Module Name
Lecture Neuroscience

Type of Module	**Module Code**
o Basic Module	Neuroscience Lecture

Identification Number	**Workload**	**Credit Points**	**Term**	**Offered Every**	**Start**	**Duration**
MN-B-N 1	180 h	6 CP	1st term of studying	Winter term	Winter term only	1 term

1	**Course Types**	**Contact Time**	**Private Study**
	Lecture	49 h	131 h

2 Module Objectives and Skills to be Acquired

Students who successfully completed this module

- have acquired an understanding of neural functions and mechanisms from the cellular to the behavioral level.
- have acquired in-depth knowledge of important concepts in the neurosciences.
- will be in a position to access future developments in the neurosciences.
- have acquired the ability to form and test hypotheses in the neurosciences.

3 Module Content

- Neuroanatomy and cytology
- Brain architecture
- Ion channels and electrical properties of neurons
- Neural signaling
- Circuit function
- Motor control
- Sensory systems
- Learning and memory
- Neurodegeneration and -regeneration
- Neuroendocrinology and neuromodulation
- Computational neuroscience
- Neuropathology
- Neural development
- Enteroreception and control of homeostasis
- Behavior

4 Teaching Methods

- Lecture

5	**Prerequisites (for the Module)** 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" **Additional academic requirements** The knowledge of neurobiology on the level of a general biology text book (*e.g.* Campbell or Purves) is required.
6	**Type of Examination** Two hours written examination about topics of the lectures (100 % of the total module mark)
7	**Credits Awarded** Written examination at least "sufficient"
8	**Compatibility with other Curricula*** 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"
9	**Proportion of Final Grade** 7.5 %
10	**Module Coordinator** Dr. Thomas Riemensperger, phone 470 6135, e-mail: triemens@uni-koeln.de
11	**Further Information** **Participating faculty:** 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, Dr. T. Riemensperger, Dr. V. Rostami, Prof. Dr. H. Scholz **Literature:** • Liqun Luo: Principles of Neuroscience (ISBN-13: 978-0815345336) • Further information about textbooks and other reading material will be given on the ILIAS representation of the course (see https://www.ilias.uni-koeln.de/ilias/goto_uk_cat_2815610.html). **General time schedule:** Weeks 1-14: Tue. from 11:00 to 12:30 a.m and Thu. from 8:15 to 9:45 a.m. in lecture hall 0.024; Week 15 (Mon.-Fri.): Preparation for the written examination **Introduction to the module:** October 10, 2023 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. **Written examination:** February 06, 2024, second/supplementary examination March 05, 2024; the latter date may vary if students and module coordinator agree. More details will be given at the beginning of the module.