Course Unit Descriptor

Study Programme: Civil Engineering
Course Unit Title: Modeling the process in construction
Course Unit Code: GM532
Name of Lecturer(s): Trivunić Milan, Dražić Jasmina
Type and Level of Studies: master
Course Status (compulsory/elective): elective
Semester (winter/ summer): winter
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:. Training students for systematic approach and application of system theory to the process of building construction objects. Acquiring knowledge from the methods of researching operations and methods of modeling the construction process.
Learning Outcomes: Capability for system analysis and defining the structure of the process of constructing objects in the framework of the development of the projects of technology and organization of the construction and in the realization thereof. Ability to analyze and basic modeling process in construction.
Syllabus. Development of system theory and its essence. The role of system theory in science and practice. System theory as a method of cognition. System classification. Analysis and synthesis of the system. Organization of the system. Behavior of the system. Problems, resources and methods of operational research. Modeling the process in construction. Linear programming. PERT method. Multi-criteria optimization. Fundamentals of decision making theory - decision making (elements and decision criteria).
Required Reading: Relevant literature in English, tbd

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

Teaching Methods: Teaching is carried out through lectures in the form of presentations of individual method units and auditory exercises on which certain types of problems related to certain method units are addressed. At the exercises students solve tasks with the help of assistants. Further information can be obtained at the consultations. The exam covers the entire material exhibited during the semester, it is written in writing (assignments and theory). The written part of the exam can also be taken through two colloquiums during the teaching process. Assessment of the exam is based on the attendance of lectures and exercises, work on exercises, colloquiums and exams.
Knowledge Assessment (maximum of 100 points):

Pre-exam obligations	points	**Final exam**	points
Attendance			
Computer exercises			
Tests (4x)			