CanSat Design Lab

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10-I-CSD-062-m01

holder of the Chair of Computer Science VIII

Institute of Computer Science

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Only after succ. compl. of module(s)

4

Method of grading

(only) successfully completed

ECTS

Duration

1 semester

Module level

undergraduate

Module coordinator

Module offered by

Methods of grading

Duration

Module level

Other prerequisites

Contents

CanSat (now known as FloatSat) is an interdisciplinary project designed - not only - for SpaceMaster students. It is designed for students with different backgrounds, e.g. in computer science, electronics, mechanical engineering, aerospace technology, physics, mathematics. A satellite project is an interdisciplinary project that requires knowledge and skills in this as well as in numerous other fields. CanSat is thus an ideal platform to combine all available skills in a single project. It covers the design and development of the space segment control software and the ground segment control software: telemetry and telecommanding in wireless communication: space segment - ground segment, electrical subsystem (energy, batteries), mechanical construction.

Intended learning outcomes

The students are able to build and integrate into the inside of the sphere the power unit, a control computer, a payload (camera) and attitude control devices: Gyros and reaction wheel of a pico satellite. The software of a CanSat "satellite" includes a real-time operating system (provided by us), commanding (immediate and time-tagged commands), telemetry (real time and history data), attitude control, power control, payload control, image processing and radio links communication. The ground segment ought to be able to generate and send telecommands and to get and (graphically) display the telemetry.

Courses

P (no information on SWS (weekly contact hours) and course language available)

Method of assessment

P (no information on SWS (weekly contact hours) and course language available)

Allocation of places

Additional information

Referred to in LPO I

Module appears in

Master’s degree (1 major) Space Science and Technology (2006)