



**LUND**  
UNIVERSITY

Faculty of Social Sciences

## **PSPB12, Course 2: Biological and Cognitive Perspectives of Behaviour, 30 credits**

*Kurs 2: Människan i biologiskt och kognitivt perspektiv, 30 högskolepoäng*  
First Cycle / Grundnivå

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### **Details of approval**

The syllabus was approved by the board of the Department of Psychology on 2014-11-11 and was last revised on 2014-11-11. The revised syllabus applies from 2015-08-31, autumn semester 2015.

### **General Information**

The course is a compulsory component of semester 1 and 2 of the Master of Science programme in Psychology..

*Language of instruction:* Swedish  
Some components may be in English.

### **Learning outcomes**

On completion of the course, the students shall be able to

#### **Knowledge and understanding**

- demonstrate knowledge of the theories, methods and research results of behavioural genetics
- demonstrate knowledge of the theories, methods and research results of evolutionary psychology
- demonstrate knowledge of the development, structure and functions of the brain
- demonstrate knowledge of the links between neurophysiological or neurobiochemical factors and psychological functions such as cognition, personality and psychopathology
- demonstrate knowledge of the difference between biological sex and gender
- demonstrate knowledge of how the brain interacts with the immune system
- demonstrate knowledge of the field of cognitive psychology and neuropsychology with regard to higher cognitive functions, emotions and social function both concerning function in adulthood and in a development perspective
- demonstrate knowledge of the research methods of psychobiology, cognitive

psychology and neuropsychology, such as brain imaging, and use of behavioural data and patient data, and demonstrate the ability to reflect critically on the methods and the fields

- demonstrate knowledge of key theories and research results with regard to intelligence differences and critically review explanatory models to such differences

### **Competence and skills**

- demonstrate the ability to use a brain model to locate and name function areas of the brain

- demonstrate the ability to apply knowledge of cognitive psychology and neuropsychology to understand normal function

- demonstrate the ability to seek and evaluate scientific information with regard to cognitive psychology and neuropsychology

- demonstrate the ability to plan, execute and report studies of their own in cognitive psychology and neuropsychology

- demonstrate the ability to apply knowledge in psychometrics through construction of tests including independent evaluation of the reliability of individual test results and differences between and within individuals

- demonstrate the ability, aided by supervision, to carry out an individual cognitive assessment with a standardised test and interview, and write a statement

- demonstrate the ability to apply scientific and critical perspectives to the fields addressed in the course

### **Judgement and approach**

- demonstrate the ability to use a professional and ethical approach to perform an individual cognitive assessment

- demonstrate the ability to identify and reflect on relevant social factors such as gender, class and ethnicity in relation to the themes and assignments in the course

### **Course content**

The aim of the course is to provide the future psychologists with knowledge and understanding of both general psychological functions and the psychology of differences based on biological psychology, cognitive psychology and neuropsychology. Different application assignments are used to equip students with skills of relevance to the profession and abilities within the fields addressed.

The course consists of four modules:

Module 2:1. Biological Psychology, 7.5 credits.

The module is a broad introduction to biological psychology: evolutionary psychology, basic genetics, behavioural genetics, neuropsychology, endocrinology and psychoneuroimmunology, as well as critical perspectives on these fields. Theories of evolutionary psychology and associated explanatory models (e.g. social structure theory) are described and discussed. Knowledge about models of the interaction and correlation between inheritance and environment, as well as about the use of genetic

mediation to explain the relationship between environment and phenotype, contributes to understanding of the complicated interplay between inheritance, environment and behaviour. Behavioural genetics, requiring knowledge of statistics obtained in module 1:3 (Basic Descriptive and Inferential Statistics), is an important basis for an understanding of the psychology of differences. Gene testing and the need for psychological support are illustrated by case studies. Furthermore, the module deals with basic neuro-anatomy, cellular function, neural communication, the development and change of the brain, gender development (biological and social), sex, sleep, the workings of the psychoendocrine system, and the interaction of brain and immune system.

Module 2:2. Cognition and Neuropsychology: Higher Cognitive Functions, 11 credits.

The module focuses on basic cognitive functions such as attention, memory, language, spatial ability and executive functions. Furthermore, it considers motivation and consciousness as well as problem-solving and decision making.

The module describes important methods for studying cognitive functions and mental processes (e.g. reaction times, performance measures) as well as the activity of the brain and functional anatomy (e.g. lesion and patient data, brain imaging methods).

The validity and limitations of the scientific methodology are illustrated in laboratory components through planning, implementation, processing, discussion and reporting of individual studies. Knowledge obtained in module 1:3 (Basic Descriptive and Inferential Statistics) is applied and developed.

Module 2:3. Cognition Psychology and Neuropsychology: Emotion and Social Interaction, 4 credits.

The module provides student with knowledge of the neuro-cognitive foundations of emotion, social communication and understanding, and of how the influence of cognitive control functions can contribute in social interaction. Cognitive processes are linked to behaviour and phenomena in everyday life, for example social cognition and how we perceive and judge other people as well as draw conclusions about the underlying reasons for their actions.

Module 2:4. Intelligence Testing and Psychometrics, 7.5 credits.

The module provides students with knowledge of key theories of intelligence and research concerning differences in cognitive functions between people.

Psychometrics and its different applications within the psychological profession are addressed. Among the topics included are test construction and item analysis, calculation of reliability and validity, evaluation of the reliability of individual test values, and differences in and between individuals based on the average error of the measurement.

## Course design

The teaching consists of classes, group exercises, seminars, laboratory sessions, demonstrations and film components.

Attendance is compulsory in group exercises, seminars, laboratory sessions, demonstrations, film components and some classes.

Moreover, the student is to perform an individual cognitive assessment using WAIS and an interview, and write a statement. To be allowed to complete this component, which entails contact with an adult client, the student must have participated in all compulsory classes and group exercises preceding the component.

Compulsory components can be completed throughout the current course period. However, this does not apply to the laboratory session in module 2:2 and the component on testing with WAIS and the component on test construction in module 2:4. In case of absence, the student must complete these component the next time the course is offered.

## Assessment

The assessment is based on written and oral tests, individually and in groups.

Three opportunities for examination are offered for written tests: a first examination and two re-examinations.

Two further re-examinations on the same course content are offered within a year of a major change of the the course (e.g. change of the required reading). After this, further re-examination opportunities are offered but in accordance with the current course syllabus.

*Subcourses that are part of this course can be found in an appendix at the end of this document.*

## Grades

Marking scale: Fail, Pass.

The grades awarded are Pass or Fail. For a grade of Pass, the student must have attained the learning outcomes stated for the course.

At the start of the course students are informed about the learning outcomes stated in the syllabus and about the grading scale and how it is applied in the course.

## Entry requirements

To be admitted to the course, students must be admitted to the Master of Science programme in Psychology.



## Subcourses in PSPB12, Course 2: Biological and Cognitive Perspectives of Behaviour

Applies from H15

- 1401 Biological Psychology, 7,5 hp  
Grading scale: Fail, Pass
- 1402 Cognitive and Neuropsych.: Higher cognitive functions, 11,0 hp  
Grading scale: Fail, Pass
- 1403 Cognitive- & Neuropsych.: Emotion and Social Interaction, 4,0 hp  
Grading scale: Fail, Pass
- 1404 Psychometrics and Intelligence Testing, 7,5 hp  
Grading scale: Fail, Pass