Lodz University of Technology

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. 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 sections should be provided. Where information is not provided, an explanation should give the reason why.

DIPLOMA SUPPLEMENT
valid with the diploma No 108060

1. INFORMATION IDENTIFYING THE HOLDER OF THE QUALIFICATION

1.1. Family name(s): **Dobiński**
1.2. Given name(s): **Daniel, Igor**
1.3. Date of birth (day/month/year): **26.08.1992**
1.4. Student identification number or code (if available): **208253**

2. INFORMATION IDENTIFYING THE QUALIFICATION [3)]

2.1. Name of qualification and (if applicable) title conferred[1)]: ***magister inżynier***
2.2. Main field(s) of study for the qualification, specialization, and educational profile:
Main field(s) of study for the qualification: **Electronics and Telecommunications**
Specialization: **not applicable**
Educational profile: **academic**
2.3. Name and status of awarding institution[1)]:
***Politechnika Łódzka* (Lodz University of Technology), ECTS Label Holder**
Żeromskiego 116, 90-924 Lodz, Poland
Lodz University of Technology is a public autonomous higher education institution having legal personality. It operates in compliance with the Law on Higher Education and the Statute of the Lodz University of Technology.
Lodz University of Technology confers the professional degrees of *magister inżynier, magister inżynier architekt, magister, magister sztuki, inżynier, inżynier architekt and licencjat*.
The University also confers the degrees of *doktor* and *doktor habilitowany* and applies for the conferment of scientific titles. Lodz University of Technology was established on 24 May, 1945 pursuant to the decree of the Homeland National Council.

2.4. Name and status of institution (if different from 2.3.) administering studies[2)]: not applicable

2.5. Language(s) of instruction/examination: **Polish/Polish, English/English**

3. INFORMATION ON THE LEVEL OF THE QUALIFICATION

3.1. Level of qualification: **second-cycle degree**
3.2. Duration of the degree programmes set forth in the curriculum: **1.5 years (3 semesters, 90 ECTS points, including a 4-week work placement worth 2 ECTS points)**
3.3. Access requirements: **first-cycle degree programme diploma or equivalent and a positive result of admission interview**

4. INFORMATION ON THE CONTENTS AND RESULTS GAINED[3)]

4.1. Mode of study: **full-time**

4.2. Programme requirements:

In order to be awarded a second cycle qualification in the field of Electronics and Telecommunications of the academic profile the student is required to accumulate 90 ECTS points during 3 semesters of study, achieve all learning outcomes assigned to the given field of study in compliance with the learning outcomes prescribed for the given area of study, complete a 4-week placement as required by the programme of study, complete a final thesis and obtain positive assessment of the thesis supervisor and thesis reviewer, a passing mark on the final examination. 20 ECTS points are awarded for the diploma thesis.

The graduate has achieved the following learning outcomes:

Knowledge

- has a broader and deeper knowledge of selected fields of mathematics, numerical methods and optimization methods needed to solve engineering problems in the field of electronics and telecommunications
- has an in-depth, theoretically founded knowledge of photonics, including the knowledge necessary to understand the operation of the optical communications and optical recording and processing of information
- has structured knowledge of solutions for data transmission
- has structured knowledge of electromagnetic compatibility in electronics and telecommunications
- has a basic knowledge of the reliability analysis and performing diagnostic process of electronic circuits
- has deeper knowledge of the analysis and design of programmable digital circuits, including using hardware description languages
- is familiar with computer tools for design and simulation of solutions in the field of electronics and telecommunications
- has knowledge of the development trends and the most important new developments in the field of electronics, information technology and telecommunications
- has structured knowledge about the circuits and systems in the field of electronics and telecommunications
- has deeper knowledge of information processing in computer systems

