

<b>Module Name</b> Lecture Neurobiology: Genes, Circuits, and Behavior						
<b>Type of Module</b> ○ Basic Module				<b>Module Code</b> Neurobiology 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>Planned Group Size*</b> Approx. 50-70 students
<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 the Master´s degree course "Biological Sciences" 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>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>PD Dr. Joachim Schmidt, phone 470 6135, e-mail: joachim.schmidt@uni-koeln.de</p>
11	<p><b>Further Information</b></p> <p><b>Participating faculty:</b> Prof. Dr. S. van Albada, PD Dr. B. Altenhein, Prof. Dr. A. Büschges, Prof. Dr. S. Daun, Prof. Dr. H. Endepols, Dr. M. Gruhn, Prof. Dr. K. Ito, Prof. Dr. P. Kloppenburg, Prof. Dr. T. Korotkova, Prof. Dr. M. Nawrot, Prof. Dr. R. Predel, Dr. T. Riemensperger, Dr. V. Rostami, PD Dr. J. Schmidt</p> <p><b>Literature:</b></p> <ul style="list-style-type: none"> <li>• Information about textbooks and other reading material will be given on the ILIAS representation of the course (<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. and Thu. from 11:00 to 12:30 a.m.; Week 15 (Mon.-Fri.): Preparation for the written examination</p> <p><b>Introduction to the module:</b> October 12, 2021 at 11:00 a.m. online (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 08, 2022, second/supplementary examination March 08, 2022; the latter date may vary if students and module coordinator agree. More details will be given at the beginning of the module.</p>

\* Depending on how many students from other subject areas (and if indicated also from other master´s degree courses, see 5) choose this module.