MINISTRY OF EDUCATION AND TRAINING
QUY NHON UNIVERSITY

UNDERGRADUATE PROGRAM

Level of Education	: **Undergraduate**
Major	: **Physics Teacher Education**
Major Code	: **7140211**
Mode of Education	: **Full-time**

Gia Lai, 2025

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QUY NHON UNIVERSITY

SOCIALIST REPUBLIC OF VIET NAM
Independence - Freedom - Happiness

UNDERGRADUATE PROGRAM

(Issued in conjunction with Decision No.: 2094/QĐ-ĐHQN dated July 22, 2025 by the Rector of Quy Nhon University)

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1. PROGRAM OBJECTIVES (POs)

1.1. General Objectives

The Bachelor's program in Physics Teacher Education aims to train graduates who possess sound political and ethical qualities, good health, and a solid foundation in both fundamental sciences and educational sciences. Graduates are expected to have the ability to apply specialized knowledge to address issues in education, physics teaching, and scientific research; demonstrate digital competence; and engage in lifelong learning while adapting to evolving educational environments. They also demonstrate professional responsibility and a commitment to community service, meeting the professional standards for teachers and contributing to socio-economic development, national defense and security, and international integration.

1.2. Specific objectives

Graduates of the Bachelor's program in Physics Teacher Education are expected to be able to:

- PO1: Demonstrate professional knowledge and practical competencies required for teaching Physics.

- **PO2:** Possess professional competencies in education, Physics teaching, and scientific research to meet the requirements of general education reform and international integration.

- **PO3:** Demonstrate the capacity for lifelong learning, digital competence, communication, and collaboration in order to adapt to changes in the educational environment.

- **PO4:** Exhibit teachers' professional ethics, professional responsibility, a positive attitude, and a commitment to community service.

2. EMPLOYMENT OPPORTUNITIES AND FURTHER STUDY PROSPECTS

Graduates of the Bachelor's program in Physics Teacher Education may assume the following positions:

- Teaching at high schools as well as at universities, colleges, professional secondary schools, and vocational institutions;
- Conducting research at institutes and research centers;
- Pursuing further studies at higher levels in fields related to Physics and Educational Sciences.

3. LEARNING OUTCOMES

The program is designed to ensure that graduates of the Physics Teacher Education program achieve the following learning outcomes:

PLO1: Apply knowledge of general education, foundational disciplinary knowledge, and field-specific knowledge to perform professional tasks.	**PI 1.1:** Identify general education knowledge, foundational disciplinary knowledge, and field-related knowledge required to perform professional tasks.
	PI 1.2: Apply knowledge of general education, foundational disciplinary knowledge, and field-related knowledge to perform professional tasks.
PLO 2: Apply fundamental knowledge of Physics to solve professional problems.	**PI 2.1:** Identify fundamental knowledge of Physics required to solve professional problems.
	PI 2.2: Apply fundamental knowledge of Physics to solve professional problems.
PLO 3: Analyze advanced knowledge of Physics in order to access new knowledge and solve practical problems.	**PI 3.1:** Analyze advanced knowledge of Physics to access new knowledge.
	PI 3.2: Analyze advanced knowledge of Physics to solve practical problems.
PLO 4: Conduct and propose improvement solutions for Physics experiments.	**PI 4.1:** Conduct Physics experiments.
	PI 4.2: Propose scientifically appropriate solutions related to improving practical and experimental procedures.
PLO 5: Organize and apply pedagogical communication skills in teaching and educational activities oriented toward the development of students' qualities and competencies.	**PI 5.1:** Organize teaching and educational activities oriented toward the development of students' qualities and competencies.
	PI 5.2: Apply pedagogical communication skills in teaching and educational activities oriented toward the development of students' qualities and competencies.

