

# Poznan University of Technology

## Faculty of Electrical Engineering

<http://www.fee.put.poznan.pl/index.php/en/>

Faculty contact person: Tomasz Bilski – Vice-Dean Faculty of Electrical Engineering  
[Tomasz.Bilski@put.poznan.pl](mailto:Tomasz.Bilski@put.poznan.pl)

### Fields of study

No.	Field of study	Study degree
1	Automatic control and robotics	1st (BSc) 2nd (MSc)
2	Information engineering	1st (BSc) 2nd (MSc)
3	Electrical engineering	1st (BSc) 2nd (MSc)
4	Mathematics in technology	1st (BSc)
5	Power engineering	1st (BSc) 2nd (MSc)

### List of modules Academic year: 2019/20

(E) – exam

Winter semester – from October 2019 to February 2020

Summer semester – from March 2020 to July 2020

### Field of study: Electrical Engineering

Contact persons:

- Arkadiusz Dobrzycki – Institute of Electrical Engineering and Electronics  
[arkadiusz.dobrzycki@put.poznan.pl](mailto:arkadiusz.dobrzycki@put.poznan.pl)
- Krzysztof Walczak – Institute of Electrical Power Engineering  
[krzysztof.walczak@put.poznan.pl](mailto:krzysztof.walczak@put.poznan.pl)

### Electrical engineering, 1<sup>st</sup> degree studies – BSc

Descriptions of modules (ECTS cards) available at:

[http://www.fee.put.poznan.pl/images/stories/ects/2018\\_19/EN/ET\\_ang\\_stacjonarne\\_1st.pdf](http://www.fee.put.poznan.pl/images/stories/ects/2018_19/EN/ET_ang_stacjonarne_1st.pdf)

No.	Name of Module	ECTS
<b>Semester 1 (winter semester)</b>		
1	Physical education	0
2	Information engineering	3
3	Mathematics (E)	7
4	Physics (E)	5
5	Materials engineering	3

6	Circuits theory (E)	6
<b>Semester 2 (summer semester)</b>		
1	Physical education	0
2	Information engineering (E)	3
3	Mathematics (E)	6
4	Numerical methods	3
5	Physics (E)	4
6	Geometry and engineering graphics	3
7	Circuits theory (E)	7
8	Mechanics and mechatronics	1
<b>Semester 3 (winter semester)</b>		
1	Electrical machines	3
2	Information engineering	2
3	Metrology (E)	4
4	Electromagnetic field theory (E)	6
5	Electronics and power electronics (E)	2
6	Automatics and automatic control	5
7	Mechanics and mechatronics	1
8	Basic of light engineering and optical radiation	4
<b>Semester 4 (summer semester)</b>		
1	Electrical machines (E)	7
2	Metrology	1
3	High voltage engineering	3
4	Elective subject – fundamentals of electroheat	4
5	Electrical power engineering	3
6	Electronics and power electronics (E)	5
7	Mechanics and mechatronics	1
8	Computerization of the designing in the electronics	2
<b>Semester 5 (winter semester)</b>		
1	Electrical devices	3
2	Microprocessor technology (E)	4
3	High voltage engineering (E)	1
4	Electrical power engineering (E)	1
5	Renewable energy sources	2
6	Transmission and distribution of electricity (E)	5
7	Electronics and power electronics	3
8	Introduction to telecommunications	3
9	Information technologies for electrical power engineering	4
10	Computerization of the designing in the electronics	1
11	Power engineering in European Union and energy security	3
<b>Semester 6 (summer semester)</b>		
1	Analog and digital electronic systems (E)	5
2	Automatics and measurements in electrical power engineering (E)	5
3	Basis of the construction of electronic circuits	3
4	Calorimetry	2
5	Computer aided designing of electrical power devices	2
6	Computer interfaces	2
7	Computer methods in control systems	2
8	Computer modelling of mechatronic systems	2
9	Computer systems supporting electricity networks	3
10	Computer-aided design of electromechanical devices	2
11	Construction of electric power devices	3
12	Control of mechatronic systems (E)	4
13	Controlling demand for electricity	3
14	Databases and technologies in Internet	3

