



## COURSE DESCRIPTION CARD - SYLLABUS

Course name

Production and Services Management

### Course

Field of study

Management and Production Engineering

Area of study (specialization)

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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

compulsory

### Number of hours

Lecture

30

Laboratory classes

Tutorials

15

Projects/seminars

15

Other (e.g. online)

### Number of credit points

5

### Lecturers

Responsible for the course/lecturer:

DSc. Eng. Edward Pająk

email: edward.pajak@put.poznan.pl

ph. +48 61 647 59 91

Faculty of Mechanical Engineering

Piotrowo 3 Str., 60-965 Poznań, room 302

Responsible for the course/lecturer:

### Prerequisites

The student should have knowledge in the field of operation of a production and service enterprise as well as basic tasks of functional cells in the enterprise. The student should also be able to identify the processes implemented in enterprises and assess their impact on the business of the company as a whole.

### Course objective

The aim of the course is to familiarize the student with the basic and auxiliary processes occurring in the manufacturing company and the design of manufacturing processes.



### Course-related learning outcomes

#### Knowledge

The student can explain and interpret the activities in different phases of the product life cycle.

Student recognizes and is able to characterize the productive cycles.

Student can select specific situation in a given tool production control and justify your choice.

#### Skills

The student knows how to calculate and interpret indicators characterizing basic and auxiliary processes.

Using the right tools and making the analysis, the student knows how to organize the production and service process (organization and arrangement of work stations, material flow, select a form of cooperation).

Student using appropriate methods and tools is able to develop production plans and schedules.

#### Social competences

The student is creative in the field of technical and non-technical activities aimed at broadly understood process improvement.

### Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Knowledge acquired as part of the lecture is verified during the exam. The exam consists of 10 open questions and one calculation task, variously scored. Passing threshold: 50%.

The knowledge and skills acquired during the classes will be verified on the basis of the final test during the last class in the semester. The test consists of 3-4 calculation tasks. Passing threshold 50%.

Skills acquired as part of the project classes will be verified by reporting on the project developed by the students (in groups) and work discussions.

### Programme content

#### Lecture:

Definitions: system, process, product, product. Serial and concurrent design. Production diversity analysis. Product life cycle. Processes in production systems. Manufacturing processes in mechanical engineering enterprises. Process automation. Organization of production processes. Arrangement of production stations. Production cycles. Form of cooperation with the client. Production capacity management, scheduling. Contemporary production control systems.

#### Class:



Production plans: aggregate and operational. Production capacity. Arrangement of work stations. Production cycles - developing schedules. Material requirements planning. Organization of work stations - 5S.

Project:

Selection of products and their characteristics. Development of technological processes. Production capacity balancing. Material requirements planning. Arrangement of work stations - calculation of transport tasks. Operational scheduling. Process map development.

### Teaching methods

Lecture: multimedia presentation illustrated with examples given on a board, problem solving.

Exercises: problem solving, practical exercises, discussion, workshops, integration games, case studies.

Project: solving practical problems, searching for sources, teamwork, discussion.

### Bibliography

Basic

Pająk E.: Zarządzanie produkcją. Produkt, technologia, organizacja. Wydawnictwo Naukowe PWN. Warszawa 2006

Muhlemann A., Oakland J.S., Loker K.G.: Zarządzanie produkcją i usługami. Wydawnictwo Naukowe PWN. Warszawa 1997

Additional

Senger Z.: Sterowanie przepływem produkcji. Wyd. Politechniki Poznańskiej. Poznań 1998

Pająk E.: Zaawansowane technologie współczesnych systemów produkcyjnych. Wyd. Politechniki Poznańskiej. Poznań 2000

Durlik I.: Inżynieria zarządzania. AW Placet. Warszawa 1997

### Breakdown of average student's workload

	Hours	ECTS
Total workload	125	5,0
Classes requiring direct contact with the teacher	70	3,0
Student's own work (literature studies, preparation for classes, preparation for tests/exam, project preparation) <sup>1</sup>	55	2,0

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