

## SYLLABUS

**Name:** Organization of production systems  
**Name in Polish:**  
**Name in English:**

### Information on course:

**Course offered by department:** Faculty of Organisation and Management  
**Course for department:** Silesian University of Technology  
**Study level and form:** Master's degree, Full-time  
**Term:** winter semester 2024/2025  
**Coordinator of course edition:** dr inż. Stefan Senczyna

### Default type of course examination report:

ZAL

### Language:

English

### Course homepage:

<https://platforma2.polsl.pl/roz/course/view.php?id=405>

### ECTS

1

### Short description:

A series of lectures presenting knowledge about types, models and selected cases of organizing production processes. Product identification and modeling methods provide knowledge for understanding the stream model of the production process. The streaming model provides the basis for deepening knowledge about the production cycle and controlling the flow of elements and products. The lectures are supported by case studies of the organization of the production process. The aim of the lecture is to consolidate knowledge to develop the skills of managing the production process.

### Description:

The basic issues presented in the lecture series are as follows:

- Production system and its environment. The concept of a production system and its elements. Efficiency. Productivity measures. Production process. The essence of the production process. Elements of the production process. Classifications of the production process.
- Types, forms and varieties of production organization.
- Streaming production. Stream production classifications. Elements of streaming production design. Basic directions of development of jet production lines
- Production capacity management
- Production cycle. The essence of the production cycle. Structure and length of the production cycle. Methods for determining the length of the production cycle. Duration of the production cycle. Indicators of the structure of the production cycle. Production cycle of a complex product. Shortening the production cycle and its importance.
- Production batch of products in the production process. Methods of producing batches of products. Serial production of batches of products. Parallel production of batches of products. Parallel serial production of batches of products. Comparison of variants of the production cycle of batches of products.
- Work in progress inventories. Concepts and classification of production inventories. Intercompartment stocks and their levels. Determining the status of work in progress. Intracellular stores - non-cyclic and cyclic. In-process inventories

### Bibliography:

1. Skousen Mark, The Structure of Production: New Revised Edition. New York Univ Pr., 2015
2. Robert A. Stahl, Thomas F. Wallace, Sales and Operations Planning The How-To Handbook. LIGHTNING SOURCE INC 2008
3. Andrea Chiarini, Lean Organization: from the Tools of the Toyota Production System to Lean Office (Perspectives in Business Culture, 3) 2013th EditionSpringer; 2013th edition, 2013
4. Jeffrey Liker, The Toyota Way 14 Management Principles from the World's Greatest Manufacturer. McGraw Hill; 1st edition, 2004
5. [Lecture Notes | Manufacturing System and Supply Chain Design | Sloan School of Management | MIT OpenCourseWare](#)
6. [Lecture Notes | Logistics and Supply Chain Management | Engineering Systems Division | MIT OpenCourseWare](#)
7. [Lecture Notes | Management of Services: Concepts, Design, and Delivery | Sloan School of Management | MIT OpenCourseWare](#)

### Learning outcomes:

Students: know and understand:

- the structure of production systems, resource flow processes and the principles of planning, organization and control of basic production processes carried out in industrial enterprises (K2A\_W03),

- basic types, forms and varieties of organization of the production process, has structured knowledge related to the production cycle, is aware of the impact of production flow control on the duration of the production process, is aware of the impact of certain production activities on the environment and the immediate surroundings of the enterprise, and knows the methods and tools necessary to determining individual process parameters and production program (K2A\_W08)

Student is able to:

- search for necessary information regarding the planning and organization of production and service processes using traditional and modern data sources and various ways of recording information, as well as develop a group project aimed at improving selected production processes using Lean Management methods and tools (K2A\_U10).

The student is ready to:

- responsible performance of professional roles, in particular drawing reliable conclusions from analyzes of the production process, observing ethical principles related to the presentation of data and information, and demanding the same from others (K2A\_K05),

**Assessment methods and assessment criteria:**

The final grade is the grade obtained on the final test on the Moodle platform.

Method and procedure for making up for arrears resulting from:

- student's absence from classes, it is necessary to make up for missed classes as part of consultations or an individually selected form of making up classes

- program differences in the case of students transferring from another field, another university or resuming studies at the Silesian University of Technology, the backlog should be made up during consultations or in an individually selected form.

**Practical placement:**

Not applicable