Course Unit Descriptor

Study Programme: Traffic Engineering	
Course Unit Title: Traffic Forecasts	
Course Unit Code: S0I594	
Name of Lecturer(s): Basarić Valentina	
Type and Level of Studies: Master level	
Course Status (compulsory/elective): compulsory	
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: 5	
Prerequisites: None	

Course Aims: Acquiring knowledge in the field of application and development of new mathematical traffic demand models. Application of computer technology for the purpose of analysis and forecast transportation demand on the national, regional and local-city level, as a function of the current and expected socio-economic and spatial development of areas which are the subject of analysis and forecast in relation to traffic demand.

Learning Outcomes: Implementation, improvement and development of mathematical and statistical methods for the traffic demand forecasting. Acquisition of skills determining interdependencies between indicators of socio-economic development, land using, traffic demand and traffic supply. Acquiring knowledge in the field of using modern computer programs application for the testing transport policy effects and for the alignment of transport demand and supply.

Syllabus: Basic concepts and definitions of traffic demand. Temporal and spatial concentration of demand: causes and consequences. Basic concepts of prediction and forecasting. The importance and role of forecasts and / or prediction of traffic planning. Methods and procedures of forecasting: time series, regression analysis, cross- classification - category analysis. Application of the theory of probability to forecast traffic demand. Statistical evaluations of forecast results. Basic concepts and definitions of traffic supply, transport ability of vehicles, supply elements of transport networks. Alignment methods of transport demand and supply. Critical analysis of classical four step model. Target modal split model. Computer programs for testing and simulation of the harmonization effects of transport demand and supply.Appraisal of transport models.

Required Reading: Relevant literature in English TBD

Weekly Contact Hours: 5	**Lectures: 3**	**Practical work: 2**

Teaching Methods: Lectures, practical laboratory and computational exercises. This course enables students to perform independent assignmentseminar paper and examination through partial examinations.

Knowledge Assessment (maximum of 100 points):

Pre-exam obligations	points	**Final exam**	points
Lecture attendance	4	Written part of the exam	35
Exercise attendance	3	Oral part of the exam	35
Computer exercise	3		

attendance			
Term paper	20		
The methods of knowledge assessment may differ; the table presents only some of the options: written exam, oral exam, project presentation, seminars, etc.			