Industrial Automation and Robotics

ENGINEERING

WWW.WINDESHEIM.COM

About the course

Do you have the ambition to become an engineer in an industrial environment? This industrial and technically demanding environment is the context of the minor Industrial Automation and Robotics (IAR). Companies like Philips, AWL and VMI are important partners for us. This multidisciplinary minor will be in English, which makes it possible to work with international students and companies. Innovation in an industrial environment is the leading force in this minor.

Group work

You will work in a group with Dutch students and you follow classes with other international students. This will help you to develop intercultural skills.

Practical information

For information on entry requirements, application deadlines, semester duration, accommodation and on how to apply, please visit our website: www.windesheim.com.

Contact

For questions about the programme:

Mr Leo van der Ploeg, coordinator
lg.vander.ploeg@windesheim.nl
Phone: +31 88 469 84 55

Mr Freek Noordhuis, coordinator
f.noordhuis@windesheim.nl
Phone: +31 88 469 77 82

Mr Paul Touw, international coordinator
p.touw@windesheim.nl
Phone: +31 88 469 77 93

For general questions about exchange programmes:
Windesheim International Office
internationaloffice@windesheim.nl
Phone: +31 88 469 97 77

Windesheim
UNIVERSITY OF APPLIED SCIENCES

Course modules Industrial Automation and Robotics

Industrial robotics * – 3 ECTS credits

The context is an industrial environment and more specifically an industrial robot. We work with ABB Robots. The practical part is based on the RobotStudio Environment. Goal of this course is to realize a working program.

Production Technology * – 3 ECTS credits

The basis for this course is to become familiar with modern manufacturing and production methods and opportunities for automation. Topics in this course include Smart Welding, Laser Welding, Smart Assembly Tools, Additive Manufacturing, Surface Treatment Technology.

Industrial components – 2 ECTS credits

Information is given about industrial components like cylinders, motors and frequency converters. At the end of this course the student is able to make his own design decisions.

Control of industrial processes – 3 ECTS credits

The main part of this course consists of the design of a PLC program to control a mechatronic or industrial setup. The Siemens TIA Portal software platform will be used in combination
with a Siemens PLC. At the end of this course the student is able to design and implement his program.

Machine Vision – 2 ECTS credits

This course explains the use of vision software and cameras for product identification and location.

Operations Management * – 3 ECTS credits

The basis for this course is concerned with designing and controlling the production process. It involves both technological and organizational variables. Topics in this course include Lean Manufacturing, Quick Response Manufacturing, Theory Of Constraints, FMECA, Smart Maintenance.

Basic Programming - 2 ECTS credits

In Basic Programming you will learn to programm a PLC with structured text. You also will learn how to design and implement independent statemachines. Statemachines can be called from other statemachines for the purpose of modularising complex code. Because many students are not familiar with the statemachine approach this course is compulsatory for all students.

Project IAR – 10 ECTS credits

In the project the student will get the opportunity to put theory into practice in a company. During the execution of this project the student will work in a multidisciplinary setting in the company for approximately thirty days.

* The course consists of a theoretical and a practical part.

Optional modules – 4 ECTS credits

This is a multidisciplinary minor with ICT, Electrical or Mechanical Engineering students. For each profile there are different optional modules available:
• Drive Technology (ICT & ME)
• Design Software 3D CAD (ICT & E)
• CE Marking (ICT, ME & EXCH)
Each module is 2 ECTS credits, so there is a minimum of two modules to choose.

Course modules Windesheim General Programme

Compulsory for all international students:
• Introduction to Windesheim (2 ECTS credits)
Elective modules for all international students:
• Dutch Language 1: Introduction (3 ECTS credits)
• Dutch Language 2: Intermediate (3 ECTS credits)
• Dutch Society 1 (3 ECTS credits)
• Dutch Society 2 (3 ECTS credits)
• Intercultural Awareness (3 ECTS credits)
• Drama and Improvisation (3 ECTS credits)