

## **Machine Vision, 3 HE credits**

*Machine vision, 3 hp*

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Established: 2020-06-04

Established by: Department of Engineering Science

Applies from: V21

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### **Learning outcomes**

**After completion of the course, the student should be able to:**

- demonstrate knowledge of mathematical projection and transformations for a robot vision system.
- demonstrate knowledge of machine vision calibration.
- manage 3D machine vision including filter, detail detection and matching.
- apply navigation and tracking in 2D and 3D for a robotic system.

### **Entry requirements**

Degree of Bachelor of Science in computer engineering, electrical engineering, mechanical engineering or Industrial Engineering and Management. Additionally the Bachelor of Science degree must be comprised of a minimum of 5 HE credits in programming.

General entry requirements and approved result from the following course/courses:

RBS720-Robotic Systems and

RBK600-Robot Certificate or the equivalent.

### **The forms of assessment of student performance**

Laborations and project work in groups with individual written examination.

### **Course contents**

The course consists of the following contents:

- 3D vision
- Vision based robot control
- Camera calibration

### **Other regulations**

Course grading: F/Fx/E/D/C/B/A - Insufficient, Insufficient- more work required before the credit can be awarded, Sufficient, Satisfactory, Good, Very Good, Excellent

Course language: The teaching is conducted in English.

General rules pertaining to examination at University West are available at [www.hv.se](http://www.hv.se).

If the student has a decision/recommendation on special support due to disability, the examiner has the right to examine the student in a customized examination form.

**Cycle**

Second cycle

**Progressive specialization**

A1F - second cycle, has second-cycle course/s as entry requirements

**Main field of study**

Automation, Production Technology