Course syllabus for

Cognitive Processes, 15 credits

Kognitiva processer, 15 hp
This course syllabus is valid from spring 2023.
Please note that the course syllabus is available in the following versions:
Spring2013 , Spring2014 , Spring2015 , Spring2016 , Spring2017 , Spring2020 , Spring2022 , Spring2023 , Spring2024

Course code	2PS029
Course name	Cognitive Processes
Credits	15 credits
Form of Education	Higher Education, study regulation 2007
Main field of study	Psychology
Level	G2 - First cycle 2
Grading scale	Pass with distinction, Pass, Fail
Department	Department of Clinical Neuroscience
Decided by	Programnämnd 8
Decision date	2012-11-06
Revised by	Education committee CNS
Last revision	2022-10-03
Course syllabus valid from	Spring 2023

Specific entry requirements

Passed results of the first semester (at least 7,5 credits) of the Study Programme in Psychology.

Objectives

Module 1, Cognitive Processes
Learning goals
On completion of the course, the student should be able to

- define the concepts of cognition and cognitive neuroscience and briefly describe the historical development of the subject and its current status as scientific subject
- account for central concepts, theories and methods within cognitive psychology (e.g. brain anatomy, brain imaging, cognitive plasticity, memory functions, languages), visuospatial ability, intelligence, executive functions, problem solving and decision making
- account for the neurobiological basis for the above functions
- discuss individual differences (e.g. sex, age) and conditions (e.g. sleep) in relation to cognitive processes.

Skills and attitudes
On completion of the course, the student should be able to

- reflect ethically on how to handle test situations and test results with a starting point in his/her initial experience of administrating cognitive tests.

Module 2, Statistical Methods
Learning goals
On completion of the course, the student should be able to

- independently analyse behavioral data with an emphasis on comparisons between groups by means of analyses of variance methodology.

Skills and attitudes
On completion of the course, the student should be able to

- review own and others results critically and understand the meaning of statistical significance
- be able to design and carry out a scientific experiment and report this in written text
- be able to carry out and interpret calculations (e g correlation, ANOVA) in the statistical program Jamovi
- be able to reflect around research ethics with a starting point in his/her initial experience of collecting and analyzing data.

Content

The course consists of the following two modules:

Cognitive Processes, 10.5 hp

Grading scale: VU

Part 1 deals with human cognition and addresses areas within cognitive psychology as method, working memory, episodic memory, semantic memory, implicit memory functions, cognitive plasticity, language functions, intelligence, executive functions, problem-solving and decision making. Also included are sleep, emotion and gender and how these factors interact with cognitive performance. In most cases, aspects of cognition are presented from a theoretical perspective, in which cognitive theories are presented, as well as from a biological perspective, in which the biological basis for the cognitive functions are presented. By means of practical exercises, discussions, and student presentations during seminars, further knowledge and practical understanding of cognitive functions are given.

Statistical Methods, 4.5 hp

Grading scale: VU

Part 2 provides a repetition of earlier statistical methods and introduces statistical correlations, analysis of variance, non- parametric tests, power calculation and statistical pitfalls. Practical knowledge is given in computer labs, but also during the laboratory work. In the laboratory work, aspects of cognition is examined in an experiment (multifactorial design), where research ethics, problem formulation, data collection, data analysis (analysis of variance) and interpretation of the data are performed in groups, and the documented and presented in a written scientific report. Finally, the laboratory reports are discussed at a critical review occasion.

Teaching methods

Module 1, Cognitive Processes
The module starts with an introduction to cognitive psychology. Teacher-supervised and webbased lectures are interleaved with seminars, practical exercises and quizzes. Quizzes as well as attendance and active participation at the seminars is compulsory, see heading "Examination".

Module 2, Statistical Methods
Teaching of statistical methods starts after the module's introduction and consist of webbased and teacher-supervised lectures and computer exercises. The computer exercises are compulsory and require attendance. On these occations, quizzes on the textbook content will be given. As a practical excercise, the students collect data in experiments, and later analyse and report the results in a written report. These laboratory sessions are compulsory and require attendance, see heading "Examination".

