COURSE DESCRIPTION CARD - SYLLABUS

Course name
Product Lifecycle Management PLM

Course

Field of study
Management and production engineering
Year/Semester
2/4
Area of study (specialization)
Computerisation in Production
Profile of study
general academic
Level of study
Second-cycle studies
Course offered in
Polish
Form of study
part-time
Requirements
elective

Number of hours

Lecture
10
Laboratory classes
10
Other (e.g. online)
Tutorials
Projects/seminars

Number of credit points

3

Lecturers

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

Prerequisites

Student has a fundamental knowledge in the field of information technology, knowledge of manufacturing technology and CAD CAM systems. Student is able to develop a model of the product using 3D CAD and to design the production process of the product. Student is able to work in a project team, is aware of responsibility for the tasks performed, understands the need to acquire new knowledge.

Course objective

Students become familiar with a holistic approach to the life cycle of the product and information systems supporting this process. Students also gain practical skills on the functionality of the PLM system.

Course-related learning outcomes

Knowledge

Students have an extensive knowledge of the life cycle of the product and its importance in the engineering. Students have knowledge of technology, functionality, the characteristics and methods of implementation of the PLM system. Students know the possibilities of integration of PLM with other applications, tools and standards.

Skills

Students know how to analyze and assess the life cycle of the product. Students have practical skills in application of PLM in engineering practice. Students are able to carry out the project (management of the product data) using the PLM system. Student are prepared to work in a team implementing PLM system in the enterprise.

Social competences

Students are able to work in a team designing products using PLM/PDM tools. Students are aware of the need for lifelong learning; inspire and organize the learning process. Students are is aware of the responsibility associated with the decisions taken within the framework of engineering activities.

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Lectures

Knowledge acquired during lectures is verified by written examination. The examination consists of 5 open questions and one problem-related issue. A pass requires 50% correct answers.

Laboratories

The student's preparation for laboratory classes and the assessment of skills acquired during laboratory exercises will be verified on the basis of self-performed tasks at the computer workstation, oral answers and written tests on the ability to use studied software systems and principles of using PLM systems.

Programme content

Lectures:

1. Product life cycle definition. Development of PLM tools. Overview of commercial PLM software systems. Functionality of PLM class systems and their features.
2. Product and its structure. Premises of integrated product development. Impact of the design process on the product life cycle.
3. Life cycle engineering. Tools supporting product life cycle planning.
4. Basic methods and tools for integration of activities in product development.
5. Selected aspects of product data management - functionality of PDM systems.
6. Product data exchange standards. PLM and ERP cooperation environment.

Laboratory classes:

1. Data administration in the Smarteam system.
2. Using the PDM function to prepare bill of materials.

3. Product configuration and change management.
4. Smarteam system configuration for team collaboration using the workflow functions.

Teaching methods

Lecture: multimedia presentation illustrated with examples of selected PLM software.

Laboratory exercises: practical exercises, performing tasks at a computer workstation.

Bibliography

Basic

1. A. Saaksvuori, A. Immonen: Product Lifecycle Management, Springer 2002
2. E. Chlebus: Techniki komputerowe CAx w inżynierii produkcji, WNT, Warszawa 2000

Additional

1. J. Stark: Product Lifecycle Management, 21st Century Paradigm for Product Realisation, Springer, 2011
2. B. Watts: Engineering Documentation Control Handbook, William Andrew Publishing, 2000

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 laboratory classes/tutorials, preparation for tests) [1]	45	1,5

[1] delete or add other activities as appropriate