

Module title		Abbreviation
Photogrammetric Machine Vision		10-LURI=PHOTO-232-mo1
Module coordinator		Module offered by
holder of the Chair of Computer Science XVII		Institute of Computer Science
ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--
Duration	Module level	Other prerequisites
1 semester	graduate	--
Contents		
(1) What is Photogrammetry? (2) Cameras (3) Homogeneous Coordinates (4) Camera Parameter (5) Direct Linear Transform (6) Spatial Resection (7) Relative Orientation and Fundamental Matrix (8) Epipolar Geometry (9) FE-direct (10) Iterative-Solution (11) Triangulation (12) Multiview (13) Aerial photography (14) Orthophoto (15) Finding Corresponding Points (16) Matching		
Intended learning outcomes		
Students understand that photogrammetry means measuring in and with photos. They have learned the steps to calculate 3D information from 2D images and are able to evaluate accuracies. They know the limits of 3D computer vision.		
Courses (type, number of weekly contact hours, language – if other than German)		
V (2) + Ü (2) Module taught in: German and/or English		
Method of assessment (type, scope, language – if other than German, examination offered – if not every semester, information on whether module is creditable for bonus)		
written examination (approx. 60 to 120 minutes) If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate). Language of assessment: German and/or English creditable for bonus		
Allocation of places		
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Additional information		
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Workload		
150 h		
Teaching cycle		
Teaching cycle: every year, winter semester		
Referred to in LPO I (examination regulations for teaching-degree programmes)		
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Module appears in		
Master's degree (1 major) Aerospace Computer Science (2023) Master's degree (1 major) Artificial Intelligence & Extended Reality (2024) Master's degree (1 major) Artificial Intelligence (2024)		