DESCRIPTION OF A STUDY COURSE – SYLLABUS

Title of a course	**Technology and Organization of the Railroad Transport**				
Head of course	**Miljenko Belančić, Lecturer**				
Study programme	**Professional undergraduate study Railroad Transport**				
Status of a course	Obligatory				
Year of study	3.	**Semester**	V	**ECTS credits**	6
Teaching plan (L + E + S+ Pr)	3+0+2+0				

Goals of a course

The objective of the course is to acquaint the students with the basic concepts of railway traffic organization, which are means of railway traffic, indicators of operation of means, manoeuvres, technologies of work in railway stations and knots, ways of organizing wagon flows, graphical representation of train traffic, determination of railway capacity, all in the purpose of quality timetable design. The course should help students refine their analytical skills as well as gain some systematic approach to problems.

Conditions for enrolling course

No conditions

Learning outcomes on a level of a study programme which includes course

Outcome 2: Apply legislation in the field of railroad transport.
Outcome 3: Use standards that cover the subject area when designing transport projects and implementing technological and service processes in the field of railroad transport.
Outcome 4: Analyse and evaluate the economic aspect in the traffic engineering practice.
Outcome 5: Evaluate railroad transport safety factors.
Outcome 6: Distinguish between entities and their powers in the field of railroad transport.
Outcome 7: Participate in time-table preparation processes.
Outcome 10: Assess models of exploitation and maintenance of technical equipment in the transport system.
Outcome 12: Participate in the development of professional projects in railroad transport.
Outcome 13: Apply measures for managing technological processes in railroad transport.
Outcome 14: Independently present professional content on oral, written and graphical basis using the usual tools in Croatian and/or foreign language.

Expected learning outcomes on a level of a course

1. Define the elements of railroad transport organization.
2. Define the values of stable and mobile capacities.
3. Describe the dependence of the stable capacities' elements and the compliance of individual facilities.
4. Participate in the creation process and analyse timetables as efficiently as possible.
5. Implement changes to the detected conditions using a timetable example.

Content of a course

Transport technology as a science and business activity. Special transport technologies. Rail transport technology relevant features. Rail organization basic terms. Railway vehicles. Rail transport organization factors; stationary facilities, transport means, human resources. Rail transport exploitation indicators: hauled and hauling means exploitation. Planning and analysis assignments. Transport planning and analysis: transport plan, transport plan performance analysis. Train transport graphic display: train transport chart. Rail capacity computation. Rail technical capacity: carrying capacity, flowing capacity. Rail technical capacity exploitation computation, technical capacity upgrading. Timetable draw-up.

Teaching modes	☒ lectures ☐ auditory exercises ☒ seminars and workshops ☐ distance learning ☐ field classes	☒ individual assignments ☐ multimedia and network ☐ laboratory ☐ supervisor's work ☐ other _____

Comments	

Students' obligations

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	Seminar work	Fieldwork Report	Threshold	Max
Outcome 1	15				7,5	15
Outcome 2	10	7	4	4	12,5*	25
Outcome 3	20		5	5	15*	30
Outcome 4		12			6	12
Outcome 5	9	9			9	18
Percentage of ECTS	3	2	0,5	0,5		
Total					50 %	100 %

*of which a minimum of 50% must be obtained at the pre-exams, the resolution of each pre-exam must be at least 40%

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	5	10	15
Outcome 2	15	10	25
Outcome 3	20	10	30
Outcome 4	6	6	12
Outcome 5	8	10	18
Percentage of ECTS	**3,24**	**2,76**	
Total	**54%**	**46%**	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. **Badanjak, D., Bogović, B., Jenić, V.:** «Organizacija Željezničkog prometa». Fakultet prometnih znanosti, Zagreb, 2006. 2. **B. Bogović:** «Organizacija Željezničkog prometa». Fakultet prometnih znanosti, Zagreb, 1987.
Additional literature
1. **B. Bogović:** «Tehnologija prijevoza robe u željezničkom prometu». Fakultet prometnih znanosti, Zagreb, 1988.