Vak: Industrial Robotics and Automation — credits: 5

Vakcode	ELVH19GIRA
Naam	Industrial Robotics and Automation
Studiejaar	2022-2023
ECTS credits	5
Taal	Engels
Coördinator	J.A. Kortendijk
Werkvormen	Projectonderwijs
Toetsen	Industrial Robotics and Automation - Opdracht

Leeruitkomsten

The student:

- configures the parameters of an industrial robot (like TCP position and orientation, tool mass, speed, acceleration, etc.) according to its tool and application;
- programs an industrial robot to perform pick-and-place activities;
- programs an industrial robot to perform more complex task, like force-control and/or collaboration with a person or another robot;
- recognizes Robot degrees of freedom;
- understands the kinematic model of an industrial manipulator using modelling softwar
- identifies factors which should be considered when selecting an Industrial Robot for specific industrial applications;
- differentiates between teach pendant and offline programming for industrial robots;
- implements communication between two PLC’s and between industrial robot and PLC via I/Os and field buses like Ethercat, Profinet etc.;
- controls pneumatic actuators and conveyor belts from a PLC and from an industrial robot;
- connects different industrial sensors and is able to use their measurements in the programs of PLC and industrial robot;
- implements a monitoring and control system using SCADA architecture.

Inhoud

This course deals with industrial robotics, automation and industrial communication networks. Students will learn about programming robot manipulators to work on automated industrial setting, specification and application of different networks for transferring data in an industrial environment, and PLCs.

Opgenomen in opleiding(en)

Minor Industrial Automation
Exchange Industrial Automation (spring)

School(s)

Instituut voor Engineering

share your talent. move the world.

De ECTS onderwijscatalogus van de Hanzehogeschool Groningen wordt met de grootst mogelijke zorg samengesteld. Het is echter mogelijk dat de inhoud van de catalogus -en de daarin vervatte informatie- verouderd, incompleet of onjuist is. Aan de inhoud van de catalogus kunnen dan ook geen rechten worden ontleend.