Examination

Module 1, Cognitive Processes, is examined in the following way:
a) written exam at the end of the course, is graded U, G or VG
The contents of the reading list, but also the contents of lectures and seminars are examined in the written examination.
b) compulsory quizzes
c) compulsory active participation at seminars, according to schedule

The module is graded U, G or VG. The grade G on the module requires G on the written exam as well as fulfillment of compulsory course elements. The grade VG on the module requires VG on the written exam as well as fulfillment of compulsory course elements.

Module 2, Statistical Methods, is examined in the following way:
a) written exam, is graded U, G or VG
The contents of the reading list, but also the contents of lectures and practical data exercises are examined in the written examination.
b) laboratory report, in which the student presents the results of the experimental study she/he has conducted, is graded U or G
c) compulsory active participation at practical data exercises
d) compulsory active participation at laboratory work, according to schedule

The module is graded U, G or VG.
The grade G on the module requires G on both the written exam and the laboratory report, as well as fulfillment of compulsory course elements.
The grade VG on the module requires VG on the written exam, G on the laboratory report and fulfillment of compulsory course elements.

Course grade
The entire course is graded U, G or VG.
The grade G on the entire course requires at least G on module 1 and 2.
The grade VG on the entire course requires VG on module 1 and at least G on module 2.

Absence from or unfulfillment of compulsory course elements
The examiner decides whether, and if so how, absence from or unfulfillment of compulsory course elements can be made up for. Study results cannot be reported until the student has participated in or fulfilled compulsory course elements, or compensated for any absence/ failure to fulfill in accordance with instructions from the examiner. Absence from or unfulfillment of a compulsory course element may imply that the student can not retake the element until the next time the course is offered.

Possibility of exception from the course syllabus' regulations on examination
If there are special grounds, or a need for adaptation for a student with a disability, the examiner may decide to deviate from the syllabus' regulations on the examination form, the number of examination opportunities, the possibility of supplementation or exemptions from the compulsory section/s of the course etc. Content and learning outcomes as well as the level of expected skills, knowledge and attitudes may not be changed, removed or reduced.

Transitional provisions

If the course is cancelled or goes through substantial changes, information about interim regulations will be stated here.

Other directives

Course evaluation takes place according to KI's local guidelines. Results and possible measures are returned to the students on course web.

Teaching in English may occur.

Literature and other teaching aids

Mandatory literature

The latest editions of the literature should be used.

Borg, Elisabet; Westerlund, Joakim
Statistik för beteendevetare. : Faktabok

3., [uppdaterade och omarb.] uppl. : Malmö : Liber, 2012 - 552 s.
ISBN:978-91-47-09737-1 (korr.) LIBRIS-ID:13434322
Library search

Myers, David G.; Dewall, C Nathan
Psychology

Worth Publishers Inc.,u.s., 2018 - 645 sidor
ISBN:9781319113070 LIBRIS-ID:lvv1v3zkjxs54qd3
Library search

Navarro, Danielle J.; Foxcroft, David R.
Learning statistics with jamovi: A tutorial for psychology students and other beginners

University of New South Wales, 2019
URL: https://www.learnstatswithjamovi.com/

Purves, Dale.
Principles of cognitive neuroscience

2nd ed. : Sunderland, Mass. : Sinauer Associates, c2013.
ISBN:978-0-87893-573-4 LIBRIS-ID:13905270
Library search

Reisberg, Daniel
Cognition : exploring the science of the mind

7e, international student edition. : New York : W. W. Norton et Company, [2019] - xxiii, 585, A-27, G-20, R-49, C-5, I-26 pages
ISBN:9780393665093 LIBRIS-ID:w656z86gt8l766wh
Library search

Suggested literature

Brace, Nicola; Kemp, Richard; Snelgar, Rosemary.
SPSS for psychologists

5. ed. : Basingstoke : Palgrave Macmillan, 2012. - xi, 470 p.
ISBN:0230362729 LIBRIS-ID:12750273
Library search