Introduction to functional Magnetic Resonance Imaging (fMRI), 3 hp

COURSE OBJECTIVES
After completion of the course the students will be able to:

- Explain the foundations of fMRI
- Discuss different aspects of experimental design of importance for fMRI studies
- Explain and conduct preprocessing of fMRI data
- Explain whole-brain analyses, region-of-interest analyses and connectivity analyses and know for which research questions different analyses are applied
- Conduct whole brain and region-of-interest analyses on fMRI data

EXAMINATION
Examination includes an individual written assignment.

ADMISSION REQUIREMENTS
Registration as doctoral or master student.

GRADING
The grades are Approved and Not approved.

COURSE READINGS
Details of required and recommended reading will be presented at the start of the course.

OTHERS
It is recommended to have participated in “Introduction to brain imaging, 1.5 hp” before starting this course.

Students need to have access to SPM, which can be downloaded from https://www.fil.ion.ucl.ac.uk/spm/. SPM 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 English or Swedish depending on the students.

MODES OF TEACHING/WORKING FORMS
Teaching includes workshops with theoretical and practical elements (preprocessing, whole brain analyses and region-of-interest analyses). The fMRI analysing program SPM (running under MatLab) will be used for practical exercises. The students are expected to have access to SPM during the workshops.

Effective from spring 2020

Approved by FUN 2020-09-03