	PI 5.3: Evaluate teaching and educational activities oriented toward the development of students' qualities and competencies.
PLO 6: Conduct scientific research in professional practice.	**PI 6.1:** Develop a scientific research plan in professional practice.
	PI 6.2: Implement scientific research in professional practice.
PLO 7: Use specialized English, digital tools, and digital technologies in professional and pedagogical activities.	**PI 7.1:** Use specialized English in professional and pedagogical activities.
	PI 7.2: Use digital tools and digital technologies in professional and pedagogical activities.
PLO 8: Demonstrate autonomy in learning, self-directed study, and independent research, together with personal responsibility and the ability to collaborate effectively in learning and working environments.	**PI 8.1:** Demonstrate autonomy in learning, self-directed study, and independent research, together with a strong sense of personal responsibility in order to proactively acquire knowledge, develop independent thinking, and establish effective learning strategies.
	PI 8.2: Demonstrate the ability to collaborate in order to enhance learning quality, support students' holistic development, and contribute to building an educational environment that reflects the distinctive culture of the institution.
PLO 9: Demonstrate teachers' professional ethics and professional responsibility, and engage in community service activities that contribute to the holistic development of individuals.	**PI 9.1:** Identify ethical issues, professional responsibilities of teachers, and a commitment to community service.
	PI 9.2: Demonstrate teachers' professional ethics, professional responsibility, and engagement in community service activities in order to guide students' character development, build a positive learning environment, and contribute to the holistic development of individuals.

4. PROGRAM DURATION AND TOTAL CREDITS

4.1. Program Duration: 04 years

4.2. Total credits: 138 credits (excluding 03 credits of Physical Education and 09 credits of National Defense and Security Education)

Program structure	Credits
General Knowledge	**24**
Professional Knowledge	**114**
- Fundamental knowledge	24
- Disciplinary Knowledge	45
- Supplementary Knowledge	39
- Graduation thesis, Alternative courses	6
Total	**138**

5. ADMISSION REQUIREMENTS

Applicants wishing to apply for admission to the Physics Teacher Education program must satisfy the following requirements:

a. Individuals who have been recognized as graduates of Vietnamese upper secondary education (high school) or who hold a foreign high school diploma recognized as equivalent.

b. Individuals who hold a vocational secondary diploma in a field within the same disciplinary group as the intended major and who have completed the required amount of general education knowledge at the upper secondary level in accordance with legal regulations.

c. Be in good health to undertake academic study in accordance with current regulations.

d. Meet the minimum admission threshold and other requirements for teacher education programs as stipulated in the *Regulations on University Admission and Admission to College Programs in Early Childhood Education* issued by the Ministry of Education and Training, as well as the *University Admission Regulations* of Quy Nhon University.

6. MODE OF STUDY AND GRADUATION REQUIREMENTS

6.1. Mode of study: Credit-based system

6.2. Graduation Requirements: To be eligible for graduation, students must satisfy the following requirements:

- *Academic Requirements:* Students must complete all required courses and accumulate the total number of credits prescribed in the curriculum. In addition, they must obtain a minimum cumulative grade point average (CGPA) of 2.00 on a 4.0 scale.

- *Physical Education and National Defense and Security Education:* Students must complete all required Physical Education courses and obtain the National Defense and

Security Education Certificate in accordance with current regulations.

- *Foreign Language Requirement:* Students must meet the foreign language proficiency requirement in accordance with the current regulations of the training institution.

- *Information Technology Requirement*: Students must meet the basic information technology competency standards as stipulated in Circular No. 07/2015/TT-BGDĐT, as well as other specific regulations of the training institution.

- *Conduct and Ethical Requirements:* At the time of graduation consideration, students must not be subject to criminal prosecution and must not be under disciplinary action at the level of suspension from study.

7. TEACHING METHODS AND LEARNING ASSESSMENT

7.1. Teaching methods

No	Teaching Strategies	Teaching methods
1	**Direct Instruction:** Direct instruction is a teaching process in which the instructor directly delivers information and fundamental knowledge to learners. In this approach, the teacher plays a central role in controlling, guiding, and organizing instructional activities. Through presentation, explanation, and detailed guidance, the teacher helps learners access, acquire, and clearly understand the lesson content. This teaching strategy is effective for providing systematic knowledge and introducing new skills, thereby establishing a solid foundation for learners to apply such knowledge to professional practice and develop practical competencies.	- Lecture/Presentation - Explanation and Illustration - Question–Answer Interaction - Problem-posing - Simulation - Demonstration
2	**Indirect Instruction:** Indirect instruction is a teaching strategy in which learners are provided with opportunities to explore and construct knowledge through learning activities without relying entirely on the lecturer's direct transmission of information. In this strategy, the lecturer acts as a facilitator who organizes, guides, and supports the learning	- Case-based learning - Problem-based learning - Guiding questions - Online teaching - Assignments - Discussion - Debate - Project-based learning

