

Sensors and Actuators

Introduction to laboratory

Wojciech Domski

Chair of Cybernetics and Robotics,
Wrocław University of Science and Technology



Wrocław University
of Science and Technology



- 1 Introduction
- 2 How to pass the course?
- 3 Laboratory exercises
- 4 Grading scale



OSH training

- 1 be aware of electric current,
- 2 do not try to repair the equipment on your own,
- 3 do not eat and drink during classes,
- 4 do not swing on the chair,
- 5 emergency exit,
- 6 first aid kit.



Office hours

Office hours are available via USOS system.
The office hours are held in room 209A, building C3.



Credit rules (1/2)

- 1 There are 6 exercises.
- 2 Each exercise is performed by a group of 2 people.
- 3 Each group delivers a single report for each exercise.
- 4 Each member of a group has to write 3 reports.
- 5 A report on the performed exercise should be provided before the next exercise via eportal.
- 6 Each group will have its own individual exercise schedule.



Credit rules (2/2)

- 1 All laboratory exercises have to be performed.
- 2 Before each laboratory class (except the first one) an entry test has to be written.
- 3 Test tests will be conducted via the ePortal.
- 4 Performance of a laboratory exercise and tests will be evaluated.



Provided resources

- laboratory equipment,
- laboratory exercises instructions,
- some photos of the exercise performance,
- some examples of measurement results,
- \LaTeX template for the report,
- scripts for generating plots using gnuplot.



Expectations

- the obtained measurements data should be analyzed,
- some diagrams should be drawn,
- some parameters of sensor characteristics should be calculated,
- an exercise report should be written in \LaTeX and delivered.



Course outline

The course covers following 6 exercises:

- 1 Strain Gauge
- 2 Linear Variable Differential Transformer
- 3 Temperature Transducers
- 4 Optical Distance Sensors
- 5 Water Level Measurements
- 6 Ultrasonic Sensors



Grading scale

- 2.0 for less than 50% of points,
- 3.0 for [50%, 60%) of points,
- 3.5 for [60%, 70%) of points,
- 4.0 for [70%, 80%) of points,
- 4.5 for [80%, 90%) of points,
- 5.0 for 90% or more of points.

