

<b>Course Structure Diagram Master of Science (MSc) Master's programme in Molecular Medicine, Double Degree</b>			
		<b>1st year 2nd year</b>	
<b>Code</b>	<b>Courses available in Oulu</b>	<b>Autumn</b>	<b>Spring</b>
<a href="#">744626S</a>	Protein chemistry II (compulsory)	5	
<a href="#">744627S</a>	Molecular biology II (compulsory)	5	
<a href="#">743668S</a>	Tumor cell biology*	5	
<a href="#">747616S</a>	Biochemical methodologies II	10	
743664S	Hypoxia response pathway – molecular mechanisms and medical applications*	5	
743665S	Molecular, cell biological and genetic aspects of diseases*	5	
747613S	In silico methodologies in biochemistry and molecular medicine	5	
747614S	Macromolecular x-ray crystallography		5
743662S	Extracellular matrix*		5
<a href="#">744630S</a>	Systems biology*		5
<a href="#">902154Y</a>	<b>Scientific communication for biochemists</b>		5
<a href="#">747617S</a>	Biochemistry and biotechnology of protein folding		5
743663S	Developmental biology, stem cells and tissue engineering*		5
<a href="#">744632S</a>	Yeast genetics		5
747615S	Introduction to structure-based drug discovery		5
<a href="#">743666S</a>	Introduction to immunology		5
<a href="#">743667S</a>	Virology		5
<a href="#">744628S</a>	Orientation to research work	0 - 15	0 - 15
<a href="#">744629S</a>	Orientation to biochemical work	0 - 15	0 - 15
<a href="#">744631S</a>	Dissertation	<b>15</b>	<b>15</b>
<a href="#">744691S</a>	<b>MSc thesis</b> (Pro gradu)		30
740672S	Maturity test (M.Sc. degree)		
	Students from Oulu need to take one (but may take two) terms in Ulm, and vice versa. The first year autumn term is always in the home university. The term in the other university may be either the first year spring or the second year autumn. In the former case the pro gradu thesis is done in the second year autumn (and the first year spring courses are done in the second year spring) and in the latter case the pro gradu thesis is done in the second year spring.		
	Students choose for each 15 ECTS study period courses such that the period may comprise of e.g. one 5 ECTS course and 10 ECTS worth of research work, or two 5 ECTS courses and 5 ECTS worth of research work, or 15 ECTS worth of research work. The research work periods count ECTS's towards the course Orientation to research work.  * Students should take a minimum 3 of the 6 optional specialist courses: Tumor cell biology, Hypoxia, ECM, Systems Biology, Developmental Biology, Disease aspects		
	<b>Courses available in Ulm</b>	<b>Autumn</b>	<b>Spring</b>
8810772137	Current concepts in stem cell biology and regenerative medicine	6	
8810772138	Bioinformatics and systems biology	6	
8810772139	New drug discovery, development and evaluation	5	
8810772140	Practical training in laboratory methods and correlative imaging	13	
8810772133	Molecular oncology		12

8810772141	GLP/GSP and bioethics		6
8810772134	Trauma research and regenerative medicine		12
8810772135	Signaling pathways in stem cells, development and aging	12	
8810772142	Clinical trials and project management and funding	6	
8810772136	Infectious diseases and immune defense	12	
8810780000	Master thesis and disputation including journal club and progress report		30
	<b>ECTS credits</b>	<b>30</b>	<b>30</b>
	<b>Total ECTS credits / term</b>	<b>30</b>	<b>30</b>
	<b>Total ECTS credits / academic year</b>		<b>60</b>
	<b>Total of ECTS credits / Master's Degree</b>		<b>120</b>