ERASMUS+
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Incoming student mobility

Name of UNIOS University Unit: Faculty of Civil Engineering and Architecture Osijek

COURSES OFFERED IN FOREIGN LANGUAGE
FOR ERASMUS+ INDIVIDUAL INCOMING STUDENTS

Department or Chair within the UNIOS Unit	Department for Materials and Structures

Study program	University Graduate Study of Civil Engineering – module Structural Engineering

Study level (bachelor/master)	Master (graduate) level

Course title	Masonry Structures I
Course code (ISVU)	66531
Language of instruction	English
Course content	Course objectives: acquiring theoretical knowledge on masonry and on the basics of the design of masonry elements, and practical knowledge of the basics of the design of masonry structural elements. Topics covered: Historical overview; mortar; masonry units; types of masonry walls; mechanical properties of unreinforced masonry; deformation properties of masonry; laboratory testing of the compressive strength of masonry units and mortar; unreinforced masonry subjected to vertical loading; unreinforced masonry subjected to in-plane horizontal forces; structural detailing of masonry; technical regulations for building structures; masonry structures in seismically active areas.
Prerequisites for enrolment (if any)	None
Learning outcomes	Upon completion of the course, the student will be able to: 1. Describe masonry walls according to different classifications; 2. Compare different types of mortar according to their composition; 3. List the mechanical and deformation properties of unreinforced masonry and explain the determination of characteristic compressive and shear strength; 4. Identify the causes of failure of masonry buildings under seismic action and describe how the earthquake resistance of a building is ensured; 5. Explain individual parts of the Technical Regulation for Building Structures;

	6. Verify the compressive and shear resistance of an unreinforced masonry wall.
Basic Literature	1. Sorić, Z. (2004). Zidane konstrukcije 1 (Masonry Structures 1), 2nd ed. University of Zagreb textbooks, Zagreb (in Croatian). 2. Hadzima-Nyarko, M., Ademović, N., Jeleč, M. (2020). Konstrukcijska pojačanja zidanih zgrada, metode i primjeri (Structural strengthening of masonry buildings – methods and examples). Faculty of Civil Engineering and Architecture Osijek (in Croatian).
Additional Literature	1. Radić, J. et al. (2007). Zidane konstrukcije – priručnik (Masonry Structures – Handbook). University of Zagreb textbooks, Zagreb (in Croatian).
Form of teaching	Lectures, exercises, field work, individual design program prepared during exercises
Form of assessment	Continuous assessment: two written mid-term tests (each 45 points: 25 theory + 20 problem) and an individual design program (up to 10 points), 100 points in total. Students who pass both mid-term tests and the program can be exempted from the final exam (grades: 50–59 sufficient (2), 60–74 good (3), 75–89 very good (4), 90–100 excellent (5)). Otherwise, a written and oral final exam. Requirements: attendance at lectures and exercises and a positively graded program.
Number of ECTS	5
Class hours per week	4 (2 hours of lectures + 2 hours of exercises per week; 30+30 hours per semester)
Period of realization (summer/winter semester)	Winter semester
Teacher(s) + Email address	Prof. Marijana Hadzima-Nyarko, PhD – mhadzima@gfos.hr
Assistant(s) + Email address(es)	