

<b>Module Name</b> Lecture Neuroscience						
<b>Type of Module</b> ○ Basic Module				<b>Module Code</b> Neuroscience Lecture		
<b>Identification Number</b> MN-B-N 1	<b>Workload</b> 180 h	<b>Credit Points</b> 6 CP	<b>Term</b> 1 <sup>st</sup> term of studying	<b>Offered Every</b> Winter term	<b>Start</b> Winter term only	<b>Duration</b> 1 term
<b>1</b>	<b>Course Types</b> Lecture		<b>Contact Time</b> 49 h		<b>Private Study</b> 131 h	
<b>2</b>	<b>Module Objectives and Skills to be Acquired</b> Students who successfully completed this module <ul style="list-style-type: none"> <li>• have acquired an understanding of neural functions and mechanisms from the cellular to the behavioral level.</li> <li>• have acquired in-depth knowledge of important concepts in the neurosciences.</li> <li>• will be in a position to access future developments in the neurosciences.</li> <li>• have acquired the ability to form and test hypotheses in the neurosciences.</li> </ul>					
<b>3</b>	<b>Module Content</b> <ul style="list-style-type: none"> <li>• Neuroanatomy and cytology</li> <li>• Brain architecture</li> <li>• Ion channels and electrical properties of neurons</li> <li>• Neural signaling</li> <li>• Circuit function</li> <li>• Motor control</li> <li>• Sensory systems</li> <li>• Learning and memory</li> <li>• Neurodegeneration and -regeneration</li> <li>• Neuroendocrinology and neuromodulation</li> <li>• Computational neuroscience</li> <li>• Neuropathology</li> <li>• Neural development</li> <li>• Enteroreception and control of homeostasis</li> <li>• Behavior</li> </ul>					
<b>4</b>	<b>Teaching Methods</b> <ul style="list-style-type: none"> <li>• Lecture</li> </ul>					

5	<p><b>Prerequisites (for the Module)</b></p> <p>Enrollment in one of the Master's of Science degree courses of the Department of Biology or in the Master's degree course "Experimental and Clinical Neuroscience"</p> <p><b>Additional academic requirements</b></p> <p>The knowledge of neurobiology on the level of a general biology text book (e.g. Campbell or Purves) is required.</p>
6	<p><b>Type of Examination</b></p> <p>Two hours written examination about topics of the lectures (100 % of the total module mark)</p>
7	<p><b>Credits Awarded</b></p> <p>Written examination at least "sufficient"</p>
8	<p><b>Compatibility with other Curricula*</b></p> <p>Optional module for the second (or third) obligatory lecture module in the other Master's of Science degree courses of the Department of Biology, Optional compulsory module in the Master's degree course "Experimental and Clinical Neuroscience"</p>
9	<p><b>Proportion of Final Grade</b></p> <p>7.5 %</p>
10	<p><b>Module Coordinator</b></p> <p>Dr. Thomas Riemensperger, phone 470 6135, e-mail: triemens@uni-koeln.de</p>
11	<p><b>Further Information</b></p> <p><b>Participating faculty:</b> Prof. Dr. S. van Albada, Prof. Dr. A. Büschges, Prof. Dr. H. Endepols, Prof. Dr. K. Ito, Prof. Dr. P. Kloppenburg, Dr. H. Fenselau, Prof. Dr. T. Korotkova, Prof. Dr. M. Nawrot, PD Dr. T. Riemensperger, Dr. V. Rostami, Prof. Dr. H. Scholz</p> <p><b>Literature:</b></p> <ul style="list-style-type: none"> <li>• Liqun Luo: Principles of Neuroscience (ISBN-13: 978-0815345336)</li> <li>• Further information about textbooks and other reading material will be given on the ILIAS representation of the course (see <a href="https://www.ilias.uni-koeln.de/ilias/goto_uk_cat_2815610.html">https://www.ilias.uni-koeln.de/ilias/goto_uk_cat_2815610.html</a>).</li> </ul> <p><b>General time schedule:</b> Weeks 1-14: Tue. from 11:00 to 12:30 a.m. and Thu. From 8:15 to 9:45 a.m.; Week 15 (Mon.-Fri.): Preparation for the written examination</p> <p><b>Introduction to the module:</b> October 7, 2025 at 11:00 a.m. Hybrid (further information/link will be sent to your Smail-Account); for preparation to the module before this introduction see ILIAS link under literature.</p> <p><b>Written examination:</b> February 3, 2025, second/supplementary examination March 10, 2025; the latter date may vary if students and module coordinator agree. More details will be given at the beginning of the module.</p>