



# DIPLOMA SUPPLEMENT



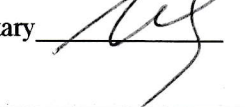

*This Diploma Supplement follows the model developed by the European Commission, Council of Europe and UNESCO/CEPES. The purpose of the Supplement is to provide sufficient independent data to improve the international 'transparency' and fair academic and professional recognition of qualifications (diplomas, degrees, certificates etc.). It is designed to provide a description of the nature, level, context, content and status of the studies that were pursued and successfully completed by the individual named on the original qualification to which this Supplement is appended. It should be free from any value judgments, equivalence statements or suggestions about recognition. Information in all eight*

1. INFORMATION IDENTIFYING THE HOLDER OF THE QUALIFICATION		
1.1	Family name(s)	Isakov
1.2	Given name(s)	Artem
1.3	Date of birth (day/month/year)	25/02/2000
1.4	Student identification number or code	B-2021-5007
2. INFORMATION IDENTIFYING THE QUALIFICATION		
2.1	Name of qualification and title conferred	Бакалавр (Bachelor). Name of title is not applicable.
2.2	Main field(s) of study for the qualification	Biotechnical Systems and Technologies Specialization: Biotechnical and Medical Devices and Systems
2.3	Name and status of awarding institution	Санкт-Петербургский государственный электротехнический университет «ЛЭТИ» им. В.И. Ульянова (Ленина) (Saint Petersburg Electrotechnical University). Status: State University/ under jurisdiction of the Russian Federation Ministry of Science and Higher Education
2.4	Name and status of institution administering studies	Same as in 2.3
2.5	Language(s) of instruction/examination	Mainly Russian
3. INFORMATION ON THE LEVEL OF THE QUALIFICATION		
3.1	Level of qualification	According to the International Standard Classification of Education (ISCED-2011) the qualification applies to the ISCED level 6 "bachelor or equivalent" with academic orientation (ISCED program code – 645).
3.2	Official length of programme	At least four years of full-time study, 240 RF units.
3.3	Access requirement(s)	The Certificate of Secondary General Education (Attestat o Srednem Obschem Obrazovanii) or its equivalent and unified state examinations results competition / entrance examinations.
4. INFORMATION ON THE CONTENTS AND RESULTS GAINED		
4.1	Mode of study	Full-time
4.2	Programme requirements	In accordance with the State Educational Standard the Bachelor's programme includes humanities, social economic courses, mathematical and natural science courses, general professional courses, at least four weeks of professional training, preparation and defence of final project and sitting for final state examination.
4.3	Programme details	Programme details include subjects, study work in RF units, national grades and ECTS grades.
4.4	Grading scheme, grade distribution guidance	In the Russian Federation the study workload is evaluated in Academic Hours (AH). One AH is 45 minutes. Workload of practical training, preparation and defense of Graduation Project is evaluated in weeks. One week of full-time study is 54 AH. One RF units is approximately equal to 36 AH of total workload. The national grades are based on a 2 to 5 scale. Where «excellent» (отлично - otlichno) stands for 5 out of 5; «good» (хорошо - khorosho) stands for 4 out of 5; «satisfactory» (удовлетворительно - udovletvoritelno) stands for 3 out of 5; «fail» (неудовлетворительно - neudovletvoritelno) stands for 2 out of 5. The assessment can be also made in terms of: «passed» (зачтено - zachteno) or «not passed» (не зачтено - ne zachteno). The lowest passing grade is «satisfactory» (удовлетворительно) and «passed» (зачтено). Students are only permitted to enroll in the next year of study and to be awarded a Diploma if they have passing grades in each subject of the curriculum. The university grade scale is in the following correspondence with ECTS grades: «excellent» - A; «good» - C; «satisfactory» - D; «fail» - F
4.5	Overall classification	Диплом (Diplom - Diploma)

