



Course and Examination Fact Sheet: Spring Semester 2021

10,421: Workshop Series in Experimental Research Tools

ECTS credits: 4

Overview examination/s

(binding regulations see below)

Decentral - examination paper written at home (individual) (60%)

Examination time: term time

Decentral - Presentation (individual) (40%)

Examination time: term time

Attached courses

Timetable -- Language -- Lecturer

[10.421.1.00 Workshop Series in Experimental Research Tools](#) -- Englisch -- [Siren Charlotta](#)

Course information

Course prerequisites

Doctoral students who plan to take this course as an *optional* course and *without an examination* should not register via the bidding system. They should register directly with the lecturer.

Doctoral students who plan to take this course as a *regular* course or as an *optional* course *with an examination* should register via the bidding system. Enrolment in a course is binding: students have to attend the course and take the exam.

Participants do not need to be familiar with programming languages or coding, in general, to successfully master the workshops.

Learning objectives

Having successfully taken this class, students will be able to:

- Understand what types of biometric experiment tools exist
- Understand the strengths and weaknesses of these tools
- Understand the basic reporting requirements for experimental research that utilizes biometric tools
- Apply the chosen tools in their own research projects
- Use these technologies with increased confidence

Course content

This course is a part of the doctoral program "Methods in Experimental Research" (MER). MER aims to build up and develop the methodological competence of doctoral students in the humanities and social sciences on organizing, implementing and analyzing human behavior experiments.

MER is aimed at doctoral students who wish to establish causality in their research in situations where a pure correlational analysis is not sufficient. The experimental method is an advanced approach to scientific work. MER requires that doctoral students have a basic understanding of the scientific method. Nevertheless, MER is a program that supports interested doctoral students across all disciplines who are interested in experimental methods for behavioral research and who wish to further develop their methodological competence in this subject.

MER consists of two successive courses/modules taking place in the fall and spring semester, respectively:

- "Basics in Experimental Research" (Autumn)



- "Workshop Series in Experimental Research Tools" (Spring)

The spring course, "Workshop Series in Experimental Research Tools", provides doctoral students with the opportunity to learn about and successfully apply different biometric experimental tools. This course is very hands-on. Students will be expected to apply a method at each workshop. At the end of the course, students are expected to have a good understanding of different biometrical experimental research tools (e.g., eye tracking) and how to apply them. We will be using iMotions biometric research platform and related tools in this course. You are welcome to the Spring course without first taking the Autumn course, and you can also decide to take just one of the courses.

Course structure

The course is structured into a workshop format. Each workshop consists of a general intro to the tool followed by a hands-on workshop where participants apply the tool and make conclusions based on generated data. The lecture will discuss the strengths and weaknesses of each tool. During the course, participants are also introduced to recent academic articles that have successfully applied the tools. It is important that participants read the articles beforehand and are ready to discuss about them. Before the last workshop, students are offered private coaching sessions. In addition, during the semester, the HSG Behavioral Lab will offer course participants access to their facilities, tools, and consultation advice. In the last workshop, students will present an experiment project where they applied a biometric tool (preferably, but not necessarily, one of the tools introduced during the course). Students will then use oral feedback from the teacher and other participants to further develop their research project, which they will then submit as a final written project report by the end of the semester.

Workshop contents:

- **Workshop 1**

Introduction to the course and to the iMotions research platform (<https://imotions.com/>). Overview of different biometrical tools and guided tour to the HSG Behavioral Lab (<https://behaviorallab.unisg.ch/en>).

- **Workshop 2**

Students will learn about facial expression analysis, how it can be applied to recognize emotions, and how to use the tool in practice. Students will also be given basic information about Galvanic Skin Response (GSR), which can be used to measure sweat glands in the skin. For more information see: <https://imotions.com/biosensor/fea-facial-expression-analysis/> and <https://imotions.com/blog/galvanic-skin-response/>

- **Workshop 3**

Students will be introduced to the use of eye tracking as an experimental research tool. This tool enables to collect information about eye movements and fixations. With eye tracking, researchers can obtain an understanding of what attracts attention, which elements get ignored, in which order elements are noticed, and how elements compare to others. For more information, see: <https://imotions.com/eye-tracking/>

- **Workshop 4**

This workshop will introduce EEG (Electroencephalography) as a tool to detect cognitive processes to learn more about how we think and behave. Brain waves data from EEG can tell researchers how alert, motivated, or engaged we are or how difficult a task is if interpreted correctly. For more information see: <https://imotions.com/biosensor/electroencephalography-eeeg/>

- **Coaching session**

Private coaching session with the teacher to discuss the planned application of a biometric experiment tool.

- **Workshop 5**

In this final session, students will present their experiment project where they have applied biometric tool and will get feedback from the teacher and other participants.

Doctoral students are expected to actively participate in all workshops, and to be prepared accordingly.

Course literature

Once bidding is fully completed, students will receive an email with instructions and readings for each of the workshops.

Additional course information



In case of administrative and content-related questions, please contact the lecturer, Prof. Dr. Charlotta Sirén, at charlotta.siren@unisg.ch.

Should the President's Board implement new directives in SpS2021 due to the SARS-CoV-2 pandemic, the course information listed above will be changed as follows:

The course will be conducted online via the platform Zoom;

- Course recordings will not be saved;
- The lecturer will inform students of any implementation modality changes via StudyNet;

The examination information listed below will also be changed to:

- Student presentations will be conducted online.
- All student presentations will be recorded.

Examination information

Examination sub part/s

1. Examination sub part (1/2)

Examination time and form

Decentral - examination paper written at home (individual) (60%)

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.

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 - Presentation (individual) (40%)

Examination time: term time

Remark

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Examination-aid rule

Presentations

In presentations, aids for visual presentation can be used. These aids can be specified or restricted by the lecturers.

Supplementary aids

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Examination languages

Question language: English

Answer language: English

Examination content

Examination paper written at home:

Doctoral students are required to use the tools introduced in this course to individually work on and develop an iMotions project or experiment. This includes collecting actual data and providing an initial analysis. They are then required to report on this small study in English. While the size of this experiment will be left to the discretion of the student, it is important that they demonstrate methodological competence. The guidelines for the report will be presented at the first workshop. The written project report is due at the end of the semester.

Presentation:

Students will present their experiment project in the last workshop. Students will receive oral feedback from the lecturer as well as other doctoral students. Students are expected to incorporate this feedback to their final written report.

Examination relevant literature

Once bidding is fully completed, students will receive an email with instructions and readings for 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 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).