



## COURSE DESCRIPTION CARD - SYLLABUS

Course name

Product & Process Integration

---

### Course

Field of study

Logistics

Area of study (specialization)

Level of study

First-cycle studies

Form of study

full-time

Year/Semester

2/4

Profile of study

general academic

Course offered in

Polish

Requirements

elective

---

### Number of hours

Lecture

15

Tutorials

Laboratory classes

Projects/seminars

15

Other (e.g. online)

### Number of credit points

2

---

### Lecturers

Responsible for the course/lecturer:

Ph.D., D.Sc., Eng. Paweł Pawlewski, University  
Professor

Mail to: [pawel.pawlewski@put.poznan.pl](mailto:pawel.pawlewski@put.poznan.pl)

Phone: 616653413

Wydział Inżynierii Zarządzania

ul. J. Rychlewskiego 2, 60-965 Poznań

Responsible for the course/lecturer:

---

### Prerequisites



Basic knowledge about production, logistics, economics. The student has the ability to associate and interpret phenomena occurring in the enterprise, is aware of the consequences of decisions

### Course objective

- analysis of manufacturing paradigms from a technical and business point of view,
- demonstrating the need for integration between engineering and business

### Course-related learning outcomes

#### Knowledge

1. knows the basic concepts of logistics and its specific issues and supply chain management - [P6S\_WG\_05]
2. knowledge of basic management issues specific to logistics and supply chain management [P6S\_WG\_08]
3. knows the basic relationships in force in logistics and its specific issues and supply chain management - [P6S\_WK\_04]
4. knows the basic phenomena and contemporary trends characteristic of logistics and its specific issues and supply chain management - [P6S\_WK\_05]
5. 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

1. can search based on the literature and other sources and present information on a problem within the logistics and its specific issues and supply chain management in an orderly manner - [P6S\_UW\_01]
2. is able to apply the proper experimental and measurement techniques to solve the problem within the studied subject, including computer simulation within logistics and its detailed issues, and supply chain management - [P6S\_UW\_03]
3. is able to design, using appropriate methods and techniques, an object, system or process that meets the requirements of logistics and its specific issues and supply chain management - [P6S\_UW\_07]
4. is able to present, using properly selected means, a problem within logistics and its specific issues, and supply chain management - [P6S\_UK\_01]
5. is able to identify changes in requirements, standards, regulations, technical progress and reality of the labor market, and based on them determine the needs of supplementing knowledge - [P6S\_UU\_01]

#### Social competences

1. is aware of the recognition of the importance of knowledge in the field of logistics and supply chain management in solving cognitive and practical problems - [P6S\_KK\_02]



2. is able to plan and manage in an entrepreneurial manner - [P6S\_KO\_01]
3. is aware of the responsible fulfillment, correct identification and resolution of dilemmas related to the logistics profession - [P6S\_KR\_01]
4. is aware of cooperation and work in a group 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:

Forming assessment - exercise results, partial report

Summative assessment - final presentation, film, final report

### Programme content

Manufacturing Paradigms: Mass production, lean production, mass customization and personalized production. Product Design in a Global Environment: Creativity in product design. Design for Mass-Customization. Modular architecture in product design.

Manufacturing Systems & Supply Chains: Dedicated, flexible, and reconfigurable systems and machines. Supply chains for global markets. Business Issues: Lean startup and business models (BMC). Financial planning. Elements of business plans.

### Teaching methods

informative lecture, design method

### Bibliography

Basic

1. Morris R., Projektowanie produktu, PWN, Warszawa, 2009
2. Praca zbiorowa, Nowoczesne wzornictwo od A do Z, Wydawnictwo Olesiejuk, 2010
3. Durlik I., Inżynieria zarządzania część 1, Placet, Warszawa 2007
4. Koren Y., The Global Manufacturing revolution, Wiley, 2010
5. Pasek Z., Pawlewski P., Evolution of an integrated, project-based logistics engineering curriculum W: Proceedings 2019 Canadian Engineering Education Association (CEEAA-ACEG19) Conference, 2019 - s. 1-7

Additional

1. Thomas R.J., Prawdziwe historie nowych produktów, Prószyński i S-ka, 2001
2. Isaacson W., Steve Jobs, Insignis Media , 2011



3. Pawlewski P., Juraszek R., Kowalewska M., Pasek Z., Transforming a Student Project into a Business Project: Case Study in Use of Simulation Tools. W: Process Simulation and Optimization in Sustainable Logistics and Manufacturing / red. Paweł Pawlewski (WIZ), Allen Greenwood: Springer, 2014 - s. 167-184

### Breakdown of average student's workload

	Hours	ECTS
Total workload	50	2,0
Classes requiring direct contact with the teacher	30	1,0
Student's own work (literature studies, preparation for laboratory classes/tutorials, preparation for tests, project preparation) <sup>1</sup>	20	1,0

<sup>1</sup> delete or add other activities as appropriate