BASIC INFORMATION:

Organisational Unit	FACULTY OF TRANSPORT AND TRAFFIC ENGINEERING	
Chair	Chair for computer sciences and databases	
Course/modul		
Code	2.09.02.001.	**GIS – Geografic Information Systems**
ETCS credits	4	

COURSE TYPE:

Functional Area	Interdisciplinary
Level of Abstraction	Middle
Course Type - Obligation	Mandatory

COURSE REGISTRATION:

Scientific Field	2.	Technical Sciences
Scientific Area	2.09.	Computer Sciences
Narrow Scientific Field	2.09.02.	Information Systems

COURSE DESCRIPTION:

Educational goals	Acquiring the latest knowledge in the field of geographic information systems, with a special focus on road traffic.
Competences/ educational outcomes:	Acquiring of knowledge and skills for applying in independent and team work in the area of geographic information systems in road traffic.
Course content	Introduction. Aspects of GIS. Techniques used in GIS. Sources of geographic data. Display data. Data recording. Data handling. Translation of data into digital form. Projections, coordinate system and registration. Spatial analysis GIS. Cartographic modeling. Vector overlay. Spatial statistics. Geocoding. Output data and cartography. Graphic display techniques. Classification of GIS. Data creation. Geographic information. Structure of GIS. Spatial databases. Data manipulation and data analysis. Statistical software. Available GIS software. Some of the applications of GIS. Importance of GIS for traffic. Mobile GIS. System architecture and configuration. Functional and technical characteristics of the system. Standards. System requirements. Architecture of mobile GIS applications.

COURSE METRICS:

	Teaching activities (hours)		Individual work	TOTAL

ETCS	Contact lessons R	Contact lessons E	Exercises and trainings	Seminar and stud. papers	Pedagogical workshops	Profess. practice	Individual. and group learning	Source research	Hours of work
5	45		24			18	69	12	150

ACCESS CONDITION

None

COURSE METHODOLOGY

Lectures, seminar work and consultations.

TEACHING LANGUAGES

English

STUDENT WORK EVALUATION

No.	Type of Evaluation	Partial/ Final	Elective/ Mandatory	Percentage of participation
01	Participation in Lecture Interactions and Exercise Activity		Mandatory	20 %
03	Seminary work		Mandatory	20 %
04	Exam activities – final test		Mandatory	60 %

LITERATURE

No.	Author	Publication Title	Publisher	Edition Year
1.	I. Heywood; S. Cornelius; S. Carver	An Introduction to Geographical Information Systems	Pearson	2012
2.				
3.				
4.				