<b>№</b>	<b>Subjects Studied</b>	<b>RF units</b>	<b>National Grade</b>	<b>ECTS Grade</b>
<b>1 semester</b>				
1	Foreign Language	2	excellent	A
2	Philosophy	3	excellent	A
3	Algebra and Geometry	4	excellent	A
4	Mathematical Analysis	4	excellent	A
5	Physics	4	good	C
6	Chemistry	4	excellent	A
7	Physical Education	1	passed	A
8	Computer Science	4	excellent	A
9	Field of Studies Orientation	4	good	C
<b>2 semester</b>				
10	Foreign Language	2	excellent	A
11	Algebra and Geometry	2	good	C
12	Mathematical Analysis	4	excellent	A
13	Physics	6	good	C
14	History	3	good	C
15	Information Technologies	4	excellent	A
16	Ecology	2	good	C
17	Field of Studies Orientation	3	excellent	A
18	Engineering Graphics	4	good	C
19	Physical Education (elective course)	-	passed	A
<b>3 semester</b>				
20	Foreign Language	2	excellent	A
21	Mathematical Analysis	4	excellent	A
22	Physics	5	good	C
23	Science of Law	3	good	C
24	Economic Theory	2	good	C
25	Theoretical Principles of Electrical Engineering	4	satisfactory	D
26	Computer Graphics	3	good	C
27	Mechanics Theory	3	excellent	A
28	Applied Mechanics	4	good	C
29	Physical Education (elective course)	-	passed	A
<b>4 semester</b>				
30	Foreign Language	2	excellent	A
31	Theoretical Principles of Electrical Engineering	5	satisfactory	D
32	Physical Education	1	passed	A
33	Economics of Organization	3	good	C
34	Theory of Probability and Mathematical Statistics	4	good	C
35	Materials Science	4	good	C
36	Metrology and Measurement Technology	5	good	C
37	Basics of Biology	3	good	C
<b>5 semester</b>				
38	Foreign Language	2	excellent	A
39	Methods of Biomedical Signals and Data Processing and Analysis	4	excellent	A
40	System Analysis in Biomedical Research	3	excellent	A
41	Basics of Organisation Management	3	excellent	A
42	Fundamentals of Quality Management and Business Process Management	3	excellent	A
43	Components of Electronics	3	good	C
44	Biophysics	4	excellent	A
45	Theory of Random Processes	4	excellent	A
46	Biomedical Experiment Planning	4	excellent	A

<b>№</b>	<b>Subjects Studied</b>	<b>RF units</b>	<b>National Grade</b>	<b>ECTS Grade</b>
<b>6 semester</b>				
47	Sociology	2	excellent	A
48	Electronics and Microprocessor Engineering	4	excellent	A
49	Diagnostic Research and Medical Effects Techniques	4	excellent	A
50	Control in Bioengineering Systems	3	excellent	A
51	Computer Technologies in Biomedical Research	3	excellent	A
52	Interpersonal Relationships	2	excellent	A
53	Constructional Materials and Biomaterials	3	excellent	A
54	Fundamentals of Physical Fields and Bio-Objects Interaction	3	excellent	A
<b>7 semester</b>				
55	Medical Devices, Apparatus, Systems and Complexes	5	excellent	A
56	The System of the Medical Equipment Automated Design	4	excellent	A
57	Units and Elements of Medical Equipment	4	excellent	A
58	Microprocessor Systems	4	excellent	A
59	Facilities for Diagnostic Information Pick-off and Medical Treatment	5	excellent	A
60	Simulation of Biological Processes and Systems	4	excellent	A
61	Software of the Biomedical Data Processing	4	good	C
<b>8 semester</b>				
62	Medical Devices, Apparatus, Systems and Complexes	4	excellent	A
63	Safety for Life and Activity	3	good	C
64	Standardization and Maintenance of Medical Equipment	3	good	C
65	Interdisciplinary Project "Development of the Medical Appointment Device Module"	2	excellent	A
66	Bases of the Scientific Research Organization	3	excellent	A
<b>Preparation and defense of the Graduation Paper:</b>				
	"The Development of the Web Application for Remote Monitoring of Diet and Physical Activity"	6	good	C
<b>Practical Training:</b>				
1	Training Practice (4 sem.)	3	excellent	A
2	Field Experience (7 sem.)	6	excellent	A
3	Pre-Diploma Practical Training (8 sem.)	9	excellent	A
		<b>Total Number of Credits:</b>	<b>240</b>	
<b>Course Papers:</b>				
1	Creation of Medical Purpose Software (1 sem.)		good	C
2	Products Design Documentation based on 3D technologies (2 sem.)		good	C
3	Analytical Calculation of Transient Processes in Electrical Circuits (3 sem.)		satisfactory	D
4	Strength Analysis for Structural Components of Instrumentation Facilities (3 sem.)		good	C
5	Analysis of Linear Electrical Circuits under Exciting Signals of Arbitrary Waveform (4 sem.)		good	C
6	Calculation and Analysis of Production Costs (4 sem.)		excellent	A
7	Development of a Multi-stage AC Amplifier Based on Bipolar Transistors (6 sem.)		excellent	A
8	Computer-Based Complex for Biomedical Diagnostics (6 sem.)		excellent	A



