cities and the pricing of real estate;
- understand the functioning of, and interaction between, local and regional real estate markets with emphasis on spatial aspects of different property types (residential, office, industrial and retail).

At the end of the course students will have acquired an in depth understanding of property markets and their interaction with the overall economy. Students will be able to understand current trends in real estate markets and will be equipped with the necessary tools to conduct real estate market analyses. The course is suitable for students who aim to either pursue an academic career in the field of real estate economics and finance or aim for a position in the real estate development or real estate investment industry.
The course will be structured according to the following four aspects to address associated questions of interest:

- **Real estate markets**: How are the property space market and the asset market interrelated? What are the economic fundamentals of real estate markets?
- **Residential development**: How can we explain the choice of housing location and rents? What is the fair value of a specific house? What should be the density and use of a newly developed site? How can housing submarket boundaries be identified? How do house prices vary across sites, and why? How do housing markets adjust to disequilibrium? What are the determinants of tenure choice? How can exogenous shocks to a market amplify real estate cycles?
- **Commercial development**: How do commercial real estate developers analyze potential locations? What are the drivers of commercial real estate demand and supply? Which factors determine office rents or the location of firms? How do firms choose their locations within a metropolitan area? Why does spatial concentration of industrial and retail properties exist?
- **Public policies**: How do public goods and local externalities affect property values (neighborhood effects)? What are the determinants of land prices? What are the fiscal incentives for land use regulation? What are the socio-economic benefits of homeownership and the value of federal government programs to make housing affordable? How do foreclosed properties affect the neighborhood?

**Course Outline**

*Topic 1 - Introduction to Real Estate Markets*: Overview and Definition of "Real Estate"; The Real Estate Market; DiPasquale-Wheaton Four Quadrant Model; Micro and Macro Perspectives of Real Estate Markets

*Topic 2 - Demand, Supply and House Price Adjustment*: House Prices versus Rental Prices; Housing Attributes and Household Preferences; Housing Demand and Supply; Housing Market Stock-Flow Model and Market Dynamics

*Topic 3 - The Ricardian Rent Model*: Model Overview and Example; Spatial Separation of Households; Growth, Rents and Housing Prices; From Rents to House Prices

*Topic 4 - Tenure Choice and Housing Financing*: Arbitrage in Housing Markets; Tenure Choice in Housing Markets; Incentive Mechanism in Rental Markets; Housing Wealth Effects; Maturity Mismatch and Securitization

*Topic 5 - Residential Density and Superstar Cities*: Spatial Distribution of Population; The Hierarchy of Cities; Superstar Cities; Quality of Life

*Topic 6 - Supply Elasticity and Urban Sprawl*: Urban Sprawl and its Determinants; Supply Elasticity and Undevelopable Land; Supply Elasticity and Rent Extraction

*Topic 7 - Economics of Agglomeration*: Economic Determinants of Metropolitan Growth; Firm Concentration and Employment Decentralization; Forces of Decentralization

*Topic 8 - Commercial Real Estate and Towers of Financial Capital*: World Cities and International Financial Centers; Commercial Real Estate; Office Markets: Rents, Vacancy and Equilibrium; Rental Price Adjustment Model; Property Markets and Financial Markets

*Topic 9 - Housing Policy and Regulation*: Housing Policy; Land Use Regulation; Market Failure and Urban Sprawl; Pollution; Spatial Competition of Municipalities

**Course structure**

In light of the current SARS-CoV-2 pandemic, we strive to strike a balance between the important protection measures and the benefits coming from the atmosphere of traditional on-campus learning. Therefore, the lectures will be conducted with a combination of elements from on-campus and online learning.

Specifically:

- On-campus lectures are conducted in a rotating format to ensure compliance of the distancing regulations in lecture rooms. Students are assigned randomly to two groups: group 1 and group 2. Group 1 will be present at the lecture room for the first lecture, and every odd lecture thereafter. Group 2 will be present at the lecture room for the second lecture, and every even lecture thereafter.

- Each lecture will be streamed live and recorded, both to enable the learning by the group that is not present in the lecture room and to provide students with the opportunity to revisit the lectures (for a 30 day period). We understand that the situation might change, and thus, the plan laid out above may be subject to change at short notice. Therefore, we refer
students to our contingency plan in the additional course information section.

Formal lectures provide the theoretical and analytical framework as well as fundamentals on topics in both the micro- and macroeconomic real estate market context;

Problem sets are provided to recap and practice the concepts discussed in the lectures and to assess students’ understanding of these concepts.

Students will be graded based on the final exam (written examination - 80% of overall grade) and a term paper (examination paper written individually at home - 20% of overall grade).

Course literature

Textbooks

Further Readings: Articles that provide additional insights into various aspects of the course topics.

**Additional course information**

In the case of the President’s Board having to implement new directives due to the SARS-CoV-2 pandemic in SpS2021, the *course information listed above* will be changed as follows:

- The course is conducted online via the platform Zoom. That is, no on-campus lectures will be conducted.
- The recordings of the course are available for 30 days.
- The lecturer informs via Canvas on the changed implementation modalities of the course.

The *examination information listed below* would be changed as follows:

- All planned examination components that require physical presence will be moved online.
- If the examination modality of the *written examination* (80% of overall grade) is not possible on campus, the examination will be conducted online via Canvas. Further information are communicated via Canvas.
- There are no changes necessary to the examination modalities regarding the *term paper* (20% of overall grade).

**Examination information**

**Examination sub part/s**

1. Examination sub part (1/2)

   **Examination time and form**
   Decentral - Written examination (80%, 90 mins.)
   Examination time: term time

   **Remark**
   A pocket calculator is required.

   **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**
   A pocket calculator is required.
   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.

   **Examination languages**
   Question language: English
   Answer language: English

2. Examination sub part (2/2)
Examination time and form
Decentral - examination paper written at home (individual) (20%)
Examination time: term time

Remark
Valuation of problem set.

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

Examination content
Relevant for the exam are the content of the lecture (including slides and problem sets) and the relevant literature (details on compulsory readings will be provided in class and on StudyNet).

Examination relevant literature
In addition to the lecture notes and readings, any course material provided in class and made available on StudyNet is of relevance for the exam.
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 12 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, 28 January 2021);
- Examination information (regulations on aids, examination contents, examination literature) for decentralised examinations: in CW 12 (Monday, 22 March 2021);
- Examination information (regulations on aids, examination contents, examination literature) for centrally organised mid-term examinations: in CW 12 (Monday, 22 March 2021);
- Examination information (regulations on aids, examination contents, examination literature) for centrally organised examinations: two weeks before the end of the registration period in CW 14 (Thursday, 8 April 2021).