



Course and Examination Fact Sheet: Autumn Semester 2021

7,008: RPV: Data Science - Methods and Technologies for Data-driven Business Models

ECTS credits: 4

Overview examination/s

(binding regulations see below)

Decentral - examination paper written at home (individual) (100%)

Examination time: term time

Attached courses

Timetable -- Language -- Lecturer

[7,008,1.00 RPV: Data Science - Methods and Technologies for Data-driven Business Models](#) -- Englisch -- [Wulf Jochen Andreas](#)

Course information

Course prerequisites

A basic understanding of foundational concepts in programming and statistical analysis is helpful, yet not obligatory.

Learning objectives

Gaining capabilities and knowledge in methods for big data analytics (data manipulation, data analysis)

Gain awareness about characteristic challenges in big data management

Gain experiences in handling "big data" and associated technologies

Course content

The digitization of services, customer- and supplier interactions as well as business processes leads to disruptive changes and affects competition in many industries. As a direct consequence of digitization, the volume and variety of data is increasing strongly. The systematic integration and analysis of "big data" based on state of the art technologies to handle "big data" bears high potential to effectively support management decisions and design novel data-driven products.

In this context, data science skills, which cover data storage, data cleansing and data analytics, become ever more important. The job profile of data scientists, is sometimes referred to as "the sexiest job of the 21st century".

In this course an introductory overview of a key technology for "big data", the Hadoop ecosystem, is provided. Students will learn how to manipulate and analyze big data with the database query language SQL. All methods and technologies are presented in the context of a concrete and applied use case: the analysis of facebook data. Students, in the course of this FPV, conduct their own facebook mining projects and individually write a written project report (10 pages maximum).

This FPV addresses students with an interest in data analysis and big data technologies.

Course structure and indications of the learning and teaching design

This course counts 4 credits. Accordingly, the total workload for students is 120 hours. This includes self-study, campus time and the written report.



The structure of the contact study is planned as follows: 18 hours within block course.

The structure of the self-study is intended as follows: 18 hours of preparation time for the lectures and 84 hours for preparing the student report.

The course is conducted in presence in St. Gallen.

Further explanation of the teaching and learning design:

The course consists of three phases. Before the first block day students will independently learn SQL basics by attending an online SQL course. During the first block day, students will develop the necessary skills to conduct an independent data science project, develop a research question and an analytical concept for their data science projects related to mining company Facebook feeds. In between the first and the second block, students will further develop their project ideas and present intermediate results in the second block. After the second block, students will write their project reports.

Course literature

Additional literature on big data and data science methods and tools is provided during the course.

Additional course information

In the case of the President's Board having to implement new directives due to the SARS-CoV-2 pandemic in AS2021, the course information listed above will be changed as follows:

- The course is conducted online via the platform canvas/zoom;
- The recordings of the course are available for 30 days;
- The lecturer informs via e-mail on the changed implementation modalities of the course;
- Course content such as interactive working sessions are shortened;
- ///There are no changes necessary to the examination information///.

Examination information

Examination sub part/s

1. Examination sub part (1/1)

Examination time and form

Decentral - examination paper written at home (individual) (100%)

Examination time: term time

Remark

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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

Examination content

Written report (10 pages max) in English

Examination relevant literature

None

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 (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, 26 August 2021);
- Examination information (regulations on aids, examination contents, examination literature) for decentralised examinations: in CW 42 (Monday, 18 October 2021);
- Examination information (regulations on aids, examination contents, examination literature) for centrally organised mid-term examinations: in CW 42 (Monday, 18 October 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 45 (Monday, 8 November 2021).