

# "Todor Kableshkov" University of Transport

Faculty: Telecommunications and Electrical Equipment in Transport

Programme: Electric Power Engineering and Electrical Equipment

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	871	Mathematics	38	7
2	1114	Physics	38	7
3	821	Informatics	30	7
4	703	Economic History	23	4
5	702	Economics	23	4
6	881	Applied Mathematics	38	8
7	715	Foreign Language - English, German, French, Russian	38	7
8	914	Applied Mechanics	38	7
9	1101	Theoretical Electrical Engineering part I	38	8
10	1102	Theoretical Electrical Engineering part II	38	8
11	1006	Fundamentals of Machine Design and Construction	38	7
12	1110	Electrical and Electronic Measurements	38	8
13	1302	High Voltage Technique	38	7
14	13165	Technical and Fire Safety	23	3
15	1309	Power Electronics	38	7
16	1304	Electrical Apparatuses	38	8
17	1303	Electrical Machines	38	7
18	1368	Electrical Machines- Course Project	0	3
19	1308	Electrical Supply	30	6
20	1305	Electrical Power Networks and Systems	38	7
21	1372	Operation Modes of Electric Power Systems	30	6
22	1310	Traction and Energy Calculation	30	4
23	1443	Management of Energy Systems in Transport	23	3
24	1373	Electrical Power Networks and Systems - Course Project	0	4
25	1329	Relay Protection	30	6
26	1321	Electrical Equipment in Power Plants and Substations	30	4
27	1307	Electrical Equipment	38	6
28	1344	Systems for Automatic Control	30	5
29	1322	Electric Transport Propulsion	23	4
30	1369	Electrical Equipment - Course Project	0	3
31	1328	Electrical Drives	38	7
32	1330	Design of Installation for Electricity Supply and Electrical Equipment	23	6
33	1374	Design of Installation for Electricity Supply and Electrical Equipment- Course Project	0	4
34	13167	Diagnostics and Electrical Equipment Testing	30	5
35.2	13223	Non-autonomous electric transport	30	6
	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>				
35.1	13222	Autonomous electric transport	30	6
36.1	1325	Current Collection in Electric Transport Vehicles	30	7
36.2	13166	Lighting and Installation Equipment	30	7
37.1	1323	Advanced Systems for Construction of Traction Power Supply Stations	23	3
37.2	1326	Contemporary Trends in the Traction Power Supply and Electric Drives Systems in the Electric Transport	23	3
38.1	1327	Control and Protection of Power Supply Traction Systems in the Electric Transport	38	7
38.2	1357	Control and Protection of Electric Transport Vehicles	38	7
39.1	1332	Management and Protection of Power Supply Traction Systems - practicum	30	5
39.2	13164	Management and Protection of Electric Transport Vehicles - practicum	30	5
<i>Optional courses</i>				
40.1	707	Course in Foreign Language in Engineering	23	3
41.1	1342	Structure, Management and Protection of the Power Supply Systems 25kV, 50 Hz	30	7
41.2	1343	Structure of Traction Substations in Rail Transport	30	7
41.3	141	Technical Operation and Traffic Safety in Railway Transport	30	7
41.4	194	Technical Operation and Traffic Safety in Subway Areas	30	7
42.1	1346	Technical Exploitation of the Power Supply Network 225 kV, 50 Hz, Traction Substations and Section Stations	38	7
42.2	1347	Automatics and Telemechanics of Traction Substations and Section Stations	38	7
42.3	1348	Structure, Management Systems and Protection of Electric Locomotives	38	7
42.4	1350	Structure and Systems for Control and Protection of Subway Trains	38	7
43.1	1351	Ongoing Maintenance and Repair of the Electric Power Supply Network 25 kV, 50 Hz	38	6
43.2	13168	Diagnostics and Parameterization of Digital Relay Protection in Traction Substations	38	6
43.3	13220	Braking systems	38	6
43.4	13221	Brake systems for metro trains	38	6
44.1	1363	Ongoing Maintenance and Repair of Traction Substation Facilities	38	6
44.2	13169	Technical Maintenance of the Automatic and Relay Protection Facilities in Traction Substations	38	6
44.3	1378	Maintenance of Subway Trains	38	6
44.4	1345	Operation of Electric Locomotives	38	6