

MODULE DESCRIPTION

Module code	Z-ZIP-448z
Module name	Rozwój wyrobów w przedsiębiorstwie
Module name in English	Products Development In an Enterprise
Valid from academic year	2016/2017

A. MODULE PLACEMENT IN THE SYLLABUS

Field of study	Management and Production Engineering
Level of education	1st degree <i>(1st degree / 2nd degree)</i>
Studies profile	General <i>(general / practical)</i>
Form and method of conducting classes	Full-time <i>(full-time / part-time)</i>
Specialisation	Production and Innovation Management
Unit conducting the module	The Department of Production Engineering
Module co-ordinator	Aneta Masternak-Janus, PhD
Approved by:	

B. MODULE OVERVIEW

Type of subject/group of subjects	Specialist subject <i>(basic / major / specialist subject / conjoint / other HES)</i>
Module status	Compulsory <i>(compulsory / non-compulsory)</i>
Language of conducting classes	English
Module placement in the syllabus - semester	6th semester
Subject realisation in the academic year	Summer semester <i>(winter semester/ summer)</i>
Initial requirements	No requirements <i>(module codes / module names)</i>
Examination	Yes <i>(yes / no)</i>
Number of ECTS credit points	2

Method of conducting classes	Lecture	Classes	Laboratory	Project	Other
Per semester	15			15	

C. TEACHING RESULTS AND THE METHODS OF ASSESSING TEACHING RESULTS

Module target	The aim of the module is to familiarise students with the issues concerning planning new products and improving the existing ones in an enterprise, in particular, learning new techniques and methods supporting the product development process.
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Effect symbol	Teaching results	Teaching methods (l/c/lab/p/other)	Reference to subject effects	Reference to effects of a field of study
W_01	A student knows and understands basic principles concerning product development in an enterprise in conditions of market economy.	l	K_W16	T1A_W05 T1A_W11 S1A_W11
W_02	A student knows the methods and techniques supporting product development process in an enterprise.	l/p	K_W16	T1A_W05 T1A_W11 S1A_W11
U_01	A student is able to design a product with the QFD method.	l/p	K_U01 K_U04 K_U08	TA1_U01 TA1_U04 TA1_U14
K_01	A student is capable of teamwork.	p	K_K04	T1A_K03 T1A_K04
K_02	A student is aware of the necessity of taking into consideration non-technical aspects in the product development process.	l/p	K_K02	T1A_K02

Teaching contents:

1. Teaching contents as regards lectures

Lecture number	Teaching contents	Reference to teaching results for a module
1-2	<u>Designing a product with the QFD method</u> : the essence of the QFD method, its history and practical application, QFD method stages, and building a Quality House.	W_02 U_01
3	<u>Organising product development</u> : product life cycle, traditional and sequential product development, the distribution of financial expenditure during the realisation of a developmental task, market equilibrium price, calculating manufacturing costs of the introduced product.	W_01
4	<u>The methods of comparing the developed products</u> : break-even point, the models of estimation by point, present value of money flow, net present value of a project, and an internal rate of return.	W_02
5	<u>Designing a product with CPM and PERT methods</u> : action procedure, network graph structure, and determining a critical path.	W_02
6	<u>The application of function and value analysis in improving product quality functioning</u> : the essence of function and value analysis, function division, the guidelines concerning defining a function, the techniques of function systematisation, and action procedure.	W_02
7	<u>The methods of decision support in the product development process</u> : the conditions of making decisions, the structure and creating a dependence matrix and tree diagrams.	W_02

2. Teaching contents as regards classes

Class number	Teaching contents	Reference to teaching results for a module

3. Teaching contents as regards laboratory classes

Laboratory class number	Teaching contents	Reference to teaching results for a module

4. The characteristics of project assignments

As a project assignment, students design (in groups of 2 or 3) the selected product with the QFD method. During project classes, they consult particular project elements with the lecturer. Students present their concept on innovative solution in a group forum during the last class

The methods of assessing teaching results

Effect symbol	Methods of assessing teaching results <i>(assessment method, including skills – reference to a particular project, laboratory assignments, etc.)</i>
W_01	A written examination.
W_02	A written examination, a team project.
U_01	A team project, a discussion during project presentation.
K_01	A discussion during project presentation.
K_02	A discussion during project presentation.

D. STUDENT'S INPUT

ECTS credit points		
	Type of student's activity	Student's workload
1	Participation in lectures	15
2	Participation in classes	
3	Participation in laboratories	
4	Participation in tutorials (2-3 times per semester)	
5	Participation in project classes	15
6	Project tutorials	
7	Participation in an examination	1
8		
9	Number of hours requiring a lecturer's assistance	31 <i>(sum)</i>
10	Number of ECTS credit points which are allocated for assisted work <i>(1 ECTS point=25-30 hours)</i>	1
11	Unassisted study of lecture subjects	
12	Unassisted preparation for classes	
13	Unassisted preparation for tests	
14	Unassisted preparation for laboratories	
15	Preparing reports	
16	Preparing for a final laboratory test	
17	Preparing a project or documentation	20
18	Preparing for an examination	10
19		
20	Number of hours of a student's unassisted work	30 <i>(sum)</i>
21	Number of ECTS credit points which a student receives for unassisted work <i>(1 ECTS point=25-30 hours)</i>	1
22	Total number of hours of a student's work	61
23	ECTS points per module <i>1 ECTS point=25-30 hours</i>	2
24	Work input connected with practical classes <i>Total number of hours connected with practical classes</i>	35
25	Number of ECTS credit points which a student receives for practical classes <i>(1 ECTS point=25-30 hours)</i>	1.2

E. LITERATURE

Literature list	<ol style="list-style-type: none"> 1. Chodnikiewicz K., <i>Podstawy rozwoju wyrobu</i>, Oficyna Wydawnicza PW, Warszawa 2001. 2. Waters D., <i>Zarządzanie operacyjne. Towary i usługi</i>, Wydawnictwo Naukowe PWN, Warszawa 2007. 3. Hamrol A., <i>Zarządzanie jakością z przykładami</i>, PWN, Warszawa 2005. 4. Kukuła K. (red.), <i>Badania operacyjne w przykładach i zadaniach</i>, Wydawnictwo Naukowe PWN, Warszawa 2002.
Module website	