inf332 - Practice Robotics

Module label: Practice Robotics
Module code: inf332
Credit points: 6.0 KP
Workload: 180 h

Used in course of study:
- Master's Programme Computing Science > Technische Informatik
- Master's Programme Engineering of Socio-Technical Systems > Embedded Brain Computer Interaction

Contact person:
Module responsibility
- Andreas Hein
- Die im Modul Lehrenden

Authorized examiners:
- Die im Modul Lehrenden
- Andreas Hein

Entry requirements:

Skills to be acquired in this module:

Professional competences:
The students learn:
- Programming of robots (mobile or stationary)
- Implementation of elementary operations
- Integration of operations into a small application scenario
- Programming using Robot Operating System (ROS)

Methodological competences:
The students learn:
- Systematic development process with team members
- Systematic evaluation of the application
- Designing a robotic application using basic and advanced robotic concepts

Social competences:
The students learn:
- Project management
- Team work
- Organization of the team

Self-competences:
The students:
- Time management
- Autodidactic work (literature search, technical specs, related work)

Module contents:
Robotic systems will be provided to the students. They will then define the project/application scenario of the robots by their own and complete the project as a small team with self-organization and work distribution among the team members.

The module consists of a lecture and an exercise part:
- Lecture: 2-3 lectures for introduction onto the module and introduction into the Robot Operating System (ROS) as well as the concepts of the projects.
- Exercises: After the introduction period, the students will work self-organized to complete the proposed project. Work can be distributed weekly or on as concentrated time blocks.

Reader's advisory:
John J. Craig, Introduction to Robotics: Mechanics and Control
Patrick Goebel, ROS By Example

Links:
Language of instruction: English
Duration (semesters): 1 Semester
Module frequency: Once a year
Module capacity: unlimited
Modullevel: AS (Akzentsetzung / Accentuation)
Modulart: Pflicht o. Wahlpflicht / compulsory or optional

Previous knowledge:

Examining time of examination:
Final exam of module: At the end of the lecture period
Type of examination: Demonstration and written documentation

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<th>Course type</th>
<th>Comment</th>
<th>Frequency</th>
<th>Workload attendance</th>
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<td>Exercises</td>
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