

# "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: Part 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	872	Mathematics	38	7
2	1207	Chemistry	23	6
3	715	Foreign Language - English, German, French, Russian	38	6
4	702	Economics	23	5
5	1201	Material Science and Technology	30	6
6	882	Applied Mathematics	38	7
7	1125	Physics	23	6
8	821	Informatics	30	6
9	906	Theoretical Mechanics part I	30	6
10	1011	Applied Geometry and Engineering Drawing I	23	5
11	1012	Applied Geometry and Engineering Drawing II	23	5
12	907	Theoretical Mechanics part II	30	5
13	902	Strength of Materials	38	5
14	278	Heat Transfer Equipment	23	5
15	1002	Computer Drawing for Engineers	23	5
16	1224	Locksmith	3	1
16	1225	Turnery	3	1
16	1222	Welding	3	1
16	1223	Thermal Treatment	3	1
16	1221	Casting	3	1
17	903	Theory of Mechanisms and Machines	30	5
18	1116	Electrical Engineering and Electronics	30	6
19	1013	Metrology and Measurement Equipment	23	4
20	908	Fluid Mechanics	23	5
21	1008	Machine Elements	38	8
22	1009	Machine Elements - make a project	0	2
23	1205	Mechanical Engineering Technologies	23	5
24	690	Hydraulic and Pneumatic Drives and Equipment	23	5
25	1341	Electrical Machines, Apparatuses and Drive	23	5
26	1360	Electrical Railway Equipment	23	5
27	222	Train Traction	23	4
28	376	Railway infrastructure	30	6
29	201	Technical Safety and Ecology	23	5
30	284	Brake Systems in Railway Vehicles	30	5
31	190	Rail Transport Technology and Organization	30	5
32	202	Rolling stock	38	6
33	2206	Dynamics of rolling stock	38	10
34	703	Economic History	23	4

35	281	Railway Equipment Testing and Diagnostics	30	4
36	279	Reliability of Vehicles	23	4
37	282	Railway Equipment Repair	30	5
<i>Elective courses</i>				
39.1	215	Rolling stock for high-speed trains	38	8
39.2	266	Metropolitan Rolling Stock	38	8
40.1	192	European Rail Traffic Management (ERTMS) and Interoperability Management System	30	8
40.2	195	Traffic Management and Control	30	8
41.1	216	Project in Rolling stock for high-speed trains	0	6
41.2	291	Metropolitan Rolling Stock - make a project	0	6
42.1	13160	Propulsion Equipment and Energy Supply of High-Speed Trains	38	6
42.2	13161	Propulsion Equipment and Energy Supply of Rolling Stock for Subway	38	6
43.1	739	Specialized English language course	23	3
43.2	738	Specialized German language course	23	3
43.3	740	Specialized course in Russian	23	3
<i>Optional courses</i>				
44.1	194	Technical Operation and Traffic Safety in Subway Areas	30	4
44.2	141	Technical Operation and Traffic Safety in Railway Transport	30	4
45.1	1350	Structure and Systems for Control and Protection of Subway Trains	38	6
45.2	1338	Structure and Control Systems of Electric Locomotives	38	6
45.3	286	Structure, Systems and Technical Control of Railway Wagons	38	6
46.1	1378	Maintenance of Subway Trains	38	5
46.2	1345	Operation of Electric Locomotives	38	5
46.3	236	Railway Wagon Operation	38	5
47.1	217	Braking Systems of Rolling Stock of Metropolitan	30	5
47.2	223	Train Brakes	30	5