COURSE DETAIL

THE LEARNING BRAIN: FROM PERCEPTION TO MEMORY FORMATION
Country Netherlands
Host Institution Maastricht University - Center for European Studies
Program(s) Psychology and Neuroscience,Psychology and Neuroscience, Maastricht
UCEAP Course Level Upper Division
UCEAP Subject Area(s) Psychology
UCEAP Course Number 126
UCEAP Course Suffix
UCEAP Official Title THE LEARNING BRAIN: FROM PERCEPTION TO MEMORY FORMATION
UCEAP Transcript Title PERCEPTION & MEMORY
UCEAP Quarter Units 6.00
UCEAP Semester Units 4.00

Course Description

This course takes a purely biological view of a set of interconnected topics in the field of learning and memory. All learning and memory formation is dependent on changes in functional connections between neurons. The course starts with seminal findings illustrating this principle in Aplysia. These findings are then compared with mechanisms of Long-Term Potentiation (LTP). In a number of papers, and accompanying lectures, students gain insight into molecular mechanisms to manipulate intra-cellular processes contributing to LTP and neural plasticity, at the genomic, RNA, and protein levels. In parallel, students learn about some landmark neurophysiological findings that have been crucial in our current understanding of memory formation. With this background in mind, students read studies in which molecular tools are used to modulate memory formation and their neurophysiological correlates. The course focuses mainly on two forms of learning, namely episodic memory and skill learning. Most of the papers focus on animal models of learning, using molecular and neurophysiological approaches, but there are also papers on human and non-human primate learning. The lectures provide crucial background to understand the papers, and in a broad sense could provide topics for exam questions. The course is challenging, and so a background or strong interest in neuroscience and/or (cellular) biology is very strongly recommended for this course. Further, students must have a genuine interest in biological approaches of learning and memory.

Language(s) of Instruction
English

Host Institution Course Number
PSY3345

Host Institution Course Title
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Host Institution Course Details

Host Institution Campus

Host Institution Faculty Faculty of Psychology and Neuroscience
Host Institution Degree
Host Institution Department
Course Last Reviewed

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