

## 1. General characteristics of the studies

<b>Name of the field of study (major)</b>	<b>Physics</b>
Level of education (first-cycle studies / second-cycle studies / long-cycle master's degree studies)	second-cycle studies
Education profile (general academic/practical)	general academic
Form of studies full-time/part-time	full-time
Indication of the fields of science and scientific disciplines or fields of art and artistic disciplines to which the learning outcomes apply (including the leading discipline) and determining the percentage of the number of ECTS points for the respective disciplines in the number of ECTS points necessary to obtain qualifications corresponding to the level of education	field of exact and natural sciences discipline: Physics-related sciences, 100% ECTS
Indication of the professional title awarded to graduates	magister
Information about the scientific category held by the basic organizational unit of the University	Faculty of Physics and Astronomy Institute of Astronomy – category A Institute of Physics – category A

## 2. Indicating the connection between the field of study and the mission of the University and its development strategy

The education of students in the field of Physics is directly related to the mission and development strategy of the University and the faculty, and in particular it refers to the activities listed below.

Entry in the Statutes of the University of Zielona Góra:

§ 4

1. The basic directions of the University's activities are: conducting scientific research in the field of humanities, social sciences, art, economics, technology, mathematics and natural sciences; educating students and doctoral students and popularising science, art and culture.

2. Education, upbringing and popularising of science, art and culture are particularly reflected in: 1) strengthening respect for truth and conscientious work as well as fostering an atmosphere of kindness in the academic environment, 2) training staff capable of independent scientific work and teaching, as well as artistic and economic activity, 3) supplementing the general and specialist knowledge of people with professional titles and performing practical professions, 4) developing and popularising the national culture and technical progress, 5) shaping the personality of students in the spirit of respect for human rights, democracy and patriotism characterized by responsibility for society and the state, 6) caring for the health and Physics-related development of students, 7) cooperating with other institutions in

popularising knowledge in the society and in other projects for the benefit of the regional community.

3. The University remains faithful to academic traditions and customs, relies on them in situations not regulated by law, and fulfils its goals and tasks with respect for human dignity.

4. The University is guided in its activities by the principles consistent with the Charter of European Universities.

§5

1. The University supports the individualisation of student education.

The development strategy of the Faculty of Physics and Astronomy:

1. Undertaking activities to obtain the A+ scientific category by the Faculty of Physics and Astronomy.

2. Creating conditions conducive to obtaining further academic degrees.

3. Supporting scientific research conducted at the Faculty. Assisting in applying for and implementing scientific grants.

4. Expanding the educational offer. Conducting classes in English. Improving the quality of education.

### **3. Description of competencies expected from the candidate applying for admission to first-cycle studies, second-cycle studies or long-cycle master's degree studies**

The candidate demonstrates general knowledge of Physics based on thorough mathematical foundations, shows the ability to understand and precisely describe Physics-related phenomena and use basic measurement equipment and technical diagnostic systems. Using modern IT tools, he or she is able to collect, process and transmit information (both oral and written). He or she knows a foreign language at the B2 level of proficiency, as stipulated in the Common European Framework of Reference for Languages of the Council of Europe.

### **4. Analysis of the compliance of the assumed learning outcomes with the needs of the labour market**

In addition to general knowledge in the field of physical sciences, the graduate of second-cycle studies demonstrates specialist knowledge enabling him or her to define and solve Physics-related problems, both routine and non-standard. He or she knows current directions of development in the field of physical sciences and is able to understand problems related to the areas of knowledge common to Physics and related sciences. He or she is able to consult specialized scientific and technical literature. The graduate of the theoretical specialization has mastered advanced mathematical methods of Physics, including specialized software. The graduate of the computer astroPhysics specialization has expanded general knowledge in the field of astronomy compared to first-cycle studies. The knowledge and skills allow him or her to formulate and solve astronomical problems - both routine and non-standard. The graduate of the teaching Physics specialization, compared to first-cycle studies, demonstrates expanded knowledge and skills in the field of psychology, pedagogy and Physics teaching methodology. The graduate of this specialization is qualified to teach Physics in primary and secondary schools, in accordance with the Regulation of the Minister of Science and Higher Education of July 25, 2019 on the standard of education required for the teaching profession. Physics graduates obtain qualifications offering them a variety of career choices. The specificity of studies in this field means that they are able to adapt to the conditions of today's labour market, functioning both at school, in diagnostic laboratories as well as in state agencies. Solid theoretical foundations also enable graduates to work in scientific and research units. Additionally, as they can create computer application programs, design