15	Electric power protection automatics	1
16	Electric power system operation	3
17	Electrical and electronic systems in industry and vehicles (E)	5
18	Electrical devices (E)	3
19	Electrical distribution apparatus	2
20	Electrical grounding and electric shock protection	1
21	Electronic converters of signals (E)	4
22	Electrothermal conversions	1
23	Ergonomics and safety use of electrical equipment	2
24	Exploitation of technical systems	3
25	Fundamentals of diagnostics mechatronic devices	2
26	Fundamentals of high voltage measurements	1
27	Fundamentals of lighting engineering (E)	4
28	Generation of electric energy (E)	6
29	Introduction to electromagnetic compatibility	1
30	Introduction to programming of PLC controllers	3
31	Lighting design	2
32	Lighting engineering	1
33	Lighting equipment	2
34	Low-level programming	2
35	Management of electricity demand	3
36	Measurements and analysis of biological signals	2
37	Measurements in electrical installations	3
38	Microprocessor systems	3
39	Optoelectronics	2
40	Overvoltages and overvoltage protection (E)	4
41	Power networks and power system control (E)	4
42	Study work	2
43	Switching processes in electric power networks (E)	5
44	Technical electrodynamics	3
45	Working tests of electric devices	2
<b>Semester 7 (winter semester)</b>		
1	Automation and control in installations	3
2	Computer aided design	1
3	Computer modelling of mechatronic systems	3
4	Computer-aided design of electromechanical devices	3
5	Computerized methods of the power network calculations and power protection system calculations	3
6	Control engineering and computing science in industry and vehicles (E)	3
7	Control of mechatronic systems	3
8	Cooperation of the power network and local energy sources	3
9	Dielectrics engineering	2
10	Diploma project	2
11	Economy and management in electric power engineering	3
12	Elective course – extra high voltage cable lines	2
13	Elective course – static electricity in industry	2
14	Elective course – principles of the electrical power devices construction	2
15	Elective course – law in electric power engineering	2
16	Electric power automatics in power plants	5
17	Electric power protection automatics (E)	7
18	Electric power system operation (E)	3
19	Electrical distribution devices	3
20	Electrical distribution networks	5
21	Electrical installations	5
22	Electromechanical devices in automatics (E)	7

23	Evaluation of power quality	3
24	Exploitation of electric power equipment (E)	7
25	Exploitation of power plants and of heat and power plants	5
26	Fundamentals of lighting engineering	1
27	High voltage insulating systems	4
28	Intelligent buildings	5
29	Laboratory of electronic circuits	2
30	Lighting engineering (E)	6
31	Lighting equipment	5
32	Methods of digital control (E)	5
33	Microcomputers in high voltage engineering	3
34	Modulation methods in power electronic	3
35	Photometry	5
36	Power networks and power system control	3
37	Power quality	2
38	Programmable logic controllers	5
39	Programmable logic devices	5
40	SCADA systems and PLCs	5
41	Sensor technology and imaging of objects (E)	8
42	The basics of nuclear power	2
43	Virtual measuring devices	5

### Electrical engineering, 2nd degree studies – MSc

Descriptions of modules (ECTS cards) available at:

[http://www.fee.put.poznan.pl/images/stories/ects/2018\\_19/EN/ET\\_ang\\_stacjonarne\\_2st.pdf](http://www.fee.put.poznan.pl/images/stories/ects/2018_19/EN/ET_ang_stacjonarne_2st.pdf)

