

Module title		Abbreviation
Interactive Computer Graphics		10-GE-ICG-162-m01
Module coordinator		Module offered by
holder of the Chair of Computer Science IX		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	undergraduate	--
Contents		
<p>Computer graphics studies methods for digitally synthesising and manipulating visual content. This course specifically concentrates on interactive graphics with an additional focus on 3D graphics as a requirement for many contemporary as well as for novel human-computer interfaces and computer games. The course will cover topics about light and images, lighting models, data representations, mathematical formulations of movements, projection as well as texturing methods. Theoretical aspects of the steps involved in ray-tracing and the raster pipeline will be complemented by algorithmical approaches for interactive image syntheses using computer systems. Accompanying software solutions will utilise modern graphics packages and languages like OpenGL, GLSL and/or DirectX.</p>		
Intended learning outcomes		
<p>At the end of the course, the students will have a broad understanding of the underlying theoretical models of computer graphics. They will be able to implement a prominent variety of these models, to build their own interactive graphics applications and to choose the right software tool for this task.</p>		
Courses (type, number of weekly contact hours, language — if other than German)		
V (2) + Ü (2) Module taught in: German 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)		
a) written examination (approx. 60 to 120 minutes) or b) presentation of project results (approx. 20 minutes) Language of assessment: German and/or English creditable for bonus		
Allocation of places		
--		
Additional information		
--		
Workload		
150 h		
Teaching cycle		
--		
Referred to in LPO I (examination regulations for teaching-degree programmes)		
--		
Module appears in		
Bachelor' degree (1 major) Games Engineering (2016) Bachelor' degree (1 major) Games Engineering (2017)		