MODULE DESCRIPTION

Module code	full-time studies:	**Z-ZIP1-E-307**
	part-time studies:	**Z-ZIPN1-E-307**
Module name	**Production Processes**	
Module name in Polish	**Procesy produkcyjne**	
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	**Jerzy Bochnia, PhD, DSc**
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	**Semester III**
Initial requirements	**No requirements**
Examination (YES/NO)	**NO**
Number of ECTS credit points	**2**

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

TEACHING RESULTS AND THE METHODS OF ASSESSING TEACHING RESULTS

Category	Symbol	Learning outcomes	Assignations to the directional learning outcomes
Knowledge	W01	A student has knowledge as regards the following: production systems and structures, group technologies, flexible manufacturing systems, basic manufacturing techniques, engineering materials, transport and storage, and the principles of designing technological and production processes (taking the R&D phase into consideration).	ZIP1_W06 ZIP1_W07 ZIP1_W09 ZIP1_W14
	W02	A student has knowledge as regards registering and controlling production flow, organising production processes, analysing production costs, the diagnostics of the production process, planning and scheduling the production process.	ZIP1_W06 ZIP1_W07 ZIP1_W09 ZIP1_W14
Skills	U01	A student is able to make basic production calculations. He can estimate the costs of basic technological operations	ZIP_U13 ZIP_U18
Social competences	K01	A student understands the necessity of associating technological and economic aspects in the system presentation of production processes.	ZIP1_K01 ZIP1_K02

TEACHING CONTENTS

Method of conducting classes	Teaching contents
Lecture	Production system. The structure of the production process. Unit and series production and group technologies. The role of the R&D phase in production processes. Flexible production systems. Manufacturing techniques used in the manufacturing process. Machining, non-waste, unconventional technologies. Additive technologies, devices and materials. The role of reverse engineering in production processes. Engineering materials as elements of the production system. Transport and storage as elements of the production system. The technological process as an element of the production process. Designing the technological process. Technological documentation. Computer-aided technological processes. CAx techniques, CAD / CAM programs. Designing production processes. Methods of optimizing the placement of production stations. Production calculations. Record and control of production flow. Organization of production processes. Manufacturing process control. Cost analysis of the production process. Diagnostics and quality assessment of the production process. Planning and preparation of the production process. Scheduling the production process.

METODS 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			
U01			X			
K01			X			

FORM AND CONDITIONS OF PASSING

Form of classes	Form of credit	Passing conditions
Lecture	Credit with grade	Obtaining at least 50% of test points during the class

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					18					
2.	Other (consultation, exam)	2					2					h
3.	**Number of hours of a student's assisted work**	**32**					**20**					h
4.	**Number of ECTS credit points which are allocated for assisted work**	**1,3**					**0,8**					ECTS
5.	**Number of hours of a student's unassisted work**	**18**					**30**					h
6.	**Number of ECTS credit points which a student receives for unassisted work**	**0,7**					**1,2**					ECTS
7.	**Work input connected with practical classes**	**0**					**0**					h
8.	**Number of ECTS credit points which a student receives for practical classes**	**0,0**					**0,0**					ECTS
9.	**Total number of hours of a student's work**	**50**					**50**					h
10.	**Punkty ECTS za moduł** *1 ECTS=25 hours*	**2**										ECTS

LITERATURE

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