No.	Name of Module	ECTS
<b>Semester 1 (summer semester)</b>		
1	Physical education	0
2	Mathematics	2
3	Selected issues of the theory of circuits (E)	3
4	Electromechanical propulsion systems	3
5	Electrical measurements of non-electrical quantities	3
6	Lighting engineering and electroheat	4
7	Electronics and power electronics (E)	4
8	Electrical power engineering (E)	5
9	Object-oriented programming and databases	2
<b>Semester 2 (winter semester)</b>		
1	Computer measurement systems	2
2	Microprocessor technology	2
3	High voltage engineering (E)	2
4	Electromagnetic compatibility	2
5	Selected issues of signal processing	2
6	Selected issues of the theory of circuits (E)	4
7	Numerical methods in techniques	2
8	Disturbances in electric power systems	2
9	Decision algorithms in the electric power engineering	2
10	Computer aided design for electrical power engineering	2
11	Electromechanical propulsion systems (E)	2
<b>Semester 3 (summer semester)</b>		
1	Application of microcontrollers and PLC controls in measurements	6
2	Automatics and protections of electric power systems	3
3	Building automation systems	3

4	Chosen problems of distribution network operating	3
5	Computer aided design	1
6	Computer graphics	1
7	Computer methods in electrodynamics	3
8	Control engineering and computing science in industry and vehicles	2
9	Control of power electronic systems (E)	5
10	Design and diagnostic of distributive devices	5
11	Design and simulation of electronic systems	3
12	Design of electric network and electric power protection system automatics	3
13	Design of measurement systems in electric power engineering	3
14	Digital signal processing in electric power engineering	3
15	Diploma designing	1
16	Diploma project	1
17	Dynamic of systems	3
18	Electric power protection automatics	3
19	Electric power systems – operation and control	3
20	Electrical and electronic systems in industry and vehicles	3
21	Electrothermal processes	3
22	Exploitation of high voltage equipment	1
23	Functioning of power plant in power system	3
24	Fundamentals of biomedical engineering (E)	3
25	Generation of electric energy (E)	5
26	High current processes	1
27	High-voltage measurement techniques (E)	5
28	Hybrid vehicles	1
29	Intelligent building (E)	4
30	Lighting design	1
31	Lighting engineering	5
32	Lighting equipment (E)	5
33	New technology in electromechanics	1
34	Nuclear power plants	1
35	Optimisation methods in electromagnetic devices design (E)	6
36	Project of high voltage insulating systems	5
37	Property security techniques	1
38	SCADA systems and PLCs	3
39	Selected problems with evaluation of power quality	3
40	Signal processors	6
41	Technologies in Internet	1
42	Testing of electrical drives in mechatronics	3
43	The electric wiring systems in buildings (E)	5
44	The work of electric power system (E)	3
45	Transient states in electric power circuits	1
46	Transmission and distribution of electricity	1

### **Field of study: Power engineering**

Contact persons:

- Krzysztof Walczak – Institute of Electrical Power Engineering  
[krzysztof.walczak@put.poznan.pl](mailto:krzysztof.walczak@put.poznan.pl)
- Arkadiusz Dobrzycki – Institute of Electrical Engineering and Electronics  
[arkadiusz.dobrzycki@put.poznan.pl](mailto:arkadiusz.dobrzycki@put.poznan.pl)

**Power engineering, 1st degree studies – BSc**

**Descriptions of modules (ECTS cards) available at:**

[http://www.fee.put.poznan.pl/images/stories/ects/2018\\_19/EN/EN\\_ST1\\_JA.pdf](http://www.fee.put.poznan.pl/images/stories/ects/2018_19/EN/EN_ST1_JA.pdf)

