



**Karolinska
Institutet**

Course syllabus for

Nervous System: Structure and Function, 7.5 credits

Nervsystemets struktur och funktion, 7.5 hp

This course syllabus is valid from autumn 2019.

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

Autumn2019 , [Autumn2020](#) , [Autumn2021](#) , [Autumn2022](#) , [Autumn2023](#) , [Autumn2024](#)

Course code	1AU071
Course name	Nervous System: Structure and Function
Credits	7.5 credits
Form of Education	Higher Education, study regulation 2007
Main field of study	Audiology
Level	G1 - First cycle 1
Grading scale	Pass, Fail
Department	Department of Clinical Science, Intervention and Technology
Decided by	Education committee CLINTEC
Decision date	2019-04-01
Course syllabus valid from	Autumn 2019

Specific entry requirements

General admission requirements.

Objectives

The overall aim of the course is for the student to acquire the basic knowledge of the structure and function of the nervous system, which is necessary to understand the functioning and the pathology of the hearing system, which is studied in future courses.

Learning outcomes of the course

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

- identify and define essential neuroanatomical structures
- describe how the central and peripheral nervous system is organized with larger upward and downward nerves and tracts.
- account for the structure and function of the nerve cells
- describe the sensory and motor functions of the nervous system
- describe how the various parts of the central nervous system interact in the higher cognitive functions

- describe the development of the central nervous system
- describe how neurological disorders can affect sensory, motor and cognitive functions
- know how a neuropsychological investigation is conducted

Content

The course begins with an introduction to medical terminology and basic neuroanatomical and physiological concepts. Thereafter, the central and peripheral nervous system organization and its cellular organization and biochemical activity are reviewed. The course highlights how our sensory organs function (vision, hearing and body feeling) and how the central nervous system processes sensory impressions from these organs. In addition, it is clarified how different parts of the central nervous system interact in senso-motor processes and in the higher cognitive functions (visu-spatial functions, languages, memory and executive functions). The course also includes a description of the development of the central nervous system and teaching of neurological disorders that may occur in the mature brain (stroke, head injuries and neurological disorders). The most common radiological methods for measuring brain activity are reviewed. At the end of the course, a seminar will be held where the students will gain practical knowledge of how a neuropsychological investigation is done and what information can be obtained from such investigations

Teaching methods

Lectures, work-shops and a neuropsychological seminar.

The seminar is compulsory. In case of absence from compulsory part, the student is responsible for contacting the course coordinator for complementary assignment.

The examiner decides how absence from compulsory course elements can be made up. Study results cannot be reported until the student has participated in compulsory course elements or compensated for any absence in accordance with instructions from the course coordinator. Absence from a compulsory course element could mean that the student can not retake the element until the next time the course is offered.

Examination

Two written exams and attendance and active participation in the neuropsychological seminar.

For a Pass grade in the course, attendance and active participation in compulsory parts are also required. Students who do not pass a regular examination are entitled to re-sit the examination on five more occasions. Each time the course is offered, one regular examination and two additional examinations are given. Each occasion the student participates in the same test counts as an examination. Supplementary addition to a written assignment is counted as an examination. Submission of a blank exam paper is regarded as an In case a student is registered for an examination but does not attend, this is not regarded as an 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 skills, knowledge and abilities may not be changed, removed or reduced

Transitional provisions

Examination may take place under the previous reading list during a period of one year after the renewal of the reading list. Examination will be provided during a period of two years after a close-down of the course.

Other directives

The course evaluation will be carried out according to the guidelines that are established by the Board of Education. The course evaluation will be carried out both through a written course evaluation at the end of the course, and through an oral course forum at least once in connection with the course, during which the students can state their opinions.

Literature and other teaching aids

Pinel, John P. J.; Barnes, Steven

Biopsychology

Tenth edition. : Hoboken, NJ : Pearson Higher Education, [2018] - xxiii, 595 pages

ISBN:9780134203690 LIBRIS-ID:fp886q8xcc9b6phv

[Library search](#)

Pinel, John P. J.; Edwards, Maggie

A colorful introduction to the anatomy of the human brain : a brain and psychology coloring book

2 ed. : Boston, Mass : Allyn and Bacon, c2008 - xiv, 231 p.

ISBN:978-0-205-54874-3 LIBRIS-ID:11439884

[Library search](#)

Kahle, Werner; Frotscher, Michael

Color atlas of human anatomy. : Volume 3 Nervous system and sensory organs

6th rev. ed. : Stuttgart : Thieme, cop. 2010. - 412 p.

ISBN:9781604061215 (eISBN) LIBRIS-ID:12040454

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