Vak: Sensor Technology Basics — credits: 3

Vakcode	ELVH16ASTB
Naam	Sensor Technology Basics
Studiejaar	2022-2023
ECTS credits	3
Taal	Engels
Coördinator	P.M. Gomes Lourenco
Werkvormen	Opdracht
Toetsen	Sensor Technology Basics - Opdracht

Leeruitkomsten

The student:
- Use, write and interpret basic syntax structures;
- Explain and give examples of different data types, methods of memory allocation, library development and usage;
- Apply basic programming techniques to practical computer engineering problems;
- Build simple computer applications using a programming tool;
- Interface with a specific hardware platform for sensor applications;
- Programme different data communication protocols typically used for sensors.

Operating Systems

Biological Sensors

The student:
- describes the biological principles and application of a given biosensor;
- performs an experiment with a given biosensor and interprets the results.

Chemical Sensors
The student:
- determine the type of chemical sensor present given a small list of possible sensors and by measuring output voltages of this sensor of various known solutions;
- explain that output voltages of chemical sensors are generally not linear with concentration and not ion-specific;
- predict whether a spontaneous redox reaction will take place given the chemicals present and using the electrochemical series;
- list at least three factors that can affect the Galvanic cell potential;
- measure the relative reduction potential of a redox couple by using a voltmeter;
- estimate the concentration of a given ion in a solution with unknown.

Inhoud

Opgenomen in opleiding(en)

Exchange Technology to Innovate (autumn)
Minor Technology to Innovate

School(s)

Instituut voor Engineering

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