

module code /
module title

MN-NN / Neuronal Networks

date / version of the module
description

23.02.2023

1 INFORMATION ON THE MODULE		
1a	module code	MN-NN
1b	module title (German title)	
1c	module title (English title)	Neuronal Networks
1d	credit points	9
1e	responsible for the module	N.N., neu zu besetzende Professur (genaue Inhalte/Workload/Prüfungsmodalitäten des Moduls daher noch nicht geklärt)
1f	type of module	elective module
1g	programs using the module	M.Sc. Neurosciences
1h	organizational unit offering the module	
1i	content-related prior knowledge or skills	There is a PVL (prerequisite for the examination) in this module which has to be passed before starting the lab work to certify competence in safe handling of lab animals. The PVL consists of the passed project report required in the examination of module Laboratory Animal Science (Module MN-S2).
1j	learning contents	<ul style="list-style-type: none"> • Principles of Neuronal networks • Introduction to biosignals • Understanding the origin of biosignals • Different kinds of biosignals • How to measure biosignals in man and mouse

		<ul style="list-style-type: none">• Interpretation and analysis of biosignals• State of the art methods to investigate neuronal networks, such as Calcium Imaging• Experience with data analysis of neuronal network data• Get familiar with different forms of biosignals																												
1k	learning outcomes/ competencies/ targeted competencies	<p>Students</p> <p>can understand the basic principles of neuronal networks</p> <p>have fundamental knowledge of biosignals</p> <p>can apply their knowledge of biosignals to measure them in man and mouse</p> <p>can understand the functional principles of natural neuronal networks.</p> <p>have in depth knowledge of principles of biosignals</p> <p>understand the significance of brain modulatory systems in neuronal networks</p>																												
1l	calculation of student workload <i>(part a: calculation of presence time and working hours)</i>	<p>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).</p> <p>a) detailed calculation: SWS / presence time/working hours in each course of the module</p> <table><tr><td><input type="checkbox"/></td><td>lecture(s) with</td><td>SWS/ contact hours</td><td>hours of presence time</td></tr><tr><td><input type="checkbox"/></td><td>seminar(s) with</td><td>SWS/ contact hours</td><td>hours of presence time</td></tr><tr><td><input type="checkbox"/></td><td>exercise(s) with</td><td>SWS/ contact hours</td><td>hours of presence time</td></tr><tr><td><input type="checkbox"/></td><td>internship(s) with</td><td>sum of working hours</td><td></td></tr><tr><td><input type="checkbox"/></td><td>seminar(s) with</td><td>SWS/ contact hours</td><td>total hours of presence time</td></tr><tr><td><input type="checkbox"/></td><td>laboratory/laboratories with</td><td>SWS/ contact hours</td><td>total hours of presence time</td></tr><tr><td><input type="checkbox"/></td><td>tutorial(s) with</td><td>SWS/ contact hours</td><td></td></tr></table>	<input type="checkbox"/>	lecture(s) with	SWS/ contact hours	hours of presence time	<input type="checkbox"/>	seminar(s) with	SWS/ contact hours	hours of presence time	<input type="checkbox"/>	exercise(s) with	SWS/ contact hours	hours of presence time	<input type="checkbox"/>	internship(s) with	sum of working hours		<input type="checkbox"/>	seminar(s) with	SWS/ contact hours	total hours of presence time	<input type="checkbox"/>	laboratory/laboratories with	SWS/ contact hours	total hours of presence time	<input type="checkbox"/>	tutorial(s) with	SWS/ contact hours	
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		<input type="checkbox"/> excursion(s) with <div style="float: right;"> SWS contact hours in total </div> <div style="float: right;">working hours</div>
		<input type="checkbox"/> other form of course (e.g. block seminar), namely this:
		<div style="display: flex; justify-content: space-between;"> <div>with</div> <div>SWS / with totally</div> <div>contact hours</div> <div> <input checked="" type="checkbox"/> presence time <input type="checkbox"/> working hours </div> </div> <p>= sum of presence time and working hours:</p>
	calculation of student workload <i>(part b: preparation time and follow-up work/self-study)</i>	b) working hours for preparation/follow-up work of the course(s) and/or self-study = sum of working hours:
	calculation of student workload <i>(part c: exam preparation etc.)</i>	c) exam preparation (incl. examination) = sum of working hours:
	calculation of student workload <i>(total amount of hours including a) - c))</i>	Total amount of the presence time and working hours a) to c): 270
1m	description of possible optional courses in the module	<u>Can a student choose between different courses within the module?</u> NO <u>Short description of selection option</u>
1n	language(s) of instruction	<input type="checkbox"/> German <input checked="" type="checkbox"/> English <input type="checkbox"/> Spanish <input type="checkbox"/> French <input type="checkbox"/> Other, namely this: Klicken Sie hier, um Text einzugeben.

