

## PROGRAMME OF STUDIES

## 1. Description

<p><i>Number of semesters:</i></p> <p>3</p>	<p><i>Number ECTS points necessary to obtain qualifications:</i></p> <p>90</p>
<p><i>Prerequisites (particularly for second-level studies):</i></p> <p>RECRUITMENT</p> <p>requirements are stated by the Senate of Wrocław University of Science and Technology and the Faculty of Electronics Council every year</p>	<p><i>Upon completion of studies graduate obtains</i></p> <p><i>professional degree of: MAGISTER INŻYNIER</i></p> <p><i>2nd* level qualifications</i></p>
<p><i>Possibility of continuing studies:</i></p> <p>3rd level (doctoral) study in the field of study : Control Engineering and Robotics and related fields of study</p>	<p><i>Graduate profile, employability:</i></p> <p>The graduates of the second level study, specialisation Embedded Robotics, gain understanding of principles, methods, and computer engineering and robotics algorithms, allowing them to creatively use this knowledge at work. The graduates possessing skills and knowledge of computer engineering, robotics and computer science are mostly entitled to solve problems in the field of analysis, design and construction of control engineering and robotics systems. The specialized knowledge of the graduates of Embedded Robotics includes control methods, motion planning methods and also robot activity planning. Graduates' specialized skills refer to robot and electronic robotic systems design and also robot controllers, drive systems, environment perception systems, robot-man interfaces, robot activity planning systems as well as different types of electronic circuits using, in an intelligent way, the knowledge of environment. The graduates of the specialisation of Embedded Robotics are prepared for creative engineering activities in the field of industrial and service robotics and also for research and scientific work including third level study.</p>

*Indicate connection with University's mission and its development strategy:*

The program is consistent with the Electronic Faculty Development Plan established by the Faculty Council on 22<sup>nd</sup> February 2012.

The Faculty Development Plan is fully correlated with the university's mission and its development strategy adopted by the Senate of Wrocław University of Technology in 2011. The relations are apparent for example in par. 3 of the Development Plan "Faculty Mission and Perspectives" and in par. 4 "Sector Models", where the Educational Model and Study Model are described, together with the Model for External Cooperation that considers job opportunities and forming of the network of influence.

## **2. Fields of science and scientific disciplines to which educational effects apply:**

field of technical sciences

field of study : control engineering and robotics

## **3. Concise analysis of consistency between assumed educational effects and labour market needs**

The labour market for graduates of first level study of Computer Control and Robotics comprises the whole country, Lower Silesia Region and Wrocław. The programme of study provided through this specialization meets all labour market needs and requirements concerning computer control engineers, robotics engineer, and specialized computer scientists. The companies which will benefit from graduates' competences are mostly integration, service and production companies. In this field there has always been and will be the demand for specialists – engineers possessing abilities to integrate computer control devices and systems, create PLC, PAC controllers software, SCADA systems and robotic systems, run and start up control systems, local and remote service, supervise working systems of production control. The ability to design control systems in a broader sense, telemetric and measuring systems will be a great advantage in the labour market. The number of companies which deal with buildings and intelligent houses automation is significantly growing, as a consequence these companies will require the constant supervision and maintenance by computer control engineers. In Lower Silesia region there are many small and medium enterprises and production firms, where engineering skills have been and will be appreciated. The fact that Computer Control and Robotics have been put on the Ministry of Higher Education list of ordered specialisations proves that there is the demand for the graduates in the labour market.

<sup>1</sup>BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students

<sup>2</sup>Traditional – enter T, remote – enter Z

<sup>3</sup>Exam – enter E, crediting – enter Z. For the group of courses – after the letter E or Z - enter in brackets the final course form (lec, cl, lab, pr, sem)

<sup>4</sup>University-wide course /group of courses – enter O

<sup>5</sup>Practical course / group of courses – enter P. For the group of courses – in brackets enter the number of ECTS points assigned to practical courses

<sup>6</sup> KO – general education, PD – basic sciences, K – field-of-studies, S – specialization

