



**Karolinska  
Institutet**

Course syllabus for

# **Neuroscience Basis for Cognition and Behaviour, 5 credits**

Kognitiva och emotionella system, 5 hp

This course syllabus is valid from spring 2012.

Course code	9H1026
Course name	Neuroscience Basis for Cognition and Behaviour
Credits	5 credits
Form of Education	Contract education (credits)
Main field of study	Medicine
Level	AV - Second cycle
Grading scale	Fail (U) or pass (G)
Department	Department of Neurobiology, Care Sciences and Society
Decided by	Styrelsen för utbildning
Decision date	2011-10-18
Course syllabus valid from	Spring 2012

## **Specific entry requirements**

At least 120 credits, including a medical degree. English language skills equivalent to English B/English 6 at Swedish upper secondary school are also required.

## **Objectives**

The student should deepen and integrate knowledge of the cognitive and emotional systems of the brain in order to improve and ensure handling of patients with various types of dementia-related issues. On completion of the course, the student should be able to: - distinguish normally aging from minor cognitive impairment, confusion, respectively the different dementia diseases, - explain the cognitive and emotional functions of the brain, transmitter system and functions at cell level, - explain the mechanisms behind various types of memory functions, neuro-anatomical antecedents to different cognitive functions and how cognitive functions act normally and how they are influenced at normally aging, - show integrated knowledge of cognitive and emotional systems at handling of patient issues in clinical practice, - interpret brain damage symptoms in a brain regional perspective, based on medical history and clinical findings.

## **Content**

The course deals with the following: - The cognitive and emotional systems of the brain -

Neuroanatomy, function and transmitter systems - The life of a neuron - Normally aging versus other illness - Memory functions - Cognition aging, MCI, dementia, confusion - Changes of different cognitive functions during aging

## Teaching methods

The course is carried out as distance education and has a student-activating learning in focus as educational model. The distance education is IT-based and is characterised by an independent and collaborative learning. In the course occurs both individual study assignments, work in groups, virtual discussions and seminars and lectures.

## Examination

The examination is both formative, i.e. evaluation during the course, and summational, i.e. evaluation of the contents of the course. The formative examination takes place through active participation in seminar presentations, both individual and in groups. To pass the assignments, it is required that the student has participated actively in the completion of the assignments and in both written and oral presentation/discussion of these. The summational examination takes place through a reflecting individual written report, based on advanced study in chosen fields of the course content, on relevant literature and also a critical discussion of possible application. The reports should also be presented orally. The reports should be presented and discussed at a seminar together with teachers and fellow students.

## Other directives

Language of instruction English.

## Literature and other teaching aids

*Gazzaniga, Michael S.; Ivry, Richard B.; Mangun, George R.*

### **Cognitive Neuroscience : The Biology of the Mind**

3 ed. : London W W Norton & Co Ltdc 2008 : W W Norton & Co Ltdc 2008, 2008

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