COURSE DESCRIPTION CARD - SYLLABUS

Course name

ERP systems

Course

Field of study

Management and Production Engineering

Year/Semester

2/3

Area of study (specialization)

Computerisation in Production

Profile of study

general academic

Level of study

Second-cycle studies

Course offered in

English

Form of study

full-time

Requirements

elective

Number of hours

Lecture

15

Laboratory classes

30

Other (e.g. online)

Tutorials

Projects/seminars

Number of credit points

3

Lecturers

Responsible for the course/lecturer:

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Faculty of Mechanical Engineering

Piotrowo 3, 60-965 Poznań

Responsible for the course/lecturer:

Prerequisites

The student should have knowledge of the role and importance of ERP systems used to support of planning and production control. Is able to define the importance of databases and database systems in today's computerization era.

Course objective

Understanding the theoretical and practical issues related to the use of IT system on the example of actual ERP systems implementations in manufacturing companies.

Course-related learning outcomes

Knowledge

The student has basic knowledge in the field of architecture and functionality of IT management

systems. Is also able to use the knowledge and principles of implementing PPC (Planning Production and Control) systems with support of CAx (Computer Aided) class systems in accordance with applicable management standards.

Skills

Student is able to operate a PPC and CAx class system, and thus:

- obtain selected data
- import / export data
- configure the product (basic data and extended data)
- acquired basic skills in tying final products with particular stages of its production (materials management, production planning, production, sales, financial account).

Social competences

The student is aware of the importance of information management systems in modern enterprises and understands the need to have both managerial and engineering knowledge in the field of production management using information systems. The student is able to act in an entrepreneurial manner, is aware of the role of computerization in engineering activities in the field of production management.

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Lecture:

pass consisting of closed and open-ended questions scored on a 0-6 scale. The examination pass mark is 55%. The student may take the exam after passing the laboratory, in special cases before passing the laboratory, if the teacher finds that the student has a chance to pass the subject positively. Discussion of exam results. The exam is conducted at the end of the semester.

Laboratory:

laboratory pass based on tasks performed during the laboratory and the final task. The student must obtain a positive assessment of the tasks completed.

Programme content

Lecture:

1. Production System and Information (Integrated) Management Systems.
2. CAx technical systems.
3. PPC systems: IC, MRP, MRPII, MRPIII - ERP, ERP II. Comparison of MRP to ERP II.
4. ERP and ERM.
5. Discussion of the functioning principles of the selected ERP system.

Laboratory:

1. ERP system - basic and supplementary data. Product configuration.
2. Production flow: Resources and processes.
3. Logistic management.
4. Technical preparation of production.

5. Sales and invoicing.
6. Repetitive production tracking / arbitration / guarantees.

Teaching methods

Lecture:
Multimedia presentation using a projector. Additional examples are drawn on the board. Solving tasks. Discussion with the group.

Laboratory:
Work on computer workstations and solving tasks in the ERP proALPHA system, ongoing consultations and explanations in the group forum using the board.

Bibliography

Basic

1. Larose T., Discovering knowledge from data. Introduction to data mining. Ed. Naukowe PWN, Warsaw 2006.
2. Wright P., Knowledge Discovery in Database: Tools and Techniques, 1998.
3. Wieczerzycki W., Databases, ed. PFE, 1994.

Additional

1. Sika R., Ignaszak Z., Assurance Quality w przemyśle odlewniczym. Akwizycja i wstępne opracowanie danych niejednorodnych na potrzeby systemów Data Mining na przykładzie przemysłu odlewniczego, Archiwum Technologii Maszyn i Automatyzacji, Poznań 2009, Vol.29, Issue 1/2009, s.57-71.
2. Sika R., Ignaszak Z., Data acquisition in modeling using neural networks and decision trees, Archives of Foundry Engineering, Gliwice-Wrocław, 2011, Vol.1, Issue 2/2011, s.112-123.
3. Ignaszak Z., Sika R., Specificity of SPC procedures application in foundry in aspect of Data Acquisition and Data Exploration, Archives of Foundry Engineering, Cedzyna-Wrocław, 2012, Vol.12, Issue 4/2012, s. 65-70.

Breakdown of average student's workload

	Hours	ECTS
Total workload	75	3,0
Classes requiring direct contact with the teacher	45	1,5
Student's own work (literature studies, preparation for laboratory classes, preparation for tests) [1]	30	1,5

[1] delete or add other activities as appropriate