<sup>7</sup> Optional – enter W, obligatory – enter Ob

## 4. List of education modules:

### 4.1. List of obligatory modules:

#### 4.1.1 List of general education modules

##### 4.1.1.1 Liberal-managerial subjects module (min. 1 ECTS points):

No.	Course/group of courses code	Name of course/group of courses (denote group of courses with symbol <b>GK</b> )	Weekly number of hours					Field-of-study educational effect symbol	Number of hours		Number of ECTS points		Form <sup>2</sup> of course/group of courses	Way <sup>3</sup> of crediting	Course/group of courses			
			lec	cl	lab	pr	sem		ZZU	CNPS	total	BK classes <sup>1</sup>			university-wide <sup>4</sup>	practical <sup>5</sup>	kind <sup>6</sup>	type <sup>7</sup>
1	FLEA00002	Social Communication					1	K2AIR_K01	15	30	2	1	T	Z	O		KO	Ob
2	ZMZO00387W	Entrepreneurship ( <b>GK</b> )	1					K2AIR_W03	15	30	3	1	T	Z(w)	O		KO	Ob
3	ZMZO00387S	Entrepreneurship ( <b>GK</b> )					1	K2AIR_K02	15	30		1	T	Z(w)	O		KO	Ob
Total			<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	–	<b>45</b>	<b>90</b>	<b>5</b>	<b>3</b>	–	–	–	<b>P(0)</b>	–	–

#### Altogether for general education modules

Total number of hours					Total number of ZZU hours	Total number of CNPS hours	Total number of ECTS points	Number of ECTS points for BK classes <sup>1</sup>
lec	cl	lab	pr	sem				
<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>45</b>	<b>90</b>	<b>5</b>	<b>3</b>

<sup>1</sup>BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students

<sup>2</sup>Traditional – enter T, remote – enter Z

<sup>3</sup>Exam – enter E, crediting – enter Z. For the group of courses – after the letter E or Z - enter in brackets the final course form (lec, cl, lab, pr, sem)

<sup>4</sup>University-wide course /group of courses – enter O

<sup>5</sup>Practical course / group of courses – enter P. For the group of courses – in brackets enter the number of ECTS points assigned to practical courses

<sup>6</sup> KO – general education, PD – basic sciences, K – field-of-studies, S – specialization

<sup>7</sup> Optional – enter W, obligatory – enter Ob

## 4.1.2 List of basic sciences modules

### 4.1.2.1 Mathematics module

No.	Course/group of courses code	Name of course/group of courses (denote group of courses with symbol <b>GK</b> )	Weekly number of hours					Field-of-study educational effect symbol	Number of hours		Number of ECTS points		Form <sup>2</sup> of course/group of courses	Way <sup>3</sup> of crediting	Course/group of courses			
			lec	cl	lab	pr	sem		ZZU	CNPS	total	BK classes <sup>1</sup>			university-wide <sup>4</sup>	practical <sup>5</sup>	kind <sup>6</sup>	type <sup>7</sup>
1	AREA00006W	Applied Logic ( <b>GK</b> )	1					K2AIR_W01	15	30	3	0,5	T	Z(lec)			PD	Ob
2	AREA00006C	Applied Logic ( <b>GK</b> )		1				K2AIR_W01	15	30		1	T	Z			PD	Ob
<b>Total</b>			<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	–	<b>30</b>	<b>60</b>	<b>3</b>	<b>1,5</b>	–	–	–	<b>P (0)</b>	–	–

### 4.1.2.2 Physics module

No.	Course/group of courses code	Name of course/group of courses (denote group of courses with symbol <b>GK</b> )	Weekly number of hours					Field-of-study educational effect symbol	Number of hours		Number of ECTS points		Form <sup>2</sup> of course/group of courses	Way <sup>3</sup> of crediting	Course/group of courses			
			lec	cl	lab	pr	sem		ZZU	CNPS	total	BK classes <sup>1</sup>			university-wide <sup>4</sup>	practical <sup>5</sup>	kind <sup>6</sup>	type <sup>7</sup>
1	FZP0049001	Physics	1					K2AIR_W02	15	30	1	0,5	T	Z	O		PD	Ob
<b>Total</b>			<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	–	<b>15</b>	<b>30</b>	<b>1</b>	<b>0,5</b>	–	–	–	<b>P (0)</b>	–	–

### Altogether for basic sciences modules:

Total number of hours	Total number of ZZU hours	Total number of CNPS hours	Total number of ECTS points	Number of ECTS points for BK classes <sup>1</sup>

<sup>1</sup>BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students

<sup>2</sup>Traditional – enter T, remote – enter Z

<sup>3</sup>Exam – enter E, crediting – enter Z. For the group of courses – after the letter E or Z - enter in brackets the final course form (lec, cl, lab, pr, sem)

