COURSE DESCRIPTION CARD - SYLLABUS

Course name
Term design [S1AiR1E>PP]

Course

Field of study
Automatic Control and Robotics

Year/Semester
3/6

Area of study (specialization)
–

Profile of study
general academic

Level of study
first-cycle

Course offered in
English

Form of study
full-time

Requirements
compulsory

Number of hours

Lecture
0

Laboratory classes
0

Other
0

Tutorials
0

Projects/seminars
60

Number of credit points

6,00

Coordinators

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Lecturers

Prerequisites

Students starting this course should have basic knowledge about programming, automatic control, robotics, and electronics. Additionally, they should be able to analyse and solve problems by themself.

Course objective

1. Development of skills of practical use of acquired knowledge. 2. Further development of skills of analysing and solving problems by themself. 3. Forming skills of team work to solve research problem.

Course-related learning outcomes

Knowledge:
Knows and understands typical engineering technologies, principles and techniques of construction of simple automation and robotics systems; knows and understands the principles of selection of executive systems, computational units and measurement and control elements and devices [K1_W20 (P6S_WG)].
Is familiar with the current status and latest development trends of the field of automation and robotics [K1_W21 (P6S_WG)].
Skills:
Can interpret with understanding the design technical documentation and simple technological diagrams of

automation and robotics systems [K1_U2 (P6S_UW)].
Has self-education skills to improve and update professional competences [K1_U6 (P6S_UU)].
Be able to make a preliminary economic analysis of the engineering activities undertaken in the field of automation and robotics [K1_U20 (P6S_UW)].
Can design and practically use simple diagnostic and decision-making systems dedicated to automation and robotics systems [K1_U21 (P6S_UW)].
Can work individually and in a team; can plan and organise work - individual and in a team; can estimate the time needed to complete a given task; can prepare and carry out a work schedule ensuring that deadlines are met [K1_U30 (P6S_UO)].
Social competences:
Is ready to critically assess his/her knowledge; understands the need for and knows the possibilities of continuous training - improving professional, personal and social competence, is able to inspire and organize the learning process of others [K1_K1 (P6S_KK)].
Is aware of the responsibility for his/her own work and is ready to follow the rules of teamwork and take responsibility for jointly implemented tasks; is able to lead a small team, set goals and determine priorities leading to the realisation of the task; is ready toto play a responsible professional role. [K1_K3 (P6S_KR)].
Is ready to prioritise in order to complete a task defined by himself or others [K1_K4 (P6S_KO)].

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Learning outcomes presented above are verified as follows:
Grading of project realisation progress, commitment to team work, and final project report quality. The grade is average of two partial grades: grade assigned in the middle of the semeter and grade assigned at the end of the semester.

Programme content

Each project is done by 2-3 people team of students. Students can choose from a pre-determined list of topics or propose their own. All topics are related to practical use of knowledge acquired during the course of studies.

Course topics

none

Teaching methods

1. Performing simulation and hardware experiments.
2. Discussion.
3. Team work.
4. Working project demonstration.

Bibliography

Basic
1. Probabilistic robotics, Sebastian Thrun, Wolfram Burgard, Dieter Fox, The MIT Press, London, 2006.
Additional
1. Artificial Intelligence: A Modern Approach, Stuart Russell, Peter Norvig, Pearson Education, New Jersey, 2010.

Breakdown of average student's workload

	Hours	ECTS
Total workload	150	6,00
Classes requiring direct contact with the teacher	60	2,50
Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation)	90	3,50