Skills

- can obtain information from literature, databases and other sources, can integrate the information, interprete the information and perform critical evaluation, and draw conclusions and formulate and fully justify opinions
- is able to work individually and in a team, is able to assess the time needed to complete a task, can manage a small team to ensure execution of tasks in a given period of time
- is able to develop a detailed documentation of the results of an experiment or research project task, can prepare description containing discussion of these results
- is able to prepare and give a presentation on the progress towards completion of the project or research task
- uses English language in a manner sufficient to communicate, also in professional matters, to read professional literature, as well as to prepare and deliver a short presentation on the implementation of the project or research task
- can use the learned methods and mathematical models for solving selected problems in the area of electronics and telecommunications
- can suggest improvements in design solutions and models of components, circuits and systems in the area of electronics and telecommunications
- is able to evaluate and compare design solutions based on the given set of usability and economic criteria (power consumption, thermal budget, speed, reliability, time requirements, cost, etc.)

- ble to formulate design specifications of a complex circuit or system in the field of electronics or telecommunications, including the legal aspects, such as the protection of intellectual property, as well as other non-technical aspects, such as the impact on the environment, by employing standards governing the operation of electronic and telecommunications systems

- is able to design components and systems in the field of electronics or telecommunication, taking into consideration the given set of usability and economic criteria

- is able to assess the suitability and ability to use new developments in materials, components, methods of design and manufacturing to design and manufacture circuits and systems in the field of electronics and telecommunications

- can formulate and - using appropriate analytical, simulation and experimental tools - to test hypotheses related to selected topics in the area of electronics and telecommunications

- can integrate knowledge from different sources –while formulating and solving tasks related to modeling and design of components, circuits and systems, and the design of their manufacturing process

- can estimate the cost of the design and implementation of a circuit or system in the field of electronics and telecommunications

Competences

- can think and act in a creative and enterprising manner

- understands the need for the formulation and communication to the public - among others through the mass media - the information and opinions on the achievements of electronics and other aspects of electronics engineer professional practice; attempts to provide such information and opinions in a universally understandable manner, presenting different points of view

4.3. Programme details (e.g. modules or units studied), and the individual grades/marks/credits obtained.

Form of classes: L - lecture, T - tutorial, Lab - laboratory, P - project, S - seminar, O - other
Semesters: S - summer semester, W- winter semester

Academic year	Code	Course title	Number of hours						ECTS credits	Grade
			L	T	Lab	P	S	O		
2015/16 S	02 38 6076 00	Fibre Optics and Photonics	15	-	30	-	-	-	3	5
2015/16 S	22 91 0000 80	Foreign Language for Academic and Professional Purposes	-	45	-	-	-	-	3	3.5
2015/16 S	02 94 3518 00	Library Skils and Resources	1	-	-	-	-	-	0	pass
2015/16 S	21 01 7001 10	Mathematics	30	15	-	-	-	-	3	5
2015/16 S	02 69 6086 00	Measurement-Control and PLC Systems	22	-	23	-	-	-	3	4
2015/16 S	02 48 6087 00	Micro and Nanotechnology for Electronics	22	-	23	-	-	-	3	5
2015/16 S	02 04 6074 00	Numerical Methods	30	-	15	-	-	-	3	4
2015/16 S	02 94 3586 00	Occupational Health and Safety Training	1	1	-	-	-	-	0	pass
2015/16 S	02 04 6075 00	Optimization Methods	30	-	15	-	-	-	3	4.5
2015/16 S	02 40 6077 00	Programmable Logic Devices	15	-	30	-	-	-	3	5
2015/16 S	02 85 6083 00	Project Management	15	10	-	-	-	-	2	4.5
2015/16 S	02 04 6078 00	Reliability and Diagnostics	15	-	30	-	-	-	3	4.5
2015/16 S	02 85 6081 00	Research Methodology	15	-	-	-	-	-	1	5
2015/16 S	02 95 3517 00	Selected Topic in the Law on Higher Education	1	-	-	-	-	-	0	pass
2016/17 W	02 87 S251 00	Advanced Power System Analysis and Protection	-	30	-	-	-	-	10	4.5
2016/17 W	02 87 S250 00	Control Principles	-	30	-	-	-	-	10	5
2016/17 W	02 96 6082 00	Project	-	-	-	5	-	-	2	5
2016/17 W	02 87 S136 00	Wind Energy and Distributed Energy Resources	-	-	30	-	-	-	10	4.5
2016/17 S	02 86 6084 00	Final Project Seminar	-	-	-	-	-	-	2	5
2016/17 S	02 27 6079 00	Electromagnetic Compatibility	30	-	15	-	-	-	2	5
2016/17 S	02 99 4910 00	Industrial Placement	-	-	-	-	-	-	2	pass
2016/17 S	02 87 S253 00	Power, Electronics, Machines and Applications	-	30	-	-	-	-	10	5
2016/17 S	02 87 S258 00	Project	-	-	-	30	-	-	20	pass
								Total ECTS credits:	98	

