

## COURSE GUIDE

<u>Subject name</u>	<b>Production and service management</b>
<u>Course of study</u>	<b>Quality and Production Management</b>
<u>The form of study</u>	<b>Full-time</b>
<u>Level of qualification</u>	<b>First</b>
<u>Year</u>	<b>II</b>
<u>Semester</u>	<b>III</b>
<u>The implementing entity</u>	<b>Department of Production Engineering and Safety</b>
<u>The person responsible for preparing</u>	<b>dr hab. inż. Robert Ulewicz, prof. PCz</b>
<u>Profile</u>	<b>general academic</b>
<u>ECTS points</u>	<b>4</b>

### TYPE OF TEACHING – NUMBER OF HOURS PER SEMESTER

LECTURE	CLASS	LABORATORY	PROJECT	SEMINAR
<b>15E</b>	<b>15</b>	-	-	-

### COURSE AIMS

- C1. Knowing essential problems from the scope of production management and services, as well as, acquiring the ability to explain and applying principles, methods and techniques used in management of production processes and services.
- C2. Knowing contemporary methods and trends from the scope of the organization and management of production processes and services.
- C3. Capturing the ability of identifications and classifications producing systems and abilities of creating models of the production/service system in production enterprises and services.

### ENTRY REQUIREMENTS FOR KNOWLEDGE, SKILLS AND OTHER COMPETENCES

1. Student knows the basics of management.
2. Student knows the basic production processes.
3. The student knows the basic mathematical calculations.

### LEARNING OUTCOMES

- EU1. The student uses the terms in the field of production management and services and also knows how to explain selected principles for the use of selected methods and techniques used in management of production processes and services.
- EU2 The student knows how to use model of production system in the production process and quality.
- EU3. The student is able to describe technical preparing of new products and preparing the new production. He also is able to characterize the process of production steering.
- EU4. Student is able to evaluate and classify existing and designs new solutions in the field of organization of manufacturing processes and recognize development trends in production and service management.

### COURSE CONTENT

Type of teaching – LECTURE	Number of hours
W1. Place of production management and services in enterprises, traditional and trial presentation. Notion of the product and the service. Principles of production management and services.	1
W2. Notion and classification of production processes. Production and manufacturing process. Straight and complex production processes. Basic parameters of production processes.	1
W3. Planning the flow of the production by production shed of the enterprise in the time and space.	1

W4. Production and technological cycle. Meaning of synchronization methods for the operation in a production process. In series, parallel and in seriesparallel organization of production cycle.	2
W5. Productivity of the production system and methods of improvement.	2
W6. Technical preparing of new products.	1
W7. Types, forms and varieties of the production organization.	2
W8. Preparing the production.	2
W9. Planning and steering the course of the production.	2
W10. Techniques of streamlining action of the production system.	1
<b>Type of teaching - CLASS</b>	<b>Number of hours</b>
C1. Overview of organization rules and final evaluation conditions. Creating the model of the production system for chosen product, characteristics of entry vector and the vector of the exit.	2
C2. Analysis of the influence of surroundings on the production/service system.	1
C3. Characterization of a production process in the chosen enterprise with the division on the process of research and development, the manufacturing process, the distribution process and customer services, the creature of the scheme of the manufacturing process in the technological and subject aspect.	2
C4. A production cycle, organising a production cycle according to in series method, parallel and in series-parallel method, methods of shortening a production cycle, tasks.	1
C5. Examples of types and forms of the production organization, tasks.	2
C6. Productivity of the production system, calculating the total and fragmentary productivity.	2
C7. Methods of calculating the production capacity at using the index method, using the production capacity.	2
C8. Selection of machines to the manufacturing system in the chosen enterprise.	1
C9. Balance production tasks with the production potential.	1
C10. Final test.	1

### TEACHING TOOLS

1. Visual media (computer, overhead projector, projector).
2. Chalk + blackboard + pen marker.
3. Manuals, scripts.

### WAYS OF ASSESSMENT (F – FORMATIVE, P – SUMMATIVE)

- F1. Observation of the student's work on the grade.  
F2. Evaluation of the implementation of partial exercises.  
P1. Final test.  
P2. Written exam.

