

MODULE DESCRIPTION

Module code	Z-ZIP-1007
Module name	Tworzywa sztuczne i kompozyty
Module name in English	Plastics and Composites
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	All
Unit conducting the module	The Department of Production Engineering
Module co-ordinator	
Approved by:	

B. MODULE OVERVIEW

Type of subject/group of subjects	Major <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	3rd semester
Subject realisation in the academic year	Winter semester <i>(winter / summer)</i>
Initial requirements	No requirements <i>(module codes / module names)</i>
Examination	No <i>(yes / no)</i>
Number of ECTS credit points	1

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

C. TEACHING RESULTS AND THE METHODS OF ASSESSING TEACHING RESULTS

Module target	A student ought to acquire skills as regards the following: knowledge of polymers and composites, manufacturing technologies and processing, functional properties of plastics, and application criteria.
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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 has knowledge of materials, their selection and application in manufacturing processes and device utilisation.	l	K_W07 K_W09	TA1_W04 TA1_W06
W_02	A student has knowledge as regards material and product quality assurance during the manufacturing process.	l	K_W07 K_W09	TA1_W04 TA1_W06
U_01	A student can design simple technological process together with documentation and justification.	l	K_U15	TA1_U02 TA1_U10
K_01	A student understands the necessity of continuous improving his/her knowledge as regards new materials and technologies.	l	K_K01	TA1_K01

Teaching contents:

1. Teaching contents as regards lectures

Lecture number	Teaching contents	Reference to teaching results for a module
1	Polymers as construction materials.	W_01, W_02, U_01, K_01
2	Inorganic, organic, natural, synthetic, and modified polymers.	W_01, W_02, U_01, K_01
3	Biomaterials.	W_01, W_02, U_01, K_01
4	Plastomers, duroplasts, and elastomers.	W_01, W_02, U_01, K_01
5	Composites – types and application.	W_01, W_02, U_01, K_01
6	The structure of composite materials.	W_01, W_02, U_01, K_01
7	Research methods and application of plastics.	W_01, W_02, U_01, K_01
8	Obtaining a credit.	

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

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 test during the lecture.
W_02	A test during the lecture.
U_01	A test during the lecture
K_01	Comments during the lectures.

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)	2
5	Participation in project classes	
6	Project tutorials	
7	Participation in an examination	
8		
9	Number of hours requiring a lecturer's assistance	18 <i>(sum)</i>
10	Number of ECTS credit points which are allocated for assisted work <i>(1 ECTS point=25-30 hours)</i>	0.6
11	Unassisted study of lecture subjects	10
12	Unassisted preparation for classes	
13	Unassisted preparation for tests	
14	Unassisted preparation for laboratories	
15	Preparing reports	
15	Preparing for a final laboratory test	
17	Preparing a project or documentation	
18	Preparing for an examination	
19		
20	Number of hours of a student's unassisted work	10 <i>(sum)</i>
21	Number of ECTS credit points which a student receives for unassisted work <i>(1 ECTS point=25-30 hours)</i>	0.4
22	Total number of hours of a student's work	28
23	ECTS points per module <i>1 ECTS point=25-30 hours</i>	1
24	Work input connected with practical classes <i>Total number of hours connected with practical classes</i>	0
25	Number of ECTS credit points which a student receives for practical classes <i>(1 ECTS point=25-30 hours)</i>	0

E. LITERATURE

Literature list	<ol style="list-style-type: none"> 1. Dobrosz K., Matysiak A., <i>Tworzywa sztuczne, materiałoznawstwo i przetwórstwo</i>, WSIP, Warszawa 1990. 2. Łaczyński B., <i>Tworzywa sztuczne i ich przetwórstwo</i>, PWN, Warszawa 1980. 3. Kucharczyk W., Śurowski W., <i>Przetwórstwo tworzyw sztucznych dla mechaników</i>, Wydawnictwo Politechniki Radomskiej, Radom 2005. 4. Ozimina D., Madej M., Wdowin A., <i>Tworzywa sztuczne i materiały kompozytowe</i>, Wydawnictwo Politechniki Świętokrzyskiej, Kielce 2006. 5. Wilczyński A., <i>Polimerowe kompozyty włókniste</i>, WNT, Warszawa 1996. 6. Saechtling H., <i>Tworzywa sztuczne: poradnik</i>, Wydawnictwo Naukowo-Techniczne, Warszawa 2007.
Module website	