databases or operate computer networks, they can find employment, for example, in banking. Graduates of second-cycle studies are offered the opportunity to continue their education at doctoral studies (third-cycle studies).

## 5. Description of methods for verifying and assessing the learning outcomes achieved by the student during the entire educational process

Subjects included in the programme of study for Physics end with an exam, a credit with a grade or a credit without a grade. The procedure, rules for obtaining credits, examinations and appeals against the grade suggested by the teacher in charge of the class are specified in the STUDY REGULATIONS of the University of Zielona Góra.

The general principles of verification of learning outcomes are presented in point 1.4, the detailed verification methods for individual modules are listed in the description of the modules (syllabi).

## 6. The programme of study for the field of study, profile and level of education including:

**1.1 Description of expected learning outcomes** with the assignment of the field of study to the fields of science and scientific disciplines or the fields of art and artistic disciplines to which the learning outcomes for this field apply.

Symbol	Learning outcomes for the course of study Physics. After completing graduate studies in Physics graduate:	Reference of learning outcomes in education in science
<b>KNOWLEDGE</b>		
K2A_W01	Has extended knowledge of the physical sciences, including their historical development, both in terms of methodology, research, and the relevance of physics to the progress of science, learning about the world and of human development.	P7S_WG-O1.1 P7S_WG-O1.2A P7S_WK-O2.1
K2A_W02	Mastered mathematics on the level necessary for quantitative description, understanding and modeling problems with a medium level of complexity. Understands the role of physical theories and accompanying mathematical structures related to the physical world.	P7S_WG-O1.1
K2A_W03	Knows experimental and observational techniques together with their limitations.	P7S_WG-O1.1
K2A_W04	Knows theoretical foundations for the functioning of scientific equipment in the fields of science and scientific disciplines relevant to the physical sciences	P7S_WG-O1.1

K2A_W05	Knows theoretical foundations of computational methods and computer techniques used to solve common problems in the field of physical sciences and understands their limitations.	P7S_WG-O1.1
K2A_W06	Possesses general understanding of current developments and the latest discoveries in the field of physical sciences	P7S_WG-O1.2A
K2A_W07	Knows the rules of health and safety sufficiently to independently work in the profession of physicist.	P7S_WG-O2.2
K2A_W08	Has basic knowledge of legal and ethical issues of scientific and educational activities	P7S_WG-O2.2
K2A_W09	Knows and understands basic concepts and principles of the protection of industrial property and copyright law, and the need for management of intellectual property.	P7S_WG-O2.2
K2A_W10	Knows general principles for the creation and development of forms of individual entrepreneurship, using knowledge from the domain of science and scientific disciplines relevant to the physical sciences	P7S_WG-O2.3
	<b>SKILLS</b>	
K2A_U01	Can independently provide basic theorems and laws of physics together with reasoning leading to them. Can adapt his presentation to the recipient and his level of knowledge.	P7S_UW-O3.1 P7S_UK-O4.1
K2A_U02	Can plan and perform basic experiments or observations concerning physical problems.	P7S_UW-O3.1 P7S_UO-O5.1 P7S_UO-O5.2
K2A_U03	Basing on empirical data can build simple mathematical models appropriate for the considered physical problems.	P7S_UW-O3.1 P7S_UW-O3.3A
K2A_U04	Can critically evaluate the results of experiments, observations and theoretical considerations, including discussion of measurement errors.	P7S_UW-O3.1 P7S_UW-O3.3A P7S_UO-O5.2
K2A_U05	Can use at least one software package dedicated to statistical analysis of the data to analyze experimental data	P7S_UW-O3.1 P7S_UW-O3.3A
K2A_U06	Can use at least one software package dedicated to symbolic computation to analyze simple physical models	P7S_UW-O3.1 P7S_UW-O3.3A
K2A_U07	Can understand the problems of areas of knowledge common to the physical sciences and the sciences related to them such as chemistry or biology.	P7S_UW-O3.1
K2A_U08	Can understand the physical theories that are at the initial stage of development.	P7S_UW-O3.1
K2A_U09	Is able to properly estimate the level of own knowledge and determine the directions of further learning in the process of self-education	P7S_UU-O6
K2A_U10	Can independently acquire knowledge and develop skills using a variety of sources (in Polish and foreign languages),	P7S_UU-O6

