University of St.Gallen

Course and Examination Fact Sheet: Autumn Semester 2019

5,251: Data Analytics: Statistical Programming

ECTS credits: 3

Overview examination/s

(binding regulations see below)
Decentral - examination paper written at home (individual) (100%)

Attached courses

Timetable -- Language -- Lecturer
5,251,1.00 Data Analytics: Statistical Programming -- Englisch -- Lechner Michael , Valladares-Esteban Arnau

Course information

Course prerequisites

Students need to be comfortable with the basic concepts of Statistics.

Course content

This course offers an introduction to programming in Gauss and Python while learning the main pillars of rigorous Data Analysis. The main topics covered are:

1. Introduction to programming and algorithm design.
2. Overview of Gauss and Python.
3. Data Analysis in Gauss and Python.
4. Regression analysis and Ordinary Least Squares estimation.
5. Causal estimation with an Instrumental variables approach.

The aim of the course is twofold. First, the course provides students with an opportunity to gain fluency both in Gauss and Python. Second, the course introduces students to essential Econometric methodology.

Course structure

The course consists of six sessions of four hours which take place in the second part of the semester. Each session combines lecture and programming intervals. Students are expected to use their own computers in order to follow the course.

Course literature

- There is no reference textbook. All relevant material is on the website of the course.
- Phython: A good complementary reference is the website Lectures in Quantitative Economics by Thomas J. Sargent and John Stachurski (https://lectures.quantecon.org/py/).
- Gauss: The Website of Aptech (https://www.aptech.com/resources/tutorials/) contains excellent tutorials.

Additional course information

Students need to install the necessary software before the course. A manual explain how to do this can be found on the website of course.

Examination information

University of St.Gallen

Examination sub part/s

1. Examination sub part (1/1)

Examination time and form
Decentral - examination paper written at home (individual) (100%)

Remark
Consistent of programming tasks.

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.
- The documentation of sources (quotations, bibliography) has to be done throughout and consistently in accordance with the APA or MLA standards. The indications of the sources of information taken over verbatim or in paraphrase (quotations) must be integrated into the text 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. (2017), Lern- und Arbeitsstrategien (12th ed., Cornelsen Schweiz).
- For any work written at the HSG, the indication of the page numbers both according to the MLA and the APA standard is never optional.
- 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.
- For papers in law, the legal standard is recommended (by way of example, cf. FORSTMOSER, P., OGOREK R. et SCHINDLER B. (2018, Juristisches Arbeiten: Eine Anleitung für Studierende (6. Auflage), Zürich: Schulthess, or the recommendations of the Law School).

Supplementary aids
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Examination languages
Question language: English
Answer language: English

Examination content

The exam consists of solving various programming tasks and problems using a dataset provided exclusively for this purpose.

The exam will be a 90 minute programming task to be performed during the last course session on your own computers at the University of St.Gallen.

Examination relevant literature
All the material on the website of the course.

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Please note

Please note that this fact sheet alone is binding and has priority over any other information such as StudyNet (Canvas), personal databases or faculty members' websites and information provided in their lectures, etc.

Any possible references and links within the fact sheet to information provided by third parties are merely supplementary and informative in nature and are outside the University of St.Gallen's scope of responsibility and guarantee.

Documents and materials that have been submitted no later than the end of term time (CW51) are relevant to central examinations.

Binding nature of the fact sheet:

- Information about courses and examination time (central/decentral) and examination typestarting from the beginning of the bidding on 22 August 2019
- Information about examinations (examination aid regulations, examination content, examination-relevant literature) for decentral examinations after the 4th semester week on 14 October 2019
- Information about examinations (examination aid regulations, examination content, examination-relevant literature) for central examinations as from the starting date for examination registration on 4 November 2019

Please consult the fact sheet again after these deadlines have expired.