

EEG in Practice, 3.0 credits

EEG i praktiken, 3.0 hp

Third-cycle education course

7FIBL23

Department of Behavioural Sciences and Learning

Valid from: First half-year 2026

Approved by
The Board of PhD Studies

Approved
2025-12-05

Revised
2025-11-05

Registration number
IBL-2025-00328

Entry requirements

Entry requirements for studies on second or third-cycle education courses

- first-cycle degree,
- 210 credits in relevant courses, including at least 30 second-cycle credits
- acquisition of equivalent knowledge in some other manner

Specific information

It is recommended to have participated in “Introduction to EEG and MEG, 1.5 hp” before starting this course, or to demonstrate equivalent knowledge.

Students need to have access to EEGLAB, which can be downloaded from https://scen.ucsd.edu/wiki/How_to_download_EEGLAB.

EEGLAB runs under MATLAB, which can be downloaded via minit.liu.se. Further information will be given at the start of the course.

The course will be given in either English or Swedish, depending on the linguistic preference of the students.

Learning outcomes

By the end of the course, the students will be able to:

Knowledge and understanding

- Understand how brain-derived electrical potentials are acquired through scalp electrodes
- Explain standard scalp-electrode placement according to the 10-20 system
- Read the live EEG activity displayed on a computer screen

Competence and skills

- Record EEG activity, amplified and filtered by the EEG system, and displayed on a screen
- Extract and save raw EEG data for further preprocessing and analysis

Judgement and approach

Evaluate the needs in the EEG equipment and recording strategies

Contents

Topics included in the course are:

Analyses of EEG and MEG data: ERP/ERF, TF, TRF and source analysis

Educational methods

Teaching includes lectures and practical lab sessions (preprocessing, evoked analysis, and induced analysis). The EEG system to be used for practice is available at LiU in the Beta lab.

Examination

Examination includes a practical oral examination.* *

Students who fail are offered one re-examination occasion in close connection to the course. After that, participation in a coming course examination is offered. The re-examination should be equally comprehensive as the ordinary examination.

Grading

Two-grade scale

Course literature

The course coordinator will provide a list of recommended literature before the start of the course.

General information

Change of examiner

Students who have failed the course or part of the course twice are entitled to request another examiner for the following examination occasion.

Course certificate

On the student's request, course certificate is issued by the course examiner.

The course is planned and conducted in accordance with the information outlined in this syllabus. Course evaluation, analysis and suggestions for improvement should be fed back to the Research and PhD studies Committee (FUN) by the course coordinator.

If the course is withdrawn or is subject to major changes, examination according to this syllabus is normally offered at three occasions within/in close connection to the two following semesters.