Work placement as set forth in the curriculum:
the student completed a work placement programme required by the curriculum in: Department of Electrical Engineering, The Hong Kong Polytechnic University, Chiny from 04.07.2016 to 26.08.2016.

Information about diploma project and diploma examination:
Title of the thesis:

Investigation into power electronic converters technologies to improve system performance for future aircraft electrical power systems.

Grade for the diploma project: **5.00**
Grade for the diploma examination: **5.00**

Date of the diploma examination: **29.09.2017**

. Grading scheme and, if available, grade distribution guidance:

Grading scale for courses, diploma project and diploma examination: 5.0 (five); 4.5 (four and a half); 4.0 (four); 3.5 (three and a half); 3.0 (three); 2.0 (two). The lowest grade and the only failing one is 2.0 (two). Calculation of the final study result is based on: a) weighted average of grades for exams and continuous assessment during the whole study period excluding the grade 2.0 (two); b) grade for the diploma project; c) grade for the diploma examination. The final study result is the sum of: 0.6 of the grade under point a) and 0.2 of the grades under points b) and c). The weight of each grade is equal to the number of ECTS points awarded.
The diploma provides the final grade for studies, which is determined on the basis of the final study result in accordance with the rule: 4.85 and higher - excellent *(celujący)*; 4.55 - 4.84 - very good *(bardzo dobry)*; 4.2 - 4.54 - more than good *(ponad dobry)*; 3.8 - 4.19 - good *(dobry)*; 3.4 - 3.79 - satisfactory *(dość dobry)*; up to 3.39 - sufficient *(dostateczny)*.

4.5. Overall classification of the qualification [1]: ***very good (bardzo dobry)***

5. INFORMATION ON THE FUNCTION OF THE QUALIFICATION

5.1. Access to further study: **third cycle studies, non-degree postgraduate programmes**

5.2. Professional status (if applicable):

the holder of the qualification is entitled to professional work with no additional certification

6. ADDITIONAL INFORMATION [3]

6.1. Additional information, including placements and awards:

In academic year 2016/2017 student was on a scholarship within Erasmus+ programme.The second and third semester was passed on the basis of staying at the University of Strathclyde, Glasgow, Great Britain. The Final Project was written in English.

6.2. Further information sources:

Lodz University of Technology - www.p.lodz.pl
Ministry of Science and Higher Education, 00-529 Warszawa 53, ul. Wspólna 1/3 - www.nauka.gov.pl
Department of International Affairs and Recognition of Diplomas of the Ministry of Science and Higher Education, ENIC-NARIC Poland - www.nauka.gov.pl
ECTS - http://ectslabel.p.lodz.pl

7. CERTIFICATION OF THE SUPPLEMENT

7.1. Date: **20 October 2017**

7.2. Signature of the head of the organizational unit:

dr hab. inż. Sławomir Hausman

7.3. Capacity: Dean of the Faculty of Electrical, Electronic, Computer and Control Engineering

7.4. Official seal of the institution

8. INFORMATION ON THE NATIONAL HIGHER EDUCATION SYSTEM

8.1. Higher education admission criteria

The total number of years of education until graduation giving one the right to sit the maturity examination (*egzamin maturalny*) is 12-15. Having passed the maturity examination (*egzamin maturalny*), graduates receive maturity certificates (*świadectwo dojrzałości*), which gives them the right to apply for admission to a higher education institution.