	and modern technology	
K2A_U11	Can get in touch with experts in their field, for example understands their lectures for young physicists.	P7S_UK-O4.1 P7S_UK-O4.2 P7S_UO-O5.2
K2A_U12	Can prepare a written work in Polish and foreign language typical for theoretical as well as experimental physics.	P7S_UK-O4.3
K2A_U13	Has the ability to prepare oral presentations, in Polish and foreign language typical for theoretical as well as experimental physics.	P7S_UK-O4.1 P7S_UK-O4.2 P7S_UK-O4.3
K2A_U14	Has language skills in the physical sciences in accordance with the requirements for the level B2 of the Common European Framework of Reference for Languages	P7S_UK-O4.2 P7S_UK-O4.3
<b>SOCIAL COMPETENCE</b>		
K2A_K01	Understands the need for learning throughout all life, can inspire and organize the learning of others.	P7S_KK-O7.1 P7S_KK-O7.2
K2A_K02	Understands the role of popularization of knowledge, both in the active and passive manner	P7S_KO-O8.1 P7S_KO-O8.2
K2A_K03	Is able to work effectively in a group taking different roles according to the situation.	P7S_KK-O7.2 P7S_KR-O9
K2A_K04	Is familiar with the labor market for the graduate in physics	P7S_KO-O8.3
K2A_K05	It is aware of the social consequences of research typical for physics	P7S_KK-O7.1 P7S_KO-O8.1 P7S_KR-O9
K2A_K06	Is able to think and act in an entrepreneurial way	P7S_KO-O8.3

**EFFECT REFERENCE TABLE PRK LEVEL 7 FOR FIELD-SPECIFIC EFFECTS**

Category of characteristics of learning outcomes	Qualification code	Qualifications	Reference to field-specific learning outcomes
<b>KNOWLEDGE (K)</b>	<b>Knowledge: the graduate knows and understands</b>		
	P7S_WG-O1.1	at an in-depth level - selected facts, objects and phenomena as well as methods and theories relating to them explaining the complex relationships between them, constituting advanced general knowledge in the field of scientific or artistic disciplines creating theoretical foundations, structured and theoretically based knowledge covering key issues and selected issues in the field of advanced detailed knowledge appropriate to the programme of study, and in the case of studies with a practical profile - also practical applications of this knowledge in professional activities related to their field of study	K2A_W01 K2A_W02 K2A_W03 K2A_W04 K2A_W05
	P7S_WG-O1.2A	main development trends of scientific or artistic disciplines to which the field of study is assigned – in the case of studies of general academic profile	K2A_W01 K2A_W06
	P7S_WK-O2.1	fundamental dilemmas of modern civilization;	K2A_W01
	P7S_WK-O2.2	economic, legal, ethical and other conditions of various types of professional activity related to the field of study, including the principles of protection of industrial property and copyright	K2A_W07 K2A_W08 K2A_W09
	P7S_WK-O2.3	basic principles of establishing and developing various forms of entrepreneurship	K2A_W10
	<b>Skills: the graduate can</b>		
	<b>SKILLS (S)</b>	P7S_UW-O3.1	use the acquired knowledge to – formulate and solve complex and non-typical problems and perform tasks innovatively in unpredictable conditions by: - proper selection of sources and information derived from them, assessing, critically analysing, synthesizing, creatively interpreting and presenting this information, – selection and use of appropriate methods and tools, including advanced information and communication techniques, – adapting existing or developing new methods and tools

