Neural Function I: From Experiments to Analysis						
Identification number		Workload	Credit points	Term of studying	Frequency of occurence	Duration
MN-B-SM (N 1)		360 h	12 CP	1st or 2nd term of studying	Summer term, 1st half	7 weeks
1	Type of lessons		Contact times	Self-study times	Intended group size*	
	a) Lectures		20 h	40 h	max. 16	
	b) Practical/Lab		100h	160 h	max. 2	
	c) Seminar		10 h	30 h	max. 16	
2	Aims of the module and acquired skills Students who successfully completed this module … • have acquired an understanding of how intrinsic membrane properties shape specific functional neuronal phenotypes. • have acquired an understanding of how microcircuits generate behavior, with an emphasize on motor circuits. • have an understanding of plasticity in neurons and microcircuits					
3	Contents of the module • Basic properties of excitable membranes • Synaptic interaction of neurons • Modulation of membrane properties • Functional properties of sensory-motor circuits					
4	Teaching/Learning methods • Lectures; Seminar; Computer excercises; Guidance to independent research; Training on presentation techniques in oral and written form.					
5	Enrollment in the Master´s degree course “Biological Sciences” or in the Master´s degree course “Experimental and Clinical Neurosciences” An advanced knowledge of neuroscience is essential. Therefore, participation in the Master´s module "*Essentials in Neuroscience - Lectures*" of the MSc Biology program in the winter term or in a specialized course of a Bachelor program (e.g. MN-B-WP I [Neuro 1] at the University of Cologne) is required.					

6	Type of module examinations The final examination consists of two parts: Two hours written examination about topics of the lectures, the practical/lab part and the seminars (70 % of the total module mark) and oral presentation (30 % of the total module mark)
7	Requisites for the allocation of credits Regular and active participation; Passed seminar paper Each examination part at least "sufficient" (see appendix of the examination regulations for details)
8	Compatibility with other Curricula* Elective module in the Master´s course program "Experimental and Clinical Neurosciences"
9	Significance of the module mark for the overall grade In the Master´s degree course "Biological Sciences": 15 % of the overall grade (see also appendix of the examination regulations)
10	Module coordinator PD Dr. Joachim Schmidt, phone 470-6135, e-mail: joachim.schmidt@uni-koeln.de
11	Additional information Subject module of the Master´s degree course "Biological Sciences", Focus of research: (N) Neurobiology: Genes, Circuits, and Behavior Participating faculty: Prof. Dr. A. Büschges, Dr. T. Bockemühl, Dr. M. Gruhn, Dr. S. Hess, Prof. Dr. P. Kloppenburg, Prof. Dr. M. Nawrot, PD Dr. J. Schmidt Literature: • Information about textbooks and other reading material will be given on the ILIAS representation of the course (https://www.ilias.uni-koeln.de/ilias/goto_uk_cat_2815610.html) General time schedule: Week 1-6 (Mon.-Fri.): Lectures, Computer exercises and preparation for the seminar talk (held at the end of week 6) as well as writing seminar paper; Week 7 (Mon.-Fri): Preparation for the written examination Introduction to the module: April 12, 2021 at 9:00 a.m., Cologne Biocenter, room 1.007 (first floor) or online (in this case, further information/link will be sent to your Smail-Account); for preparation to the module before this introduction see ILIAS link under literature. Note: Material for mandatory preparation before the course will be made available on the ILIAS representation of the course not later than 1st of April Written examination: May 31, 2021, second/supplementary examination August 06, 2021; the latter date may vary if students and module coordinator agree. More details will be given at the beginning of the module.

*12 students from the Master´s degree course "Biological Sciences" and 4 students from the Master´s degree course "Klinische und Experimentelle Neurowissenschaften".

Corona note! Depending on the Corona situation during the summer term, practical work may be included into the course program. Experimental work related to the topics of this module are planned to be part of the module "Neural function II" in the second half of this semester. Both modules, however, are independent of each other.