



## COURSE DESCRIPTION CARD - SYLLABUS

Course name

Production management [S1Log2>ZProd2]

### Course

Field of study

Logistics

Year/Semester

3/6

Area of study (specialization)

–

Profile of study

general academic

Level of study

first-cycle

Course offered in

Polish

Form of study

full-time

Requirements

compulsory

### Number of hours

Lecture

30

Laboratory classes

15

Other (e.g. online)

0

Tutorials

0

Projects/seminars

15

### Number of credit points

5,00

### Coordinators

dr inż. Agnieszka Grzelczak

agnieszka.grzelczak@put.poznan.pl

### Lecturers

### Prerequisites

The student starting this subject should have a basic knowledge of machine technology as well as the basics of management and logistics. He should also have the skills to understand and apply the parametric description of the production process and system as well as the design of workstation organization, as well as understand and be prepared for production management, especially in the area of production organization design, and in the field of social competence should have the ability to work in a group.

### Course objective

To familiarize students with the basics of production and service management.

### Course-related learning outcomes

Knowledge:

1. Student knows basic issues in the field of production management [P6S\_WG\_08]
2. Student knows the basic relations between the technical and economic spheres characteristic of production management [P6S\_WK\_01]
3. Student knows the basic phenomena and contemporary trends in production management and its connections with logistics [P6S\_WK\_05]

4. Student knows the basic methods, techniques, tools and materials used to solve simple engineering tasks in the field of designing systems and production processes in the context of logistics [P6S\_WK\_07]

Skills:

1. Student is able to notice systemic and non-technical, as well as socio-technical, organizational and economic aspects in engineering tasks [P6S\_UW\_04]
2. Student is able to design an object, system or production process using appropriate methods and techniques [P6S\_UW\_07]
3. Student is able to identify and formulate design (engineering) tasks of a practical nature, characteristic of production management [P6S\_UO\_01]
4. Student is able to select appropriate tools and methods for solving a problem within the scope of production management, as well as use them effectively [P6S\_UO\_02]

Social competences:

1. Student is able to plan and manage in an entrepreneurial manner [P6S\_KO\_01]
2. Student is aware of the responsible filling, correct identification and resolution of dilemmas related to the profession of logistics [P6S\_KR\_01]
3. Student is aware of cooperation and group work on solving problems within the scope of logistics and production management [P6S\_KR\_02]

### Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Lecture: The knowledge acquired during the lectures is verified by the exam and by tests (quizzes) at individual classes (via the Moodle platform). Passing threshold: 50% of points.

Laboratory: The skills acquired during laboratory classes are verified on the basis of laboratory tasks (carried out with the use of specialized software). Passing threshold: 50% of points.

Project: Skills acquired during project classes are verified on the basis of the progress of project tasks (realized as a team) and project defense. Passing threshold: 50% of points.

### Programme content

Basics of production planning and control. Methods and levels of production control. Classic and contemporary production systems.

### Course topics

Lecture: The essence of production management. Basics of production planning and control. Production control standards. Methods and levels of production control. Production structure. Production process and production system. Classic and contemporary production systems. Lean Production.

Laboratory: Parameters and standards of production management. Production range, design and production series. Production program, pace and tact of production. Product production cycle. Production capabilities, balancing loads with production capacity. Production capacity management, scheduling, production flow analysis. Product structure and resource structure. Resource scheduling in service processes.

Project: Product, production range. Production program. Production pace and tact. Product production cycle. Production stocks. Production capabilities, balancing loads with production capacity. Production scheduling. Design of a production unit of the 1st degree of complexity.

### Teaching methods

Lecture: informative lecture (conventional) - information transfer in a systematic way, supported by multimedia presentation, illustrated with examples and tasks, and case method (case study) - analysis of specific cases of illustrative (illustrative) or problem (identifying problems) character.

Laboratory: laboratory method (experiment) - independent conducting of experiments by students using specialized software.

Project: project method - individual or team implementation of a large, multi-stage cognitive or practical task, which results in the creation of a work.

### Bibliography

Basic:

1. Pająk E., Klimkiewicz M., Kosieradzka A., Zarządzanie produkcją i usługami, PWE, Warszawa 2014.
2. Brzeziński M. (red.), Organizacja i sterowanie produkcją, AW Placet, Warszawa, 2002.
3. Mazurczak J., Projektowanie struktur systemów produkcyjnych, WPP, Poznań, 2001.
4. Boszko J., Struktura organizacyjna przedsiębiorstwa i drogi jej optymalizacji, WNT, Warszawa 1973.
5. Senger Z., Sterowanie przepływem produkcji, WPP, Poznań, 1998.
6. Wróblewski K., Podstawy sterowania przepływem produkcji, WNT, Warszawa 1993.

Additional:

1. Muhlemann A., Oakland J., Lockyer K., Zarządzanie. Produkcja i usługi, PWN, Warszawa, 2001.
2. Pająk E., Zarządzania produkcją, Wydawnictwo Naukowe PWN, Warszawa 2017.
3. Ragin-Skorecka K., Grzelczak A., Motała D., Podstawy zarządzania nie tylko dla logistyków, Wydawnictwo WSB, Poznań 2017.
4. Grzelczak A., Werner-Lewandowska K., Eliminating Muda (Waste) in Lean Management by Working Time Standardization, Arabian Journal for Science and Engineering, vol. 6, iss. 3, 2016, s. 1000216-1-1000216-11.
5. Grzelczak A., A new way of thinking by company employees according to Lean Management concept [w:] Yue X.-G., Mcaleer M., International Conference on Economics and Management Innovations (ICEMI): conference proceedings, Bangkok, Thailand: Volkson Press, 2017, s. 247-249.

### Breakdown of average student's workload

	Hours	ECTS
Total workload	125	5,00
Classes requiring direct contact with the teacher	62	3,00
Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation)	63	2,00