



## Course and Examination Fact Sheet: Spring Semester 2022

### 8,312: Microeconometrics

ECTS credits: 4

#### Overview examination/s

(binding regulations see below)

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

Examination time: inter-term break

Decentral - examination paper written at home (individual) (15%)

Examination time: term time

Decentral - Group examination paper with presentation (all given the same grades) (25%)

Examination time: term time

#### Attached courses

Timetable -- Language -- Lecturer

[8.312.1.00 Microeconometrics](#) -- Englisch -- [Lechner Michael](#)

#### Course information

#### Course prerequisites

Students should be familiar with the material taught in Data Analytics I& II.

#### Learning objectives

- Students know and use modern data analytics & econometrics tools for decision-focused causal & predictive empirical studies.
- Students apply suitable advanced data analytics causal estimators.
- Students apply suitable advanced data analytics predictive estimators and code such estimators in Python.

#### Course content

- Nonlinear models with specific structure: Discrete Choice, Count, Duration (parametric & machine/statistical learning estimation).
- Semiparametric methods for estimation of causal effects under unconfoundedness (semiparametric & machine learning estimation).
- Additional machine learning methods for prediction.
- While related topics have already been discussed in Data Analytics II, here we substantially extend the relevant set of empirical methods.

#### Course structure and indications of the learning and teaching design

The course consists of 7 lectures, 5 Lab sessions (contact studies), and a self-studies part. In the contact studies part relevant methods are discussed and applied to particular empirical problems. In the self-studies part, estimators are coded in Python.

#### Course literature

Wooldridge: The Econometrics of Cross-sectional and Panel Data.

Cameron & Trivedi: Microeconometrics.

Efron & Hastie: Computer Age Statistical Inference.



Hastie, Tibshirani, Friedman: The Elements of Statistical Learning.

Hastie, Tibshirani, Wainwright: Statistical Learning with Sparsity.

## Additional course information

In case of the President's Board having to implement new directives due to the SARS-CoV-2 pandemic in SpS2022 (i.,e. online teaching for this courses), the course information listed above will be changed as follows:

- The course is conducted online via Zoom;
- The recordings of the course are available for 30 days;
- The lecturer informs via StudyNet on the changed implementation modalities of the course.

The examination information listed below would be changed as follows:

- The presentations are conducted online;
- There are no changes for all other 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

Open Book

Students are free to choose aids but will have to comply with the following restrictions:

- All the pocket calculators that are not of the Texas Instruments TI-30 series are explicitly inadmissible.
- In addition, any type of communication, as well as any electronic devices that can be programmed and are capable of communication such as electronic dictionaries, 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

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

##### Examination time and form

Decentral - examination paper written at home (individual) (15%)

Examination time: term time

##### Remark

Labs

##### Examination-aid rule

Term papers



Written work must be written without outside help according to the known citation standards, and a declaration of authorship must be attached, which is available as a template on the StudentWeb.

Documentation (quotations, bibliography, etc.) must be carried out universally and consistently according to the requirements of the chosen/specified citation standard such as e.g. APA or MLA.

The legal standard is recommended for legal work (cf. by way of example: FORSTMOSER, P., OGOREK R., SCHINDLER B., Juristisches Arbeiten: Eine Anleitung für Studierende (the latest edition in each case), or according to the recommendations of the Law School).

The reference sources of information (paraphrases, quotations, etc.) that has been taken over literally or in the sense of the original text must be integrated into the text in accordance with the requirements of the citation standard used. Informative and bibliographical notes must be included as footnotes (recommendations and standards e.g. in METZGER, C., Lern- und Arbeitsstrategien (latest edition)).

For all written work at the University of St.Gallen, the indication of page numbers is mandatory, regardless of the standard chosen. Where page numbers are missing in sources, the precise designation must be made differently: chapter or section title, section number, article, etc.

#### Supplementary aids

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#### Examination languages

Question language: English

Answer language: English

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

#### Examination time and form

Decentral - Group examination paper with presentation (all given the same grades) (25%)

Examination time: term time

#### Remark

Self-studies

#### Examination-aid rule

Term papers

Written work must be written without outside help according to the known citation standards, and a declaration of authorship must be attached, which is available as a template on the StudentWeb.

Documentation (quotations, bibliography, etc.) must be carried out universally and consistently according to the requirements of the chosen/specified citation standard such as e.g. APA or MLA.

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#### Supplementary aids

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#### Examination languages



Question language: English

Answer language: English

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## Examination content

The written exam (60%) covers microeconometrics methods and their suitable application (incl. some machine learning methods).

The individual examination paper (15%), requires students to solve the parts of empirical projects prior to the respective lab sessions.

The group examination (25%) consists in conducting an econometric study (self-study part).

## Examination relevant literature

Wooldridge: The Econometrics of Cross-sectional and Panel Data. Cameron & Trivedi: Microeconometrics. Efron & Hastie: Computer Age Statistical Inference. Other selected chapters and papers. Lecture slides.

### 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, 27 January 2022);
- Examination information (regulations on aids, examination contents, examination literature) for decentralised examinations: in CW 12 (Monday, 21 March 2022);
- Examination information (regulations on aids, examination contents, examination literature) for centrally organised mid-term examinations: in CW 12 (Monday, 21 March 2022);
- Examination information (regulations on aids, examination contents, examination literature) for centrally organised examinations: two weeks before the end of the registration period in CW 15 (Monday, 11 April 2022).