Course Unit Descriptor

Study Programme: Civil Engineering

Course Unit Title: Actions on Structures

Course Unit Code: GG203

Name of Lecturer(s): Doc. dr Drago Žarković

Type and Level of Studies: Bachelor level

Course Status (compulsory/elective): compulsory

Semester (winter/ summer): summer

Language of instruction: english

Mode of course unit delivery (face-to-face/distance learning): face-to-face

Number of ECTS Allocated:3

Prerequisites: None

Course Aims:

The course aims to train students to analyze various actions on structures and their foundations.

Learning Outcomes:

The learning outcomes are knowledge of the nature of specific effects on buildings, structures and foundations for the purpose of their adequate incorporation in the analysis of structures in civil engineering.

Syllabus:

Classification of actions (permanent, variable, seismic and incident). Volumetric weights of building materials, own weight of constructive and non-constructive elements, installations and equipment. Payloads of objects. Snow loads. Loads due to cranes and machines. Wind action. Temperature effects and effects on structures exposed to fire. Earth, liquid and stored material pressure. Actions in silos and tanks. Loads from ice and loads from water flow and waves. Traffic loads on bridges. Seismic effects. Incidental effects from impacts and explosions. Actions in shelters. Other actions. Combination of actions.

Required Reading:

Eurocode standards

Weekly Contact Hours: 2	**Lectures: 2**	**Practical work: 0**

Teaching Methods:

Lectures. Consultations. Colloquiums.

Knowledge Assessment (maximum of 100 points):

Pre-exam obligations	points	**Final exam**	points
Test	30	Written exam – theory and practice	70