<sup>4</sup>University-wide course /group of courses – enter O

<sup>5</sup>Practical course / group of courses – enter P. For the group of courses – in brackets enter the number of ECTS points assigned to practical courses

<sup>6</sup> KO – general education, PD – basic sciences, K – field-of-studies, S – specialization

<sup>7</sup> Optional – enter W, obligatory – enter Ob

lec	cl	lab	pr	sem				
2	1	0	0	0	45	90	4	2

## 4.1.3 List of main-field-of-study modules

### 4.1.3.1 Obligatory main-field-of-study modules

No.	Course/ group of courses code	Name of course/group of courses (denote group of courses with symbol <b>GK</b> )	Weekly number of hours					Field-of-study educational effect symbol	Number of hours		Number of ECTS points		Form <sup>2</sup> of course/group of courses	Way <sup>3</sup> of crediting	Course/group of courses			
			lec	cl	lab	pr	sem		ZZU	CNPS	total	BK classes <sup>1</sup>			university-wide <sup>4</sup>	practical <sup>5</sup>	kind <sup>6</sup>	type <sup>7</sup>
1	AREA00005W	Control Theory ( <b>GK</b> )	2					K2AIR_W04	30	60	6	2	T	E(lec)			K	Ob
2	AREA00005C	Control Theory ( <b>GK</b> )		1				K2AIR_U04	15	60		1	T	Z		P (2)	K	Ob
3	AREA00005L	Control Theory ( <b>GK</b> )			2			K2AIR_U05	30	60		2	T	Z		P (3)	K	Ob
4	AREA15004W	Modeling and Identification ( <b>GK</b> )	2					K2AIR_W05	30	90	5	1	T	Z(lec)			K	Ob
5	AREA15004L	Modeling and Identification ( <b>GK</b> )			2			K2AIR_U06	30	90		2	T	Z		P (2)	K	Ob
6	AREA00118W	Theory and Methods of Optimization ( <b>GK</b> )	1					K2AIR_W06	15	45	3	1	T	Z(lec)			K	Ob
7	AREA00118C	Theory and Methods of Optimization ( <b>GK</b> )		1				K2AIR_U07	15	30		1	T	Z		P (1)	K	Ob
8	AREA17002W	Mathematical Methods of Automation and Robotics ( <b>GK</b> )	2					K2AIR_W07	30	80	5	2	T	E(lec)			K	Ob
9	AREA17002C	Mathematical Methods of Automation and Robotics ( <b>GK</b> )		2				K2AIR_U08	30	100		2	T	Z		P (3)	K	Ob
10	AREA00116W	Embedded Systems ( <b>GK</b> )	2					K2AIR_W09	30	90	5	2	T	E(lec)			K	Ob
11	AREA00116L	Embedded Systems ( <b>GK</b> )			2			K2AIR_U09	30	90		2	T	Z		P(2)	K	Ob
<b>Total</b>			<b>9</b>	<b>4</b>	<b>6</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>285</b>	<b>795</b>	<b>24</b>	<b>18</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>P (13)</b>	<b>-</b>	<b>-</b>

### Altogether (for main-field-of-study modules):

Total number of hours					Total number of ZZU hours	Total number of CNPS hours	Total number of ECTS points	Number of ECTS points for BK classes <sup>1</sup>
lec	cl	lab	pr	sem				

<sup>1</sup>BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students

<sup>2</sup>Traditional – enter T, remote – enter Z

<sup>3</sup>Exam – enter E, crediting – enter Z. For the group of courses – after the letter E or Z - enter in brackets the final course form (lec, cl, lab, pr, sem)

<sup>4</sup>University-wide course /group of courses – enter O

<sup>5</sup>Practical course / group of courses – enter P. For the group of courses – in brackets enter the number of ECTS points assigned to practical courses

<sup>6</sup> KO – general education, PD – basic sciences, K – field-of-studies, S – specialization

<sup>7</sup> Optional – enter W, obligatory – enter Ob

9	4	6	0	0	285	795	24	20
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## 4.2 List of optional modules

