

Robotic systems

Course Code: IVB193AN

Semester: Autumn 2019/2020 1.

Course Syllabus

Time: L Tuesday 09:30-11:00

P Tuesday 11:15-12:45

Location: PTE MIK, L B-0006, P B-0006

General Information:**Name of Course:**

ROBOTIC SYSTEMS

Course Code:

IVB193AN

Semester:3rd**Number of Credits:**

4

Allotment of Hours per Week:

2 lectures, 2 practices

Evaluation:

Exam (with grade)

Prerequisites:

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Instructors:**Dr. Tukora Balázs, associate professor**

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Introduction, Learning Outcomes

Getting acquainted with some important robot application areas and the possibilities of connecting robots into a system – requirements, problems.

General Course Description and Main Content:

Short story of robots/industrial robots. Basic concepts and their explanation.

Robot applications around the World, in every parts of life. Special (micro, nano) robots, particular applications (e.g. surgery robots). Robot mechanics, robot control, AI in control and operation. Bot programming. Organizational and financial questions, design of robot systems, industrial design, production planning for robot use. Robot cells, robot production systems, integration of robots into mechanical and architectural systems, robots in continuous production, robots in discrete production: welding, assembly, manipulation, disassembly, etc.

Methodology:

Presentation and practice

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Schedule:

1.	Short story of robots/industrial robots. Basic concepts and their explanation.
2.	Robots in industry, robot applications
3.	Classification of robots
4.	Robot mechanics
5.	Robot kinematics
6.	Robot dynamics, robot control
7.	Artificial intelligence in robotics
8.	Organisational and financial questions
9.	Autumn holiday
10.	Design of robot systems
11.	Object and production design for robotic use
12.	Robots in continuous production
13.	Robots in discrete production
14.	Test
15.	Repeat test

Attendance:

In case of absence from more than 30% of the total number of lesson will be grounds for failing the class. To be in class at the beginning time and stay until the scheduled end of the lesson is required, tardiness of more than 20 minutes will be counted as an absence. In the case of an illness or family emergency, the student must present a valid excuse, such as a doctor's note.

Evaluation + Grading

Passing the test is required to get the final grade. In case of failed test the grade can be improved at the repeat test.

Final grade is offered after passed test. This grade can be accepted or improved at an exam in the exam period.

Grading scale

Numeric Grade:	5	4	3	2	1
Evaluation in points:	90-100%	80-89%	70-79%	60-69%	0-59%

Students with special needs:

Students with special physical needs and requiring special assistance must first register with the Dean of the Students Office. All reasonable requests to provide an equal learning environment for all students is to be assured.

Required Reading and other Materials will be equivalent to:

Lecture notes on Neptun Meet Street