

Study Programme: Architecture			
Course Unit Title: Dynamic Analysis and Simulation in Architecture			
Course Unit Code: AD0012			
Name of Lecturer(s): Bajšanski Ivana			
Type and Level of Studies: Master			
Course Status (compulsory/elective): elective			
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: 4			
Prerequisites: none			
Course Aims: The goal of this course is to acquire basic knowledge in the field of analysis and simulation object performances in relation to different influences from environment/ surroundings.			
Learning Outcomes: The outcome of this course is to master the basic function of digital tools in design based on analysis of performance.			
Syllabus. Introduction and definition of the concept design based on the analysis of performance. History and theory of application design based on the performance analysis in architecture. Examples of application of acoustic analysis, insulation, solar radiation, thermal analysis, CFD analysis, and visual accessibility. Application of evolutionary algorithms in function optimization of architectural design. Application software packages dynamic analysis and simulation performance: Ecotect and Ansys. The application of software tools that support the application of genetic algorithms in architectural design process: Grasshopper-Galapagos.			
Required Reading: Relevant literature in English, tbd			
Weekly Contact Hours: 2	Lectures: 2	Practical work: 0	
Teaching Methods: Teaching is conducted through lectures and computer practice. During practice, student is required to do practice-oriented tasks. Knowledge evaluation takes place through the exam, where the student is required to do practical application of given problem.			
Knowledge Assessment (maximum of 100 points):			
Pre-exam obligations	points	Final exam	points
Attendance			
Computer exercises			
Tests (4x)			

