



**Karolinska
Institutet**

Course syllabus for

Experimental psychology, 15 credits

Experimentell psykologi, 15 hp

This course syllabus is valid from autumn 2020.

Please note that the course syllabus is available in the following versions:

[Autumn2007](#) , [Autumn2008](#) , [Autumn2009](#) , [Autumn2010](#) , [Autumn2011](#) , [Autumn2012](#) , [Autumn2013](#) , [Autumn2014](#) , [Autumn2015](#) , [Autumn2017](#) , [Autumn2020](#) , [Autumn2021](#) , [Autumn2022](#) , [Autumn2023](#) , [Autumn2024](#)

Course code	2PS001
Course name	Experimental psychology
Credits	15 credits
Form of Education	Higher Education, study regulation 2007
Main field of study	Psychology
Level	G1 - First cycle 1
Grading scale	Pass with distinction, Pass, Fail
Department	Department of Clinical Neuroscience
Decided by	Programnämnden för Psykologprogrammet
Decision date	2007-06-21
Revised by	Education committee CNS
Last revision	2020-04-01
Course syllabus valid from	Autumn 2020

Objectives

On completion of the course, the student should be able to

Module 1, Perception and attention

- describe the way our senses and our brain interpret the environment in psychologically meaningful units and various theories about this
- describe the principles of how we pay attention to certain types of information, but not other
- give examples of tasks that may be included in the psychologist profession and discuss different aspects of the role of the psychologist

Module 2, Emotion and motivation

- describe basic homeostatic emotions such as hunger, thirst and sexuality from psychological, evolutionary and neuroscience perspectives
- describe basic emotions such as fear and anger from psychological, evolutionary and neuroscience perspectives and reflect on the ways in which feelings (or emotions) play a central role in people's

lives

Module 3, Experimental methodology

- define and understand the meaning of descriptive statistical concepts (e.g. population, sample, measures of central tendency, variance) and statistical inference (e.g. significance, significance level, within- and between-subject comparisons, t-test), and be able to discuss and implement statistical analysis of simple experimental data
- characterise descriptive methods and the difference between qualitative and quantitative data
- describe the principles of experimental design and analyse the strengths and weaknesses of experimental methodology in different research contexts
- in a group setting plan and carry out a laboratory session in the form of a smaller experiment and in writing be able to analyse, report and discuss its results
- during a seminar be able to discuss your own as well as other students' experimental lab-reports from a statistical, methodological, and ethical perspective

Content

The course is divided into three (3) modules, as follows:

Perception and attention, 5.0 hp

Grading scale: VU

This module deals with sensory and perception, that is how our minds are informed about the world around us and about events in one's own body, as well as psychological research about how this information is interpreted and used. The neurophysiological background of these functions is treated comprehensively. Perception can not treat all available information but attention processes will select the information to be prioritised that will guide action. Theories (and the neurological basis) of attention are included. Based on a study visit, the psychologist's profession and the relationship between knowledge of the foundations of psychology and its importance for the future professional exercise are discussed.

Emotion and motivation, 5.0 hp

Grading scale: VU

This module deals with driving forces and emotional dynamics behind human action. It applies original biologically-based driving forces as hunger, thirst, sexuality and emotional connection to other people and social motives such as for example dominance and neurophysiological control of these. Feelings are treated within the concept emotion, where basic emotion states such as joy, sorrow, fear, anger and disgust are treated from evolutionary biological, psychological and neuro-scientific perspectives. Further, emotional communication is treated, and the interplay between emotion and other psychological processes.

Experimental methodology, 5.0 hp

Grading scale: VU

This module provides an introduction to statistics that partly deals with descriptive statistical concepts such as population and sample distribution, measures of central tendency (e.g. mean), variability (e.g. standard deviation) and statistical estimation, and introduces inference statistics with significance tests of differences between the two groups.

Further, an introduction is given to experimental research methodology with an overview of basic concepts such as experimental variables (independent, dependent and irrelevant variables), experimental control, and causal inferences. Further, experimental design and the usability of experimental

methodology for various types of issues and scientific writing are discussed.

