MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE
RIVNE STATE UNIVERSITY OF HUMANITIES

EDUCATION PROFESSIONAL PROGRAM

Secondary education (Physics)
(for foreigners and stateless persons)
The second (master's) level of higher education
In specialty № 014 Secondary education (Physics)
Field of knowledge № 01 Education / Pedagogy
Qualification: Master of Secondary Education. Physics teacher.

APPROVED BY THE ACADEMIC COUNCIL
RIVNE STATE UNIVERSITY OF HUMANITIES
The Head of the Academic Council
_____(professor Ruslan Postolovskyy)
(protocol № 5 dated 09.12 "30" 201_)
Educational professional program enacts since
09 "1" 2019
(order № 110-01-01 dated 06 "6" 2019)

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Educational program profile in the specialty 014.08 «Secondary Education (Physics)»

1 - General information	
Full name of higher educational and structural unit	Rivne State University of Humanities, Faculty of Physics and Technology.
The degree of higher education and the name of the qualification in the language of the original	Магістр. Магістр середньої освіти. Викладач фізики. Вчитель фізики
	Master. Master of Secondary Education. Teacher of physics. Physics teacher
Official name of the educational program	Second (Master's) level higher education program specialty 014 Secondary education (Physics)
Type of diploma and the volume of the educational program	Master's degree single, 90 credits ECTS, term of study 1 year 4 months
Availability of accreditation	National Agency for Quality Assurance in Higher Education.
Cycle / Level	NQF Ukraine – level 8, FQ-EHEA – second cycle, EQF-LLL – 7 level..
Prerequisites	Bachelor's Degree
Language (s) of teaching	Official (Ukrainian) language.
The duration of the educational program	Prior to the introduction of the higher education standard but not more than 5 years.
Internet address of the permanent description of the educational program	http://www.rshu.edu.ua/
2 The purpose of the educational program	
Provide students with basic theoretical knowledge, skills and understanding of the organization of the educational process in the senior (profile) school and institutions of higher education, research work, gaining experience in the management of educational, cognitive and scientific activities of students.	
3 Characteristics of the educational program	
Subject area	***REQUIRED COMPONENTS (75%)*** Components of general and fundamental training –32 %(30 credit). Components of psychological and pedagogical training – 10 % (9 credit) Components of practical training – 33 % (29 credit) ***SELECTIVE COMPONENTS (25%)*** Components of the choice of higher education institution – 12,5 % (11 credit) Components of free student choice – 12,5% (11 credit)
Orientation of the educational program	Educational and professional
The main focus of educational program and specialization	The educational program provides training of specialists for higher education institutions in the specialty 014.08 Secondary education (Physics)

Features of the program	The Master's program corresponds to the educational and qualification characteristics of the Master of Teacher Education and consists of two parts: educational and research. The educational part of the master's training contains social-humanitarian, psychological-pedagogical and professional training, which are focused on in-depth understanding of professional problems.
4 – Ability of graduates to employment and further training	
Ability for employment	Professional titles (according to the National Classifier of Professions ДК 003: 2010): 2320 Teacher of secondary educational institution 235 Other Training Professionals 2351.1 Research assistants (teaching methods) 2351.2 Other professionals in the field of teaching methods 2352 Inspectors of educational establishments 2359.1 Other research assistants in the field of education
Further training	Continuation of study at the third level of higher education under the programs of Ph D in Physics and methods of teaching physics.
5 - Teaching and Assessment	
Teaching and Assessment	Student-centered learning, self-study, problem-oriented learning, individual creative approach, teaching through pedagogical practices.
Assessment	Types of control: current, thematic, modular, total, self-control. Forms of control: verbal and written interviews, essay, test control, laboratory and individual work protection, defense of practice reports, defense of term papers (projects), presentation of scientific and creative work, certification (defense of qualifying work or complex examination. Assessment of educational achievements: 4-point national scale (excellent, good, satisfactory, unsatisfactory); 2-level national scale (enrolled / not accounted); 100-point system and ECTS scale (A, B, C, D, E, F, FX).
6 – Program competencies	
Integral competence (IC)	**IC.** Ability to solve complex problems and problems in secondary education or in the learning process, which involves research and / or innovation and is characterized by uncertain conditions and requirements.
General competencies (GC)	**GC 1.** Knowledge and understanding in the field of natural sciences, physics and modern scientific picture of the world. **GC 2.** The ability to navigate the moral and ethical and cultural values of humanity to determine the strategic directions of professional activity. **GC 3.** Ability to perform scientific, professional tasks in a group under the leadership of the leader, willingness to follow the rules set in the group (team), willingness to lead the group, take a creative approach, initiative. **GC 4.** Ability to characterize the main concepts in physics and understand their essence. **GC 5.** Ability to critically analyze and evaluate the state of the art of science, generate new ideas while solving research and practical problems. **GC 6.** Ability to use Ukrainian in professional activities. **GC 7.** Ability to participate in the work of international, international groups, teams and be able to communicate in a foreign language with specialists. To observe ethical norms of behavior, principles of professional virtues in performing teamwork.
Professional competence of the specialty (PC)	**PC 1.** Ability to use terminology in physics, nomenclature, conventions and units, as well as operate on concepts, teachings and theories of physics.

