POZNAN UNIVERSITY OF TECHNOLOGY

EUROPEAN CREDIT TRANSFER AND ACCUMULATION SYSTEM (ECTS)

pl. M. Skłodowskiej-Curie 5, 60-965 Poznań

COURSE DESCRIPTION CARD - SYLLABUS

Course name
Organization of Production Preparation

Course

Field of study
Engineering management

Year/Semester
2/4

Area of study (specialization)

Profile of study

Level of study
First-cycle studies

Course offered in
polish/english

Form of study
full-time

Requirements
elective

Number of hours

Lecture
15

Laboratory classes

Other (e.g. online)

Tutorials
15

Projects/seminars

Number of credit points
3

Lecturers

Responsible for the course/lecturer:
dr hab. inż. Joanna Kałkowska, prof. PP

email:joanna.kalkowska@put.poznan.pl

Wydział Inżynierii Zarządzania

ul. Jacka Rychlewskiego 2

60-965 Poznań

Responsible for the course/lecturer:

Prerequisites
The student has knowledge related to the enterprise management, design of technological processes

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and the basics of machine construction and organization of production. In addition, he can integrate knowledge acquired in other subjects as well as interact and work in a team.

Course objective

To acquaint students with theoretical and practical problems associated with the organization of the new product development process in a manufacturing company

Course-related learning outcomes

Knowledge

1. The student has a basic knowledge of management (including quality management methods and techniques) and business operations as well as the product development cycle

2. The student knows the basic methods, techniques, tools as well as materials used to solve simple tasks related to the design of engineering activities in a manufacturing company

3. Student knows typical manufacturing technologies as well as machine construction and operation technologies

4. The student has the basic knowledge necessary to understand the non-technical conditions of engineering activities (including social and ethical) and knowledge of occupational health and safety in a manufacturing company

Skills

1. Student recognizes system, socio-technical, organizational, economic and non-technical aspects in solving engineering problems

2. The student is able to make a critical analysis of the technological processes of machine production and organization of production systems

3. Student identifies and solves design tasks in the field of machine construction and operation using typical methods, techniques and tools

4. Student is able to design the construction and technology of simple machine parts and subassemblies, and design the organization of first-degree complexity production units in a manufacturing company

Social competences

1. The student is able to search independently for the new methods of self-improvement of their knowledge and skills

2. The student makes a substantive contribution to the preparation of social projects, including legal, economic and organizational aspects

3. The student is aware that creating products that meet the needs of users requires a systematic approach taking into account technical, economic, marketing, legal, organizational and financial issues

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

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Knowledge acquired during the lecture is verified by short tests conducted after 2,4,6 lecture. The tests consist of 6 closed questions (3 for each lecture). Assessment threshold: 50% of the points (satisfactory).

Knowledge acquired as part of the exercise is verified on the basis of solving individual tasks covered by the exercise program. The student receives points for each task. Assessment threshold: 50% of the points (satisfactory).

Programme content

Lecture: Product development and service processes in a manufacturing company. Goals, tasks and functions of product development processes in a manufacturing enterprise. Financial outlays and connections between product development and innovative activity. Construction, technological and organizational development of production. Organization of organizational units of production development in the enterprise. Conditions of modern product design. CAx technologies in computer aided design and manufacture of products and problems of their integration. Modern prototyping technologies. Technical Documentation. Product life cycle curve and product production costs. Life Cycle Costing (LCC) as a product life cycle cost management model.

Exercises: practical verification of methods supporting engineering activities (e.g. Brainstorming, morphological analysis, SCAMPER method), life cycle cost simulation (LCC) for a given product.

Teaching methods

Monographic lecture in the form of a multimedia presentation, with elements of a conversational lecture. Exercises: auditorium exercises, solving case studies and cognitive tasks.

Bibliography

Basic

1. Szatkowski K. (red.), Nowoczesne zarządzanie produkcją. Ujęcie procesowe, PWN, Warszawa 2014

2. Kawecka-Endler A., Organizacja technicznego przygotowania produkcji prac rozwojowych, Wydawnictwo Politechniki Poznańskiej, Poznań 2004

3. Szatkowski K., Przygotowanie produkcji, PWN, Warszawa 2013

Additional

1. Brzeziński M., Organizacja produkcji, Wydawnictwo Politechniki Lubelskiej, Lublin 2000

2. Chlebus E., Techniki CAx w inżynierii produkcji, WNT, Warszawa 2000

3. Sosnowska A. (red.), Zarządzanie nowym produktem, Oficyna Wydawnicza SGH, Warszawa 2000

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Breakdown of average student's workload

	Hours	ECTS
Total workload	75	3,0
Classes requiring direct contact with the teacher	30	1,5
Student's own work (literature studies, preparation for classes/tutorials, preparation for tests) [1]	35	1,5

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[1] delete or add other activities as appropriate