MODULE SPECIFICATION

Module code	
Module title in Polish	**Tworzywa sztuczne**
Module title in English	**Plastics**
Module running from the academic year	**2016/2017**

A. MODULE IN THE CONTEXT OF THE PROGRAMME OF STUDY

Field of study	**Civil Engineering**
Level of qualification	**First cycle** *(first cycle, second cycle)*
Studies profile	**Academic** (*academic/practical)*
Mode of study	**Full-time** *(full-time / part-time)*
Specialism	
Organisational unit responsible for module delivery	The Department of Building Engineering Technologies and Organisation
Module co-ordinator	**Zbigniew Wójcikiewicz, MSc, Eng.**
Approved by	**Marek Iwański, Professor**

B. MODULE OVERVIEW

Module type	**Core module** (*core/programme-specific/elective HES*)*
Module status	**Compulsory module** *(compulsory / non-compulsory)*
Language of module delivery	**English**
Semester in the programme of study in which the module is taught	**Semester 2**
Semester in the academic year in which the module is taught	**Summer semester** *(winter / summer)*
Pre-requisites	**None** (*module code/module title, where appropriate)*
Examination required	**No** *(yes / no)*
ECTS credits	**2**

Mode of instruction	**lectures**	**classes**	**laboratories**	**project**	**others**
Total hours per semester	**15**		**15**		

* elective HES − elective modules in the Humanities and Economic and Social Sciences

C. LEARNING OUTCOMES AND ASSESSMENT METHODS

Module aims	The aim of the module is to acquaint students with: the structure, the methods of obtaining, and properties of plastics; the application of plastics in civil engineering and architecture; infrastructure within building premises; processing plastics; introduction to recycling.

Module outcome code	Module learning outcomes	Mode of instruction *(l/c/lab/p/ others)*	Corresponding programme outcome code	Corresponding discipline-specific outcome code
W_01	A student knows basic polymer structures, the properties of plastics, and the application of plastics in civil engineering.	l/l	B_W02	T1A _W01 T1A _W02 T1A _W03 T1A _W05
W_02	A student knows basic methods of processing plastics. In addition, a student has basic knowledge on the recycling of plastics.	l/l	B_W02 B_W18	T1A _W01 T1A _W02 T1A _W03 T1A _W04 T1A _W05 T1A _W07 T1A _W08
U_01	A student can identify plastics and indicate its application in civil engineering.	l/l	B_U01 B_U24	T1A _U03 T1A _U05 T1A _U08 T1A _U09 T1A _U13 T1A _U14 T1A _U15 T1A _U16
U_02	A student can examine basic mechanical and thermal features of plastics as well as the selected synthetic resins.	l/l	B_U23	T1A _U01 T1A _U03 T1A _U05 T1A _U08 T1A _U09 T1A _U15
K_01	A student can work individually and in a team. Moreover, a student formulates conclusions and describes the results of his/her own work. A student prepares coherent reports on research (also in the form of diagrams).	l/l	B_K01 B_K04	T1A _K01 T1A _K03 T1A _K04 T1A _K07

Module content:

1. Topics to be covered in the lectures

No.	Topics	Module outcome code
1	Basic concepts. The structure of polymers, divisions, methods and technologies of obtaining them.	W_01
2	Natural and artificial polymers.	W_01
3	Large volume polymers and their application in civil engineering.	W_01 U_01
4	Chemically- and thermally-hardened polymers.	W_01 U_01
5	Engineering and special polymers; their application in civil engineering.	W_01 U_01
6	The methods of processing plastics.	W_02
7	Introduction to the recycling of products from plastics.	W_02

2. Topics to be covered in the classes

3. Topics to be covered in the laboratories

No.	Topics	Module outcome code
1	The identification of plastics.	W_01 U_01
2	Examining mechanical properties of plastics.	W_01 U_02 K_01
3	Examining mechanical properties of plastics.	W_01 U_02 K_01
4	Examining thermal properties of plastics.	W_01 U_02 K_01
5	Examining the selected properties synthetic resins.	W_01 U_02 K_01
6	Obtaining products from plastics.	W_02 U_01

4. Topics to be covered in the projects

Assessment methods

Module outcome code	Assessment methods *(Method of assessment; for module skills − reference to specific project, laboratory and similar tasks)*
W_01	A report, a test, and an examination
W_02	A report, a test, and an examination
U_01	A report, a test, and an examination
U_02	A report, a test, and an examination
K_01	A report and an examination

C. STUDENT LEARNING ACTIVITIES

ECTS summary		
	Type of learning activity	**Study time/ credits**
1	Contact hours: participation in lectures	**15**
2	Contact hours: participation in classes	
3	Contact hours: participation in laboratories	**15**
4	Contact hours: attendance at office hours (2-3 appointments per semester)	**1**
5	Contact hours: participation in project-based classes	
6	Contact hours: meetings with a project module leader	
7	Contact hours: attendance at an examination	
8		
9	**Number of contact hours**	**31** *(total)*
10	**Number of ECTS credits for contact hours** *(1 ECTS credit =25-30 hours of study time)*	**1.2**

11	Private study hours: background reading for lectures	**5**
12	Private study hours: preparation for classes	
13	Private study hours: preparation for tests	**15**
14	Private study hours: preparation for laboratories	
15	Private study hours: writing reports	
16	Private study hours: preparation for a final test in laboratories	
17	Private study hours: preparation of a project/a design specification	
18	Private study hours: preparation for an examination	
19		
20	**Number of private study hours**	**20** *(total)*
21	**Number of ECTS credits for private study hours** *(1 ECTS credit =25-30 hours of study time)*	**0.8**
22	**Total study time**	**51**
23	**Total ECTS credits for the module** *(1 ECTS credit =25-30 hours of study time)*	**2**
24	**Number of practice-based hours** *Total practice-based hours*	**16**
25	**Number of ECTS credits for practice-based hours** *(1 ECTS credit =25-30 hours of study time)*	**0.6**