UNIVERSITY
OF SKÖVDE

COURSE SYLLABUS

Industrial Robotics and RobotStudio® I G1N
7.5 credits

Course code: PR027G
Version number: 6
Valid from: 1 July 2022
Ratified by: Curriculum Committee for Engineering Science
Date of ratification: 1 February 2021

1. General information about the course

The course is provided by the University of Skövde and is named Industrial Robotics and RobotStudio® I G1N (Industriell robotteknik och RobotStudio® I G1N). It comprises 7.5 credits and is a first-cycle course. The level of progression is G1N.

The course is a part of the main field of study in Industrial Engineering. The disciplinary domain of the course is Technology.

2. Entry requirements

General entry requirements (or the equivalent).

3. Course content

The course deals with industrial robotics, the use of the industrial robot and its functions and possibilities. It gives the student the knowledge to work in a development environment where industrial robots are included. This is achieved by working with the software RobotStudio® from ABB as well as lectures and exercises. A large part of the course is devoted to offline programming and simulation of industrial robots.

4. Objectives

After completed course the student should be able to:

* describe the opportunities and problems with the use of robots in industry,
* describe the structure, function and use of different industrial robots, as well as their development in a historical perspective,
* describe definitions and basic concepts, sensors and tools,
* account for safety in and design of robot systems,
* perform basic modeling, programming and simulation of robot cell with associated peripherals using the RobotStudio® software,
* perform modeling and definition of tools for industrial robots using the RobotStudio® software.

5. Examination

The course is graded G (Pass) or U (Fail).

To obtain the grade Pass on the entire course, all examination parts must be passed.

The examinations of the course consist of the following modes of assessment:

- **Unsupervised written examination**
  2 credits, grades: G/U

- **Written assignment - tool**
  1 credit, grades: G/U

- **Written assignment - robot cell**
  4.5 credits, grades: G/U

Students with a permanent disability who have been approved for directed educational support may be offered adapted or alternative modes of assessment.

6. Types of instruction and language of instruction

The teaching consists of recorded lectures and exercises, as well as individual work.

The teaching is conducted in English.

7. Course literature and other educational materials

Siciliano B. & Khatib O. (2008). *Springer Handbook of Robotics*. [Electronic] Springer. ISBN 9783540303015.

Other course material is distributed electronically.

8. Student influence

Student influence in the course is ensured by means of course evaluation. The students are informed about the results of the evaluation and potential measures that have been taken or are planned, based on the course evaluation.

9. Additional information

Further information about the course, as well as national and local governing documents for higher education, is available on the website of the University of Skövde.