No	Teaching Strategies	Teaching methods
	process rather than delivering all the instructional content directly. Learners are encouraged to actively engage in the learning process, apply critical thinking skills, and develop their ability to analyze and solve problems. Through various learning activities, this strategy helps learners enhance their capacity for self-directed learning and independent inquiry, while also fostering a stronger sense of responsibility and autonomy in their learning.	
3	**Experiential Learning**: Experiential learning consists of four stages: concrete experience, in which learners participate in practical activities such as group discussions, experimental practice, or field trips; reflective observation, during which learners reflect on and analyze the results, behaviors, and emotions arising from their experiences; abstract conceptualization, in which learners formulate concepts or theoretical insights based on their reflections; and active experimentation, where learners apply the acquired knowledge to new situations in order to test and refine their understanding. This approach not only facilitates the development of knowledge and skills but also enhances learners' attitudes and engagement in the learning process.	- Experiential learning - Internship - Fieldwork - Simulation - Practice - Discussion - Project-based learning
4	**Interactive Teaching:** Interactive teaching is a teaching strategy in which learners not only receive knowledge from the instructor but also interact with their peers, the instructor, and the learning content. In this approach, the instructor organizes and facilitates the learning process, while students actively participate in discussions, dialogue, and collaborative activities to construct knowledge. This process	- Interactive lectures - Group work - Discussions - Debates - Practice - Internships - Fieldwork

No	Teaching Strategies	Teaching methods
	involves two-way interaction, continuous feedback, and adaptation, thereby fostering the development of communication, collaboration, critical thinking, and problem-solving skills, as well as enhancing learners' confidence and active engagement in learning.	- Project-based learning
5	**Blended Learning (Face-to-Face and Online Instruction):** A form of instruction in which part of the learning content is delivered through face-to-face classes and the remaining part is conducted through an online environment using LMS, videos, discussion forums, and online assignments.	- Face-to-face theoretical instruction - Online practice and discussion (via LMS)
6	**Self-directed Learning:** Self-directed learning is a learning strategy in which learners guide and regulate their own learning process with little or no direct supervision from the instructor. Learners actively seek knowledge, plan their learning activities, and carry out learning tasks through assignments, projects, or problems suggested by the instructor. This strategy helps develop learners' capacity for independent learning and research, as well as their autonomy and sense of responsibility in the learning process.	- Online learning - Homework assignments - Self-directed learning

7.2. Learning Assessment

The assessment of learning complies with the current undergraduate training regulations of Quy Nhon University.

7.2.1. Assessment of Program Learning Outcomes: Conducted in accordance with the regulations on the assessment of Program Learning Outcomes of Quy Nhon University.

7.2.2. Course Assessment and Grading

<table>
<tr><th colspan="4">Assessment and Grading of Courses</th></tr>
<tr><td>1. For theoretical courses or courses combining theory and practice</td><td rowspan="2">The overall course grade (hereinafter referred to as the course grade) consists of two components: the continuous assessment score and the final examination score.</td><td>Continuous assessment score: Accounts for 30%, 40%, or 50% of the total course grade.
Final examination score: Accounts for 70%, 60%, or 50% of the total course grade.</td><td>The assessment methods, assessment formats, and the weighting of each component score are specified in the detailed course syllabus for each course.</td></tr>
<tr><td>2. For courses consisting solely of laboratory or practical work</td><td colspan="3">The arithmetic mean of the scores for all practical assignments during the semester, rounded to one decimal place, is taken as the grade for the practical course.</td></tr>
<tr><td>3. For specialized courses such as internships, field practice, course projects, and course theses.</td><td colspan="3">The faculty responsible for the course proposes the course assessment method, and the Rector makes the final decision.</td></tr>
<tr><td>4. Assessment of the Graduation Project and Graduation Thesis</td><td colspan="2">- The assessment of the graduation project and graduation thesis is conducted by an evaluation committee established by decision of the Rector.
- The committee consists of three members: a Chair, a reviewer, and a secretary (the supervisor is not a member of the committee). The committee organizes the defense and evaluates the graduation project or graduation thesis when all members are present.</td><td>- The grade for the graduation thesis or graduation project is calculated as the average of the component scores given by the supervisor and the members of the evaluation committee ([Supervisor’s score + Scores from the three committee members] / 4).
- Each component score is graded on a 10-point scale, recorded to one decimal place. The final grade for the graduation thesis or graduation project is also</td></tr>
</table>

Assessment and Grading of Courses		
		calculated on a 10-point scale, rounded to one decimal place, and then converted into a letter grade according to the prescribed grading scale.

