



## COURSE DESCRIPTION CARD - SYLLABUS

Course name

Production Management in Industry 4.0

### Course

Field of study

Year/Semester

Inżynieria zarządzania / Engineering Management

1/2

Area of study (specialization)

Profile of study

Managing Enterprise of the Future

general academic

Level of study

Course offered in

Second-cycle studies

Polish

Form of study

Requirements

part-time

elective

### Number of hours

Lecture

Laboratory classes

Other (e.g. online)

10

Tutorials

Projects/seminars

10

### Number of credit points

3

### Lecturers

Responsible for the course/lecturer:

Prof. dr hab.inż. Stefan Trzcieliński

Responsible for the course/lecturer:

Dr inż. Edmund Pawłowski

### Prerequisites

General knowledge about machine technology, production control and infrastructure of Industry 4.0

The ability to thematic search and selection of literature sources.

### Course objective

Preparation of the student to organize and manage production systems in the conditions of automated and robotic processes.

### Course-related learning outcomes

Knowledge

Knowledge about: functions covered by operations management, technologies and their role in industry 4.0, the consequences of the way the value stream is organized and controlled, methods of transforming a company into Enterprise 4.0.

Skills

Skills in: assessing the impact of external conditions on operations management, generating ideas to



solve problems related to operations management, choosing methods to support the transformation of the company into Enterprise 4.0.

Social competences

He can work and play various roles in a team.

### Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Micro-tasks verifying understanding of lecture content.

Development of a team project.

### Programme content

Technologies that changed the world. Operations / production management functions. Business context of operations / production management. Key technologies of Industry 4.0. Capital and organizational consequences of value stream flow; circular economy. Methods supporting the digital transformation of manufacturing enterprises.

### Teaching methods

Conversational lecture with multimedia presentation.

Team project including elements of digital transformation of company into Enterprise 4.0.

### Bibliography

Basic

Denkena, B., Mörke, T. (2017). Cyber-physical and intelligent systems in manufacturing and life cycle: Genetics and intelligence - keys to industry 4.0. Elsevier Inc.

Brunet-Thornton, R., Martinez, F. (2018). Analyzing the impacts of industry 4.0 in modern business environments. IGI Global.

Additional

Sharma, K.L.S. (2017). Overview of Industrial Process Automation, Elsevier Inc.

Artykuły dostępne na Research Gate; Aricles available at Research Gate



### Breakdown of average student's workload

	Hours	ECTS
Total workload	65	3,0
Classes requiring direct contact with the teacher	2	1,0
Student's own work (literature studies, preparation for laboratory classes/tutorials, preparation for tests/exam, project preparation) <sup>1</sup>	45	2,0

<sup>1</sup> delete or add other activities as appropriate