



# HÖGSKOLAN I GÄVLE

## Introduction to Automation 7.5 cr

*Introduktion till automation 7,5 hp*

Set by Faculty of Engineering and Sustainable Development

### Version

<b>Set at</b>	<b>Valid from</b>
9/15/14	<b>HT2015</b>

<b>Level</b>	G1N
<b>Education level</b>	First cycle
<b>Course identifier</b>	EEG003
<b>Credits</b>	7.5 cr
<b>Main field of study</b>	Electronics
<b>Subject group</b>	Electronics
<b>Disciplinary domain</b>	Technology 100.0 %

**Learning outcomes** After completion of the course the student shall be able to

1. identify with and handle alarm and surveillance systems
2. interpret and carry out basic drawings for automation
3. handle CAD systems in order to produce drawings for automation
4. apply basic programming of robots, CNC and control systems
5. account for basic knowledge of LEAN
6. give example of industrial applications
7. apply the basics of information search, technical report writing and presentation.

**Course content** The course covers different aspects and concepts in automation and mechanics, and also the basics of technical report writing.

Alarm and surveillance systems  
Sensors and actuators  
Basics in programming robots, CNC and control systems.  
Introductory CAD and drawing techniques  
- the basics of CAD (electronics and instruments)  
- exercises

**Teaching** The teaching is carried out as teaching sessions, exercises and laboratory sessions. The course

contains a project where the students carry out a design and programming assignment, individually or in groups.

<b>Prerequisites</b>	General entry requirements + Mathematics 3c or Mathematics D, Physics 2
<b>Examination</b>	Written Examination Laboratory Sessions and Compulsory Parts Project Work
<b>Grade</b>	A, B, C, D, E, Fx, F
<b>Other regulations</b>	Grading criteria are provided by the course coordinator or examiner at the beginning of the course.
<b>Sustainable environment</b>	A minor part of the course content deals with sustainable development.

<b>Module</b>			
	0010	Written Examination	3 cr      Grade: AF
	0020	Project Work	2 cr      Grade: AF
	0030	Laboratory Sessions and Compulsory Parts	2.5 cr      Grade: UG