No.	Name of Module	ECTS
<b>Semester 1 (winter semester)</b>		
1	Mathematics	4
2	Physical education	0
3	Physics (E)	5
4	Chemistry	3
5	Information engineering (E)	5
6	Fundamentals of electronics and electrical engineering	3
7	Geometry and engineering graphics	3
8	Technical thermodynamics	3
<b>Semester 2 (summer semester)</b>		
1	Mathematics (E)	5
2	Physical education	0
3	Technical mechanics (E)	4
4	Technical thermodynamics	4
5	Fundamentals of electronics and electrical engineering (E)	5
6	Mechanics of fluids (E)	5
7	Structural and exploitation materials	2
8	Subject preparing for energy companies operating in the market	2
<b>Semester 3 (winter semester)</b>		
1	Subject preparing for energy companies operating in the market	2
2	Electrical machines (E)	5
3	Fundamentals of automatics (E)	3
4	Fundamentals of machine construction	3
5	Metrology and measuring systems	5
6	Electric power machines and technologies (E)	4
7	Fundamentals of telecommunication	3
<b>Semester 4 (summer semester)</b>		
1	Fundamentals of thermal power engineering (E)	5
2	Fundamentals of electric power engineering (E)	5
3	Energy management and electric power systems (E)	3
4	Renewable energy sources	2
5	Nuclear power engineering	2
6	Information technology and communication systems in power engineering	5
7	Fuels and energy conversion (E)	3
8	Smart management of energy saving buildings	3
<b>Semester 5 (winter semester)</b>		
1	Electric power devices and distribution substations (E)	5
2	Automation of power engineering processes	2
3	Electric power transmission (E)	4
4	High voltage engineering (E)	5
5	Information technology and communication systems in power engineering	3
6	Environment protection in power engineering	3
7	Cogeneration of heat and electrical energy (E)	5
8	Power engineering electronics and microprocessor engineering	3
<b>Semester 6 (summer semester)</b>		
1	Power engineering electronics and microprocessor engineering (E)	3
2	Exploitation in power engineering and diagnostics (E)	5
3	Energy market	2
4	Safety control engineering in electrical grid and in power plants (E)	4
5	Power engineering security	2
6	Pumps, compressors, ventilators (E)	4

7	Metrology in power engineering	4
8	Control of power demand (E)	4
9	Distribution networks and electrical installations	4
10	Electrical engineering and ecology	3
11	Photovoltaic systems (E)	3
12	SCADA systems	2
13	Nuclear physics	3
14	Thermomechanics in power engineering (E)	3
15	Systems, machines and heat-flow equipment	2
16	Development of market systems in power engineering (E)	3
17	Measurement systems in power engineering	3
<b>Semester 7 (winter semester)</b>		
1	Industrial gas technologies (E)	7
2	Thermal management in industry (E)	7
3	Modelling of thermal processes	4
4	Operation of electric power system (E)	7
5	Exploitation of energy sources in electric power system (E)	7
6	Utilisation and conversion of electric energy	4
7	Wind power plants	4
8	Biomass, biogas, water power and geothermal energy	3
9	Design and investigation of power systems cooperating with renewable energy sources (E)	4
10	Cooperation of renewable energy sources with electric power system (E)	4
11	Exploitation of electrical systems with renewable energy sources	3
12	Safety of nuclear power engineering (E)	7
13	Radiological protection in nuclear power plants (E)	7
14	Nuclear power plant in electric power system	4
15	Strategy of sustainable development of power engineering and law regulations	3
16	Renewable sources technologies	3
17	Power transmission and distribution systems with equipment diagnostics (E)	6
18	Energy saving systems (E)	3
19	Elective module – Electromagnetic compatibility	3

**Power engineering, 2nd degree studies – MSc**

**Descriptions of modules (ECTS cards) available at:**

[http://www.fee.put.poznan.pl/images/stories/ects/2018\\_19/EN/EN\\_ST2\\_JA.pdf](http://www.fee.put.poznan.pl/images/stories/ects/2018_19/EN/EN_ST2_JA.pdf)

No.	Name of Module	ECTS
<b>Semester 1 (summer semester)</b>		
1	Numerical methods	3
2	Theory of probability (E)	4
3	Technical mechanics	3
4	Mechanics of fluids	1
5	Quantum physics	3
6	Mathematical modelling of power engineering installations (E)	2
7	Computer aided calculations and decision making in power engineering (E)	4
8	Selected issues in electrical engineering (E)	4
9	Chosen aspects of microprocessor technique	3
10	Physical education	0
<b>Semester 2 (winter semester)</b>		
1	Transmission and distribution of electric energy (E)	4
2	Metrology and measuring systems	2
3	Nuclear power engineering	1
4	Electromagnetic energy conversion	2

