

DESCRIPTION OF A STUDY COURSE – SYLLABUS

Title of a course	Technological Processes in Railroad Transport				
Head of course	Miljenko Belančić, Lecturer				
Study programme	Specialist professional graduate study Railroad Transport				
Status of a course	Obligatory				
Year of study	2.	Semester	III	ECTS credits	7
Teaching plan (L + E + S+ Pr)	2+0+2+0				
Goals of a course					
To acquaint the students with the technological processes in railroad transport, the ways in which they are realized, to define the necessary capacities when developing the timetable and to point out the possibility of applying new technologies in the management of railroad traffic. High-quality timetable plays a role for users and railway workers as it is a technological process in the production of railroad services. 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 international, European and national legislation in the implementation of technological and service processes in the field of railroad transport. Outcome 6: Create models of exploitation and maintenance of technical equipment in the transport system. Outcome 7: Select information technology and software to address specific transport system problems. Outcome 8: Use methods for optimizing technological processes in railroad transport. Outcome 11: Manage organizational systems in railroad transport. Outcome 12: Manage communication and collaboration processes in different social groups in the field of transport.					
Expected learning outcomes on a level of a course					
1. Define capacity needs at locations. 2. Describe all the elements required to perform a particular technological process. 3. Describe the success and efficiency of applying different technological processes. 4. Develop and analyse a timetable tailored to the used technological methods. 5. Implement applications in railroad and mobile capacities.					
Content of a course					
Railroad system. Railroad transport organization factors. Criterion and objective defining. Railroad station technological processes. Railroad technical capacity. Railroad transport models. Wagon flows. Train traffic planning and operational control. Timetable draw-up. Technical and economic exploitation estimates.					
Teaching modes	<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 _____		
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				8	15
Outcome 2	10	7	4	4	13*	25
Outcome 3	20		5	5	15*	30
Outcome 4		12			6	12
Outcome 5	9	9			9	18
Percentage of ECTS	4	2	0,5	0,5		
Total					50 %	100 %

* of which a minimum of 50% must be obtained at the colloquiums, the resolution of each colloquium 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	3,78	3,22	
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.

