POZNAN UNIVERSITY OF TECHNOLOGY

EUROPEAN CREDIT TRANSFER AND ACCUMULATION SYSTEM (ECTS)

COURSE DESCRIPTION CARD - SYLLABUS

Course name
Integrated Management Systems [N2AiR1>POH1-ZSZ]

Course

Field of study Automatic Control and Robotics	**Year/Semester** 1/2
Area of study (specialization) Control and Robotic Systems	**Profile of study** general academic
Level of study second-cycle	**Course offered in** polish
Form of study part-time	**Requirements** elective

Number of hours

Lecture 10	**Laboratory classes** 0	**Other (e.g. online)** 0
Tutorials 10	**Projects/seminars** 0	

Number of credit points

3,00

Coordinators

dr inż. Piotr Lubiński
piotr.lubinski@put.poznan.pl

Lecturers

Prerequisites

Knowledge: A student beginning this course should have a basic knowledge of the fundamentals of production organization and the fundamentals of logistics. Skills: He should have the ability to solve basic problems using IT tools and the ability to obtain information from indicated sources. He or she should also understand the necessity of extending his or her competences and be ready to start cooperation within a team. The student is able to correctly interpret laws and phenomena in the field of basics of production organization and logistics. Social competences: In addition, in terms of social competence, a student must present such attitudes as honesty, responsibility, perseverance, cognitive curiosity, creativity, personal culture, respect for other people.

Course objective

1. to provide students with basic knowledge of the essence of information systems integrating enterprise management in the field of production and service management 2. to develop in students the ability to solve problems in a team / on their own in the field of information technology support of management 3. to develop in students the ability to work effectively in a team.

Course-related learning outcomes

Knowledge
1. He/she has knowledge necessary to understand economic, legal and social aspects of engineering activities and possibilities of their application in practice in the area of IT support of management processes; [K2_W14]
2. He/she has the knowledge concerning conducting business activity, engineering project management and quality management through the use of integrated information systems; [K2_W15]
3. He/she knows the rules and procedures of creating individual entrepreneurship concerning computer science in management;
4. He/she knows the principles and procedures of creating individual entrepreneurship concerning automation and robotics - [K2_W17]
Skills
1. He/she is able to consider non-technical aspects, including environmental, economic and legal ones when formulating and solving tasks involving design of business management support systems; [K2_U14]
2. He/she is able to make a preliminary economic analysis of undertaken engineering actions; [K2_U18]
3. He/she is able to manage a team; is able to manage a team and estimate the time needed to complete an assigned task; is able to prepare a work schedule and complete tasks ensuring that deadlines are met; [K2_U24]
Social competences
1. He/she is able to think and act creatively and entrepreneurially; [K2_K5]
2. He/she is aware of the social role of a technical university graduate and understands the need to formulate and communicate to the society (especially through mass media) information and opinions on the achievements of computer-aided management processes in research and application works and other aspects of engineering activities; [K2_K6]
3. He/she makes efforts to communicate such information and opinions in a commonly understandable way with justification of different points of view; [K2_K6]

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Learning outcomes presented above are verified as follows:
Formative assessment:
(a) for lectures:
is based on answers to questions on material discussed in previous lectures,
b) in terms of exercises:
is based on the evaluation of the current progress of the tasks,
Summative evaluation:
a) in terms of lectures, verification of the assumed learning outcomes is realized by:
i. evaluation of knowledge and skills demonstrated during the oral assessment (the student may use any teaching materials). The pass mark is oral, with 2 to 4 students participating at the same time. A satisfactory mark is given for the material presented in lectures, higher grades require the student to consult the specialized literature.
ii. the discussion of the assessment results takes place immediately after the answers
b) verification of the assumed learning outcomes concering the laboratory classess is realized by:
continuous assessment at each class meeting (oral answers), active participation in classes, rewarding the development of skills to use the learned principles and methods, this evaluation also includes the ability to work in a team,
Obtaining additional points for activity during the classes, especially for:
i. discussing additional aspects of the topic,
ii. the effectiveness of applying the acquired knowledge when solving the problem,
iii. ability to cooperate in a team practicing the task,
iv. provided comments related to the improvement of teaching materials,
v. indication of students' perceptual difficulties which enable ongoing improvements of the didactic process.

Programme content

The lecture program covers the following topics:
The lectures begin with a discussion of the MRPII/ERP standard and its basic components. Then the elements of MRPII/ERP class systems are discussed, as well as the content of files and, in turn, basic procedures realized by MRPII/ERP class systems: production and sales planning, master planning, master

scheduling, material demand planning, potential demand planning and extension of this class systems to the distribution area (distribution demand planning).

A separate topic is the procedures and implementation problems of integrating the activities of an enterprise with information systems supporting the management of that enterprise. Students are introduced to the implementation procedure as well as problems and threats associated with the use of management information systems in technical and business terms.
During lab and exercise classes, students become familiar with the functioning of an ERP class system on the example of Axapta system by performing a number of tasks illustrating and developing lecture content. The tasks are performed in two-person teams.

Teaching methods

1. Lecture: multimedia presentation, presentation illustrated by examples given on the blackboard, multimedia show,
2. Laboratory classes: solving tasks, practical exercises, discussion, teamwork, multimedia show, workshops, case study

Bibliography

Basic
1. MRP II Standard Systems, Gray C.D., Lanvater D.V., Oliver Wight Limited Publications, 1989
2. Zarządzanie produkcją, Głowacka-Fertsch D., Fertsch M., Wyższa Szkoła Logistyki, Poznań, 2004
Additional
1. Podstawy zarządzania przepływem produkcji w przykładach, Fertsch M., Wydawnictwo ILiM, Poznań, 2003
2. czasopisma (Logistyka)

Breakdown of average student's workload

	Hours	ECTS
Total workload	75	3,00
Classes requiring direct contact with the teacher	20	1,50
Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation)	55	1,50