5	Diagnostics of power equipment	1
6	Environment protection in power engineering	1
7	Mathematical modelling of power engineering installations (E)	1
8	Thermokinetic processes in renewable energy conversion	2
9	Power engineering law and energy management (E)	1
10	Problems of power engineering security	2
11	Modern technologies of quality of supply improvement	2
12	Selected issues in electrical engineering	1
<b>Semester 3 (summer semester)</b>		
1	Industrial gas technologies (E)	6
2	Thermal management in industry (E)	6
3	Numerical modelling of power systems	3
4	Control and automatics in electric power system (E)	6
5	Power generating sources in electrical power systems (E)	6
6	Unconventional energy sources	6
7	Electrical installations (E)	4
8	Chosen aspects of design and investigation of power systems cooperating with renewable energy sources (E)	3
9	Ecology in transportation systems	2
10	Nuclear physics	2
11	Safety of nuclear power engineering (E)	3
12	Thermomechanics in power engineering	2
13	Radiological protection in nuclear power plants	2
14	Nuclear power plant in electric power system (E)	4
15	Systems, machines and heat-flow equipment	2
16	Audit and power certificates	4
17	Rational energy utilisation and energy demand control	2
18	Optimisation in systems with renewable energy sources	5
19	Modern systems of energy storage and conversion	2
20	Elective module I (Energy planning)	1
21	Elective module II (Ecology in transportation systems)	1

### Field of study: Automatic control and robotics

Contact person:

- Joanna Ziętkiewicz – Institute of Control, Robotics and Information Engineering  
[joanna.zietkiewicz@put.poznan.pl](mailto:joanna.zietkiewicz@put.poznan.pl)

**Automatic control and robotics, 1st degree studies – BSc**

**Descriptions of modules (ECTS cards) available at:**

[http://fee.put.poznan.pl/images/stories/ects/2018\\_19/EN/ects\\_air\\_stac\\_1st\\_aka\\_en.pdf](http://fee.put.poznan.pl/images/stories/ects/2018_19/EN/ects_air_stac_1st_aka_en.pdf)

No.	Name of Module	ECTS
<b>Semester 1 (winter semester)</b>		
1	The elements of computer science techniques	3
2	Physical education	0
3	Mathematics I (E)	8
4	Mathematics II (E)	6
5	Information engineering (E)	8
<b>Semester 2 (summer semester)</b>		



1	Physical education	0
2	Information engineering	2
3	Physics (E)	2
4	Selected topics in mathematics I	2
5	Selected topics in mathematics II	2
6	Theoretical mechanics and mechanics of materials (E)	5
7	Electrical engineering (circuit theory) (E)	7
8	Signals and dynamic systems (E)	4
<b>Semester 3 (winter semester)</b>		
1	Physics	2
2	Electrical engineering (circuit theory)	2
3	Signals and dynamic systems	2
4	Electronics	5
5	Real-time systems (E)	3
6	Automatic control	4
7	Electrical machines in control engineering and robotics (E)	3
<b>Semester 4 (summer semester)</b>		
1	Metrology	5
2	Electronics (E)	5
3	Real-time systems	2
4	Automatic control (E)	6
5	Electrical machines in control engineering and robotics	2
6	Foundations of electrical drives (E)	3
7	Microprocessor systems	5
8	Robotics	2
<b>Semester 5 (winter semester)</b>		
1	Foundations of electrical drives	2
2	Microprocessor systems (E)	5
3	Robotics (E)	5
4	Devices of automation and actuators	5
5	System identification	5
6	Flexible manufacturing systems	5
7	Control theory of the continuous and discrete events processes	3
<b>Semester 6 (summer semester)</b>		
1	Control theory of the continuous and discrete events processes (E)	5
2	Term design	6
3	Digital controllers and PLC (E)	6
4	Control of electromechanical systems (E)	5
5	Mechanical constructions	5
6	Computer control systems (E)	5
<b>Semester 7 (winter semester)</b>		
1	Simulation of electromechanical systems (E)	5
2	Robot programming (E)	5
3	Designing of systems in UML language (E)	5

### Automatic control and robotics, 2nd degree studies – MSc

Descriptions of modules (ECTS cards) available at:

