

# "Todor Kableshkov" University of Transport

Faculty: Machinery and Construction Technologies in Transport

Programme: Rolling Stock for High Speed Trains and Subway

Degree: Bachelor

Mode of study: Full time

Duration of study: 4.0 years

No	Code	Course	Total contact hours (Hours of lectures and seminars)	ECTS credits
<i>Compulsory courses</i>				
1	811	Mathematics part I	75	7
2	1207	Chemistry	45	4
3	715	Foreign Language - English, German, French, Russian	90	6
4	702	Economics	60	4
5	1201	Material Science and Technology	90	8
6	812	Mathematics part II	75	7
7	1114	Physics	90	7
8	821	Informatics	90	6
9	1011	Applied Geometry and Engineering Drawing I	45	3
10	906	Theoretical Mechanics part I	60	6
11	813	Mathematics part III	60	6
12	907	Theoretical Mechanics part II	60	6
13	1012	Applied Geometry and Engineering Drawing II	45	3
14	902	Strength of Materials	105	7
15	278	Heat Transfer Equipment	60	5
16	1002	Computer Drawing for Engineers	45	3
17	903	Theory of Mechanisms and Machines	60	5
18	1116	Electrical Engineering and Electronics	90	6
19	1013	Metrology and Measurement Equipment	60	4
20	908	Fluid Mechanics	60	5
21	1008	Machine Elements	105	8
22	1009	Machine Elements - make a project	0	2
23	1341	Electrical Machines, Apparatuses and Drive	60	4
24	1205	Mechanical Engineering Technologies	75	5
25	202	Rolling stock	60	6
26	690	Hydraulic and Pneumatic Drives and Equipment	60	5
27	1360	Electrical Railway Equipment	75	5
28	706	Specialized Course in a Foreign Language	45	5
29	222	Train Traction	45	4
30	201	Technical Safety and Ecology	45	4
31	279	Reliability of Vehicles	60	5
32	284	Brake Systems in Railway Vehicles	45	4
33	190	Rail Transport Technology and Organization	60	5
34	376	Railway infrastructure	45	5
35	281	Railway Equipment Testing and Diagnostics	75	10
36	282	Railway Equipment Repair	75	6
37	703	Economic History	45	3
38	230	Railway Equipment Dynamics	75	9

47	719	Physical Education and Sports	0	0
	1224	Locksmith	6	0
	1225	Turnery	6	0
	1223	Thermal Treatment	6	0
	1222	Welding	6	0
	1221	Casting	6	0
<i>Elective courses</i>				
39.1	215	Rolling stock for high-speed trains	90	6
39.2	266	Metropolitan Rolling Stock	90	6
40.1	216	Project in Rolling stock for high-speed trains	0	4
40.2	291	Metropolitan Rolling Stock - make a project	0	4
41.1	13160	Propulsion Equipment and Energy Supply of High-Speed Trains	60	6
41.2	13161	Propulsion Equipment and Energy Supply of Rolling Stock for Subway	60	6
42.1	192	European Rail Traffic Management (ERTMS) and Interoperability Management System	45	5
42.2	2191	Traffic Management and Control	45	5
<i>Optional courses</i>				
43.1	194	Technical Operation and Traffic Safety in Subway Areas	60	4
43.2	141	Technical Operation and Traffic Safety in Railway Transport	60	4
44.1	1350	Structure and Systems for Control and Protection of Subway Trains	90	6
44.2	1338	Structure and Control Systems of Electric Locomotives	90	6
44.3	286	Structure, Systems and Technical Control of Railway Wagons	90	6
45.1	1378	Maintenance of Subway Trains	75	5
45.2	1345	Operation of Electric Locomotives	75	5
45.3	236	Railway Wagon Operation	75	5
46.1	217	Braking Systems of Rolling Stock of Metropolitan	75	5
46.2	223	Train Brakes	75	5