<b>SOCIAL COMPETENCES (C)</b>	P7S_UW-O3.2P	use the acquired knowledge to – formulate and solve problems and perform tasks typical of professional activities related to the field of study - in the case of practical profile studies	
	P7S_UW-O3.3A	formulate and test hypotheses related to simple research problems – in the case of studies of a general academic profile	
	P7S_UW-O3.3P	formulate and test hypotheses related to simple problems of implementation – in the case of practical profile studies	K2A_U03 K2A_U04 K2A_U05 K2A_U06
	P7S_UK-O4.1	communicate on specialized topics with diverse audiences;	K2A_U01 K2A_U11 K2A_U13
	P7S_UK-O4.2	lead a debate;	K2A_U11 K2A_U13 K2A_U14
	P7S_UK-O4.3	use a foreign language at B2+ level of the Common European Framework of Reference for Languages and specialized terminology	K2A_U12 K2A_U13 K2A_U14
	P7S_UO-O5.1	manage the team's work	K2A_U02
	P7S_UO-O5.2	cooperate with others in teamwork and assume a leading role on teams	K2A_U02 K2A_U04 K2A_U11
	P7S_UU-O6	independently plan and implement their own lifelong learning and guide others in this respect	K2A_U09 K2A_U10
	<b>Social competences: the graduate is prepared to</b>		
	P7S_KK-O7.1	critically assess the acquired knowledge and the content provided	K2A_K01 K2A_K05
	P7S_KK-O7.2	recognize the importance of knowledge in solving cognitive and practical problems and ask the opinion of experts in case of difficulties in solving the problem on their own	K2A_K01 K2A_K03
	P7S_KO-O8.1	fulfil social obligations, inspire and organize activities for the social environment;	K2A_K02 K2A_K05
	P7S_KO-O8.2	initiate activities that are in the public interest;	K2A_K02

	P7S_KO-O8.3	think and act in an entrepreneurial way	K2A_K04 K2A_K06
	P7S_KR-O9	perform professional roles responsibly, in consideration of changing social needs, including: <ul style="list-style-type: none"> <li>– developing the achievements of the profession,</li> <li>– maintaining the ethos of the profession</li> <li>– observing and developing the principles of professional ethics and working to ensure compliance with these principles</li> </ul>	K2A_K03 K2A_K05



## 1.2 Indicators regarding the study programme

<b>Indicators regarding the study programme in the assessed field of study, level and profile of education</b>	
The number of ECTS points necessary to obtain qualifications corresponding to the level of education	120
The number of semesters necessary to obtain qualifications corresponding to the level of education	4
The number of ECTS points assigned to teaching activities requiring direct participation of academic teachers and students	61 (51%)
The number of ECTS points assigned to modules of classes related to scientific research in the field/fields of science/art relevant to the assessed field of study, serving the student to acquire in-depth knowledge and skills in conducting scientific research (for a field with a general academic profile)	95 (79%, computer Physics specialisation) 101 (84%, other specialisations) 92 (77%) – teaching Physics specialisation
The number of ECTS points assigned to modules of classes related to practical vocational preparation aimed at acquiring practical skills and social competences by the student (for fields with a practical profile)	not applicable
The number of ECTS points assigned to courses in the field of humanities or social sciences (in the case of fields of study assigned to fields other than humanities or social sciences, respectively)	5
The number of ECTS points assigned to elective subjects/modules	56 (47%)
The number of ECTS points assigned to vocational practice and the number of hours of vocational practice (if the study programme provides for vocational practice)	teaching Physics specialisation: 4, 60h – vocational practice, 4, 60h – other practice
The number of hours of Physics-related education classes - in the case of full-time first-cycle studies and long-cycle master's degree studies	not applicable

