module code / module title

MN-S2 / Laboratory Animal Science

date / version of the module description	20.02.2023

1	INFORMATION ON THE MODULE	
1a	module code	MN-S2
1b	module title *(German title)*	
1c	module title *(English title)*	Laboratory Animal Science
1d	credit points	3
1e	responsible for the module	Dr. Detlef Wegener
1f	type of module	compulsory elective module
1g	programs using the module	M.Sc. Neurosciences
1h	organizational unit offering the module	Klicken Sie hier, um Text einzugeben.
1i	content-related prior knowledge or skills	Basic knowledge of animal physiology is recommended.
1j	learning contents	**Lectures:** - Legislative requirements for conducting animal experiments - General aspects of biology and keeping of most widely used laboratory animal species - Planning and assembly of animal experiments, biometry, and statistical analysis - Abiotic and biotic standardization of animal experiments - Substance administration and sample drawing

		- Analgesia and anesthesia - Surgical procedures, surgical instruments, and hygiene - Chemical fixation of tissue and perfusion - Methods of humane killing in accordance with animal protection law **Practical Work:** - Handling and behavior of rodents, acquisition of fundamental physiological and behavioral data, ethograms, recognition test and elevated plus maze test. - Substance administration in rat and mice - Humane killing and dissection of rodents - Induction and surveillance of anesthesia and drawing of blood samples - Intra-abdominal surgery of a rat (splenectomy) - Suturing of muscle and skin tissue - Perfusion of a rat and dissection of the brain - Visit of and introduction to rodent and non-human primate husbandries,
1k	learning outcomes/ competencies/ targeted competencies	Students have a detailed understanding of the manifold of aspects to be considered when preparing and performing an animal experiment and they have acquired corresponding theoretical and practical skills: Students… - know about the legal requirements to perform an animal experiment - are able to acquire basic behavioral and physiological data - can handle rodents, apply substances, and draw samples - can induce and and control anesthesia, including pre-, peri-, and postoperative care and analgesia, on a basic level - can use standard surgical instruments and can apply surgical techniques - are able to apply different suturing techniques - know the legal requirements for humane killing of laboratory animals and can apply this knowledge - can perform perfusion, tissue fixation and dissection on a basic level

1l	calculation of student workload *(part a: calculation of presence time and working hours)*	**The total amount of the presence time and working hours of the module has to be calculated additionally in the detailed calculation a) to c).** **a)** detailed calculation: **SWS / presence time/working hours in each course of the module**

☒	1	lecture(s) with	1.1	SWS/ contact hours	15	hours of presence time
☐		seminar(s) with		SWS/ contact hours		hours of presence time
☐		exercise(s) with		SWS/ contact hours		hours of presence time
☐		internship(s) with		sum of working hours		
☒	1	seminar(s) with	0.1	SWS/ contact hours	2	total hours of presence time
☒	1	laboratory/laboratories with	1.8	SWS/ contact hours	25	total hours of presence time
☐		tutorial(s) with		SWS/ contact hours		
☐		excursion(s) with		SWS contact hours in total		working hours

☐ other form of course (e.g. block seminar), namely this:

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with SWS / with totaly contact hours ☐ presence time ☐ working hours

= sum of presence time and working hours:

42 hours

	calculation of student workload *(part b: preparation time and follow-up work/self-study)*	**b) working hours for preparation/follow-up work of the course(s) and/or self-study** = sum of working hours: 20 hours
	calculation of student workload *(part c: exam preparation etc.)*	**c) exam preparation (incl. examination)** = sum of working hours: 28 hours
	calculation of student workload *(total amount of hours including a) - c))*	**Total amount of the presence time and working hours a) to c):** 90 hours
1m	description of possible optional courses in the module	*Can a student choose between different courses within the module?* NO *Short description of selection option* Klicken Sie hier, um Text einzugeben.
1n	language(s) of instruction	☐ German ☒ English ☐ Spanish ☐ French ☐ Other, namely this: Klicken Sie hier, um Text einzugeben.
1o	frequency	*(regular cycle module is offered) e.g.: winter semester, yearly or summer semester, yearly or each semester* winter semester yearly Klicken Sie hier, um Text einzugeben.
1p	duration	one semester module The main part of the module is a block course of one week at end of the semester, with follow-up-work during the semester break
1q	Literature (*optional*)	Klicken Sie hier, um Text einzugeben.
1r	more information on the module (*optional*)	Limited to 20 students

2	**INFORMATION ON THE MODULE EXAMINATION** (see also AT Art. 5 section 8)	
2a	type of examination	☐ module exam; i.e. exam with only one component (MP) ☒ combination exam, i.e. exam with several components (administered by instructors) (KP) ☐ partial exam; i.e. exam with several components (administered by registrar) (TP)
2b	exam components or prerequisites *(type, number)*	***PL*** *= graded component of the examination* ***SL*** *= ungraded component of the examination, coursework* ***PVL*** *= prerequisite of the examination (see AT Art. 5 Section 10)* ☒ PL | 2 ☐ SL | ☐ PVL | justification If necessary, further explanations: Klicken Sie hier, um Text einzugeben.
2c	Give this information for combination examinations only: Weights (in percentage) of component grades	PL 1: 75 % Project report PL 2: 25 % oral examination (single, during course) PL 3: Klicken Sie hier, um Text einzugeben. PL 4: Klicken Sie hier, um Text einzugeben. If necessary, further comments: Participants are required to carefully prepare each day's practical course and they get individually examined on the several aspects of the work they're going to do that day.
2d	form of examination (see AT BPO/AT MPO Art. 8, 9 and 10)	☐ Assignment ☒ Oral examination (single) ☐ Presentation, oral ☐ Written examination ☐ Group examination, oral ☐ Presentation and written assignment ☐ Portfolio ☒ Project report ☐ Bachelor Thesis ☐ Internship report ☐ Colloquium ☐ Master Thesis ☐ Other (concrete definition is given in the examination regulations): Klicken Sie hier, um Text einzugeben.
2e	language(s) of instruction	☐ German ☒ English ☐ Spanish ☐ French ☐ Other, namely this: Klicken Sie hier, um Text einzugeben.