



**Karolinska
Institutet**

Course syllabus for

Differential Psychology, 15 credits

Differentiell psykologi, 15 hp

This course syllabus is valid from autumn 2019.

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

[Autumn2008](#) , [Autumn2009](#) , [Autumn2010](#) , [Autumn2011](#) , [Autumn2012](#) , [Autumn2013](#) , [Autumn2014](#) , [Autumn2015](#) , [Autumn2016](#) , [Autumn2019](#) , [Autumn2021](#) , [Autumn2022](#) , [Autumn2023](#)

Course code	2PS005
Course name	Differential Psychology
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	Programnämnden för Psykologprogrammet
Decision date	2008-05-15
Revised by	Education committee CNS
Last revision	2019-04-10
Course syllabus valid from	Autumn 2019

Specific entry requirements

Passed results of the first and second semester (30 credits and at least 15 credits, respectively) of the Study Programme in Psychology.

Objectives

Part 1

On completion of this part, the student should be able to

- describe and account for basic concepts within both classical and modern psychometric theory
- compute basic psychometric analyses and be able to carry out correlation based statistical calculations
- reflect around own experiences around design and evaluation of psychological tests

Part 2

On completion of this part, the student should be able to

- define and account for central theoretical models within the differential psychology and discuss these with a critical and reflecting attitude
- describe and account for statistical methods within differential psychology
- discuss cultural influences and gender perspectives in relation to individual differences
- understand and discuss the practical usability (and difficulties) of psychological tests of individual differences when used in psychological testing and assessment

Part 3

On completion of this part, the student should be able to

- describe and account for basic concepts within behavioural genetics theory and method
- give examples of research designs that is used to study the importance for human personality, intelligence and vulnerability of genetic effects for psychopathology
- account for and reflect critically around the relative importance of genes and environment account for and reflect critically around the methods and results from molecular genetics
- account for theories of brain evolution from a behavioral genetic perspective

Content

The contents of the course include design of psychological instruments and basic psychometric concepts within psychometrics, an overview of statistical methods used within differential psychology and questions about the importance of the heredity and environment for individual differences.

The course is divided in the following three parts:

Psychometrics and Statistical methods, 6.0 hp

Grading scale: VU

The first part gives an introduction to psychometrics. The student learns how psychological phenomena are quantified how tests are designed and how standardization is used to interpret the quantification. The student learns methods from both classical and modern test theory to assess reliability and validity. In addition to basic test theoretical applications specific methods to evaluate reliability of diagnostic instruments (interrater reliability sensitivity and specificity) are introduced.

The statistical methods are based on correlational statistics (i.e. how one analyses associations between different properties of tests) and include item analysis and factor analysis. Furthermore, skills in designing psychological tests are communicated and discussions are held around how one can evaluate its reliability and validity critically. With the aim to illustrate the practical usability of psychometric knowledge, the student will apply a differential psychological perspective: to evaluate and revise a test and by studying established tests and discuss its reliability interpretation, psychometrics etc.

Individual differences, 4.5 hp

Grading scale: GU

Under the second part the student will learn about different concepts of intra and individual differences in psychological attributes and statistical methods used to analyze these (regression analysis). Concepts of intellectual skills and abilities and different traditions to define and measure personality traits will be discussed. Current perspectives on individual differences from social cognitive psychology, will be illustrated. Furthermore, psychoanalytic perspectives, cultural influences and gender perspectives on individual differences in intelligence and personality, will be addressed.

Behavioral genetics, 4.5 hp

Grading scale: GU

The third part gives the student knowledge about the importance of genes and environment for differences between people. In this section, knowledge of basic genetic mechanisms is provided, methods to study effects of genes on behaviour, and the relative importance of heredity and environment for differences between people regarding different aspects of intelligence, personality and health behaviours. Further, in a behavioural genetics perspective, the student may take part of knowledge concerning a number of cognitive deviations.

