

<b>Module title</b>		<b>Abbreviation</b>
Biophysical Measurement Technology in Medical Science		11-BMT-092-m01
<b>Module coordinator</b>		<b>Module offered by</b>
Managing Director of the Institute of Applied Physics		Faculty of Physics and Astronomy
<b>ECTS</b>	<b>Method of grading</b>	<b>Only after succ. compl. of module(s)</b>
6	numerical grade	--
<b>Duration</b>	<b>Module level</b>	<b>Other prerequisites</b>
1 semester	graduate	Certain prerequisites must be met to qualify for admission to assessment. The lecturer will inform students about the respective details at the beginning of the course. Registration for the course will be considered a declaration of will to seek admission to assessment. If students have obtained the qualification for admission to assessment over the course of the semester, the lecturer will put their registration for assessment into effect. Students who meet all prerequisites will be admitted to assessment in the current or in the subsequent semester. For assessment at a later date, students will have to obtain the qualification for admission to assessment anew.
<b>Contents</b>		
The lecture covers the physical principles of imaging techniques and their application in Biomedicine. The main topics are conventional X-ray technique, computer tomography, imaging techniques of nuclear medicine, ultrasound and MR-tomography. The lecture additionally addresses systems theory of imaging systems and digital image processing.		
<b>Intended learning outcomes</b>		
The students know the physical principles of imaging techniques and their application in Biomedicine. They understand the principles of image generation and are able to explain different techniques and interpret simple images.		
<b>Courses</b> (type, number of weekly contact hours, language — if other than German)		
R + V (no information on SWS (weekly contact hours) and course language available)		
<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)		
a) written examination (approx. 90 minutes) or b) oral examination of one candidate each or oral examination in groups (approx. 30 minutes per candidate, for modules with less than 4 ECTS credits approx. 20 minutes) or c) project report (approx. 8 to 10 pages, time to complete: 1 to 4 weeks) or d) presentation/seminar presentation (approx. 30 minutes) Assessment offered: When and how often assessment will be offered depends on the method of assessment and will be announced in due form under observance of Section 32 Subsection 3 ASPO (general academic and examination regulations) 2009. Language of assessment: German, English		
<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>		
Bachelor' degree (1 major) Physics (2010) Bachelor' degree (1 major) Physics (2012) Bachelor' degree (1 major) Nanostructure Technology (2010)		

Bachelor' degree (1 major) Nanostructure Technology (2012)  
Master's degree (1 major) Physics (2010)  
Master's degree (1 major) Physics (2011)  
Master's degree (1 major) Nanostructure Technology (2011)  
Master's degree (1 major) Nanostructure Technology (2010)  
Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2010)  
Master's degree (1 major) FOKUS Physics (2010)  
Master's degree (1 major) FOKUS Physics (2011)  
Master's degree (1 major) Functional Materials (2012)