[http://fee.put.poznan.pl/images/stories/ects/2018\\_19/EN/ects\\_air\\_stac\\_2st\\_en.pdf](http://fee.put.poznan.pl/images/stories/ects/2018_19/EN/ects_air_stac_2st_en.pdf)

No.	Name of Module	ECTS
<b>Semester 1 (summer semester)</b>		

1	Physical education	0
2	Optimization theory and methods (E)	4
3	Modelling, identification and computer (E)	6
4	Control theory (E)	5
5	Machine intelligence methods in control engineering (E)	5
6	Computer control systems	4
<b>Semester 2 (winter semester)</b>		
1	Microprocessor-based control and measurement systems (E)	6
2	Robot sensors and computer vision (E)	6
3	Problem laboratory	5
4	Intermediate work	5
<b>Semester 3 (summer semester)</b>		
1	Computer aided design in industrial automation (E)	5
2	Adaptive control (E)	5
3	Advanced methods of robot programming and task planning (E)	5
4	Autonomous robots (E)	5
5	Knowledge engineering (E)	5
6	Fieldbuses and supervisory control (SCADA) systems (E)	5

### Field of study: Information engineering

Contact person:

- Krzysztof Bucholc – Institute of Control, Robotics and Information Engineering  
[krzysztof.bucholc@put.poznan.pl](mailto:krzysztof.bucholc@put.poznan.pl)

Information engineering, 1st degree studies – BSc

**Descriptions of modules (ECTS cards) available at:**

[http://www.fee.put.poznan.pl/images/stories/ects/2018\\_19/EN/ECTS\\_18\\_19\\_INF\\_ST1\\_ENG.pdf](http://www.fee.put.poznan.pl/images/stories/ects/2018_19/EN/ECTS_18_19_INF_ST1_ENG.pdf)

No.	Name of Module	ECTS
<b>Semester 1 (winter semester)</b>		
1	Physical education	0
2	Mathematical analysis and linear algebra (E)	4
3	Programmable circuits (E)	6
4	Fundamentals of electronics and telecommunications	4
5	Introduction to programming (E)	6
6	Algorithms and complexity (E)	6
<b>Semester 2 (summer semester)</b>		
1	Physical education	0
2	Fundamentals of electronics and the telecommunications	3
3	Discrete mathematics (E)	5
4	Physics (E)	5
5	Computer architecture (E)	6
6	Languages and paradigms of programming (E)	6
<b>Semester 3 (winter semester)</b>		
1	Probabilistic methods and statistics (E)	5
2	Basics of microprocessor engineering	4
3	Operating systems (E)	4
4	Computer networks (E)	6
5	Formal languages and compilers	4
<b>Semester 4 (summer semester)</b>		

1	Fundamentals of microprocessor engineering (E)	3
2	Fundamentals of automation and robotics (E)	4
3	Languages and paradigms of programming	4
4	Operating systems (E)	3
5	Computer networks (E)	6
6	Social and professional aspects of computer science	1
7	Databases	5
<b>Semester 5 (winter semester)</b>		
1	Databases (E)	4
2	Programming platforms	4
3	Embedded systems	3
4	Foundations of data security (E)	6
5	Computer graphics and man-machine communication (E)	6
6	Software engineering	3
<b>Semester 6 (summer semester)</b>		
1	Software engineering (E)	4
2	Fundamentals of data communications	3
3	Artificial intelligence (E)	4
4	Selected internet technologies (E)	5
5	Exploitation of computer networks	3
6	IP telephony	3
7	Collective project (elective)	5
8	Selected internet technologies (E)	5
9	Administration in selected information systems	3
10	Telecommunication mobile systems	3
11	Collective project (elective)	5
<b>Semester 7 (winter semester)</b>		
1	Security management in information systems (E)	5
2	Data storage systems	3
3	Information theory and coding	3
4	Data security	3
5	Parallel and distributed systems	4
6	Agent systems (E)	5
7	Data Warehouses	3
8	Recommender systems	3
9	Multiparadigm programming	3
10	Applications of information technologies	4

