

<b>Module title</b>		<b>Abbreviation</b>
Pharmaceutical Biology and Metabolomics F1		07-MS3PBMF1-152-m01
<b>Module coordinator</b>		<b>Module offered by</b>
holder of the Chair of Pharmaceutical Biology		Faculty of Biology
<b>ECTS</b>	<b>Method of grading</b>	<b>Only after succ. compl. of module(s)</b>
10	numerical grade	--
<b>Duration</b>	<b>Module level</b>	<b>Other prerequisites</b>
1 semester	graduate	--
<b>Contents</b>		
<p>All organisms are able to reprogram their metabolism in response to various endogenous or exogenous perturbations. Reprogramming of metabolism is often correlated to phenotypic changes e. g. in disease development, physiology or behaviour. At the Chair of Pharmaceutical Biology, we apply metabolomics for gene function- or stress response analysis. Students can choose a topic from the variety of ongoing projects. Depending on the scientific question addressed by the research team at the Chair, the methodological approach involves techniques in the field of metabolomics/bioanalytics and/or molecular biology. In this module, students will be trained to use quantitative metabolite analysis methods (chromatography, mass spectrometry) and apply advanced molecular biology techniques. Depending on the project, different model organisms are studied. Prior knowledge in metabolite analysis or mass spectrometry is not required. Current scientific questions in the life sciences form the basis to impart scientific concepts and to train students in the laboratory. The module involves the experimental design, realisation and critical evaluation of scientific experiments as well as the documentation and presentation of the progress. More information is available on request or can be found at <a href="http://www.pbio.biozentrum.uni-wuerzburg.de/">http://www.pbio.biozentrum.uni-wuerzburg.de/</a>.</p>		
<b>Intended learning outcomes</b>		
Students will be trained in using specific molecular biology methods and/or metabolomics approaches to address scientific questions, in the documentation of experimental procedures and results, and in the interpretation of data.		
<b>Courses</b> (type, number of weekly contact hours, language — if other than German)		
P (14) + S (1) Module taught in: German and/or English		
<b>Method of assessment</b> (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)		
<p>Students will be informed about the method, length and scope of the assessment prior to the course. Usually, one of the following options will be chosen: a) written examination (30 to 60 minutes, including multiple choice questions) or b) log (15 to 30 pages) or c) oral examination of one candidate each (30 to 60 minutes) or d) oral examination in groups of up to 3 candidates (30 to 60 minutes) or e) presentation (20 to 45 minutes)          Language of assessment: German and/or English</p>		
<b>Allocation of places</b>		
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<b>Additional information</b>		
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<b>Referred to in LPO I</b> (examination regulations for teaching-degree programmes)		
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<b>Module appears in</b>		
Master's degree (1 major) Biology (2015) Master's degree (1 major) FOKUS Life Sciences (2015) Master's degree (1 major) Biosciences (2016) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016)		

Master's degree (1 major) Biosciences (2017)  
Master's degree (1 major) Biosciences (2018)  
Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020)  
Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020)