



COURSE DESCRIPTION CARD - SYLLABUS

Course name

Passing project II

Course

Field of study

Mechatronics

Area of study (specialization)

Automation and Supervision of Production Systems

Level of study

Second-cycle studies

Form of study

full-time

Year/Semester

2/3

Profile of study

general academic

Course offered in

Polish/English

Requirements

compulsory

Number of hours

Lecture

0

Laboratory classes

0

Other (e.g. online)

0

Tutorials

0

Projects/seminars

45

Number of credit points

5

Lecturers

Responsible for the course/lecturer:

M.Sc. Mateusz Wróbel

email: mateusz.wrobel@put.poznan.pl

phone: 61 665 2682

Institute of Applied Mechanics

Faculty of Mechanical Engineering

Jana Pawła II street 24, 60-965 Poznań

Responsible for the course/lecturer:

Prerequisites

- 1) Basic knowledge in the field of design, operation, supervision and diagnostics of machines and technological lines which are commonly used in industry.
- 2) Ability to think logically and to obtain information from literature and internet resources.
- 3) Understanding the need for self-learning, acquiring new knowledge and skills.

Course objective

- 1) Expanding knowledge and improving practical skills in the field of design, operation and automation of productive systems as well as maintenance and machine diagnostics.
- 2) Inspiring students to look for innovative solutions in the above-mentioned field.
- 3) Improving students' skills in individually solving design tasks and/or research-experimental problems as well as presenting and critically analysing the work results and formulating conclusions.



Course-related learning outcomes

Knowledge

1) The student has well-established theoretical knowledge that allows to solve selected problem in the field of automation and supervision of machines and technological lines.

Skills

1) Student has the ability to use information and communication techniques which are necessary to solve typical engineering problems

2) Student has the ability to self-study

3) Student is able to use library and internet resources

4) Student is able to prepare a summary of results of his/her own work

Social competences

1) Student understands the necessity of continuous education which results from a rapid development of science and technology

2) Student is able to inspire and organize work and learning process.

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

The basis of the assessment is:

1) report prepared by the student which includes a solution of typical engineering problem related to automation and maintenance of machines and technological lines,

2) presentations which contain effects of work stages.

The final grade is a weighted average of the report and presentations.

Programme content

1) Presentation of thematic scope of the transitional work and formal requirements which are necessary for proper realization of the project.

2) Presentation and discussion about work subject.

3) Realization and consultation of students' work in the field of automation and maintenance of machines and technological lines (a work should contain: descriptions of project issues, purpose and scope of the work, description of problem's solution and literature references)

Teaching methods

1) Individual students' work.

2) Multimedia presentations during which the student will present progress of his/her work.

3) Consultations and discussions.



Bibliography

Basic

- 1) C. Cempel, F. Tomaszewski, Machine diagnostics. General rules, examples of applications, MCNEMT, Radom 1992
- 2) B. Żółtowski, Basics of machine diagnostics, University Publishing House of University of Technology and Agriculture in Bydgoszcz, Bydgoszcz 1996
- 3) Feld M., Machine building technology, PWN, Warszawa 2000
- 4) U. Fischer, Mechanics' guide, RAE Publishing House, 2008
- 5) J. Jaczewski, A. Opolski, J. Stolz, Basics of Electronics and Power Electronics, WNT, Warszawa 1981
- 6) J. Tomczyk, Basics of drives, Lodz University of Technology Publishing House, Łódź 2005
- 7) M. W. Szellerski, Industrial automation in practice - design, modernisation and repair, KaBe Publishing House, Krosno 2016
- 8) M. W. Szellerski, Industrial robotics - theory, construction, operation, KaBe Publishing House, Krosno 2019

Additional

- 1) Scientific and technical journal, Archives of Machine Technology and Automation, Poznan 1998 - 2011
- 2) Scientific and technical journal, Advances in Manufacturing Science and Technology, Rzeszow Univeristy of Technology Publishing House, Rzeszów, 2018
- 3) Scientific and technical journal, Engineering & Maintenance, Trademedia International, 2003-2018

Breakdown of average student's workload

	Hours	ECTS
Total workload	125	5,0
Classes requiring direct contact with the teacher	50	2,0
Student's own work (literature studies, project preparation, presentations) ¹	75	3,0

¹ delete or add other activities as appropriate