Grading Scale used

Assessment Grading Scale	The 10-point grading scale, ranging from 0 to 10 (with one decimal place), is used to assess and record the continuous assessment score, the final examination score, and the overall course grade.
	The letter grading scale is used to classify course results in an alternative form corresponding to the course grade on the 10-point grading scale.
	The 4-point grading scale is used to calculate the semester Grade Point Average (GPA) and the cumulative Grade Point Average (CGPA), and to evaluate students' academic performance after each semester or study period, as well as for graduation classification.

Conversion Rules Between Grading Scales

10-point Scale	Letter Grade	4-point Scale	Result
9 - 10	A+	4	Pass
8 - 8,9	A	3,5	
7 - 7,9	B+	3	
6 - 6,9	B	2,5	
5 - 5,9	C	2	
4 - 4,9	D	1,5	
0 - 3,9	F	0	Fail

7.2.3. Assessment Methods

Assessment Methods	
Observation Method	This method evaluates students' attendance and learning attitudes, including their learning awareness, independence, and creativity. It involves monitoring class attendance, students' preparation for lessons, participation in discussions, and contributions to classroom learning activities.
Assignment Assessment	This method evaluates the extent to which students complete the assignments given by the instructor related to the lesson during and after class. These assignments may be completed individually or in groups and are graded based on previously announced criteria.
Presentation Assessment	Students are required to work individually or in groups and present their results to other students. This activity not only evaluates the extent to which students have achieved specialized knowledge but also assesses the development of skills such as communication, negotiation, and teamwork.
Written Assessment Methods	Written assessment methods include essay-type tests and objective multiple-choice tests, or a combination of both.
Practical Assessment	Students are assessed based on criteria such as the correctness of procedures and operations performed, the outcomes obtained, and the quality of the practical report.
Oral Assessment	Students are assessed through interviews and direct question-and-answer interactions. This method is used in certain courses to evaluate students' overall competence, including both subject knowledge and skills such as communication and presentation.
Group Work Assessment	This method is used when implementing group-based learning activities to assess students' teamwork skills.
Essay / Term Paper Assessment	Students are assessed through writing a report on a topic related to a course or a practical issue, with the aim of drawing conclusions, providing comments, and proposing solutions for implementing or improving the identified issue. The assessment of the essay/term paper includes evaluation of its structure, content, conclusions, and presentation format.

Assessment of Learning Project Products	Based on the products developed by students, the instructor evaluates the level of development, creativity, and effectiveness of the completed product. The criteria and standards for evaluating the product are diverse. Product assessment is conducted based on the specific context of real-world situations.

Assessment Methods – PLOs Alignment Matrix

Assessment Methods	**Program Learning Outcomes (PLOs)**								
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
Observation Method			X	X	X	X	X	X	X
Assignment Assessment	X	X	X	X	X	X	X	X	X
Presentation Assessment	X	X	X	X	X	X	X	X	X
Written Assessment Methods	X	X	X	X	X	X	X	X	X
Practical Assessment	X	X	X	X	X	X	X	X	X
Oral Assessment	X	X	X	X	X	X	X	X	X
Group Work Assessment		X		X	X	X	X	X	X
Essay / Term Paper Assessment	X	X	X	X	X	X	X	X	X
Learning Project Product Assessment	X	X	X	X	X	X	X	X	

9. PROGRAM CONTENT

No	Course codes	Course Name	Semester	Number of credits	In-class hours			Experiment, Practice	Others	Self-study hours	Prerequisite Course Code	Department in charge of the course	Note
					Theory	Exercise	Discussion						
I. General Education Knowledge				**24**									
I.1. Political Science and Law				***13***									
01	1130299	Philosophy of Marxism and Leninism	1	3	40		10			95		Political Theory, Law and Public Administration	
02	1130300	Political economics of marxism and leninism	2	2	27		6			62	1130299	Political Theory, Law and Public Administration	
03	1130049	Fundamentals of Law	1	2	27		6			62		Political Theory, Law and Public Administration	
04	1130301	Science socialism	3	2	27		6			62	1130300	Political Theory, Law and Public Administration	
05	1130302	History of Vietnamese Communist Party	4	2	27		6			62	1130301	Political Theory, Law and Public Administration	
06	1130091	Ho Chi Minh thought	5	2	27		6			62	1130302	Political Theory, Law and Public Administration	
I.2. Physical Education and National Defense–Security Education				**12**									
Physical Education: Choose 1 of the following 8 courses:				**3**									
07	1120172	Physical Education 1 (Football 1)	1	1	4			26		21		Physical Education	
08	1120173	Physical Education 2 (Football 2)	2	1	4			26		21	1120172	Physical Education	
09	1120174	Physical Education 3 (Football 3)	3	1	4			26		21	1120173	Physical Education	
10	1120175	Physical Education 1 (Volleyball 1)	1	1	4			26		21		Physical Education	
11	1120176	Physical Education 2 (Volleyball 2)	2	1	4			26		21	1120175	Physical Education	
12	1120177	Physical Education 3 (Volleyball 3)	3	1	4			26		21	1120176	Physical Education	