<b>Course modules related to scientific research in the field of science or art related to the field of study, helping the student to acquire in-depth knowledge and skills in conducting scientific research</b>			
Name of the class module	Form/forms of classes	Total number of hours	Number of ECTS points
Core subjects common to all specialisations			
Physical Laboratory 2	L	120	12
Elements of Theoretical Physics 1	W,Ć	60	5
Condensed Matter Physics	W,Ć	60	7
Quantum Physics	W,Ć	60	6
Nuclear Physics and High Energy Physics	W,Ć	60	6
Statistical Physics in Applications	W,Ć	60	5
Introduction to Atomic and Molecular Physics	W,Ć	60	7
Ground-Breaking Experiments in Physics	W	30	2
Master's Degree Seminar 1	S	30	4
Master's Degree Seminar 2	S	30	4
Monographic Lecture 1	W	30	4
Monographic Lecture 2	W	30	4
Master's Thesis		30	4
<b>Total:</b>		<b>660</b>	<b>70</b>
Specialisation: Computer Physics			
C++ Language in Scientific Computing	W,L	60	6
Modelling and Simulation of Physical Systems	W,L	60	6
Dynamics of Nonlinear Systems	W	30	3
Introduction to Machine Learning	W,L	60	4
Simulations of Quantum Systems	W,L	60	6
<b>Total:</b>		<b>270</b>	<b>25</b>
Specialisation: Theoretical Physics			
Mathematical Methods of Physics	W,L	60	6
Packages for Symbolic Computing	L	30	3
Computer Simulations	W,L	45	6
Field Theory	W,Ć	60	6
Quantum Physics 2	W,Ć	60	4
Elements of Theoretical Physics 2	W,Ć	60	4
Elementary Particle Physics	W	30	2
<b>Total:</b>		<b>345</b>	<b>31</b>
Specialisation: Computer Astrophysics			
Astrophysics 1	W,Ć	45	6
Astrophysics 2	W,Ć	60	6
Extragalactic Astronomy and Cosmology	W,Ć	30	4
Astrophysics of Compact Objects	W,Ć	45	6
Contemporary Radio Astronomy	W	30	2
High Energy Astrophysics	W	30	2
Radiative Processes in Astrophysics	W,Ć	75	5

		<b>Total:</b>	<b>315</b>	<b>31</b>
<b>Specialisation: Medical Physics</b>				
Dosimetry and Quality Control in Medical Physics	W,L		45	6
Packages for Symbolic Computing	L		30	3
Medical Image Analysis Algorithms	W,L		60	7
Mathematical Methods in BioPhysics and Medical Physics	W,Ć		45	5
Introduction to Bioinformatics	W,L		45	4
Fluid Physics in Biology and Medicine	W,L		60	4
Introduction to Microbiology	W		30	2
		<b>Total:</b>	<b>315</b>	<b>31</b>
<b>Specialisation: Teaching Physics</b>				
Teaching Physics in Secondary Schools	Ć		30	2
Applications of Computer Techniques in Teaching Physics	W,L		60	5
Methodology for Solving Physics-Related Tasks	L		45	4
Physical Experiment in School Practice - Secondary School	L		30	3
Elements of Modern Physics	W		30	3
Physics in Nature	W, Ć		60	5
			<b>255</b>	<b>22</b>
		<b>Total:</b>		
Specialisation: Computer Physics			<b>930</b>	<b>95 (79%)</b>
Specialisation: Theoretical Physics			<b>1005</b>	<b>101 (84%)</b>
Specialisation: Computer Astrophysics			<b>975</b>	<b>101 (84%)</b>
Specialisation: Medical Physics			<b>975</b>	<b>101 (84%)</b>
Specialisation: Teaching Physics			<b>915</b>	<b>92 (77%)</b>

**General academic profile** – includes classes related to scientific activities conducted at the University in the discipline or disciplines to which the field of study is assigned, in an amount greater than 50% of the number of ECTS points and takes into account students' involvement in classes preparing to conduct scientific activities or participation in these activities.

