



COURSE DESCRIPTION CARD - SYLLABUS

Course name

Flexible manufacturing systems

Course

Field of study

Logistics

Area of study (specialization)

Level of study

First-cycle studies

Form of study

full-time

Year/Semester

3/5

Profile of study

general academic

Course offered in

Polish

Requirements

elective

Number of hours

Lecture

15

Laboratory classes

Tutorials

Projects/seminars

15

Other (e.g. online)

Number of credit points

3

Lecturers

Responsible for the course/lecturer:

dr inż. Ireneusz Gania

Responsible for the course/lecturer:

Mail to: ireneusz.gania@put.poznan.pl

Phone: 48 61 665 3385

Wydział Inżynierii Zarządzania

ul. J. Rychlewskiego 2, 60-965 Poznań

Prerequisites

The student knows the basic concepts related to the design, implementation and operation of production systems in mechanical engineering industries. He should also be able to obtain information from specified sources and be willing to cooperate as part of a team.

Course objective

Mastering the student's knowledge, skills and social competences related to the essence, scope of application and methods of designing and implementing flexible production systems.

Course-related learning outcomes

Knowledge

-- knows the basic issues of construction, technology and techniques related to logistics [P6S_WG_01]



-know the basic concepts of logistics and its specific issues and supply chain management [P6S_WG_05]

-knows the basic methods, techniques, tools and materials used in preparation for conducting scientific research and solving simple engineering tasks in the field of designing logistics systems and processes [P6S_WK_07]

Skills

-is able to apply the right experimental and measuring techniques to solve the problem within the studied subject, including computer simulation within logistics and its specific issues, and supply chain management [P6S_UW_03]

is able to prepare the means of work necessary to work in an industrial environment and knows the safety rules related to this work, including safety problems in logistics [P6S_UW_05]

- can design an object, system or process that meets the requirements of logistics and its specific issues and supply chain management using appropriate methods and techniques [P6S_UW_07]

- can present, using properly selected means, a problem that falls within logistics and its specific issues, and supply chain management [P6S_UK_01]

Social competences

is aware of the importance of knowledge in the area of logistics and supply chain management in solving cognitive and practical problems [P6S_KK_02]

- is aware of cooperation and group work on solving problems within logistics and supply chain management [P6S_KR_02]

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

assessment based on a team-developed project,

grade based on written credit ,minimum passing threshold minimum 60%

Programme content

1. Flexible production automation. 2. Construction of flexible production systems. ESP functional subsystems. Machine tools in ESP. Control posts in ESP. Auxiliaries. 3. Designing flexible production systems. ESP design methods. Designing ESP functional subsystems. 4. Development of flexible production systems.

Teaching methods

1. Lecture: multimedia presentation, illustrated with examples on the board. 2. Projects: multimedia presentation illustrated with examples given on the board and performance of tasks given by the teacher.

Bibliography



Basic

1. Lis St., Santarek K., Strzelczak S Organizacja elastycznych systemów produkcyjnych WNT Warszawa 1994
2. Zawadzka L. Podstawy projektowania elastycznych systemów sterowania produkcją. Problemy techniczno-ekonomiczne WPG Gdańsk 2000
3. Gania I., Mazurczak J. – The influence of workspace structure for efficiency of flexible manufacturing systems, in: Hadaś Ł. (Ed), Production management – Contemporary approaches – selected aspect. Monograph. Publishing House of Poznan University of Technology. Poznań 2012

Additional

- Sawik T., Łebkowski P. Elastyczne systemy produkcyjne WAG-H Kraków 1992
4. Świć A. Elastyczne systemy produkcyjne. Technologiczno-organizacyjne aspekty projektowania i eksploatacji, WPL Lublin 1998
 5. Tempelmeier H., Kuhn H. Flexible Fertigungssysteme Springer Verlag 1993

Breakdown of average student's workload

	Hours	ECTS
Total workload	75	3,0
Classes requiring direct contact with the teacher	35	1,5
Student's own work (literature studies, preparation for written test, project preparation) ¹	40	1,5

¹ delete or add other activities as appropriate