Teaching methods

The main part of the teaching takes place in the form of lectures/ seminars where the students are encouraged to actively participate. A compulsory study visit to a psychologist's workplace is included. Observe that attendance at the preparatory confidentiality lecture is a requirement to be able to participate on the study visit. If you face obstacles to attend the confidentiality lecture or study visit, contact the study visit coordinator as soon as possible. Further, demonstrations and statistical calculation exercises, and an implementation of a laboratory work, are included. This laboratory work implies that the students in groups formulate an issue for an experiment and plan, carry out, analyse, and report this in a written report that is then presented at a seminar. Reports may be written in and ventilated in English. Teaching is also given in the format of compulsory seminars.

Examination

The course is examined separately for each module. Each module is graded fail (U), pass (G) or pass with distinction (VG).

Module 1, Perception and attention

- a) A written examination at the end of module 1 (grades fail/ pass/ pass with distinction).
- b) Active participation in a follow-up seminar after study visit (grades fail/ pass).

To pass the module, Pass is required on examinations a and b. To pass with distinction, in addition to this a pass with distinction is required on examination a.

Module 2, Emotion and motivation

- a) A written examination at the end of module 2 (grades fail/ pass/ pass with distinction).

Module 3, Experimental methodology

- a) Written examination of method (grades fail/ pass/ pass with distinction) and statistics (grades fail/ pass/ pass with distinction).
- b) A written report of completed group experiment and oral review of this in a seminar. It is also required that the group acts as a critic of another group's report (grades fail/ pass).

To pass the module, pass is required on both parts of the written examination (method and statistics) and on the group experiment. To pass with distinction, pass with distinction is required on one at least of the two parts of the written examination.

Grade for the whole module

Observe that in addition to that specified above, participation in compulsory parts is necessary to pass the module. Compulsory parts are given in the timetable.

Course grade

The course is graded with fail, pass or pass with distinction.

For a pass grade in the whole course, at least a pass in all modules of the course is required. For pass with distinction in the whole course, a pass with distinction is further required in at least two of three modules.

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.

Limitation of the number of examinations

Student who do not pass the regular examination are entitled to retake the examination on five more occasions. If the student has carried out six failed examinations/tests no additional examinations will be

given. As examination trials, the occasion when the student has participated in the same test are counted. Submission of blank exam is counted as an examination trial. An electronic examination that has been opened via the learning management system counts as an examination trial, even if the examination is not submitted. Examination to which the student registered but not participated in, will not be counted as an examination trial. To be valid for judgement, the examination must be submitted at the given time (osäker!), or the student will be referred to (osäker!) the next examination occasion.

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

The transition rules follow KI's local guidelines for examination.

Other directives

Course evaluation takes place in accordance with KI's local guidelines. Results and possible actions are communicated to the students via the course web page.

Literature and other teaching aids

Mandatory literature

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.

Psychology

10th ed. : New York, NY : Worth Publishers, 2011. - p. cm.

ISBN:1-4292-6178-1 (hardcover : alk. paper) LIBRIS-ID:12746942

[Library search](#)

Fox, Elaine.

Emotion science : cognitive and neuroscientific approaches to understanding human emotions

Basingstoke : Palgrave Macmillan, 2008. - xx, 456 p.

ISBN:9780230005174 (hardback : alk. paper) LIBRIS-ID:14075424

[Library search](#)

Purves, Dale.

Principles of cognitive neuroscience

2nd ed. : Sunderland, Mass. : Sinauer Associates, c2013.

ISBN:978-0-87893-573-4 LIBRIS-ID:13905270

[Library search](#)

Svartdal, Frode

Psykologins forskningsmetoder : en introduktion

1. uppl. : Stockholm : Liber, 2001 - viii, 295 s.

ISBN:91-47-05056-X LIBRIS-ID:8354383

[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](#)

Further study material (e.g., articles) may be included (approx. 200 pages).

In-depth literature

Links to brain and behavior

The senses

http://thebrain.mcgill.ca/flash/i/i_02/i_02_cr/i_02_cr_vis/i_02_cr_vis.html

Motivation: http://thebrain.mcgill.ca/flash/i/i_03/i_03_cr/i_03_cr_que/i_03_cr_que.html

Emotion: http://thebrain.mcgill.ca/flash/i/i_04/i_04_cr/i_04_cr_peu/i_04_cr_peu.html

Links about research ethics:

<http://www.notisum.se/rnp/SLS/LAG/20030460.HTM>: Lag (2003:460), swedish law on ethical approval for human research

<http://www.codex.uu.se/index.shtml>: Swedish Research (jointly with the Center for Bioethics) web site for ethical guidelines for research.