MODULE DESCRIPTION

Module code	**Z-ZIP-270z**
Module name	**Wybrane aspekty wytrzymałości materiałów**
Module name in English	**Some Aspects of Materials Strength**
Valid from academic year	**2016/2017**

A. MODULE PLACEMENT IN THE SYLLABUS

Field of study	**Management and Production Engineering**
Level of education	**1st degree** *(1st degree / 2nd degree)*
Studies profile	**General** *(general / practical)*
Form and method of conducting classes	**Full-time** *(full-time / part-time)*
Specialisation	**Production and Innovation Management**
Unit conducting the module	
Module co-ordinator	**Prof. Wiesław Trąmpczyński, PhD hab.**
Approved by:	

B. MODULE OVERVIEW

Type of subject/group of subjects	**Specialist subject** *(basic / major / specialist subject / conjoint / other HES)*
Module status	**Compulsory** *(compulsory / non-compulsory)*
Language of conducting classes	**English**
Module placement in the syllabus - semester	**6th semester**
Subject realisation in the academic year	**Summer semester** *(winter semester/ summer)*
Initial requirements	**No requirements** *(module codes / module names)*
Examination	**No** *(yes / no)*
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	After lectures student should: have basic knowledge of English terminology, have basic knowledge considering mechanical properties of materials, have basic knowledge to determinate relations between external loadings and stress and strains.

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 basic knowledge as regards strength of materials.	l	K_W02	T1A_W01 T1A_W02 T1A_W07
U_01	A student is able to use the English language sufficiently for communication and reading comprehension of basic texts associated with strength of materials.	l	K_U05	T1A_U01 T1A_U06

Teaching contents:

1. Teaching contents as regards lectures

Lecture number	Teaching contents	Reference to teaching results for a module
1	Equilibrium of a deformable body (external loads – types of forces, support forces, equations of equilibrium, free body diagram).	K_W02 K_U05
2	Reduction of the loadaing system to an arbitrary point.	K_W02 K_U05
3	Structural supports calculation of reaction forces.	K_W02 K_U05
4	Calculation of the resultant force and moment acting within the body, force and moment diagrams.	K_W02 K_U05
5	Stress and strain (normal stress, Saint-Venant's principle, shear stress, volume strain, shear strain).	K_W02 K_U05
6	Stress-Strain experiments (stress-strain diagram, Hooke's Law, Poisson's Ratio).	K_W02 K_U05
7	Geometric properties of an area (centroid of an area, first moment, composite areas, moment of inertia of an area, composite areas, moment of inertia for an area).	K_W02 K_U05
8	Stress calculation In the case of simple structures (beams).	K_W02 K_U05

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** *(assessment method, including skills – reference to a particular project, laboratory assignments, etc.)*
W_01	Report preparation, discussion.
U_01	Report preparation, discussion.

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	
6	Project tutorials	
7	Participation in an examination	
8		
9	**Number of hours requiring a lecturer's assistance**	**15** *(sum)*
10	**Number of ECTS credit points which are allocated for assisted work** *(1 ECTS point=25-30 hours)*	**0.5**
11	Unassisted study of lecture subjects	**5**
12	Unassisted preparation for classes	
13	Unassisted preparation for tests	
14	Unassisted preparation for laboratories	
15	Preparing reports	**6**
15	Preparing for a final laboratory test	
17	Preparing a project or documentation	
18	Preparing for an examination	
19	Preparing oral discussion	**4**
20	**Number of hours of a student's unassisted work**	**15** *(sum)*
21	**Number of ECTS credit points which a student receives for unassisted work** *(1 ECTS point=25-30 hours)*	**0.5**
22	**Total number of hours of a student's work**	**30**
23	**ECTS points per module** *1 ECTS point=25-30 hours*	**1**
24	**Work input connected with practical classes** *Total number of hours connected with practical classes*	**10**
25	**Number of ECTS credit points which a student receives for practical classes** (1 ECTS point=25-30 hours)	**0.3**

E. LITERATURE

Literature list	1. … 2. … 3. … 4. ...
Module website	