No	Course codes	Course Name	Semester	Number of credits	In-class hours			Experiment, Practice	Others	Self-study hours	Prerequisite Course Code	Department in charge of the course	Note
					Theory	Exercise	Discussion						
13	1120178	Physical Education 1 (Basketball 1)	1	1	4			26		21		Physical Education	
14	1120179	Physical Education 2 (Basketball 2)	2	1	4			26		21	1120178	Physical Education	
15	1120180	Physical Education 3 (Basketball 3)	3	1	4			26		21	1120179	Physical Education	
16	1120181	Physical Education 1 (Badminton 1)	1	1	4			26		21		Physical Education	
17	1120182	Physical Education 2 (Badminton 2)	2	1	4			26		21	1120181	Physical Education	
18	1120183	Physical Education 3 (Badminton 3)	3	1	4			26		21	1120182	Physical Education	
19	1120184	Physical Education 1 (Vietnamese Traditional Matial Arts 1)	1	1	4			26		21		Physical Education	
20	1120185	Physical Education 2 (Vietnamese Traditional Matial Arts 2)	2	1	4			26		21	1120184	Physical Education	
21	1120186	Physical Education 3 (Vietnamese Traditional Matial Arts 3)	3	1	4			26		21	1120185	Physical Education	
22	1120187	Physical Education 1 (Taekwondo Matial Arts 1)	1	1	4			26		21		Physical Education	
23	1120188	Physical Education 2 (Taekwondo Matial Arts 2)	2	1	4			26		21	1120187	Physical Education	
24	1120189	Physical Education 3 (Taekwondo Matial Arts 3)	3	1	4			26		21	1120188	Physical Education	
25	1120190	Physical Education 1 (Karatedo Matial Arts 1)	1	1	4			26		21		Physical Education	
26	1120191	Physical Education 2 (Karatedo Matial Arts 2)	2	1	4			26		21	1120190	Physical Education	
27	1120192	Physical Education 3 (Karatedo Matial Arts 3)	3	1	4			26		21	1120191	Physical Education	
28	1120239	Physical Education 1 (Pickleball 1)	1	1	4			26		21		Physical Education	

No	Course codes	Course Name	Semester	Number of credits	In-class hours			Experiment, Practice	Others	Self-study hours	Prerequisite Course Code	Department in charge of the course	Note
					Theory	Exercise	Discussion						
29	1120240	Physical Education 2 (Pickleball 2)	2	1	4			26		21	1120239	Physical Education	
30	1120241	Physical Education 3 (Pickleball 3)	3	1	4			26		21	1120240	Physical Education	
National Defense and Security Education				**9**									
31	1120168	National Defense and Security Education 1	5	3	37		8			82		National Defense and Security Education	
32	1120169	National Defense and Security Education 2	5	2	22		8			52		National Defense and Security Education	
33	1120170	National Defense and Security Education 3	5	2	14			16		44		National Defense and Security Education	
34	1120171	National Defense and Security Education 4	5	2	4			56		36		National Defense and Security Education	
I.3. Foreign Languages				***7***									
35	1090061	English 1	1	3	30	15				100		Foreign Languages	
36	1090166	English 2	2	4	40	20				135	1090061	Foreign Languages	
I.4. Social Sciences/Mathematics; Natural Sciences–Environment; Management Sciences				***4***									
37	2010156	Pedagogical Communication	4	2	20			20		55	2030410	Education	
38	2010171	Experiential and Career-Oriented Activities in Schools	5	2	20			20		55	2030410	Education	
II. Professional Education Knowledge				**114**									
II.1. Fundamental knowledge and Disciplinary Knowledge				***24***									
39	1050242	ICT Fundamentals for Education	1	3	30			30		85		Information Technology	
40	1100086	Psychology	2	3	30	10	10			95	1130299	Social Sciences and Humanities	
41	2030410	Pedagogics	3	4	36	20	0	8		131	1100086	Social Sciences and Humanities	
42	2010163	Advanced Mathematics 1	1	2	20	10						Education	