<b>Class modules to elect</b>			
Name of the class module	Form/forms of classes	Total number of	Number of ECTS
<b>Core subjects common to all specialisations</b>			
Humanities Elective	W	15	2
Social Science Elective	W	20	3
Master's Degree Seminar 1	S	30	4
Master's Degree Seminar 2	S	30	4
Monographic Lecture 1	W	30	4

Monographic Lecture 2	W	30	4
Master's Thesis		30	4
<b>Total:</b>		<b>185</b>	<b>25</b>
Specialisation: Computer Physics			
C++ Language in Scientific Computing	W,L	60	6
Modelling and Simulation of Physical Systems	W,L	60	6
Physics of Computer Games	L	30	2
Dynamics of Nonlinear Systems	W	30	3
Web Application Programming	W,L	45	4
Introduction to Machine Learning	W,L	60	4
Simulations of Quantum Systems	W,L	60	6
<b>Total:</b>		<b>345</b>	<b>31</b>
Specialisation: Theoretical Physics			
Mathematical Methods of Physics	W,L	60	6
Packages for Symbolic Computing	L	30	3
Computer Simulations	W,L	45	6
Field Theory	W,Ć	60	6
Quantum Physics 2	W,Ć	60	4
Elements of Theoretical Physics 2	W,Ć	60	4
Elementary Particle Physics	W	30	2
<b>Total:</b>		<b>345</b>	<b>31</b>
Specialisation: Computer Astrophysics			
Astrophysics 1	W,Ć	45	6
Astrophysics 2	W,Ć	60	6
Extragalactic Astronomy and Cosmology	W,Ć	30	4
Astrophysics of Compact Objects	W,Ć	45	6
Contemporary Radio Astronomy	W	30	2
High Energy Astrophysics	W	30	2
Radiative Processes in Astrophysics	W,Ć	75	5
<b>Total:</b>		<b>315</b>	<b>31</b>
Specialisation: Medical Physics			
Dosimetry and Quality Control in Medical Physics	W,L	45	6
Packages for Symbolic Computing	L	30	3
Medical Image Analysis Algorithms	W,L	60	7
Mathematical Methods in BioPhysics and Medical Physics	W,Ć	45	5
Introduction to Bioinformatics	W,L	45	4
Fluid Physics in Biology and Medicine	W,L	60	4
Introduction to Microbiology	W	30	2
<b>Total:</b>		<b>315</b>	<b>31</b>
Specialisation: Teaching Physics			
Teaching Physics in Secondary Schools	Ć	30	2
Application of Computer Techniques in Teaching Physics	W,L	60	5
Methodology for Solving Physics Tasks	L	45	4
Physical Experiment in School Practice - secondary school	L	30	3
Elements of Modern Physics	W	30	3

Physics in Nature	W,Ć	60	5
<b>Total:</b>		<b>255</b>	<b>22</b>
<b>Total:</b>			
Specialisation: Computer Physics		<b>530</b>	<b>56</b>
Specialisation: Theoretical Physics		<b>530</b>	<b>56</b>
Specialisation: Computer Astrophysics		<b>500</b>	<b>56</b>
Specialisation: Medical Physics		<b>500</b>	<b>56</b>
Specialisation: Teaching Physics		<b>440</b>	<b>47</b>

*The study programme allows the student to choose classes that are assigned ECTS points of no less than 30% of the number of ECTS points.*

**1.3 Classes or groups of classes** – with the assignment of learning outcomes to each module and the programme content, forms and methods of education ensuring the achievement of these outcomes, as well as the number of ECTS points (*syllabi*);

Electronic form, SylabUZ.

**1.4 Methods of verifying and assessing the student's achievement of the expected learning outcomes;**

Tests and examinations are administered in an oral or written form.

Learning outcomes are verified through assessments during classes and summative assessments at their end. The ongoing verification of the learning outcomes of the respective subjects is carried out orally or in writing - in the form of quizzes. This applies to learning outcomes related to preparation for classes or to learning outcomes related to previous classes. During laboratory exercises, the method of conducting the experiment, collecting measurement results, processing the obtained results and presenting conclusions is assessed. The plan is also to carry out studies on learning outcomes related to exercises or laboratory exercises.

Explanation on how to check learning outcomes for specific subjects is provided in their description.

