

# "Todor Kableshkov" University of Transport

Faculty: Telecommunications and Electrical Equipment in Transport

Programme: Electric Power Engineering and Electrical Equipment

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	871	Mathematics	75	7
2	1114	Physics	75	7
3	821	Informatics	60	7
4	703	Economic History	45	4
5	702	Economics	45	4
6	881	Applied Mathematics	75	8
7	715	Foreign Language - English, German, French, Russian	75	7
8	914	Applied Mechanics	75	7
9	1101	Theoretical Electrical Engineering part I	75	8
10	1102	Theoretical Electrical Engineering part II	75	8
11	1006	Fundamentals of Machine Design and Construction	75	7
12	1110	Electrical and Electronic Measurements	75	8
13	1302	High Voltage Technique	75	7
14	13165	Technical and Fire Safety	45	3
15	1309	Power Electronics	75	7
16	1304	Electrical Apparatuses	75	8
17	1303	Electrical Machines	75	7
18	1368	Electrical Machines- Course Project	0	3
19	1308	Electrical Supply	60	6
20	1305	Electrical Power Networks and Systems	75	7
21	1372	Operation Modes of Electric Power Systems	60	6
22	1310	Traction and Energy Calculation	60	4
23	1443	Management of Energy Systems in Transport	45	3
24	1373	Electrical Power Networks and Systems - Course Project	0	4
25	1329	Relay Protection	60	6
26	1321	Electrical Equipment in Power Plants and Substations	60	4
27	1307	Electrical Equipment	75	6
28	1344	Systems for Automatic Control	60	5
29	1322	Electric Transport Propulsion	45	4
30	1369	Electrical Equipment - Course Project	0	3
31	1328	Electrical Drives	75	7
32	1330	Design of Installation for Electricity Supply and Electrical Equipment	45	6
33	1374	Design of Installation for Electricity Supply and Electrical Equipment- Course Project	0	4
34	13167	Diagnostics and Electrical Equipment Testing	60	5
35	719	Physical Education and Sports	0	0
	1221	Casting	0	0

	1222	Welding	0	0
	1223	Thermal Treatment	0	0
	1225	Turnery	0	0
	1224	Locksmith	0	0
<i>Elective courses</i>				
36.1	13222	Autonomous electric transport	60	6
36.2	13223	Non-autonomous electric transport	60	6
37.1	1325	Current Collection in Electric Transport Vehicles	60	7
37.2	13166	Lighting and Installation Equipment	60	7
38.1	1323	Advanced Systems for Construction of Traction Power Supply Stations	45	3
38.2	1326	Contemporary Trends in the Traction Power Supply and Electric Drives Systems in the Electric Transport	45	3
39.1	1327	Control and Protection of Power Supply Traction Systems in the Electric Transport	75	7
39.2	1357	Control and Protection of Electric Transport Vehicles	75	7
40.1	1332	Management and Protection of Power Supply Traction Systems - practicum	60	5
40.2	13164	Management and Protection of Electric Transport Vehicles - practicum	60	5
<i>Optional courses</i>				
41.1	707	Course in Foreign Language in Engineering	45	3
42.1	1342	Structure, Management and Protection of the Power Supply Systems 25kV, 50 Hz	60	7
42.2	1343	Structure of Traction Substations in Rail Transport	60	7
42.3	141	Technical Operation and Traffic Safety in Railway Transport	60	7
42.4	194	Technical Operation and Traffic Safety in Subway Areas	60	7
43.1	1346	Technical Exploitation of the Power Supply Network 225 kV, 50 Hz, Traction Substations and Section Stations	75	7
43.2	1347	Automatics and Telemechanics of Traction Substations and Section Stations	75	7
43.3	1348	Structure, Management Systems and Protection of Electric Locomotives	75	7
43.4	1350	Structure and Systems for Control and Protection of Subway Trains	75	7
44.1	1351	Ongoing Maintenance and Repair of the Electric Power Supply Network 25 kV, 50 Hz	75	6
44.2	13168	Diagnostics and Parameterization of Digital Relay Protection in Traction Substations	75	6
44.3	13220	Braking systems	75	6
44.4	13221	Brake systems for metro trains	75	6
45.1	1363	Ongoing Maintenance and Repair of Traction Substation Facilities	75	6
45.2	13169	Technical Maintenance of the Automatic and Relay Protection Facilities in Traction Substations	75	6
45.3	1378	Maintenance of Subway Trains	75	6
45.4	1345	Operation of Electric Locomotives	75	6