

Module MA-INF 2304	Rendering Techniques II				
Workload 180 h	Credit points 6 CP	Duration 1 semester	Frequency every year		
Module coordinator	Prof. Dr. Reinhard Klein				
Lecturer(s)	Prof. Dr. Reinhard Klein				
Classification	Programme M. Sc. Computer Science		Mode Optional	Semester 3.	
Technical skills	Analytical formulation of problems related to image based rendering and knowledge of advanced techniques in the field of rendering. Knowledge of methods and models for the acquisition and description of light sources and optical material properties for Computer Graphics applications. Knowledge of methods and models for the acquisition and description of image based rendering techniques and digital photography. Self-dependent implementation of the basic algorithms.				
Soft skills	Analytical problem description, creativity, self-dependent solution of practical problems in the area of image based rendering and digital photography, presentation of solution strategies and implementations, self-dependent literature research, collaboration abilities, self-management				
Contents	Topics among others will be: advanced material acquisition and modelling techniques; algorithms and techniques of image based rendering; digital photography for image based scene modelling and rendering; computational photography				
Prerequisites	Recommended: Algorithms and data structures, basic knowledge on multidimensional analysis und linear algebra, basic knowledge in stochastic and statistics, numerical analysis and numerical linear algebra, C++				
Format	Teaching format	Group size	h/week	Workload[h]	CP
	Lecture	60	2	30 T / 45 S	2.5
	Exercises	30	2	30 T / 75 S	3.5
	T = face-to-face teaching; S = independent study				
Exam achievements	Oral exam (graded)				
Study achievements	Successful exercise participation (not graded)				
Forms of media					
Literature	<ul style="list-style-type: none">• H.P.A. Lensch, M. Goesele (organizers): Realistic Materials in Computer Graphics, Siggraph Course Notes, 2005• P. Debevec, E. Reinhard (organizers): High-Dynamic-Range Imaging: Theory and Applications, Siggraph Course Notes, 2006• N. Hoffman (organizer): Physically Based Reflectance for Games, Siggraph Course Notes, 2006• R. Raskar, J. Tumblin (organizers): Computational Photography, Siggraph Course Notes, 2006				