

<b>Module title</b>		<b>Abbreviation</b>
Fluorescence methods in biomedicine		03-98-FBM-172-m01
<b>Module coordinator</b>		<b>Module offered by</b>
holder of the Professorship of Molecular Microscopy		Faculty of Medicine
<b>ECTS</b>	<b>Method of grading</b>	<b>Only after succ. compl. of module(s)</b>
5	numerical grade	--
<b>Duration</b>	<b>Module level</b>	<b>Other prerequisites</b>
1 semester	graduate	--
<b>Contents</b>		
<p>Basics of molecular fluorescence and microscopy via lectures and accompanying seminars. The focus is in particular in the complementary range of fluorescence methods that cover the various biomedical scales and ii) the various fluorescence probes and their special properties. This includes, in particular, wide-field methods, confocal methods and spectroscopic methods with application examples, as well as fluorescence probes such as synthetic fluorophores, nano-particles, clonable tags and advanced labeling techniques e.g. via unnatural amino acids.</p>		
<b>Intended learning outcomes</b>		
<p>Understanding of the optical and photophysical basics of fluorescence imaging and spectroscopy. Professional evaluation with regard to a suitable fluorescence method in order to be able to answer a specific biomedical question. Evaluating and assessing possible challenges. Independent development and presentation of current literature in the accompanying seminar. Acquiring the ability to discuss scientific aspects of fluorescence imaging.</p>		
<b>Courses</b> (type, number of weekly contact hours, language — if other than German)		
V (2) + S (1) Module taught in: German / 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>a) oral examination of one candidate each (20 to 30 minutes) or b) oral examination in groups of up to 3 candidates (approx. 30 to 60 minutes) or e) presentation (20 to 30 minutes). Students will be informed about the method, length and scope of the assessment prior to the course. 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>Workload</b>		
150 h		
<b>Teaching cycle</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) Biomedicine (2015) Master's degree (1 major) Biomedicine (2018)		