Module title: 3D Point Cloud Processing  
Abbreviation: 10-I-3D-141-m01

Module coordinator: holder of the Chair of Computer Science XVII  
Module offered by: Institute of Computer Science

ECTS: 5
Method of grading: numerical grade
Only after succ. compl. of module(s): --

Duration: 1 semester
Module level: undergraduate
Other prerequisites: --

Contents:
Laser scanning, Kinect and camera models, basic data structures (lists, arrays, octrees), calculating normals, k-d trees, registration, features, segmentation, tracking, applications for airborne mapping, applications to mobile mapping.

Intended learning outcomes:
Students understand the fundamental principles of all aspects of 3D point cloud processing and are able to communicate with engineers / surveyors / CV people / etc. Students are able to solve problems of modern sensor data processing and have experienced that real application scenarios are challenging in terms of computational requirements, in terms of memory requirements and in terms of implementation issues.

Courses:
V + Ü (no information on SWS (weekly contact hours) and course language available)

Method of assessment:
written examination (approx. 60 to 120 minutes); if announced by the lecturer at the beginning of the course, the written examination can be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups (groups of 2, approx. 30 minutes)
Language of assessment: German, English

Allocation of places: --
Additional information: --
Workload: --
Teaching cycle: --

Referred to in LPO I (examination regulations for teaching-degree programmes): --

Module appears in:
Bachelor’ degree (1 major) Computer Science (2014)
Bachelor’ degree (1 major) Mathematics (2014)
Bachelor’ degree (1 major) Computational Mathematics (2014)
Bachelor’ degree (1 major) Aerospace Computer Science (2014)