### 4.2.1 List of general education modules

#### 4.2.1.1 Foreign languages module (min. 3 ECTS points):

No..	Course/group of courses code	Name of course/group of courses (denote group of courses with symbol <b>GK</b> )	Weekly number of hours					Field-of-study educational effect symbol	Number of hours		Number of ECTS points		Form <sup>2</sup> of course/group of courses	Way <sup>3</sup> of crediting	Course/group of courses			
			lec	cl	lab	pr	sem		ZZU	CNPS	total	BK classes <sup>1</sup>			university-wide <sup>4</sup>	practical <sup>5</sup>	kind <sup>6</sup>	type <sup>7</sup>
1		Foreign language 1 - B2+ level		1				K2AIR_U01	15	30	1	1	T	Z	O	P (1)	KO	W
2		Foreign language 2 – A1 level		3				K2AIR_U02	45	60	2	2	T	Z	O	P (2)	KO	W
<b>Razem</b>			<b>0</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>0</b>	–	<b>60</b>	<b>90</b>	<b>3</b>	<b>3</b>	–	–	–	<b>P (3)</b>	–	–

#### Altogether for general education modules:

Total number of hours					Total number of ZZU hours	Total number of CNPS hours	Total number of ECTS points	Number of ECTS points for BK classes <sup>1</sup>
lec	cl	lab	pr	sem				
<b>0</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>60</b>	<b>90</b>	<b>3</b>	<b>3</b>

<sup>1</sup>BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students

<sup>2</sup>Traditional – enter T, remote – enter Z

<sup>3</sup>Exam – enter E, crediting – enter Z. For the group of courses – after the letter E or Z - enter in brackets the final course form (lec, cl, lab, pr, sem)

<sup>4</sup>University-wide course /group of courses – enter O

<sup>5</sup>Practical course / group of courses – enter P. For the group of courses – in brackets enter the number of ECTS points assigned to practical courses

<sup>6</sup> KO – general education, PD – basic sciences, K – field-of-studies, S – specialization

<sup>7</sup> Optional – enter W, obligatory – enter Ob

## 4.2.2 List of specialization modules

### 4.2.2.1 Specialization subjects – Embedded Robotics (ARE) modules (min. 30 ECTS points):

No.	Course/group of courses code	Name of course/group of courses (denote group of courses with symbol <b>GK</b> )	Weekly number of hours					Field-of-study educational effect symbol	Number of hours		Number of ECTS points		Form <sup>2</sup> of course/group of courses	Way <sup>3</sup> of crediting	Course/group of courses			
			lec	cl	lab	pr	sem		ZZU	CNPS	total	BK classes <sup>1</sup>			university-wide <sup>4</sup>	practical <sup>5</sup>	kind <sup>6</sup>	type <sup>7</sup>
1	AREA00119W	Mobile Robotics ( <b>GK</b> )	1					S2AER_W04	15	30	3	0,5	T	Z(lec)			S	Ob
2	AREA00119L	Mobile Robotics ( <b>GK</b> )			2			S2AER_U04	30	90		1,5	T	Z		P(2)	S	Ob
3	AREA00117W	Sensors and Actuators ( <b>GK</b> )	1					S2AER_W01	15	30	3	0,5	T	Z(lec)			S	Ob
4	AREA00117L	Sensors and Actuators ( <b>GK</b> )			1			S2AER_U01	15	60		1	T	Z		P(2)	S	Ob
5	AREA00103W	Robotic Programming Environments ( <b>GK</b> )	1					S2AER_W02	15	30	4	0,5	T	Z(lec)			S	Ob
6	AREA00103L	Robotic Programming Environments ( <b>GK</b> )			2			S2AER_U02	30	90		1,5	T	Z		P(2)	S	Ob
7	AREA00104W	Control Theory for embedded Systems ( <b>GK</b> )	2					S2AER_W03	30	60	5	1	T	E(lec)			S	Ob
8	AREA00104C	Control Theory for embedded Systems ( <b>GK</b> )		1				S2AER_U03	15	45		1	T	Z		P(1,5)	S	Ob
9	AREA00104L	Control Theory for embedded Systems ( <b>GK</b> )			1			S2AER_U08	15	45		1	T	Z		P(1,5)	S	Ob
10	AREA17105W	Event-based Control ( <b>GK</b> )	2					S2AER_W05	30	60	5	1	T	Z(lec)			S	Ob
11	AREA17105P	Event-based Control ( <b>GK</b> )				2		S2AER_U05	30	60		2	T	Z		P(2)	S	Ob
12	AREA00106W	Artificial Intelligence and Machine Learning ( <b>GK</b> )	2					S2AER_W06	30	60	5	1	T	c)			S	Ob
13	AREA00106P	Artificial Intelligence and Machine Learning ( <b>GK</b> )				2		S2AER_U14	30	90		1	T	Z		P(3)	S	Ob
14	AREA17107P	Intermediate Project				2		S2AER_U09	30	60	3	1	T	Z		P(2)	S	Ob
15	AREA00108S	Specialization Seminar					2	S2AER_U10	30	60	2	1	T	Z		P(2)	S	Ob
16	AREA17113W	Task and Motion Planning ( <b>GK</b> )	2					S2AER_W07	30	60	3	1	T	Z(lec)			S	Ob
17	AREA17113S	Task and Motion Planning ( <b>GK</b> )					1	S2AER_U06	15	30		0,5	T	Z		P(1)	S	Ob
18	AREA00120W	Social Robots ( <b>GK</b> )	1					S2AER_W08	15	30	3	0,5	T	Z(lec)			S	Ob
19	AREA00120L	Social Robots ( <b>GK</b> )			1			S2AER_U07	15	30		1,5	T	Z		P(2)	S	Ob
20	AREA00109S	Diploma Seminar					2	S2AER_U13	30	90	3	1,5	T	Z		P(3)	S	Ob
<b>Total</b>			<b>12</b>	<b>1</b>	<b>7</b>	<b>6</b>	<b>5</b>		<b>465</b>	<b>1110</b>	<b>39</b>	<b>20,5</b>	–	–	–	<b>P(24)</b>	–	–

