



COURSE DESCRIPTION CARD - SYLLABUS

Course name

Loads in structures and masonry structures [S1BZ1E>OBiKM]

Course

Field of study	Year/Semester
Sustainable Building Engineering	2/3
Area of study (specialization)	Profile of study
–	general academic
Level of study	Course offered in
first-cycle	English
Form of study	Requirements
full-time	elective

Number of hours

Lecture	Laboratory classes	Other
10	0	0
Tutorials	Projects/seminars	
30	0	

Number of credit points

2,00

Coordinators

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Lecturers

Prerequisites

A student starting this subject should have basic knowledge of mathematics, basic mechanics and building materials. The student should have skills in performing calculations of physics tasks and using available sources of information.

Course objective

Providing students with basic knowledge in the field of masonry structures, including: construction, the nature of the structure's operation and the principles of dimensioning. Developing students' skills in dimensioning masonry structures.

Course-related learning outcomes

none

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

The knowledge acquired during the lectures is verified by two 45-minute colloquia during the 3rd and 5th

lectures. Each colloquium consists of questions (test or open), scored differently.

Grade 5,0 \geq 90%, 4,5 \geq 80%, 4,0 \geq 70%, 3,5 \geq 60%, 3,0 \geq 50%.

Assessment issues on the basis of which the questions are developed will be made available to students via the eKursy platform.

In the case of e-learning, it is possible to change the way of passing lectures in quizzes on the eKursy platform.

The points obtained from individual quizzes are added up and the final grade is determined based on them.

Scoring - rating

20-21 - 5.0

18-19 - 4.5

16-17 - 4.0

14-15 - 3.5

12-13 - 3.0

0-11 - 2.0

The skills acquired during the exercises are verified on the basis of ongoing verification of the correctness of the calculations carried out in the exercise book. Correctly performed calculations on time - mark 5.0, performed after the deadline - mark 4.5 or 4.0 (depending on time), minor calculation errors - mark 3.0.

Completing additional tasks gives you the opportunity to increase your grade.

Programme content

Lectures:

Collection of loads according to Eurocodes.

Permanent and variable loads, including climatic ones.

Characteristics of masonry structure elements.

Dimensioning of unreinforced masonry structures according to Eurocodes.

Structural requirements for masonry structures.

Exercises:

Checking the load-bearing capacity of a brick pillar.

Course topics

Lectures:

Collection of loads according to Eurocodes:

- permanent, live and snow loads,

- wind loads, load combinatorics.

Characteristics of masonry construction elements in the past and today: masonry elements, mortars

Dimensioning of unreinforced masonry structures according to EC: loaded mainly vertically

Dimensioning of unreinforced masonry structures according to EC: simplified dimensioning methods, dimensioning of structures loaded with concentrated force.

Structural requirements for masonry structures, guidelines for the execution and acceptance of masonry works.

Exercises:

Checking the load-bearing capacity of a wall pillar - calculations carried out (independently or in a team) in notebook: Siewczyńska M., Workbook for design of Masonry Structures. Simplified method, Publishing House

ApuntoPress, Poznań, 2019

Teaching methods

Lectures - informative lecture with multimedia presentation

Exercises: work with a book, project and exercise methods - alone or in teams, exposure

Bibliography

Basic:

1. Hendry A. W., Sinha B. P., Davies S. R., Design of masonry structures Third edition of load bearing brickwork design (internet)

2. Siewczyńska M., Workbook for design of masonry structures, ApuntoPress Publishing House, Poznań, 2019

3. How to design masonry structures using Eurocode 6 (pdf)

Additional:

1. Hall Loretta, Historic bricks, rap air or replace, Concrete Decor and PaintPRO Magazines
2. Penazzi D., Valluzzi M.R., Saisi A., Binda I., Modena C., Repair and strengthening of historic masonry buildings in seismic areas

Breakdown of average student's workload

	Hours	ECTS
Total workload		
Classes requiring direct contact with the teacher		
Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation)		