COURSE DESCRIPTION CARD - SYLLABUS

Course name
Designing industrial plants

Course

Field of study
Engineering Management

Year/Semester
4/7

Area of study (specialization)

Profile of study
general academic

Level of study
First-cycle studies

Course offered in
Polish

Form of study
part-time

Requirements
elective

Number of hours

Lecture
15

Laboratory classes

Other (e.g. online)

Tutorials

Projects/seminars
15

Number of credit points

3

Lecturers

Responsible for the course/lecturer:
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Responsible for the course/lecturer:

Prerequisites

The student starting this subject should have basic knowledge in the field of production and service management, should be able to apply the tools and techniques of designing production units of the first degree of complexity, should also be able to obtain information from the indicated sources and be willing to cooperate within a team.

Course objective

To provide students with basic theoretical and practical knowledge related to the design of production systems as well as basic methods and techniques used in this process.

Course-related learning outcomes

Knowledge

Student:

1. has ordered and theoretically founded knowledge of behavior, organizational norms, understands the importance of organizational and social ties in creating an organization [P6S_WG_03].

2. knows methods and tools for designing production structures [P6S_WG_07].

3. knows the basic methods, techniques, tools and materials used to solve simple engineering tasks in the field of machine construction and operation [P6S_WG_16].

4. knows typical industrial technologies and knows in depth the technologies of machine construction and operation [P6S_WG_17].

Skills

Student:

1. is able to plan and conduct experiments, including computer measurements and simulations, interpret obtained results and draw conclusions [P6S_UW_09].

2. is able to use analytical, simulation and experimental methods to formulate and solve engineering tasks [P6S_UW_10].

3. can make a critical analysis of the technological processes of machine production and organization of production systems [P6S_UW_13].

4. can identify design tasks and solve simple design tasks in the field of machine construction and operation [P6S_UW_14].

Social competences

Student:

1. can see cause-and-effect relationships in achieving the goals and rank the importance of alternative or competitive tasks [P6S_KK_02].

2. can prepare and implement business ventures [P6S_KO_03].

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Formative assessment:

a) in the scope of projects - based on the current progress of project task implementation

b) in terms of lectures based on answers to questions about the material discussed in previous lectures

Summative rating:

a) in the scope of projects based on the presentation of the implementation of the project task and answers to questions regarding the implementation of the project task and solutions used in the project task

b) in the scope of lectures (1) written exam in the field of lecture content; each question is scored on a scale of 0 to 1; the exam is passed after obtaining at least 55% of the points; the student can take the exam after passing the project; (2) discussion of exam results

Programme content

Basics of production system design. Enterprise as a system. Determining the design situation (modernization or design of new systems). Product implementation process. Algorithm for designing technical and economic assumptions for the preparation of product manufacture. Design issues: production system structures, production launch, spatial organization of production processes. Project documentation. General plan, location of the enterprise. System design assessment. New directions and trends in the design of production systems.

Teaching methods

- Informative (conventional) lecture (information transfer in a systematic way) of a monographic nature, in the form of a multimedia presentation.

- Project method (individual or team implementation of a large, multi-stage cognitive or practical task, the effect of which is the creation of a work).

Bibliography

Basic

1. Brzeziński M. (red.), Organizacja i sterowanie produkcją, AW Placet, Warszawa, 2002.

2. Lewandowski J., Skołud B., Plinta D., Organizacja systemów produkcyjnych, PWE, Warszawa 2014.

3. Gawlik J., Plichta J., Świć A., Procesy produkcyjne, PWE, Warszawa 2013.

4. Mazurczak J., Projektowanie struktur systemów produkcyjnych, WPP, Poznań, 2001.

5. Lis S., Organizacja i ekonomika procesów produkcyjnych w przemyśle maszynowym, PWN, Warszawa 1984.

6. Jackowicz R., Lis S, Podstawy projektowania struktur przedsiębiorstw przemysłowych, WPW, Warszawa 1987.

7. Mazurczak, J., Gania, I., 2008. Kryteria klasyfikacji warunków organizowania systemów produkcyjnych, [red.] Fertsch Marek, Grzybowska Katarzyna, Stachowiak Agnieszka, Poznań, Politechnika Poznańska, Instytut Inżynierii Zarządzania, str. 175 ? 186.

Additional

Pająk E., Klimkiewicz M., Kosieradzka A., Zarządzanie produkcją i usługami, PWE, Warszawa 2014.

2. Muhlemann A., Oakland J., Lockyer K, Zarządzanie. Produkcja i usługi, PWN, Warszawa 2001.

3. Pająk E., Zarządzania produkcją, Wydawnictwo Naukowe PWN, Warszawa 2017.

Breakdown of average student's workload

	Hours	ECTS
Total workload	75	3,0
Classes requiring direct contact with the teacher	30	1,0
Student's own work (literature studies, consultation, preparation for exam, project preparation) [1]	45	2,0

[1] delete or add other activities as appropriate