COURSE DESCRIPTION CARD - SYLLABUS

Course name

Supportive Processes Management in Industry 4.0

Course

Field of study

Engineering Management

Year/Semester

1/2

Area of study (specialization)

The Enterprise Management of the Future

Profile of study

general academic

Level of study

Second-cycle studies

Course offered in

Form of study

part-time

Requirements

elective

Number of hours

Lecture

10

Laboratory classes

Other (e.g. online)

Tutorials

Projects/seminars

10

Number of credit points

2

Lecturers

Responsible for the course/lecturer:

Dr inż. Edmund Pawłowski

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Faculty of Engineering Management

ul. Jacka Rychlewskiego 2, 60-965 Poznań

Responsible for the course/lecturer:

Prerequisites

Enterprise management

Course objective

Acquisition of knowledge and skills in designing industrial support processes 4.0

Course-related learning outcomes

Knowledge

has an extended knowledge of the subject of contextual sciences in relation to management sciences and ergological sciences and the research methods applied in them, as well as of the common and specific conceptual apparatus in relation to management sciences and technical sciences

has knowledge of the links existing in network organisations (corporations, holdings, clusters, etc.) and in-depth knowledge of organisational links between organisational units of the enterprise and virtual units

has an in-depth knowledge of the nature of the sciences of management and their place and links to contextual and ergological sciences

has an extended knowledge of technical systems, facilities and equipment, understands their role and importance in shaping economic organisations

Skills

has the ability to apply the acquired knowledge in various scopes and forms, extended by a critical analysis of the effectiveness and usefulness of the applied knowledge

posiada umiejętność samodzielnego proponowania rozwiązań konkretnego problemu zarządczego i przeprowadzenia procedury podjęcia rozstrzygnięć, w tym zakresie

potrafi właściwie analizować przyczyny i przebieg procesów i zjawisk społecznych (kulturowych, politycznych, prawnych, gospodarczych), formułować własne opinie na ten temat oraz stawiać proste hipotezy badawcze i je weryfikować

Social competences

is aware of the interdisciplinary knowledge and skills needed to solve complex problems of the organisation and the need to create interdisciplinary teams

be able to recognise the cause-and-effect relationships in achieving the objectives and rank the importance of alternative or competing tasks

is able to plan and manage business ventures

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

The knowledge of the lectures is verified during the written test. Written test in two versions: 1/ 5 open questions, 2/ 10 multiple-choice test questions. Maximum number of points = 100. Positive score from 65 points.

Knowledge from the exercises is verified by defending the project.

Programme content

Industry 4.0 against the background of global industrial development. Organizational structure and business processes in the enterprise 4.0. Support processes in the enterprise 4.0. Cooperation and network connections in the scope of support processes. Logic of maintenance system development. Internet of things in maintenance processes

Teaching methods

1. lecture: Monographic lecture, case studies

2 Exercises: multimedia presentation illustrated with examples given on the board and project execution

Bibliography

Basic

Sobieraj J.. Rewolucja prtzemysłowa 4.0. Wydawnictwi ITE, Radom, 2018

Schwab K. Czwarta rewolucja przemysłowa. Wydawnictwo Studio EMKA, 2018

Kagermann et al. (2013) Kagermann, H., W. Wahlster and J. Helbig, eds., 2013: Recommendations, for implementing the strategic initiative Industrie 4.0: Final report of the Industrie 4.0 Working Group.

Hermann M., Pentek T., Otto B. Design Principles for Industrie 4.0 Scenarios: A Literature Review. Technische Universitat Dortmund; Working paper No: 1/2015

Additional

Breakdown of average student's workload

	Hours	ECTS
Total workload	50	2,0
Classes requiring direct contact with the teacher	20	1,0
Student's own work (literature studies, preparation for laboratory classes/tutorials, preparation for tests/exam, project preparation) [1]	30	1,0

[1] delete or add other activities as appropriate