ERASMUS+
EU programme for education, training, youth and sport

Incoming student mobility

Name of UNIOS University Unit:

COURSES OFFERED IN FOREIGN LANGUAGE FOR ERASMUS+ INDIVIDUAL INCOMING STUDENTS

Department or Chair within the UNIOS Unit	Faculty of Civil Engineering and Architecture Osijek (GrAFOS), Department of Materials and Structures

Study program	Civil Engineering – university graduate (Master's) programme

Study level (bachelor/master)	Graduate / Master's (Year 2; Structural Engineering module)

Course title	Aluminium Structures
Course code (ISVU)	205504
Language of instruction	English
Course content	Overview of aluminium as a structural material: alloy series, temper designations, mechanical properties and product manufacture (rolled and extruded products). Selection of alloys for load-bearing elements; joining methods, welding and the heat-affected zone; corrosion, protection and durability. Basis of structural design (EN 1990 / EN 1999), cross-section classification and local buckling; tension and compression, bending, shear and torsion; flexural and lateral-torsional buckling; combined actions and serviceability. Structural systems, connections and selected issues of fatigue, fire and execution (EN 1090).
Prerequisites for enrolment (if any)	None.
Learning outcomes	Explain advantages and limitations of aluminium alloys in load-bearing structures. Evaluate the suitability of an aluminium alloy for a particular structural application. Describe the distinctive behaviour of aluminium structural members. Carry out basic ultimate and serviceability limit state checks for aluminium members in accordance with Eurocode 9.
Basic Literature	Boko, I.; Skejić, D.; Torić, N. Aluminijske konstrukcije (in Croatian). 2017. HRN EN 1999-1-1, Eurocode 9: Design of aluminium structures – Part 1-1: General structural rules.
Additional Literature	Müller, U. Introduction to Structural Aluminium Design. Whittles Publishing, 2011. Mazzolani, F. M. Aluminium Alloy Structures. Taylor & Francis, 1995. Höglund, T.; Tindall, P. Designers' Guide to Eurocode 9. ICE Publishing, 2012.

Form of teaching	Lectures (30 h), guided exercises (25 h), seminars (5 h); group discussion, problem-based learning, individual research and preparation of a seminar presentation.
Form of assessment	Current teaching arrangement: a short written seminar report, oral presentation and technical discussion (50%); a semester structural design assignment (50%). For incoming Erasmus students, an equivalent individual topic and assessment arrangements may be agreed in advance in the Learning Agreement.
Number of ECTS	5 ECTS
Class hours per week	4 contact hours/week (30 L + 25 E + 5 S = 60 hours/semester)
Period of realization (summer/winter semester)	Winter semester (3rd semester of the graduate programme)
Teacher(s) + Email address	Tihomir Dokšanović, PhD, Associate Professor | tdoksanovic@gfos.hr
Assistant(s) + Email address(es)	Tihomir Dokšanović, PhD, Associate Professor | tdoksanovic@gfos.hr