### STUDENT WORKLOAD

Form of activity		Average number of hours for realization of the activity		
		[h]	ECTS	ECTS
Contact hours with the teacher	Lecture	15	0.6	2
Preparation for exam		16	0.64	
Presence on the exam		2	0.08	
Contact hours with the teacher	Class	15	0.6	1.84
Contact hours with the teacher		16	0.6	
Preparation for the colloquium		16	0.64	
Getting acquainted with the indicated literature		16	0.64	
Presence on consultations		5	0.2	0.2

<b>TOTAL NUMBER OF HOURS / ECTS POINTS FOR SUBJECT</b>	<b>100</b>	<b>4</b>
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### **BASIC AND SUPPLEMENTARY RESOURCE MATERIALS**

#### **Basic resources**

1. Avlonitis G.J., Papastahopoulou P. Production and service management. SAGE publication, London 2014.
2. Borkowski S., Ulewicz R. Instruments of production processes improvement. PTM, Warszawa 2009.
3. Borkowski S., Ulewicz R. Manufacturing systems. Orgmasz, Warszawa 2009.
4. Dilworth J.B. Production and Operations Management: Manufacturing and Services. New York, McGraw-Hill, 1993

#### **Supplementary resources**

1. Stark R., Seliger G., Bonvoisin J. Sustainable Manufacturing: Challenges, Solutions and Implementation Perspectives. Springer International Publishing, 2017.
2. Haksever C., Render B. Service Managementan Integrated Approach To Supply Chain Management And Operations. Pearson Education LTD. USA 2013.  
<http://ptgmedia.pearsoncmg.com/images/9780133088779/samplepages/0133088774.pdf>.

### **TEACHERS (NAME, SURNAME, E-MAIL ADDRESS)**

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### **MATRIX OF LEARNING OUTCOMES REALISATION**

<b>Learning outcome</b>	<b>Reference of given outcome to outcomes defined for whole program (PRK)</b>	<b>Course aims</b>	<b>Course content</b>	<b>Teaching tools</b>	<b>Ways of assessment</b>
<b>EU1</b>	K_W01, K_W02, K_W05, K_W08, K_U01, K_U02, K_U05, K_U10, K_K05	C1	W1-W4	1,2,3,4	P2
<b>EU2</b>	K_W01, K_W02, K_W05, K_W08, K_U01, K_U02, K_U05, K_U07, K_U10, K_K02, K_K05	C2	C1-C10	1,2,3,4	F1,F2 P1
<b>EU3</b>	K_W01, K_W02, K_W05, K_W08, K_U01, K_U02, K_U05, K_U07, K_U10, K_K05	C3	W1-W10	1,2,3,4	P2
<b>EU4</b>	K_W01, K_W02, K_W05, K_W08, K_U01, K_U02, K_U05, K_U10, K_K05	C1	C1-C10	1,2,3,4	F1,F2 P1

### **FORM OF ASSESSMENT - DETAILS**

	<b>grade 2</b>	<b>grade 3</b>	<b>grade 4</b>	<b>grade 5</b>
<b>EU1</b>	The student does not use the terms of production management and services.	The student uses selected terms in the field of production management and services.	The student uses the terms of production management and services.	The student uses the terms in the field of production management and services, and also knows how to explain it.
<b>EU2</b>	The student cannot work out and clarify	The student partly can work out and	The student can work out and clarify	The student can work out and clarify the principles

	the principles of operation model of the production/ service system.	clarify the principles of operation model of the production/ service system.	the principles of operation model of the production/ service system.	of operation model of the production/ service system. He can to describe some attention and proposal connected with analyzed problem.
<b>EU3</b>	The student can not describe to technical preparing new products and preparing the new production. He can not characterize steering the course of the production.	The student can partly describe to technical preparing new products and preparing the new production.	The student can describe to technical preparing new products and preparing the new production.	The student can not describe to technical preparing new products and preparing the new production. He can also characterize steering the course of the production.
<b>EU4</b>	Student is not able to evaluate and classify existing and designs new solutions in the field of organization of manufacturing processes and recognize development trends in production and service management.	Student is able to evaluate and classify existing and designs new solutions in the field of organization of manufacturing processes.	Student is able to evaluate and classify existing solutions in the field of organization of manufacturing processes and recognize development trends in production and service management.	Student is able to evaluate and classify existing and designs new solutions in the field of organization of manufacturing processes and recognize development trends in production and service management.

#### **ADDITIONAL USEFUL INFORMATION ABOUT THE COURSE**

1. Information where presentation of classes, instruction, subjects of seminars can be found, etc. - presented to students during first classes, if required by the formula classes are sent electronically to the e-mail addresses of individual dean groups.
2. Information about the place of classes - Information can be found on the website of the Faculty of Management.
3. Information about the timing of classes (day of the week / time) - Information can be found on the website of the Faculty of Management.
4. Information about the consultation (time + place) - Information can be found on the website of the Faculty of Management.