

**module code /  
module title**

## MN-BP / Behavioral Pharmacology

date / version of the module  
description

20.02.2023

1	INFORMATION ON THE MODULE	
1a	module code	MN-BP
1b	module title (German title)	
1c	module title (English title)	Behavioral Pharmacology
1d	credit points	9
1e	responsible for the module	Prof. Dr. Michael Koch, ab 2025 Nachfolge Koch
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	Lectures and seminars from 1st semester are highly recommended. 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"> <li>• Basic techniques in animal behavioral pharmacology (systemic drug infusions and behavioral tests) including animal handling</li> <li>• Stereotaxic surgery in rodents including appropriate anesthesia techniques and post-operative animal care. Microinfusions of drugs into the brain</li> <li>• Planning and design of behavioral experiments, statistical analysis of behavioral data</li> <li>• Histology and microscopy of brain sections</li> <li>• Presentation and discussion of data in written and oral form</li> </ul>

1k	learning outcomes/ competencies/ targeted competencies	<ul style="list-style-type: none"> <li>Students can explain theoretical approaches on rodent behavioral pharmacology and carry out respective experiments.</li> <li>Students have basic knowledge about selected brain transmitter systems in terms of physiology, chemical neuroanatomy and pharmacology</li> <li>Students can develop scientific hypotheses and find experimental solutions for testing them</li> <li>Students can statistically analyse scientific data, interpret and discuss them</li> </ul>																																																																								
1l	calculation of student workload  <i>(part a: calculation of presence time and working hours)</i>	<p><b>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).</b></p> <p><b>a) detailed calculation:</b>  <b>SWS / presence time/working hours in each course of the module</b></p> <table border="1"> <tr> <td><input checked="" type="checkbox"/> 1</td> <td>lecture(s) with</td> <td>1</td> <td>SWS/ contact hours</td> <td>14</td> <td>hours of presence time</td> </tr> <tr> <td><input checked="" type="checkbox"/> 1</td> <td>seminar(s) with</td> <td>1</td> <td>SWS/ contact hours</td> <td>14</td> <td>hours of presence time</td> </tr> <tr> <td><input type="checkbox"/></td> <td>exercise(s) with</td> <td></td> <td>SWS/ contact hours</td> <td></td> <td>hours of presence time</td> </tr> <tr> <td><input type="checkbox"/></td> <td>internship(s) with</td> <td></td> <td>sum of working hours</td> <td></td> <td></td> </tr> <tr> <td><input type="checkbox"/></td> <td>seminar(s) with</td> <td></td> <td>SWS/ contact hours</td> <td></td> <td>total hours of presence time</td> </tr> <tr> <td><input checked="" type="checkbox"/> 1</td> <td>laboratory/laboratories with</td> <td>6</td> <td>SWS/ contact hours</td> <td>84</td> <td>total hours of presence time</td> </tr> <tr> <td><input type="checkbox"/></td> <td>tutorial(s) with</td> <td></td> <td>SWS/ contact hours</td> <td></td> <td></td> </tr> <tr> <td><input type="checkbox"/></td> <td>excursion(s) with</td> <td></td> <td>SWS contact hours in total</td> <td></td> <td>working hours</td> </tr> <tr> <td><input type="checkbox"/></td> <td colspan="5">other form of course (e.g. block seminar), namely this:</td> </tr> <tr> <td>with</td> <td>SWS / with totaly</td> <td></td> <td>contact hours</td> <td><input checked="" type="checkbox"/> presence time</td> <td><input type="checkbox"/> working hours</td> </tr> <tr> <td colspan="6">= sum of presence time and working hours:</td> </tr> <tr> <td colspan="6">112</td> </tr> </table>	<input checked="" type="checkbox"/> 1	lecture(s) with	1	SWS/ contact hours	14	hours of presence time	<input checked="" type="checkbox"/> 1	seminar(s) with	1	SWS/ contact hours	14	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 checked="" type="checkbox"/> 1	laboratory/laboratories with	6	SWS/ contact hours	84	total hours of presence time	<input type="checkbox"/>	tutorial(s) with		SWS/ contact hours			<input type="checkbox"/>	excursion(s) with		SWS contact hours in total		working hours	<input type="checkbox"/>	other form of course (e.g. block seminar), namely this:					with	SWS / with totaly		contact hours	<input checked="" type="checkbox"/> presence time	<input type="checkbox"/> working hours	= sum of presence time and working hours:						112					
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	calculation of student workload  <i>(part b: preparation time and follow-up work/self-study)</i>	<p><b>b) working hours for preparation/follow-up work of the course(s) and/or self-study</b></p> <p>= sum of working hours:</p> <p>114</p>																																																																								

	calculation of student workload  <i>(part c: exam preparation etc.)</i>	<b>c) exam preparation (incl. examination)</b> = sum of working hours: 44
	calculation of student workload  <i>(total amount of hours including a) - c))</i>	<b>Total amount of the presence time and working hours a) to c):</b> 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 The main part of the module is a block course of four weeks, with preparatory/ follow-up-work throughout the whole semester
1q	Literature <i>(optional)</i>	
1r	more information on the module <i>(optional)</i>	Klicken Sie hier, um Text einzugeben.
2	<b>INFORMATION ON THE MODULE EXAMINATION</b> (see also AT Art. 5 section 8)	
2a	type of examination	<input checked="" type="checkbox"/> module exam; i.e. exam with only one component (MP) <input 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 (type, number)	<p><i>PL</i> = graded component of the examination  <i>SL</i> = ungraded component of the examination, coursework  <i>PVL</i> = prerequisite of the examination (see AT Art. 5 Section 10)</p> <p><input checked="" type="checkbox"/> PL   1                      <input type="checkbox"/> SL                        <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>
2c	Give this information for combination examinations only: Weights (in percentage) of component grades	<p>PL 1:</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)	<p><input type="checkbox"/> Assignment                      <input type="checkbox"/> Oral examination (single)                      <input type="checkbox"/> Presentation, oral</p> <p><input type="checkbox"/> Written examination                      <input type="checkbox"/> Group examination, oral                      <input checked="" type="checkbox"/> Presentation and written assignment</p> <p><input type="checkbox"/> Portfolio                      <input checked="" type="checkbox"/> Project report                      <input type="checkbox"/> Bachelor Thesis</p> <p><input type="checkbox"/> Internship report                      <input type="checkbox"/> Colloquium                      <input type="checkbox"/> Master Thesis</p> <p><input type="checkbox"/> Other (concrete definition is given in the examination regulations):</p> <p>The project report is the PVL</p>
2e	language(s) of instruction	<p><input type="checkbox"/> German                      <input checked="" type="checkbox"/> English                      <input type="checkbox"/> Spanish                      <input type="checkbox"/> French</p> <p><input type="checkbox"/> Other, namely this:</p> <p>Klicken Sie hier, um Text einzugeben.</p>