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<sup>3</sup>Exam – enter E, crediting – enter Z. For the group of courses – after the letter E or Z - enter in brackets the final course form (lec, cl, lab, pr, sem)

<sup>4</sup>University-wide course /group of courses – enter O

<sup>5</sup>Practical course / group of courses – enter P. For the group of courses – in brackets enter the number of ECTS points assigned to practical courses

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<sup>7</sup> Optional – enter W, obligatory – enter Ob



**Altogether for specialization modules:**

Total number of hours					Total number of ZZU hours	Total number of CNPS hours	Total number of ECTS points	Number of ECTS points for BK classes <sup>1</sup>
lec	cl	lab	pr	sem				
12	1	7	6	5	465	1110	39	20,5

**4.3 Diploma dissertation module**

Type of diploma dissertation	magister inżynier	
Number of diploma dissertation semesters	Number of ECTS points	Code
1	15 P(10)	AREA15110
<b>Character of diploma dissertation</b>		
Literature survey, project, computer program, etc.		
Number of BK <sup>1</sup> ECTS points	7	

**5. Ways of verifying assumed educational effects**

<sup>1</sup>BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students

<sup>2</sup>Traditional – enter T, remote – enter Z

<sup>3</sup>Exam – enter E, crediting – enter Z. For the group of courses – after the letter E or Z - enter in brackets the final course form (lec, cl, lab, pr, sem)

<sup>4</sup>University-wide course /group of courses – enter O

<sup>5</sup>Practical course / group of courses – enter P. For the group of courses – in brackets enter the number of ECTS points assigned to practical courses

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<sup>7</sup> Optional – enter W, obligatory – enter Ob

Type of classes	Ways of verifying assumed educational effects
Lecture	examination or e-examination, written work based on lectures and recommended literature, an oral answer or test, an essay on the chosen problem discussed during lectures, which is the condition to take the final test, discussion during lectures, final test, the grade based on the number of correct answers, examination, written test, written and oral examination, participation in lectures, passing written tests, quiz, test ( multiple choice / open questions), grade in the written examination, final test including all the topics, e-test.
Classes	Oral answers, quizzes, tests and/or e-tests, discussions, exercises, assessment of oral answers, assessment of given exercises, final test, observation, written reports, tests results.
Laboratory classes	the ability of equipment operation and combining it together, protocols, innovative solutions and presentation of the results, assessment of written reports of particular laboratory tasks completion, assessment of preparing for lab classes and tasks completion correctness, observation, inspection of a code of completed tasks with the participation of a teacher, presentation of an application, oral answers, written reports, control of task completion, assessment of the way of task completion ( considering the quality of generated code and the range of implemented functions, partially during classes and partially after classes), assessment of acquires skills ( answers to questions connected with the tasks), participation in lab classes, assessment of reports, quiz, assessment of the level of task completion in a laboratory, e-tests, observation of preparing for classes and their completion, analysis of completed programs operation, assessment of performed tasks and report, assessment of the program code, examination, report, discussion
Project	a project completion report and a project presentation, project tasks results, a completed system assessment: its design, implementation, research, a prepared report assessment, the assessment of a project presented during a seminar class, assessment of the project completion correctness, class attendance, preparing for classes, progress at work, consultation, written reports of a project, assessment of completion and documentation of applications using databases management system, a completed (written) project, assessment of the project progress, final assessment of a project and documentation, assessment of the project work progress and assessment of the project final documentation, assessment of the team leader, assessment of the presentation of the project stages and also skills for teamwork: following the schedule, participation in team activities, the ability to apply rules of project management, the quality assessment of a completed project and project documentation, assessment of a project preparation, a project defence, participation in problem discussions
Seminar class	giving a seminar on a chosen topic in the field of databases management systems, seminar class participation, assessing the quality of seminar presentations, presentation, discussion, assessment of presentation preparation and delivery, participation in problem discussions.
Diploma work	completed diploma work