Teaching methods

The teaching consists of teacher-supervised lectures and seminars where the students are encouraged to active participation by discussing and reflect around the themes of the lectures. Further, the teaching consists of laboratory sessions that intend to let the students exercise on statistical analyses and use statistical calculation exercises and analyses to evaluate these and established tests. These exercises are meant to illustrate the practical importance of knowledge of differential psychology and statistics in the psychologist's everyday work.

Seminars and exercise sessions are compulsory. The course director assesses if absence from a compulsory education element can be replaced. If this is possible, the course director decides how the learning objectives should be achieved. Until the student has participated in the compulsory parts (or compensated any absence with assigned tasks in accordance with instructions from the course director) the final study results can not be reported. Absence from a mandatory education element could mean that the student can not do the part until the next time the course is offered. Compulsory seminars and laboratory sessions are according to the following:

- Part 1: compulsory laboratory sessions and calculation exercises
- Part 2: compulsory seminars, calculation exercises

Examination

The course is examined both independent and in groups through oral and written examination assignments.

Part 1

The part of the course on psychometrics and statistics is examined through

- 1) written assignment (lab report) with oral examination in groups
- 2) written assignment (instrument review) with oral examination in groups
- 3) individual written calculation assignment

In the examination assignment 1 (lab report), one of the grades Pass/ Fail is given. At the examination 2 (instrument review) and 3 (calculation assignment) one of the grades Passed with distinction, Passed or Failed is given. To obtain Pass on this part of the course the student must obtain Pass on all examination parts. For Pass with distinction, the student has to obtain Pass with distinction on the written assignment of 2 (instrument review) and 3 (calculation assignment), and Pass on the other examination assignments.

Part 2

The student's knowledge of individual differences are examined through

- 1) written assignment (lab report) and a seminars
- 2) in writing minor essay and oral presentation of scientific article

At the examination assignments under part 2 the grade Pass or Fail is given. To obtain Pass on this part of the course the student must obtain Pass on all examination parts.

Part 3

The student's knowledge if behavioural genetics is examined through

- 1) Written examination

In the written examination (examination assignment 1) the grade Pass with distinction, Pass or Fail is

given.

In order to pass the course, the student is required to have passed on all Three parts. For Passed with distinction on the course the student is required to have passed with distinction on both part 1 and part 3 and have passed on part 2.

Student who do not pass the regular examination are entitled to re-sit the examination at five more occasions. If the student has carried out six failed examinations/tests be given not any additional examination. As examination, the times are counted when the student has participated in the same test. Submission of blank exam is counted as examination. Examination to which the student registered but not participated be counted not as 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's 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 knowledge, skills, and approach 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 according to KI's local guidelines. Results and possible measures are returned to the students on course web.

Literature and other teaching aids

Furr, R. Michael

Psychometrics - an introduction

Sage Publications Inc, 2017

ISBN:9781506389875 LIBRIS-ID:w55b70mptjpp3nh0

[Library search](#)

Plomin, Robert

Behavioral genetics

6 ed. : New York : Worth Publishers, c2013. - 1 v. (various pagings)

ISBN:9781429242158 (hbk.) LIBRIS-ID:14007119

[Library search](#)

Diener, E (Ed). The NOBA collection. The Diener Education Fund. <http://nobaproject.com/> Selected chapters. Mandatory.

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](#)

Brace, Nicola.; Kemp, Richard; Snelgar, Rosemary.

SPSS for psychologists

4th ed. : Basingstoke : Palgrave Macmillan, 2009. - xi, 454 s.

ISBN:978-0-230-59459-3 (pbk.) LIBRIS-ID:11490159

[Library search](#)

Diagnostik och uppföljning av förstämningssyndrom : en systematisk litteraturöversikt

Ekselius, Lisa

Stockholm : Statens beredning för medicinskt utvärdering (SBU), 2012 - 603 s.

ISBN:9789185413522 LIBRIS-ID:13881533

URL: [Fulltext](#)

[Library search](#)