MODULE DESCRIPTION

Module code	full-time studies:	**Z-ZIP1-E-610c**
	part-time studies:	**Z-ZIPN1-E-610c**
Module name	**Warehouse process organization**	
Module name in Polish	**Organizacja procesów magazynowych**	
Valid from academic year	**2019/2020**	

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	**Marek Pawełczyk, PhD, DSc**
Approved by:	**Dariusz Bojczuk, PhD, DSc**

MODULE OVERVIEW

Type of subject / group of subjects	**Major**
Module status	**Non-compulsory**
Language of conducting classes	**English**
Module placement in the syllabus - semester	**Semester VI**
Initial requirements	**Production Management**
Examination (YES/NO)	**NO**
Number of ECTS credit points	**1**

Method of conducting classes		**Lecture**	**Classes**	**Laboratory**	**Project**	**Other**
Per semester	full-time studies:	**15**				
	part-time studies:	**9**				

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 of the basics of warehouse management in a modern market economy.	ZIP1_W13 ZIP1_W14
	W02	Has knowledge of the management of production processes and services in the logistics supply chain and the role of the warehouse in logistics chains.	ZIP1_W14
	W03	Has knowledge of development trends in the field of warehouse management, including innovative activities.	ZIP1_W18
Social competences	K01	Understands the relationship between engineering and non-technical activities in terms of the effects of environmental impact and responsibility for decisions made.	ZIP1_K02
	K02	Is aware of responsibility for their own work and readiness to submit to the principles of teamwork and responsibility for jointly performed tasks.	ZIP1_K04

TEACHING CONTENTS

Method of conducting classes	Teaching contents
Lecture	**Warehouses in economic systems**. Functions and tasks of warehouses. Classification of warehouses. Stocks and their storage conditions. Loading units. Technological systems of warehouses. Row and block storage. Arrangement and stacking of cargo units. Development of warehouse space. **Warehouse operation technology**. Division of the warehouse into zones. Technological systems of warehouses. Row, block storage. Arrangement and stacking of cargo units. Warehouse modules, Development of warehouse space. **Warehouse processes**. Receiving, Storage. Completion. Issuing. ABC analysis in warehousing. Distribution of the stock of goods. Picking methods. Movement of goods. **Technical infrastructure of warehouse processes**. Warehouse devices. Inventory storage devices. Warehouse shelves. Loading fronts. Auxiliaries. **Internal transport infrastructure**. Transport trolleys. Other internal transport devices **Basic information on inventory management**. The role of demand in the inventory management. Demand volatility. Independent and dependent demand. Inventory classification. Inventory control systems. Stock restoration in a system based on the information level **IT support for warehouse processes**. Bar codes and their types. Bar codes in the GS1 system. Automatic data identification systems. Automatic identification equipment. Warehouse IT systems.

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			
W03			X			

K01			X			X
K02			X			X

FORM AND CONDITIONS OF PASSING

Form of classes	Form of credit	Passing conditions
Lecture	Credit with grade	A final multiple-choice test, the condition for passing is obtaining at least 60% of the maximum number of points or open questions, at least 3 questions assessed separately - the condition for passing is obtaining at least 60% of the maximum number of points (the sum of the points for individual answers). Assessment of student activity during lectures.

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
		15					9					
2.	Other (consultation, exam)	2					2					h
3.	**Number of hours of a student's assisted work**	**17**					**11**					h
4.	**Number of ECTS credit points which are allocated for assisted work**	**0,7**					**0,4**					ECTS
5.	**Number of hours of a student's unassisted work**	**8**					**14**					h
6.	**Number of ECTS credit points which a student receives for unassisted work**	**0,3**					**0,6**					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**	**25**					**25**					h
10.	**Punkty ECTS za moduł** *1 ECTS=25 hours*	**1**										ECTS

LITERATURE

1. Richards G. (2021), *Warehouse Management*, Wydawnictwo Kogan Page Ltd.
2. Emmett S. (2005), E*xcellence in Warehouse Management. How to Minimise Costs and Maximise Value*, John Wiley & Sons, Ltd, (https://industri.fatek.unpatti.ac.id/wp-content/uploads/2019/03/251-Excellence-in-Warehouse-Management-How-to-Minimise-Costs-and-Maximise-Value-Stuart-Emmett-Edisi-1-2005.pdf)
3. Schmidt T. (2014), *Warehouse Management*, Springer-Verlag Berlin and Heidelberg GmbH & Co. KG.