	PC 2. Ability to investigate the nature of physical phenomena and facts required to design a methodological system of teaching students in the field of natural sciences. **PC 3.** Ability to perform independent cognitive activity in order to gain new knowledge, acquire skills in cognition of physics, in the field of experimentation in conducting scientific research. **PC 4.** Ability to understand and use physicochemical methods in practice for the analysis, synthesis of substances. Ability to perform physical experiments, describe them, analyze them, evaluate experimental results and be able to interpret them. **PC 5.** Ability to describe a wide range of objects and processes (both natural and artificially created), ranging from the integrity of the universe (including its evolution from its inception to the present) and ending with processes occurring at the molecular level. **PC 6**. Ability to critically analyze and evaluate the state of the art of science, generate new ideas while solving research and practical problems. **PC 7**. Ability to select and create control theoretical questions, exercises, calculation tasks, experimental physical experiments aimed at developing students' abilities taking into account their individual and age characteristics. **PC 8.** Ability to analyze physical phenomena, objects of both natural and anthropogenic origin in terms of fundamental physical laws, principles and patterns. **PC 9**. Ability to use physics software and multimedia to ensure a high quality educational process. **PC 10.** Ability to organize and carry out research activities in physics in laboratory and natural conditions in accordance with the requirements of occupational safety and health.
7 – Program learning outcomes	
Program learning outcomes (PLO) Knowledge	**PLO 1**. Knowledge and understanding of the laws of physics, operation of modern terminology, scientific concepts, laws, concepts, teachings and theories. **PLO 2.** Ability to demonstrate knowledge and understanding of the fundamentals of physics in general and theoretical physics. **PLO 3**. Knowledge of the system of organization and methodology of natural science knowledge, ability to use the methods of scientific research in practice.
Skill	**PLO 4**. Ability to prepare instructions for physical experiments, methodological recommendations for laboratory work in order to study the phenomena of nature and their explanation on the basis of physical laws, theories and patterns. **PLO 5.** Ability to form a holistic picture of the natural world, to apply theoretical knowledge and practical methods of physics to understand the integrative connections between the fundamental sciences. **PLO 6.** Ability to carry out logic-didactic analysis of concepts, textbooks in physics for institutions of general secondary and higher education. **PLO 7.** Ability to constantly improve the technique of experimentation in physics using statistical and mathematical methods of analysis of the obtained results. **PLO 8.** Ability to use the latest IT–technologies in physics teaching and research.
Communication	**PLO 9.** Ability to communicate in Ukrainian with colleagues using professional terminology, to obtain information in physics from sources in Ukrainian.
Autonomy and	**PLO 10.** Ability to create and improve training and methodological

responsibility	complexes and to apply rational methods of monitoring innovative information in natural disciplines. **PLO 11.** Ability to use computer technology and multimedia systems in research, self-study, and professional activity.
8 – Resource support for the implementation of the program	
Personnel support	The composition of the project group of the educational program, the teaching staff involved in the teaching of disciplines in the specialty meet the Licensing conditions for conducting educational activities at the second (master's) level of higher education.
Material and technical support	Material and technical support complies with licensing requirements for providing educational services in the field of higher education and is sufficient to ensure the quality of the educational process. Provision of training facilities, computer workstations, multimedia equipment meets the needs. Specialized computer classes of the faculty with the necessary software and unrestricted open access to the Internet are available for practical and laboratory work, information search and processing of results. All the necessary social and household infrastructure is available and the number of dormitory places meets the requirements.
Information and teaching and methodological support	The educational process is provided with educational-methodical complexes of disciplines, didactic materials for independent and individual work of students in the disciplines, programs and methodical recommendations for practice, methodical recommendations for writing course and qualification papers. Study buildings, a scientific library, reading rooms, dormitories are provided with unrestricted access to the Internet. The training courses are posted on the Moodle distance learning platform.
9 – Academic mobility	
National Credit Mobility	It is regulated by the Resolution of the Cabinet of Ministers of Ukraine No. 579 “On Approval of the Regulations on the Implementation of the Right to Academic Mobility” of August 12, 2015.
International Credit Mobility	On the basis of bilateral agreements between the Rivne State University for the Humanities and foreign educational establishments.
Teaching foreign applicants	Possible.