### Information engineering, 2nd degree – MSc

**Descriptions of modules (ECTS cards) available at:**  
[http://www.fee.put.poznan.pl/images/stories/ects/2018\\_19/EN/ECTS\\_18\\_19\\_INF\\_ST2\\_ENG.pdf](http://www.fee.put.poznan.pl/images/stories/ects/2018_19/EN/ECTS_18_19_INF_ST2_ENG.pdf)

No.	Name of Module	ECTS
<b>Semester 1 (summer semester)</b>		
1	Physical education	0
2	Legal issues of IT systems	3
3	Foundations of management	2
4	Selected topics in mathematics	3
5	Modelling and analysis of information systems (E)	6
6	Distributed programming (E)	6
7	Cryptography (E)	5
<b>Semester 2 (winter semester)</b>		
1	Microprocessor technology	4

2	Computer science applications (E)	5
3	Data integration and data mining (E)	5
4	Information security in Internet (E)	5
5	Software project management	3
<b>Semester 3 (summer semester)</b>		
1	Cryptanalysis	3
2	Security aspects in e-business systems (E)	5
3	High availability systems (E)	5
4	Biometrics	5
5	Contemporary internet technologies (E)	5
6	Knowledge engineering (E)	5
7	Workflow management	3
8	Representation of semantics in WEB	5

### Field of study: Mathematics in technology

Contact person:

- Alina Gleska – Institute of Mathematics  
[alina.gleska@put.poznan.pl](mailto:alina.gleska@put.poznan.pl)

### Mathematics in technology, 1st degree studies – BSc

**Descriptions of modules (ECTS cards) available at:**

[http://www.fee.put.poznan.pl/images/stories/ects/2018\\_19/EN/ECTS\\_18\\_19\\_MwT\\_ST1\\_ang.pdf](http://www.fee.put.poznan.pl/images/stories/ects/2018_19/EN/ECTS_18_19_MwT_ST1_ang.pdf)

No.	Name of Module	ECTS
<b>Semester 1 (winter semester)</b>		
1	Mathematical analysis I (E)	8
2	Linear algebra with analytic geometry (E)	5
3	Descriptive statistics	2
4	Technologies of information (ECDL)	3
5	Introduction to programming	4
6	Methods of programming	4
7	Physical education	0
<b>Semester 2 (summer semester)</b>		
1	Mathematical analysis II (E)	8
2	Physics (E)	4
3	Linear algebra with analytic geometry (E)	5
4	Discrete mathematics	3
5	Technologies of information (ECDL)	3
6	Algorithm and data structures	4
7	Physical education	0
<b>Semester 3 (winter semester)</b>		
1	Physics	2
2	Ordinary differential equations	4
3	Fundamentals of electricity (E)	4
4	Numerical linear algebra	4
5	Materials engineering (E)	5
6	Mechanics	4

7	Basics of digital prototyping technical objects	4
8	Mathematical economics (E)	3
<b>Semester 4 (summer semester)</b>		
1	Abstract algebra (E)	4
2	Theory of probability	3
3	Difference equations (E)	2
4	Linear and quadratic programming	3
5	Fundamentals of electric power engineering (E)	5
6	Fundamentals of metrology	5
7	High voltage engineering fundamentals	4
8	Fundamentals of electronics	4
<b>Semester 5 (winter semester)</b>		
1	Functional analysis / Elements of general topology	4
2	Statistics for engineers	4
3	Symbolic computation	1
4	Numerical methods (E)	6
5	Object-oriented programming	3
6	Fundamentals of computer measuring systems (E)	5
7	Industrial automatics (E)	5
8	Electromechanical energy conversion	2
<b>Semester 6 (summer semester)</b>		
1	Mathematical statistics (E)	3
2	Electromechanical energy conversion	2
3	Optimization methods	4
4	Finite difference method (FDM)	4
5	Image processing and analysis (E)	5
6	Computer engineering analysis (E)	5
7	Number theory and cryptography / Introduction to control theory	2