1o	frequency	<i>(regular cycle module is offered) e.g.: winter semester, yearly or summer semester, yearly or each semester</i> summer semester yearly
1p	duration	choose an option
1q	Literature <i>(optional)</i>	
1r	more information on the module <i>(optional)</i>	Klicken Sie hier, um Text einzugeben.
2	INFORMATION ON THE MODULE EXAMINATION (see also AT Art. 5 section 8)	
2a	type of examination	<input type="checkbox"/> module exam; i.e. exam with only one component (MP) <input checked="" type="checkbox"/> combination exam, i.e. exam with several components (administered by instructors) (KP) <input type="checkbox"/> partial exam; i.e. exam with several components (administered by registrar) (TP)
2b	exam components or prerequisites <i>(type, number)</i>	<p><i>PL = graded component of the examination</i></p> <p><i>SL = ungraded component of the examination, coursework</i></p> <p><i>PVL = prerequisite of the examination (see AT Art. 5 Section 10)</i></p> <p><input checked="" type="checkbox"/> PL 1 <input checked="" type="checkbox"/> SL 1 <input checked="" type="checkbox"/> PVL justification</p> <p>If necessary, further explanations:</p> <p>PVL: The PVL is a project report and has to be passed before starting the lab work to certify competence in safe handling of lab animals. The PVL consists of the passed project report required in the examination of module Laboratory Animal Science (Module MN-S2).</p> <p>PL & SL: von neuer Professur zu benennen</p>
2c	Give this information for combination examinations only: Weights (in percentage) of component grades	<p>PL 1: von neuer Professur zu benennen</p> <p>PL 2:</p> <p>PL 3: Klicken Sie hier, um Text einzugeben.</p> <p>PL 4: Klicken Sie hier, um Text einzugeben.</p> <p>If necessary, further comments:</p> <p>Klicken Sie hier, um Text einzugeben.</p>

2d	form of examination (see AT BPO/AT MPO Art. 8, 9 and 10)	<div> <input type="checkbox"/> Assignment <input type="checkbox"/> Oral examination (single) <input type="checkbox"/> Presentation, oral </div> <div> <input type="checkbox"/> Written examination <input type="checkbox"/> Group examination, oral <input type="checkbox"/> Presentation and written assignment </div> <div> <input type="checkbox"/> Portfolio <input checked="" type="checkbox"/> Project report <input type="checkbox"/> Bachelor Thesis </div> <div> <input type="checkbox"/> Internship report <input type="checkbox"/> Colloquium <input type="checkbox"/> Master Thesis </div> <div> <input type="checkbox"/> Other (concrete definition is given in the examination regulations): </div> <div> <p>The Project report is the PVL</p> </div>
2e	language(s) of instruction	<div> <input type="checkbox"/> German <input checked="" type="checkbox"/> English <input type="checkbox"/> Spanish <input type="checkbox"/> French </div> <div> <input type="checkbox"/> Other, namely this: </div> <div> <p>Klicken Sie hier, um Text einzugeben.</p> </div>