Tadeusz Kosciuszko Cracow University of Technology

Course Card

Faculty of Civil Engineering

Field of study: Civil Engineering

Study profile: general academic

Study form: full-time

Field of study code: BUD

Study cycle: 1st

Specialty: no specialty

1 COURSE INFORMATION

Course name	Konstrukcje murowe
Course name in English	Masonry Structures
Course code	WIL BUD oIS C34 24/25
Course category	Basic
No. of ECTS points	2.00
Semester	5

2 CLASS TYPE, NUMBER OF HOURS ACCORDING TO THE STUDY PLAN

Semester	Lecture	Class exercise	Laboratory	Computer lab	Design exercise	Seminar
5	15	0	0	0	15	0

3 COURSE OBJECTIVES

Objective 1 Knowledge of the rules concerning the basics of designing of unreinforced masonry structures.

Objective 2 Knowledge of the principles of execution and quality control of masonry structures.

Objective 3 Ability to select appropriate structural materials and solutions for masonry walls and piers construction and use methods of design of masonry structural elements.

Objective 4 Ability to responsible design of masonry structures.

4 PREREQUISITES IN TERMS OF KNOWLEDGE, SKILLS AND OTHER COMPETENCES

1 Fundamentals of Civil Engineering, Building materials, Technical drawing, Strength of materials, Structural mechanics (1)

5 LEARNING OUTCOMES

LO1 Knowledge Student knows the rules concerning designing and detailing of typical masonry structural elements for low-rise buildings.

LO2 Skills Student knows the basic requirements applied for construction and execution of masonry buildings.

LO3 Knowledge Student is able to apply in practice the principles of design and dimensioning of selected masonry structural elements for buildings.

LO4 Knowledge Student is able to carry out a masonry structure design project with full responsibility.

6 COURSE CONTENT

Design exercise		
No.	Subject matter of the course Detailed description of thematic blocks	No. of class hours
P1	Design of masonry structure of a low-rise residential building. Choice of structural form and selection of main structural materials. Ultimate Limit State (STR) verification of masonry walls/piers in accordance with current regulations and applicable codes of practice.	15

Lecture		
No.	Subject matter of the course Detailed description of thematic blocks	No. of class hours
L1	Historical and contemporary masonry - brief history of masonry. Masonry walls and structures types, masonry structural elements - basic terms and definitions connected with masonry structures.	4
L2	Structural systems and materials in masonry buildings. Mechanical properties of masonry.	2
L3	Principles of one- and multi-layer wall design and detailing.	1
L4	Loads acting on masonry structure of a building. Statement of loads acting on walls and piers.	2
L5	Methods of designing masonry elements - models, limit states verification.	4

Lecture		
No.	Subject matter of the course Detailed description of thematic blocks	No. of class hours
L6	Detailing and execution requirements according to the codes.	2

7 TEACHING TOOLS

N1 Lecture

N2 Design exercise

N3 Consultation

8 Student workload

Activity form	Number of hours of activity
Hours realized in contact with the teacher	
Hours resulting from the study plan	30
Consultation hours	0
Exams and tests during session	0
Hours of autonomous student work	
Preparing for classes, studying literature	10
Developing results	10
Preparing of reports, projects presentations, discussion	10
Total number of hours devoted to the subject	**60**
Total number of ECTS points	2.00

9 Methods of grading

Partial grades

F1 Colloquium

F2 Individual project

F3O online tasks

Summary grade

P1 Weighted average of the midterm tests grades