COURSE DESCRIPTION CARD

The name of the course/module		Code
MECHANICS OF BUILDING 1		**A_P_1.1_004**
Main field of study: **ARCHITECTURE**	Educational profile (general academic, practical): **general academic**	Year / term: **I/1**
Specjalization: **-**	Language of course: **Polish**	Course (core, elective): **core**
Hours: Lectures: **30** Classes: **30** Laboratory classes: **-** Projects / seminars: **15**		Number of points: **4**

Level of the studies:	**Form of studies** (full-time studies/part-time studies)	**Educational area(s)**	**ECTS distribution (number and %)**
I	**Full-time studies and part-time studies**	**Technical Sciences**	**4** **100%**

Course status in the studies' program (basic, directional, other): **basic** (general academic, from a different major)): **-**

Responsible for course/lecturer:

dr inż. arch. Anna Sygulska
e-mail: anna.sygulska@put.poznan.pl
Faculty of Architecture
ul. Nieszawska 13 A, 60-965 Poznań
tel.: 61 665 32 60

Lecturer:

dr inż. arch. Anna Sygulska
e-mail: anna.sygulska@put.poznan.pl
Faculty of Architecture
ul. Nieszawska 13 A, 60-965 Poznań
tel.: 61 665 32 60

Prerequisites defined in terms of knowledge, skills, social competences:

1	**Knowledge:**	Preparation in the scope of trigonometry and algebra. Actions on vectors. Fundamentals of differential and integral calculus.
2	**Skills:**	Solving trigonometric tasks, addition, subtraction, multiplication of vectors. Can calculate differential coefficients and integrals for simple function.
3	**Social competences:**	Is prepared to active teamwork

Objective of the course:

Preparation to designing the simple and complex building constructions.

Learning outcomes

Knowledge:		
W01	has knowledge in the scope of mechanics of building	AU1_W09
Skills:		
U01	can make calculations in the area of mechanics of structures	AU1_U12
Social competences:		
K01	observes the principles of professional ethics; is responsible for the reliability of the obtained results of his/her work and their interpretation	AU1_K02

K02	is aware of the importance of the solutions proposed by an architect and liability arising thereunder	AU1_K08

The evaluation methods

2 colloquia during semester.

Formative assessment:
Assessment of knowledge and projects implemented during classes
Grading scale: 2,0; 3,0; 3,5; 4,0; 4,5; 5,0

Summative assessment:
Assessment obtained during written colloquia and exams consisting of written and oral part
Final grading scale: 2,0; 3,0; 3,5; 4,0; 4,5; 5,0

Positive grade for module depends on achieved by student all learning outcomes specified in the syllabus.

Course contents

Lecture:
Vectors, forces, moments. Supports. Forces acting on construction. Resultant of a coplanar nonconcurrent system of forces. Reactions. Equations of static equilibrium. Arrangement of truss members and calculation of internal forces. Relationship between load, shear force and bending moment. Calculation of internal forces in beam and statically determinate frames. Calculation of interior loads. Properties of sections.

Basic bibliography:

1. Przewłócki J., Górski J., Podstawy mechaniki budowli. „Arkady", Warszawa 2008.
2. Pyrak S., Szulborski K. :Mechanika konstrukcji dla architektów. Przykłady obliczeń. Arkady. Warszawa 1994.
3. Litewka A., Litewka P.: Mechanika Budowli w architekturze historycznej. Wydawnictwo PP. Poznań 2006.

Supplementary bibliography:

1. Kolendowicz T.: Mechanika budowli dla architektów, wydanie II. Arkady. Warszawa 1994

The student workload

Form of activity	Hours	ECTS
Overall expenditure	130	4
Classes requiring an individual contact with teacher	80	2
Practical classes	50	2

Balance the workload of the average student

Form of activity	Number of hours
participation in lectures	30 h
participation in classes/ laboratory classes (projects)	45 h
preparation for classes/ laboratory classes	30 h
preparation to colloquium/final review	20 h
participation in consultation related to realization of learning process	5 h
preparation to the exam	-
attendance at exam	-

Overall expenditure of student: **4 ECTS credits** **130 h**

As part of this specified student workload:

- activities that require direct participation of teachers:

30 h + 45 h + 5 h = **80 h**