

Submodule MIN-313-01 Visual Computing

Subheading	(MIN-VC)
Person in Charge	Sprengel, Frauke, Prof. Dr.
Language of Instruction	by agreement
Curriculum Allocation	MIN
Course Type, Contact Hours per Week	Lecture with exercise, 4 SWS
ECTS Credits	6
Contact Hours / Independent Study Hours	68 h / 112 h
Suggestions for Independent Study	see bibliography
Recommended Prerequisites	Basic knowledge of digital image processing and computer graphics
Examination	Examination (written or oral examination) and experimental work
Group Size	30

Learning Outcomes

Technological skills: Profound knowledge in a selected field of visual computing; understanding of applicable methods and their limits

Methodological skills: Application of innovative methods in the selected field of work

Analysis, design and realization skills: Ability to formulate, formalize, and solve problems in a new and developing field of computer graphics, computer vision, and visualization

Content

A selected topic of visual computing is introduced, e.g., medical visualization, digital image creation, pattern recognition and machine learning, artificial intelligence, robotics, GPU computing, image databases, finding events in image sequences, modeling and simulation.

First and foremost current topics and developments shall be considered. Research-oriented problems may lay the foundation of the master thesis.

Requirements for Contact Hours

Active participation, individual task-solving in small groups, discussion

Requirements for Independent Study Hours

Preparation and postprocessing of the lectures, reading literature, individual or group task-solving, individual discussion

Bibliography

Lecture notes

Current literature according to contents