5. INFORMATION ON THE FUNCTION OF THE QUALIFICATION		
5.1	Access to further study	Bachelor's Degree gives access to the second stage (magistratura) of university level higher education (ISCED-2011 level 7).
5.2	Professional Status	This Diploma gives the right to carry out professional activities in accordance with the level of education and qualification.
6. ADDITIONAL INFORMATION		
6.1	Additional Information	<p>Saint Petersburg Electrotechnical University "LETI" (SPbETU) was established in 1886 as the Engineering College of the Department of Post and Telegraph of Russia. In 1891 it was reorganised into the Imperial Institute of Electrical Engineering - the first in Europe higher education institution for training engineers and researchers in the field of Electrical Engineering. SPbETU was renamed since then several times. In 1992 the Institute was granted the university status and became the first Electrotechnical University in Russia. The University was regularly accredited by State authorities. SPbETU is licensed to held educational activities in the field of higher education and accredited by federal Service for Supervision in Education and Science. Last accreditation was granted on March 19, 2018.</p> <p>SPbETU is considered as one of the world largest education and research centres in Radio Engineering, Electrical Engineering, Electronics and Computer Science. In 1993 the Faculty of Humanities was opened and in 1999 the Faculty of Economics and Management was organised. Today Saint Petersburg Electrotechnical University "LETI" is one of the leading centres of higher education and research in Russia.</p>
6.2	Additional Information Sources	<p>Official website of SPbETU: etu.ru</p> <p>Official website of the RF Ministry of Science and Higher Education: minobrnauki.gov.ru</p> <p>Official website of the National Accreditation Agency: nica.ru</p>
7. CERTIFICATION OF THE SUPPLEMENT		
<b>This Diploma Supplement is valid with the original diploma 107824 5431795, issued 30/06/2021</b>		
7.1	Date	30/06/2021
7.2	Signature	7.3 Official Stamp/Seal
Rector  Dean  Secretary 		
8. INFORMATION ON THE NATIONAL HIGHER EDUCATION SYSTEM		

Higher education system of the Russian Federation is constituted of two parallel branches:

- one-cycle (monoleveled) training system of Diploma Specialist (5 – 7 years for different specialities);
- two-cycle (two leveled) training system: Bachelor (not less than 4 years) and Master (not less than 2 years).

Higher professional education is based on the State Educational Standards determining requirements for structure and content of training.

Postgraduate education includes two levels of scientific degrees: Kandidat Nauk (3 years) is considered equal to Ph.D. and Doktor Nauk is considered as D.Sc.

