

Biologische Informationsverarbeitung

Modul: Optophysiology - Theory

MODULE TITLE: OPTOPHYSIOLOGY - THEORY						
GENERAL INFORMATION						
Program Semester	Duration	Credit points	SWS	Frequency	Cycle Start	Language
1	1	5	4	each summer semester	SS 2015	English
CONTENT INFORMATION						
Content			Objectives			
Introduction to optophysiological techniques; Basic principles in Optogenetics and Imaging Methods; Presentation and Comprehension of recent optophysiological studies in neuroscience.			Consolidation of knowledge in neurophysiology with focus on optophysiological methods and approaches; Survey and comprehension of basic principles and techniques in optophysiology			
Requirements			Grades			
B.Sc. degree in Biology, preferentially with specialization and prior knowledge in neurobiology;			Content of the lecture will be tested in an 1-hour exam. For seminars frequent attendance, protocol and oral presentation are requested. Exam grade is the final module grade.			
COURSES & ASSOCIATED EXAMS						
Title	Exam duration (minutes)	CP	SWS			
Lecture <i>Optophysiology - Methods and Applications</i>		0	2			
Exam <i>Optophysiology - Methods and Applications</i>	60	3	0			
Seminar <i>Current topics in Optophysiology</i>		2	2			

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Modul: Optophysiology – Practical Course

MODULE TITLE: OPTOPHYSIOLOGY – PRACTICAL COURSE						
GENERAL INFORMATION						
Program Semester	Dur- ation	Credit points	SWS	Frequency	Cycle Start	Language
1	1	5	4	each summer semester	SS 2015	English
CONTENT INFORMATION						
Content				Objectives		
Presentation and Comprehension of recent optophysiological studies in neuroscience; practical tutorial in multiphoton imaging, optical imaging and optogenetics.				Consolidation of knowledge in neurophysiology with focus on optophysiological methods and approaches; Survey, comprehension and application of basic principles and techniques in optophysiology		
Requirements				Grades		
B.Sc. degree in Biology, preferentially with specialization and prior knowledge in neurobiology; Module Optophysiology – Theory (OPTO-1)				For practical courses detailed complete protocols and oral presentation of obtained results are requested and will be graded. Final module grade is the average of protocol and presentation grades.		
COURSES & ASSOCIATED EXAMS						
Title				Exam duration (minutes)	CP	SWS
Practical Course <i>Optophysiology</i>					0	4
Protocols and oral presentation of Course Results				30	5	0