

module code /  
module title

## Module D-MolViro/ Molecular Virology

 date / version of the module  
description

19.01.2021

<b>1</b>	<b>INFORMATION ON THE MODULE</b>	
<b>1a</b>	module code	Module D-MolViro
<b>1b</b>	module title (German title)	Klicken Sie hier, um Text einzugeben.
<b>1c</b>	module title (English title)	Molecular Virology
<b>1d</b>	credit points	6
<b>1e</b>	responsible for the module	Prof. Dr. Andreas Dotzauer
<b>1f</b>	type of module	elective module
<b>1g</b>	programs using the module	M.Sc. Biochemistry and Molecular Biology (elective module for students in Integrative BMB, elective component for students in MicroSys specialization)
<b>1h</b>	organizational unit offering the module	
<b>1i</b>	content-related prior knowledge or skills	Successful attendance in the modules Biochemistry and Molecular Medicine is recommended.
<b>1j</b>	learning contents	Topics: <ul style="list-style-type: none"> <li>Laboratory techniques in virology</li> <li>Diagnosis and Therapy of viral diseases</li> </ul> Practical course: <ul style="list-style-type: none"> <li>Propagation of viruses (embryonated eggs and cell cultures)</li> <li>Virus harvest</li> <li>Virus purification</li> <li>Quantification of viruses (hemagglutination assay, tissue culture infectious dose (TCID<sub>50</sub>) determination)</li> <li>Detection of viral proteins by indirect immunofluorescence assay</li> <li>Proof of interferon: induction of synthesis, RNA extraction and detection by RT-PCR,</li> </ul>

		detection by plaque reduction assay (Bioassay)  Viruses used: Influenza A virus, Newcastle disease virus (NDV), Hepatitis A virus (HAV), Vesicular stomatitis virus (VSV)																																																																													
1k	learning outcomes/ competencies/ targeted competencies	Students have an in-depth knowledge of fundamental and advanced virological laboratory techniques including cell culture methodologies, clinical virology and diagnostic methods. Students can apply and perform specific standard methods required for virological experiments, like virus propagation and virus analysis. They are able to evaluate and assess the results obtained from virological investigations.																																																																													
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"/></td> <td>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"/></td> <td>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></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></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></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"/></td> <td>1</td> <td>laboratory/laboratories with</td> <td>4</td> <td>SWS/ contact hours</td> <td>56</td> <td>total hours of presence time</td> </tr> <tr> <td><input type="checkbox"/></td> <td></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></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></td> <td colspan="5">other form of course (e.g. block seminar), namely this:</td> </tr> <tr> <td></td> <td>with</td> <td>SWS / with totaly</td> <td></td> <td>contact hours</td> <td><input type="checkbox"/> presence time</td> <td><input type="checkbox"/> working hours</td> </tr> <tr> <td colspan="7"> <b>= sum of presence time and working hours:</b>             84         </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	4	SWS/ contact hours	56	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 type="checkbox"/> presence time	<input type="checkbox"/> working hours	<b>= sum of presence time and working hours:</b>  84						
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	calculation of student workload  <i>(part b: preparation time and follow-up work/self-study)</i>	<b>b) working hours for preparation/follow-up work of the course(s) and/or self-study</b> = sum of working hours:  50
	calculation of student workload  <i>(part c: exam preparation etc.)</i>	<b>c) exam preparation (incl. examination)</b> = sum of working hours:  46
	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> 180
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:
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	one semester module
1q	Literature <i>(optional)</i>	
1r	more information on the module <i>(optional)</i>	
2	<b>2 INFORMATION ON THE MODULE EXAMINATION</b> (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 (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 checked="" type="checkbox"/> SL   1                      <input type="checkbox"/> PVL   justification         </p> <p>If necessary, further explanations:</p> <p>SL: Presentation, oral</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:</p> <p>PL 4:</p> <p>If necessary, further comments:</p>															
2d	form of examination (see AT BPO/AT MPO Art. 8, 9 and 10)	<table border="0"> <tr> <td><input type="checkbox"/> Assignment</td> <td><input checked="" type="checkbox"/> Oral examination (single)</td> <td><input type="checkbox"/> Presentation, oral</td> </tr> <tr> <td><input type="checkbox"/> Written examination</td> <td><input type="checkbox"/> Group examination, oral</td> <td><input type="checkbox"/> Presentation and written assignment</td> </tr> <tr> <td><input type="checkbox"/> Portfolio</td> <td><input type="checkbox"/> Project report</td> <td><input type="checkbox"/> Bachelor Thesis</td> </tr> <tr> <td><input type="checkbox"/> Internship report</td> <td><input type="checkbox"/> Colloquium</td> <td><input type="checkbox"/> Master Thesis</td> </tr> <tr> <td colspan="3"><input type="checkbox"/> Other (concrete definition is given in the examination regulations):</td> </tr> </table>	<input type="checkbox"/> Assignment	<input checked="" type="checkbox"/> Oral examination (single)	<input type="checkbox"/> Presentation, oral	<input type="checkbox"/> Written examination	<input type="checkbox"/> Group examination, oral	<input type="checkbox"/> Presentation and written assignment	<input type="checkbox"/> Portfolio	<input type="checkbox"/> Project report	<input type="checkbox"/> Bachelor Thesis	<input type="checkbox"/> Internship report	<input type="checkbox"/> Colloquium	<input type="checkbox"/> Master Thesis	<input type="checkbox"/> Other (concrete definition is given in the examination regulations):		
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