University of St.Gallen

Course and Examination Fact Sheet: Spring Semester 2025

7,925 | 8,925: Artificial Intelligence and Behavioral Science

ECTS credits: 6

Overview examination/s

(binding regulations see below)
decentral - Presentation, Analog, Group work group grade (60%)
Examination time: Term time
decentral - Written examination, Digital, Individual work individual grade (40%, 60 mins.)
Examination time: Term time

Attached courses

Timetable -- Language -- Lecturer
8,925,1.00 Artificial Intelligence and Behavioral Science (CEMS Elective Course) -- English -- de Bellis Emanuel , Ebert Tobias , Jonassen Zoe

Course information

Course prerequisites

The course does not have any hard requirements. However, the following would be helpful:

- Basic statistics knowledge: descriptive statistics, inference statistics, and (linear) modelling.
- General interest in empirical research.

Learning objectives

After taking this course you should:

- Have developed an understanding of how artificial intelligence is used and perceived in the modern technology landscape
- Be able to describe how insights from behavioral science can be used in the context of artificial intelligence
- Be able to analyze behavioral data from lab and online experiments, interviews, observations, and geospatial datasets
- Be able to provide a report on the data analysis in written form and interpret results
- Be able to present findings from the data analysis and discuss its implications

Course content

From determining the musical characteristics of a Grammy-awarded hit song to training a social robot that interacts with elderly people, artificial intelligence (AI) is as useful as it is ubiquitous. Considering its huge potential, business leaders need to attain a practical grounding in AI and its underlying techniques and methods, in order to effectively take advantage of it and navigate the challenges associated with its implementation. Yet despite AI's omnipresence, few truly understand what is going on under the hood of these complex algorithms-and how they impact individuals, firms, and society at large.

This course provides students with a better understanding of the opportunities that have and will emerge from AI based on an interdisciplinary perspective that is grounded in behavioral science. As such, the course combines insights from psychology,

marketing, management, human-computer interaction and related disciplines. Importantly, the course is meant to advance students' methodological skills that are necessary to take full advantage of the potential of AI.

The course is structured into three parts that each focus on a key data analysis tool, which is discussed in context of a specific AI-based technology. Specifically, part 1 uses the context of the Internet of things and smart products to establish causality with experimental designs and related approaches. Part 2 draws on the application of AI-based decision-support tools for healthcare to illustrate how to analyze and interpret qualitative data, such as interviews and observations. Part 3 uses real-world business examples to discover patterns, relationships, and knowledge from large volumes of spatial data. In discussing these topics, the course touches on additional important topics such as ethics when applying AI and the limits and risks of AI.

Throughout the course, students will be introduced to different tools to collect and analyze data (i.e., ATLAS.ti, Qualtrics, and R). By participating in this course, students will learn how to both quantitatively and qualitatively capture everyday behavior, which is highly useful in an increasing number of industries. The overall learning objective is to improve students' analytical skills while increasing their understanding of how new technologies and AI systems can be used in applications. This culminates in an empirical group project in which students will have the opportunity to choose their own research question and conduct an empirical investigation to answer it.

Course structure and indications of the learning and teaching design

This course counts 6 credits. Accordingly, the total workload for students is 180 hours. This includes self-study, campus time, project work, discussions, and examinations. The course is conducted in a hybrid format with blended learning elements presented via Canvas and synchronous class meetings. The course will be offered as a mix of online materials, offline bootcamp sessions, interactive and coaching sessions, and self-study elements.

Further explanation of the teaching and learning design:

This course will be facilitated online through Canvas. Required readings and other course material (e.g., relevant video clips) will be posted on Canvas. Announcements will also be made through the Canvas site. You can submit any questions you have to the relevant discussion thread. Please post content-related questions in Canvas so everyone can benefit from the answers. The course design consists of two learning pillars:

1. Conceptual knowledge (asynchronous):

In this flipped classroom style part of the course students will learn about the essential concepts that are necessary to effectively work through the bootcamp sessions. Learning progress will be facilitated with online videos, some essential readings, and live sessions for Q&A and reading reflection. Learning progress will be tested in a midterm exam.

2. Technical skill knowledge (synchronous):

In this bootcamp-style part of the course, students will be introduced to different empirical tools and learn to apply their newly acquired knowledge from part 1 to analyze behavioral data from a technological source of their choice. In addition to the in-class bootcamp sessions, students will need to work on their own empirical group projects. Results of that project will be presented at the end of the course. Presentations need to include considerations from both parts of the course and need to be accompanied by a written report.

