



Course and Examination Fact Sheet: Spring Semester 2021

8,042: Business Analytics

ECTS credits: 3

Overview examination/s

(binding regulations see below)

Decentral - Group examination paper (all given the same grades) (50%)

Examination time: term time

Decentral - Group examination paper with presentation (all given the same grades) (50%)

Examination time: term time

Attached courses

Timetable -- Language -- Lecturer

[8,042,1.00 Business Analytics](#) -- Englisch -- [Haki Kazem](#)

Course information

Course prerequisites

None.

Learning objectives

- Provide an overview of business analytics
- Introduce and discuss three main processes of business analytics
 - **Data gathering, data storage, and data integration:** data warehousing and data integration, relational and multidimensional analytical processing
 - **Knowledge discovery:** data mining
 - **Knowledge sharing:** visual analytics, business reporting, and dashboards
- Understand business analytics from a system **architecture** vantage point
- Discuss current issues and **future trends** in business analytics
- Get **hands-on experience** on business analytics processes through working with state-of-the-art analytical tools

Course content

Analytics has become the technology driver of this decade. Organizations employ various analytics tools to generate descriptive, prescriptive, and predictive insights from various data sources to make educated decisions. All of these analytics tools and their respective architectures and methodologies reside under the umbrella term business analytics (BA).

BA combines **data gathering, data storage, and knowledge management** with analytics tools to present complex internal and competitive information to planners and decision makers. The strategic role of BA has become evident for many businesses since it enhances organizations' management decision-making capabilities. Thanks to a plethora of tools and methods, BA provides purposeful aggregation and consolidation of vast amounts of data from different sources that inform operational as well as strategic management decisions.

This course covers three main phases of BA. The first phase (i.e., **data gathering, data storage, and data consolidation**) comprises data warehousing, data integration, as well as relational and multidimensional analytical processing. The second phase (i.e., **knowledge discovery**) concerns data mining to extract business knowledge from consolidated raw data. The third phase (i.e., **knowledge sharing**) encompasses visual analytics, business reporting, and dashboards. Further, to get familiar with BA tools and to get hands-on experience on the abovementioned topics, this course comprises several exercises for which students work with state-of-the-art and practical examples and analytics tools.



Course structure

The course is structured in weekly lectures and exercises, covering the following topics:

- Introduction to business analytics
- Data warehousing and data integration
- Relational databases I: relational data modeling
- Relational databases II: structured query language (SQL) for relational online analytical processing (OLAP)
- Multidimensional OLAP: multidimensional data modeling
- Operational business analytics and reporting
- Executive business analytics and dashboards
- Data mining
- Emerging trends in business analytics
- Case studies on business analytics

Conducting exercises requires installation of several analytics tools. Therefore, it is needed that students use their personal computers.

Course literature

References will be announced at the beginning of the course and in each respective course session.

Additional course information

Given the current circumstances due to the pandemic, the course is planned to be offered online. Each session will be conducted online (via Zoom) and will be recorded. The recordings will be made available for two weeks after each of the respective sessions.

In the case of the President's Board having to implement new directives in Spring semester 2021, the lecturer will inform students via Studynet course page *or* Studynet-enabled email on the changed implementation modalities of the course.

The examination information would remain unchanged in any case.

Examination information

Examination sub part/s

1. Examination sub part (1/2)

Examination time and form

Decentral - Group examination paper (all given the same grades) (50%)

Examination time: term time

Remark

Multi-submissions: answers to exercises' questions

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

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Examination languages

Question language: English

Answer language: English

2. Examination sub part (2/2)

Examination time and form

Decentral - Group examination paper with presentation (all given the same grades) (50%)

Examination time: term time

Remark

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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.

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Supplementary aids

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Examination languages

Question language: English

Answer language: English

Examination content

- **Exercises** (50%): students (in groups) conduct several exercises during the semester to practice the introduced concepts and methods in the class. Exercises include data integration and visualization, relational modeling, SQL, multidimensional modeling and OLAP, reporting, dashboards, and data mining. Answers to exercises' questions should be



submitted in several rounds of deadlines announced by the lecturer.

- **Presentation and paper** (50%): as a final project, a business case will be provided to each group. Groups are supposed to elaborate on the case (through a presentation and a short paper) based on the information provided by the case as well as course material. The case study intends to examine students' use of course content in dealing with a business case.

Examination relevant literature

Course slides, articles, book chapters, and further content provided in each session of the course. For presentations and reports, in addition to the information provided by the case study, students are expected to find, use, and apply course materials and additional information.

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).