# Module title

**3D Poiting Cloud Processing**

<table>
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<tr>
<th>Abbreviation</th>
<th>10-I-3D-141-m01</th>
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## Module coordinator

holder of the Chair of Computer Science VII

## Module offered by

Institute of Computer Science

## ECTS Method of grading

<table>
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<tr>
<th>5</th>
<th>numerical grade</th>
<th>Only after succ. compl. of module(s)</th>
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## Duration Module level

<table>
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<tr>
<th>1 semester</th>
<th>undergraduate</th>
<th>Other prerequisites</th>
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## Contents

Laser scanning, Kinect and camera models, basic data structures (lists, arrays, oct-trees), 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)

| Type, number of weekly contact hours, language — if other than German |
|--------------------------|--------------------------|
| V + Ü                    |                          |

## 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

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## Additional information

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

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## 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)