

BIO-483

Neuroscience: behavior and cognition

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Cursus	Sem.	Type
Life Sciences Engineering	MA2, MA4	Opt.
Neuro-X minor	E	Opt.
Neuro-X	MA2, MA4	Opt.
Neuroscience		Opt.

Language of teaching	English
Credits	5
Session	Summer
Semester	Spring
Exam	Written
Workload	150h
Weeks	14
Hours	5 weekly
Lecture	3 weekly
Exercises	2 weekly
Number of positions	

Summary

The goal is to guide students into the essential topics of Behavioral and Cognitive Neuroscience. The challenge for the student in this course is to integrate the diverse knowledge acquired from those levels of analysis into a more or less coherent understanding of brain structure and function.

Content

Pathways into the visual brain
 Perception and encoding
 Attention and selective perception
 Perception and consciousness
 Understanding statistics
 Stress and emotion
 Learning and memory
 Neurobiological mechanisms of memory
 Emotional influences on cognitive functions
 Psychiatric disorders
 Structural and functional cortical neuroanatomy
 Somatosensory perception and parietal cortex in human and non-human primates
 Multisensory perception and parietal and premotor cortex in human and non-human primates
 Perception and representation of visual space in the right hemisphere
 Selected neurological disorders and human brain imaging
 Bodily self-consciousness

Learning Prerequisites**Recommended courses**

Neuroscience: from molecular mechanisms to disease (BIO-480)
 Neuroscience: cellular and circuit mechanisms (BIO-482)

Assessment methods

Written exam

Resources**Bibliography**

Purves D et al. Principles of Cognitive Neuroscience. 2008. Sinauer Associates: Sunderland, MA.

Gazzaniga MS. Cognitive Neuroscience. 2008 (3rd. Ed.) W. W. Norton & Company.

Ressources en bibliothèque

- [Cognitive Neuroscience / Gazzaniga](#)
- [Principles of Cognitive Neuroscience](#)

Moodle Link

- <https://go.epfl.ch/BIO-483>