

### DESCRIPTION OF A STUDY COURSE – SYLLABUS

<b>Title of a course</b>	<b>Traffic Engineering</b>				
<b>Head of course</b>	<b>PhD Ivica Barišić, College Professor</b> <b>Assistant: Veljko Pevalek, Lecturer</b>				
<b>Study programme</b>	<b>Professional undergraduate study Road Transport</b>				
<b>Status of a course</b>	Obligatory				
<b>Year of study</b>	3.	<b>Semester</b>	V	<b>ECTS credits</b>	4
<b>Teaching plan (L + E + S+ Pr)</b>	2+1+0+0				
<b>Goals of a course</b>					
Familiarity with the problem of the relationship between traffic supply and demand, traffic research and traffic planning. Identifying traffic flow management skills and the ability to resolve traffic flow conflicts. To enable students to identify the problems of the transport system, to define possible variant solutions, to identify the optimal traffic solution and to define it as a required element for construction design.					
<b>Conditions for enrolling course</b>					
No conditions					
<b>Learning outcomes on a level of a study programme which includes course</b>					
<p>Outcome 2: Apply legislation in the field of road transport.</p> <p>Outcome 3: Use standards that cover the subject area when designing transport projects and implementing technological and service processes in the field of road transport.</p> <p>Outcome 5: Evaluate road transport safety factors.</p> <p>Outcome 7: Conduct field research in road transport and interpret the result.</p> <p>Outcome 8: Recommend effective solutions for road transport system planning based on sustainable development principles.</p> <p>Outcome 12: Participate in the development of professional projects in road transport.</p> <p>Outcome 15: Participate in teamwork in solving complex road transport tasks.</p>					
<b>Expected learning outcomes on a level of a course</b>					
<ol style="list-style-type: none"> <li>1. Apply transport research methodology in real transport environment</li> <li>2. Explain the process and methods of forecasting transportation demand</li> <li>3. Explain basic principles of planning transport infrastructure in cities</li> <li>4. Apply basic criteria and guidelines for planning and designing a safe traffic intersection</li> <li>5. Recommend design standards for the elements of parking lots and garage parking facilities</li> <li>6. Propose elements for planning and designing transport infrastructure for safe and unimpeded movement of non-motorized road users.</li> </ol>					
<b>Content of a course</b>					
Interrelation between supply and demand. Research and planning of transport. Interrelation between individual and public transport. Theory of the flow of transport. Traffic network. Classification of traffic routes and traffic on traffic routes. Capacity and levels of services. Traffic routes dimensioning. Conflicts of flows of transport. Intersections and nodal points. Traffic regulation principles. Intersections designing. Traffic simulation programs and programs of intersections capacity resolving. Standard traffic signalization. Dynamic signalization. Light signalization. Work plan of traffic lights in space and time. Coordination of traffic lights operation: both linear and network. Dynamic and nonstandard traffic signalization; traffic equipment. Parking. Work technology at parking lots. Car park buildings. Traffic technology in traffic buildings. Alternative traffic.					
<b>Teaching modes</b>	<input checked="" type="checkbox"/> lectures <input type="checkbox"/> auditory exercises <input checked="" type="checkbox"/> seminars and workshops <input type="checkbox"/> distance learning <input type="checkbox"/> field classes		<input checked="" type="checkbox"/> individual assignments <input type="checkbox"/> multimedia and network <input type="checkbox"/> laboratory <input type="checkbox"/> supervisor's work <input type="checkbox"/> other _____		
<b>Comments</b>					

**Students' obligations**

Fulfil obligations in accordance with the Rules of Study and Rules of the assessment of students.

**Grading, evaluation and monitoring of students' work continuously during lectures and exams**

Grading is based upon evaluation of course's learning outcomes' adoption. Grading is performed continuously during lectures and/or during exam, in compliance with the provisions of Regulation on the assessment of students.

**Continuous check-up:**

Outcomes	Pre-exam I	Pre-exam 2	Project assignment	Assignment	Threshold	Max
Outcome 1	5%		3%		4%	8%
Outcome 2	15%				7,5%	15%
Outcome 3	13%		12%		12,5%	25%
Outcome 4		14%		10%	12%	24%
Outcome 5		11%		5%	8%	16%
Outcome 6		12%			6%	12%
Percentage of ECTS	1,32	1,48	0,6	0,6		
Total	33%	37%	15%	15%	50%	100%

A student has passed the exam if he has acquired a percentage of credits for each learning outcome higher or equal to defined threshold.

**Exam term:**

Outcomes	Written exam	Oral exam	Max
Outcome 1	4%	4%	8%
Outcome 2	8%	6%	15%
Outcome 3	15%	10%	25%
Outcome 4	14%	10%	24%
Outcome 5	10%	6%	16%
Outcome 6	8%	4%	12%
Percentage of ECTS	2,4	1,6	
Total	60%	40%	100 %

A student has passed the exam if he has acquired a percentage of credits for each learning outcome higher or equal to defined threshold.

**Grading:**

A student has passed the exam if he has acquired at least 50% of anticipated credits of a specific learning outcome. If a student has passed learning outcomes of all courses, the accomplished credits (percentages) of all passed learning outcomes are being added, while the final grade is defined upon following table:

Range of credits (percentages)	Numerical grade	ECTS grade
90,00 – 100,00	Excellent (5)	A
75,00 – 89,99	Very good (4)	B
60,00 – 74,99	Good (3)	C
50,00 – 59,99	Sufficient (2)	D
0,00 – 49,99	Insufficient (1)	F

**Obligatory literature**

1. Notes from the lecturers of TRAFFIC ENGINEERING, prepared by: dr. sc. Ivica Barišić, Rijeka, 2014 - part of the lecture - working material
2. Legac, Ivan i koautori: GRADSKA PROMETNICE, Sveučilište u Zagrebu, Fakultet prometnih znanosti, Zagreb 2011., IZABRANA POGLAVLJA

#### Additional literature

1. Maletin, M.: Planiranje i projektovanje saobraćajnica u gradovima, Orion art, Beograd, 2005.
  2. Tollazzi, T.: Kružna raskrižja, znanstvena monografija, hrvatsko izdanje, IQ plus d.o.o., Kastav 2007.
  3. Smjernice za projektiranje kružnih raskrižja na državnim cestama, Hrvatske ceste, 2014.
  4. Dokumenti, zakoni i propisi u svezi planiranja, projektiranja i gradnje prometnica.
- Zakon o sigurnosti prometa na cestama (NN67/08, 48/10, 74/11, 80/13, 158/13, 92/14 i 64/15)
  - Zakon o cestama (NN 84/11, NN 22/13, NN 54/13, NN 148/13, NN 92/14)
  - Pravilnik o osnovnim uvjetima kojima javne ceste izvan naselja i njihovi elementi moraju udovoljavati s gledišta sigurnosti prometa (NN 110/01)
  - Pravilnik o prometnim znakovima, signalizaciji i opremi na cestama (NN 33/05, 64/05, 155/05, 14/11)
  - Pravilnik o autobusnim stajalištima (NN 119/07)
  - Pravilnik o osiguranju pristupačnosti građevina osobama s invaliditetom i smanjene pokretljivosti (NN 78/13)
  - Pravilnik o sadržaju, namjeni i razini razrade prometnog elaborata za ceste (NN 140/13)
  - Pravilnik o biciklističkoj infrastrukturi NN 28/16
  - Odluka o razvrstavanju javnih cesta (NN 96/16)