Course literature

de Bellis, E., Johar, G., & Poletti, N. (2023). Meaning of manual labor impedes consumer adoption of autonomous products. *Journal of Marketing*, https://doi.org/10.1177/00222429231171841

Lebovitz, S., Lifshitz-Assaf, H., & Levina, N. (2022). To engage or not to engage with AI for critical judgments: How professionals deal with opacity when using AI for medical diagnosis. *Organization Science*, *33*(1), 126-148. https://doi.org/10.1287/orsc.2021.1549

Ebert, T., Götz, F. M., Mewes, L., & Rentfrow, P. J. (2022). Spatial analysis for psychologists: How to use individual-level data for research at the geographically aggregated level. *Psychological Methods*. https://doi.org/10.1037/met0000493

Additional course information

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University of St.Gallen

Examination information

Examination sub part/s

1. Examination sub part (1/2)

Examination modalities

Examination type	Presentation
Responsible for organisation	decentral
Examination form	Oral examination
Examination mode	Analog
Time of examination	Term time
Examination execution	Asynchronous
Examination location	On Campus
Grading type	Group work group grade
Weighting	60%
Duration	--

Examination languages

Question language: English
Answer language: English

Remark

Examination includes presentation & written report

Examination-aid rule

Free aids provision

Basically, students are free to choose aids. Any restrictions are defined by the faculty members in charge of the examination under supplementary aids.

Supplementary aids

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2. Examination sub part (2/2)

Examination modalities

Examination type	Written examination
Responsible for organisation	decentral
Examination form	Written exam
Examination mode	Digital
Time of examination	Term time
Examination execution	Synchronous
Examination location	On Campus
Grading type	Individual work individual grade
Weighting	40%
Duration	60 mins.

Examination languages

Question language: English
Answer language: English

Remark

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Examination-aid rule

Closed Book

The use of aids is prohibited as a matter of principle, with the exception of pocket calculator models of the Texas Instruments TI-30 series and, in case of non-language exams, bilingual dictionaries without any handwritten notes. Any other aids that are admissible must be explicitly listed by faculty members in the paragraph entitled “Supplementary aids” of the course and examination fact sheet; this list is exhaustive.

Procuring any aids, as well as ensuring their working order, is the exclusive responsibility of students.

Supplementary aids

The examination will be conducted as a digital exam using the following aids:

- private notebook (binding) - no tablets!
- battery charging cable(binding)
- external computer mouse (optional)
- external computer keyboard (optional)

Note that the exam cannot be taken with tablets/iPads.

For the exam you will need:

- Operating system Windows oder MacOS
- Software: Minimum Office 2016 or Office 365
- Special software: LockDown Browser HSG login incl. access modalities
- WLAN - functioning access to Eduroam

Please note that,

- All updates are up to date before the exam.
- Screen privacy filters are not permitted.
- You are responsible for the proper functioning of your device.

During the entire test, the use of additional equipment not listed above is strictly prohibited.

Any necessary actions with other software or additional devices require prior approval of the examination administration and are only permitted under supervision.

Any violation of these rules of conduct may be punished as a violation of the University's regulations.

Examination content

Midtermexam

In the written midterm exam, students will test their knowledge about the conceptual topics they have learned about in the first part of the course. These topics will largely cover three areas of artificial intelligence and behavioral science: rigorous behavioral experiments in the context of smart products, spatial data mining, and qualitative methods to study the implementation of AI-based decision-support tools

Grouppresentation and report

In the presentation and report part of the examination, groups of students will be required to apply their newly acquired practical method skills in an empirical project. Specifically, they will need to either conduct an empirical study or find a suitable dataset to apply the acquired analytical skills to and write a written report on the applied method and its results. At

the end of the course, the groups will present their method and results to the class and answer questions from their peers and the lecturer team.

Timing: 20 min + 10 min Q&A + general discussion at the end.

Examination relevant literature

In addition to the lecture slides and the content of all in-class discussions, relevant journal articles, digital content and additional readings will be announced and made available during the course.

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 13 (Monday, 25 March 2025) 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, 23 January 2025);
- Examination information (supplementary aids, examination contents, examination literature) for decentralised examinations: in CW 12 (Monday, 17 March 2025);
- Examination information (supplementary aids, examination contents, examination literature) for centrally organised mid-term examinations: in CW 14 (Monday, 31 March 2025);
- Examination information (regulations on aids, examination contents, examination literature) for centrally organised examinations: two weeks before ending with de-registration period in CW 15 (Monday, 07 April 2025).