Titel	Lego Robot Lab 1
Kode	IT-LRL1
Ver	1.0
Sprog	EN
Udbyder	ICT Engineering
Kursusansvarlig	Troels Mortensen
ECTS-point	5
Forudsætninger	General Admission Requirements
Interne forudsætninger	
Formål	Enabling the student to understand the basic concepts and techniques of embedded system development using Java to program a Lego Mindstorms robot.

Nøgleord

Indhold

- Real world interaction
- Sensor input and responds to stimuli: light, pressure, ultrasound, sound, sampling, accuracy
- Output: motor control, sound, LCD display
- Searching and sorting

Læringsmål

Viden

- Describing the elements of a Java program
- Understanding motors and sensors
- Understand how programs interact with the real world

Færdigheder

After having completed this course, the student should be able to:

- Write basic Java programs
- Use the Java programming language to control a robot
- Program a robot to react to its environment using Java
- Implement and use different searching and sorting algorithms

Kompetencer

Undervisningsform og aktiviteter

Estimated workload for students is 137 hours.
Activities will vary between theory presented on class and practical exercises in the laboratory.

The students will build a robot and complete a programming project towards the end of the semester.

Each group must deposit 600 DKK for loan of necessary equipment.

Evaluering

To qualify for the examination, the student must show an attendance of at least 75% of the lessons during the semester.

25% of the grade will come from a test held during the course, 75% will come from the final examination.

Eksamen

Internal examination.
Oral exam based on the final hand-in. At the end of the semester, the students will hand-in an assignment. The students will present the assignment in the form of a demonstration, followed by questions about the programming and the logic behind the robot.

The duration of the oral examination is 20 minutes, including voting and marking.

To attend the exam it is a condition that course activities selected as compulsory by the teacher have been carried out within the set deadlines and approved.

Karakterbeskrivelse
According to the 7-point grading scale.

Mark 12:
Awarded to students who have shown excellent comprehension of the above-mentioned competences. A few minor errors and shortfalls are acceptable.

Mark 02
Awarded to students for the just acceptable level of comprehension of the required competences.

Studieaktivitetsmodel
CDIO
Ressourcer
Tutorials from the following homepage:
http://lejos.sourceforge.net/nxt/nxj/tutorial/index.htm and hand-outs.

All students must be a part of a group and all groups must pay a deposit for the LEGO NXT equipment.

Yderligere oplysninger
The LEGO NXT equipment must be handed in at a date set by the teachers.

Gældende fra
01-08-2016

Godkendt af

BY

BY udbud

CE

CE udbud

CE Exchange

CE Exchange udbud

FI

FI udbud

GBE
Compulsory Course for GBE-ICT; 4. semester; Elective for the specialization Information Technology and Management

GBE udbud
2018 Feb-Jun

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ME
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ME Exchange udbud
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SE udbud
Arkiv   Nej
SortCourses
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Efteruddannelse   Nej
Efteruddannelse_tid
Efteruddannelse_pris
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