

<b>Module title</b>		<b>Abbreviation</b>
Electrophysiology in human and animals		o6-TN-EPHY-182-mo1
<b>Module coordinator</b>		<b>Module offered by</b>
Department of Neurology, Department of Neurosurgery		Faculty of Medicine
<b>ECTS</b>	<b>Method of grading</b>	<b>Only after succ. compl. of module(s)</b>
5	(not) successfully completed	--
<b>Duration</b>	<b>Module level</b>	<b>Other prerequisites</b>
1 semester	graduate	--
<b>Contents</b>		
<p>Besides a detailed theoretical introduction to the means of electrophysiological brain recording in human and animal models, this module will allow to apply analysis to these different types of data. It will focus on temporal analysis of electrophysiological signals but also on a frequency based analysis, i.e. oscillatory brain activity, which plays a crucial role in low-level as well as higher-level cognitive functions. Different electrophysiological responses to simple visual input will be compared between analysis approaches and data type.</p>		
<b>Intended learning outcomes</b>		
<p>This module will give a detailed theoretical and practical insight into different electrophysiological recording techniques and the resulting data obtained in human and animal brain recordings. Through hands-on analysis experience with such data, namely multi-electrode recordings, ECoG recordings and EEG/ MEG recordings, the module will allow students to learn analysis techniques and understand the information content of these different kinds of electrophysiological data. The recording and analysis methods introduced can build a bridge from spikes to the local field, from human to the animal model, from invasive to non-invasive approaches and will therefore stimulate translational thinking.</p>		
<b>Courses</b> (type, number of weekly contact hours, language — if other than German)		
S (2)		
<b>Method of assessment</b> (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)		
<p>a) written examination (30 to 60 minutes, including multiple choice questions) or b) log (10 to 30 pages) or c) oral examination of one candidate each (30 to 60 minutes) or d) oral examination in groups of up to 3 candidates (30 to 60 minutes) or e) presentation (20 to 45 minutes) or f) poster according to specific congress requirements Language of assessment: English</p>		
<b>Allocation of places</b>		
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<b>Additional information</b>		
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<b>Workload</b>		
150 h		
<b>Teaching cycle</b>		
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<b>Referred to in LPO I</b> (examination regulations for teaching-degree programmes)		
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<b>Module appears in</b>		
<p>Master's degree (1 major) Translational Neuroscience (2018) Supplementary course Translational Neuroscience (2018) Master's degree (1 major) Translational Neuroscience (2022) Supplementary course Translational Neuroscience (2022)</p>		