**6. Total number of ECTS points, which student has to obtain from classes requiring direct academic teacher-student contact** (enter total of ECTS points for courses/groups of courses denoted with code BK<sup>1</sup>)

<sup>1</sup>BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students

<sup>2</sup>Traditional – enter T, remote – enter Z

<sup>3</sup>Exam – enter E, crediting – enter Z. For the group of courses – after the letter E or Z - enter in brackets the final course form (lec, cl, lab, pr, sem)

<sup>4</sup>University-wide course /group of courses – enter O

<sup>5</sup>Practical course / group of courses – enter P. For the group of courses – in brackets enter the number of ECTS points assigned to practical courses

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<sup>7</sup> Optional – enter W, obligatory – enter Ob

53,5 ECTS

**7. Total number of ECTS points, which student has to obtain from basic sciences classes**

Number of ECTS points for obligatory subjects	4
Number of ECTS points for optional subjects	0
Total number of ECTS points	4

**8. Total number of ECTS points, which student has to obtain from practical classes, including laboratory classes** (enter total number of ECTS points for courses/group of courses denoted with code P)

Number of ECTS points for obligatory subjects	13
Number of ECTS points for optional subjects	37
Total number of ECTS points	50

**9. Minimum number of ECTS points, which student has to obtain doing education modules offered as part of university-wide classes or other main field of study** (enter number of ECTS points for courses/groups of courses denoted with code OG)

6 ECTS points

**10. Total number of ECTS points, which student may obtain doing optional modules (min. 30% of total number of ECTS points)**

37 ECTS points

**11. Range of diploma dissertation: Attachment no. 1**

**12. Requirements concerning deadlines for crediting courses/groups of courses for all courses in particular modules**

<sup>1</sup>BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students

<sup>2</sup>Traditional – enter T, remote – enter Z

<sup>3</sup>Exam – enter E, crediting – enter Z. For the group of courses – after the letter E or Z - enter in brackets the final course form (lec, cl, lab, pr, sem)

<sup>4</sup>University-wide course /group of courses – enter O

<sup>5</sup>Practical course / group of courses – enter P. For the group of courses – in brackets enter the number of ECTS points assigned to practical courses

<sup>6</sup> KO – general education, PD – basic sciences, K – field-of-studies, S – specialization

<sup>7</sup> Optional – enter W, obligatory – enter Ob

<i>No.</i>	<i>Course code</i>	<i>Name of course</i>	<i>Crediting by deadline of... (number of semester)</i>
<i>1</i>		<i>Foreign language 2 – A1 level</i>	<i>2</i>
<i>2</i>		<i>Foreign language 1 - B2+ level</i>	<i>2</i>

<sup>1</sup>BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students

<sup>2</sup>Traditional – enter T, remote – enter Z

<sup>3</sup>Exam – enter E, crediting – enter Z. For the group of courses – after the letter E or Z - enter in brackets the final course form (lec, cl, lab, pr, sem)

<sup>4</sup>University-wide course /group of courses – enter O

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<sup>6</sup> KO – general education, PD – basic sciences, K – field-of-studies, S – specialization

<sup>7</sup> Optional – enter W, obligatory – enter Ob

Approved by faculty student government legislative body:

.....  
Date, name and surname, signature of student representative

.....  
Date, Dean's signature

<sup>1</sup>BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students

<sup>2</sup>Traditional – enter T, remote – enter Z

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