8.2. Higher education system

The system of higher education and the principles of its operation are set forth in the Law of 27 July 2005 – Higher Education Act (Journal of Laws [*Dziennik Ustaw*] No. 164, item 1365, as amended). Provisions of the Act apply both to public and non-public higher education institutions and their educational activity follows the same principles and meets the same requirements.

Higher education institutions (HEIs), regardless of their status, are divided into university-type HEIs (*uczelnie akademickie*) and non-university-type HEIs (*uczelnie zawodowe*).

A university-type HEI is a higher education institution in which at least one organizational unit holds the right to confer the academic title of *doktor*.

A non-university type HEI is a higher education institution providing first-cycle and/or second-cycle and/or long-cycle degree programmes which does not hold the right to confer the academic degree of*doktor*.

Degree programmes in HEIs are organized into first-cycle, second-cycle or long-cycle programmes and into *studia doktoranckie* (third-cycle programmes).

First-cycle programmes are further divided into 6- or 7-semester programmes leading to the degree of *licencjat (studia licencjackie)*, and 7- or 8-semester programmes leading to the degree of *inżynier (studia inżynierskie)*.

Second-cycle degree programmes take 3 or four semesters.

Long-cycle degree programmes take from 9 to 12 semesters.

Studia doktoranckie may not take longer than 4 years. In separate proceedings, pursuant to the Law of 14 March 2003 on academic degrees, academic titles and degrees and titles in arts (Journal of Laws [*Dziennik Ustaw*] No. 65, item 595, as amended) the academic degree of *doktor* and the degree of *doktor sztuki* (in arts) are awarded.

First-, second- and long-cycle programmes as well as *studia doktoranckie* may be provided as full-time or part-time programmes.

8.3. Titles awarded to graduates of higher education institutions

- *licencjat, licencjat pielęgniarstwa* (nursing) or *licencjat położnictwa* (obstetrics), *inżynier, inżynier pożarnictwa* (fire engineering), *inżynier architekt* (architecture), *inżynier architekt krajobrazu* (landscape architecture) - awarded to graduates of first- cycle degree programmes,
- *magister* or equivalent titles: *magister sztuki* (fine arts), *magister farmacji* (pharmacy), *magister inżynier, magister inżynier architekt* (architecture), *magister inżynier architekt krajobrazu* (landscape architecture), *magister inżynier pożarnictwa* (fire engineering), *magister pielęgniarstwa* (nursing), *magister położnictwa* (obstetrics), *lekarz* (physician), *lekarz dentysta* (dentists), *lekarz weterynarii* (veterinarian) - awarded to graduates of second-cycle degree programmes.

8.4. Credit points

The number of ECTS points to be earned as set forth in the curriculum is 30 per semester of study and 60 per year of study. In order to graduate from a first-cycle degree programme and obtain the diploma, the student is required to have earned at least 180 ECTS points; to graduate from a second-cycle degree programme – at least 90 ECTS points; from a long-cycle degree programme – at least 300 ECTS points for a five-year programme, and 360 ECTS points for a six-year degree programme.

[1] In case of translation into a foreign language, the content remains in the original language.

8.5. Degrees, degrees in fine arts, titles, titles in fine arts

Academic degrees, degrees in arts and the academic title of professor are awarded pursuant to the Law of 14 March 2003 on academic degrees, academic titles and degrees and titles in arts (Journal of Laws [Dziennik Ustaw] No. 65, item 595, as amended).

The degree of *doktor* and *doktor habilitowany* in a specific field of study of a specific discipline of science are academic degrees. The degree of *doktor sztuki* and *doktor habilitowany sztuki* in a specific field of arts of a specific discipline of arts are degrees in arts. Academic degrees and degrees in arts are awarded by organizational units of HEIs and Polish Academy of Sciences as well as by research institutions according to the limits of their powers.

Professor of a specific field of study is an academic title. *Profesor sztuki* of a specific field of arts is a title in arts. The title of *profesor* is awarded by the President of the Republic of Poland.

[1] In case of translation into a foreign language, the content remains in the original language.