



MODULE DESCRIPTION

Module code	full-time studies:	Z-ZIP1-E-507
	part-time studies:	Z-ZIPN1-E-507
Module name	Production Management	
Module name in Polish	Zarządzanie produkcją	
Valid from academic year	2023/2024	

MODULE PLACEMENT IN THE SYLLABUS

Field of study	MANAGEMENT AND PRODUCTION ENGINEERING
Level of education	1st degree
Studies profile	General
Form and method of conducting classes	Full-time and Part-time
Specialisation	All
Unit conducting the module	Department of Production Engineering
Module co-ordinator	Aneta Masternak-Janus, PhD
Approved by:	Dariusz Bojczuk, PhD, DSc

MODULE OVERVIEW

Type of subject / group of subjects	Major
Module status	Compulsory
Language of conducting classes	English
Module placement in the syllabus - semester	Semesetr V
Initial requirements	No requirements
Examination (YES/NO)	YES
Number of ECTS credit points	5

Method of conducting classes		Lecture	Classes	Laboratory	Project	Other
Per semester	full-time studies:	30	30			
	part-time studies:	18	18			

TEACHING RESULTS AND THE METHODS OF ASSESSING TEACHING RESULTS

Category	Symbol	Learning outcomes	Assignations to the directional learning outcomes
Knowledge	W01	The student knows and understands the concepts related to production and the principles of production management in the enterprise.	ZIP1_W09 ZIP1_W14 ZIP1_W16
	W02	The student has an advanced knowledge of the design of production systems in terms of basic organizational structures.	ZIP1_W09 ZIP1_W14
	W03	The student knows the methods and tools used to make decisions and solve problems in production management.	ZIP1_W18
Skills	U01	The student is able to use properly selected methods and tools to solve the problems of production management and to determine various properties of the production system.	ZIP1_U01 ZIP1_U08 ZIP1_U19
	U02	The student has skills in the analysis, evaluation and improvement of production processes.	ZIP1_U01 ZIP1_U13 ZIP1_U18
	U03	The student demonstrates the ability to work independently or in a team when solving production management problems.	ZIP1_U02
Social competences	K01	The student understands the need for continuous replenishment of knowledge in the field of modern methods and tools of production management and transferring it to society.	ZIP1_K01 ZIP1_K06
	K02	The student is ready to think and act in a creative and entrepreneurial way in the approach to identifying and solving production management problems.	ZIP1_K05
	K03	The student is aware of the responsibility for the decisions made during production management.	ZIP1_K04

TEACHING CONTENTS

Method of conducting classes	Teaching contents
Lecture	<p>Introduction to production management: Basic definitions: production and services, production system. Decomposition of the production system. The main functions of the organization. Management strategy concerning the main activity.</p> <p>Product: Satisfying customer needs. R&D activity. Traditional and integrated product development process. Diversity management. Quality. Reliability.</p> <p>Process: Main types of manufacturing processes. Selecting a technological process and material, supporting systems. Technological construction. Types of production organization. Forms of production organization. Designing production systems. Group technology. Flexible manufacturing systems. Productive capacity. Work measurement methods.</p> <p>Enterprise: Location. Object location criteria. Spatial structure of the production process. Selecting production equipment. Exploitation servicing of the equipment.</p> <p>Controlling basic enterprise activity: Coupling with marketing. Demand forecasting. Functions of controlling. Material requirements planning. Internal transport planning. Waste management.</p> <p>Inventory administration in the production process: Inventory classification. Reserve maintenance. The cost of creating and maintaining inventory. Inventory management.</p>

	Production planning and control systems: Manufacturing Resource Planning (MRP II). The 'just-in-time' (JIT) concept. KANBAN suction control system. Lean production.
Classes	Diversity management: the Pareto-ABC method. Inventory control: the ABC-XYZ method The choice of the range of production and the size of the supply by the geometric method. Material planning according to the MRP method. Manufacturing inventory control according to the model of reorder point and reorder cycle. Designing and balancing production lines. Designing subject cells. Organization of the production line using the Kanban system. Creating a material flow chart (a Sankey chart). Value stream mapping – the VSM method. Methods for assessing various options of production capacity.

METHODS OF ASSESSING TEACHING RESULTS

Symbol	Methods of checking the learning outcomes (select X)					
	Oral exam	Written exam	Test	Project	Statement	Other
W01		X				
W02		X				
W03		X				
U01			X			
U02			X			
U03			X			
K01			X			X
K02			X			X
K03			X			X

FORM AND CONDITIONS OF PASSING

Form of classes	Form of credit	Passing conditions
Lecture	Exam	Obtaining at least 50% of the points of the written examination in the form of a test.
Classes	Credit with grade	Obtaining at least 50% of the possible points: including activities and tests during the classes.

STUDENT WORKLOAD

Balance of ECTS points												
No.	Type of student's activity	Student's workload										Unit
		full-time					part-time					
1.	Participation in the activities	Lc	C	Lb	P	O	Lc	C	Lb	P	O	h
		30	30				18	18				
2.	Other (consultation, exam)	4	2				4	2				h
3.	Number of hours of a student's as- sisted work	66					42					h
4.	Number of ECTS credit points which are allocated for assisted work	2,6					1,7					ECTS
5.	Number of hours of a student's un- assisted work	59					83					h
6.	Number of ECTS credit points which a student receives for unassisted work	2,4					3,3					ECTS
7.	Work input connected with practical classes	63					63					h
8.	Number of ECTS credit points which a student receives for practical classes	2,5					2,5					ECTS
9.	Total number of hours of a stu- dent's work	125					125					h
10.	Punkty ECTS za modul <i>1 ECTS=25 hours</i>	5										ECTS

LITERATURE

1. Bozarth C.C, Handfield R.B. (2019), *Introduction to Operations and Supply Chain Management (Global Edition)*, Pearson Education, London.
2. Masternak-Janus A., Moćko M. (2021), *Improvement of the production process of an air handling unit based on Value Stream Mapping*, [w:] Ulewicz R., Hadzima B. (eds.), *Quality Production Improvement*, Walter de Gruyter (Sciendo), Warsaw, p. 96-103 (Available online).
3. Nowak D. (ed.) (2021), *Production-operation management. The chosen aspects*, PwB Press / Poznań University of Economics and Business, Poznań (Available online).
4. Rowbotham F., Galloway L., Azhashemi M. (2007), *Operations Management in Context*, Elsevier, Butterworth-Heinemann, Oxford (Available online).