2. List of components of educational and professional program

Code	Components of the educational program (disciplines, course projects (jobs), practices, qualifications)	Number of credits	Form of final control
1	2	3	4
Required EP components			
RC 1.	Pedagogy of high school	3,0	Exam.
RC 2.	Psychology of higher education	3,0	Credit
RC 3.	Methodology and methods of scientific research	3,0	Credit
RC 4.	Ukrainian (as a foreign language)	3,0	Credit
RC 5.	Organization of pedagogical experiment, processing and interpretation of results (specialty)	5,0	Exam.
RC 6.	Selected questions of the course of physics	14,0	Exam.
RC 7	Theoretical and methodological foundations of teaching physics in institutions of higher education	5,0	Exam.
RC 8.	Selected questions of the course of theoretical physics	6,0	Exam.
RC 9.	History of physics	3,0	Credit
RC 10.	Methods of studying astronomy	4,0	Credit
RC 11.	Special physics workshop	5,0	Credit
RC 12.	Problems of modern physics	5,0	Credit
RC 13.	Methods of teaching physics in high school	4,0	Exam.
RC 14.	Professional practice (pedagogical in secondary education)	4,0	Credit
RC 15.	Professional practice (pedagogical in higher education institutions)	4,0	Credit
The full number of required components		**68**	
Selective components of the EP			
SC01	Computer-information technologies in education and science	3,0	Credit
SC02/ SC03	Philosophy and methodology of science / Social philosophy	3,0	Credit
SC04	Fundamentals of polymer physics	3,0	Credit
SC05	Organizing a physical experiment and processing the results	3,0	Credit
SC06 / SC07	Mathematical modeling of physical processes / Computer modeling of physical processes	3,0	Credit
SC08	Relaxation phenomena in polymers	4,0	Exam.
The full number of selective components		**22**	
THE FULL NUMBER OF PROFESSIONAL PROGRAM		**90**	
Total: examination – 8, credits – 14			

4. Matrix of correspondence of program competencies to the components of the educational program

Educational component code. Competency code	RC 1	RC 2	RC 3	RC 4	RC 5	RC 6	RC 7	RC 8	RC 9	RC 10	RC 11	RC 12	RC 13	RC 14	RC 15	SC01	SC02	SC03	SC04	SC05	SC06	SC07	SC08
IK1	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
GC1						+	+	+	+	+	+	+	+	+	+				+	+	+	+	+
GC2	+	+															+	+					
GC3	+	+	+	+	+									+		+		+					
GC4						+	+	+	+		+	+	+	+	+				+	+	+	+	+
GC5		+	+		+		+		+	+		+			+	+	+						
GC6				+																			
GC7				+																			
PC1						+	+	+	+			+		+	+				+				
PC2					+		+	+		+			+	+	+								
PC3											+		+							+	+		
PC4											+								+	+	+		+
PC5								+	+										+	+			+
PC6							+		+			+			+								
PC7											+		+	+									
PC8						+									+				+				+
PC9										+			+	+	+	+					+	+	
PC10							+						+	+	+					+			

5. Matrix software learning outcomes (PLO) relevant components of the educational program

Educational component code. Code of program results of training	RC 1	RC 2	RC 3	RC 4	RC 5	RC 6	RC 7	RC 8	RC 9	RC 10	RC 11	RC 12	RC 13	RC 14	RC 15	SC01	SC02	SC03	SC04	SC05	SC06	SC07	SC08
PLO 1						+		+	+		+	+			+				+				
PLO 2								+				+		+	+				+	+	+		+
PLO 3		+	+							+				+			+	+			+		+
PLO 4											+		+	+					+	+			
PLO 5						+	+	+	+			+	+		+				+		+		+
PLO 6	+						+						+	+	+								
PLO 7					+						+				+					+			
PLO 8			+		+									+	+	+					+	+	
PLO 9				+																			
PLO 10							+			+					+								
PLO 11	+	+	+	+	+					+			+	+		+	+	+			+	+	