The master's thesis and the master's exam constitute the verification of the student's achievement of all expected learning outcomes. The condition for being admitted to the master's examination is passing the courses provided for in the study plan and the preparation and positive assessment of one's master's thesis. The detailed rules regarding diploma theses are described in the Study Regulations of the University of Zielona Góra. The master's examination is conducted in an oral form and covers general issues related to the basics of Physics and the content included in the master's thesis. The scope of the exam is outlined on the notice board of the Institute of Physics. The student should demonstrate the ability to analyse and synthesize the phenomena examined in the master's thesis, as well as possess the ability to draw conclusions and generalize. The final grade is determined by the grade from the master's thesis (with a weight of 1/4), the grade from the master's exam (with a weight of 1/4), as well as the average grade from the course of studies (with a weight of 1/2).

**1.5 Study programme including course modules;**

The study programme is presented in the Annex.

**1.6 Scope, rules and form of vocational practice** (*vocational practice for a field with a practical profile of the first cycle and long-cycle master's studies lasts 6 months - 720 hours, while for the second cycle – it is 3 months - 360 hours. For general academic fields, provided the study programme includes vocational practice*).

#### VOCATIONAL PRACTICE FOR THE TEACHING PHYSICS SPECIALISATION:

Mid-year Vocational Practice 2 includes 30 hours of teaching practice in Physics in secondary school.

Vocational practice includes 60 hours of teaching practice in Physics in secondary school. It is completed in September.

Mid-year Educational Practice 2 includes 30 hours of practice in the field of psychological and pedagogical preparation in secondary school.

#### ORGANISING VOCATIONAL PRACTICE FOR THE TEACHING PHYSICS SPECIALISATION:

1. Second-cycle students are required to complete a 3-week vocational practice (60 hours, 5 ECTS points, after the second semester of studies, credited with a grade in the third semester) as well as a Mid-Year Vocational Practice 2 and a Mid-Year Educational Practice.
2. Vocational practice is included in the study programme and curriculum, therefore it is treated as a full-fledged subject the completion of which results in an entry in the student's credit book. Its nature must be consistent with the field and specialisation of the undertaken studies.
3. The main aim of vocational practice is, above all, to enable the application of theoretical knowledge acquired during classes included in the study plan and to confront it with the real requirements set by employers, as well as to acquire practical skills.
4. Vocational practice should take place during the summer break. The Dean may, however, allow it to be held at other time not interfering with classes. Mid-Year Vocational Practice 2 and Mid-Year Educational Practice are carried out during the second semester.
5. In the case of vocational practice, the student, in consultation with the Vocational Practice Supervisor, has the right to choose the workplace where the vocational practice will take place and the date of its completion.
6. The student completes vocational practice on the basis of the Referral in accordance with the Agreement on the organization of student vocational practice based on the referral from the University concluded with the workplace.
7. The student should take out personal accident insurance for the duration of vocational practice.
8. Teaching and educational supervision over vocational practice is exercised by Vocational Practice Supervisor. The role of Vocational Practice Supervisor is performed by vocational practice organizer at the Institute of Physics, appointed by the Dean.
9. As for vocational practice, the student is obliged to provide Vocational Practice Supervisor, within the deadline specified in the Vocational Practice Schedule, with the completed Information about the vocational practice necessary to issue documentation for the vocational practice.
10. The condition for passing each vocational practice is the submission to Vocational Practice Supervisor the completed Hours Completion Log confirmed by the workplace, the positive Opinion on the course of vocational practice by the workplace, participation in all meetings with Vocational Practice Supervisor and providing all documents specified in the syllabus. The opinion on the course of vocational practice is considered positive when the

student of the teaching Physics specialization obtains the grade of 3.0 minimum.

12. In the Hours Completion Log, the student summarizes the hours of vocational practice completed. Vocational Practice Supervisor may verify the Log for the compliance of hours.

13. Vocational Practice Supervisor may credit the student's vocational practice on the basis of the student's employment declaration confirming that he or she is currently engaged in paid work or volunteer work, if he or she is employed at a secondary school.