No	Course codes	Course Name	Semester	Number of credits	In-class hours			Experiment, Practice	Others	Self-study hours	Prerequisite Course Code	Department in charge of the course	Note
					Theory	Exercise	Discussion						
43	2010164	Advanced Mathematics 2	2	2	20	10					2010163	Education	
44	2020619	Math for Physics 1	1	2	25	5				65		Natural Sciences	
45	2020621	Math for Physics 2	2	2	22	8				65	2020619	Natural Sciences	
46	1020155	Math for Physics 3	2	2	20	10				65	2020619	Natural Sciences	
47	2020708	Methods of Mathematical Physics	3	2	22	8				65	2020621	Natural Sciences	
48	2020709	Physics and life	5	2	22	6	4			63	1020023	Natural Sciences	
II.2. Major and Specialization Knowledge (if any)				***45***									
II.2.1. Major Knowledge				***45***									
II.2.1a. Compulsory Courses				*39*									
49	2020620	Mechanics 1	1	2	20	8	4			63		Natural Sciences	
50	1020011	Mechanics 2	2	2	15	10	10			60	2020620	Natural Sciences	
51	2020710	Thermology	3	3	30	12	6			97	1020011	Natural Sciences	
52	2020459	Electromagnetism 1	3	2	18	10	4			63	2020620	Natural Sciences	
53	2020460	Electromagnetism 2	3	2	18	10	4			63	1020011	Natural Sciences	
54	1020056	Optics	4	3	30	11	8			96	1020011	Natural Sciences	
55	2020711	Atomic and Nuclear Physics	4	3	30	13	4			98	2020460	Natural Sciences	
56	1020023	Vibriation and wave	3	2	18	10	4			63	2020620	Natural Sciences	
57	1020132	Astronomy	4	2	20	8	4			63	1020011	Natural Sciences	
58	2020712	Electronics	6	3	29	8	4	12		104	2020367	Natural Sciences	
59	2020367	Electrical Engineering	5	3	30			30		85	2020460	Natural Sciences	
60	2020365	Theoretical Mechanics	4	2	20	8	4			63	1020011	Natural Sciences	
61	2020713	Statistical Physics	6	2	25	5				65	2020711	Natural Sciences	
62	2020368	Electrodynamics	5	2	20	8	4			63	1020155	Natural Sciences	
63	2020369	Quantum Mechanics	5	3	39	6				100	1020023	Natural Sciences	
64	2020714	Solid State Physics	6	3	34	9	4			98	2020369	Natural Sciences	
II.2.1b. Elective Courses				*6*									
Choose 1 of the following 2 courses:				*2*									
65	2020715	Semiconductor Physics and Devices	7	2	22	6	4			63	2020714	Natural Sciences	
66	2020716	Magnetism and Superconductivity	7	2	22	6	4			63	2020714	Natural Sciences	

No	Course codes	Course Name	Semester	Number of credits	In-class hours			Experiment, Practice	Others	Self-study hours	Prerequisite Course Code	Department in charge of the course	Note
					Theory	Exercise	Discussion						
Choose 1 of the following 2 courses:				*2*									
67	2020717	Materials Fabrication Methods	7	2	25	4	2			64	2020714	Natural Sciences	
68	1020145	Experimental Methods for Materials	7	2	25	4	2			64	2020714	Natural Sciences	
Choose 1 of the following 2 courses:				*2*									
69	2020718	Applied Electronics	7	2	23	4		6		62	2020712	Natural Sciences	
70	2020719	Computational Simulations in Physics	7	2	23	4		6		62	2020369	Natural Sciences	
II.3. Supplementary Knowledge				***39***									
II.3.1. Professional Training and Skill Development				***32***									
III.3.1a. Compulsory Courses				*28*									
71	2010199	Theory and Methods of Teaching Physics	4	3	35		20			90	2030410	Education	
72	2010200	Analysis and development of general physics program 1	5	2	20		20			55	2030410	Education	
73	2010201	Analysis and development of general physics program 2	6	2	20		20			55	2010200	Education	
74	1020079	Applications of information technology in teaching physics	7	2				60		35	2010199	Education	
75	1020051	Methods of teaching physics problem solving	7	2	15	15				65	2010199	Education	
76	2010036	Experiment In Teaching Physics	6	2				60		35	2010199	Education	
77	2010037	Training of teaching method 1	6	2				60		35	2010200 2010199	Education	
78	2010038	Training of teaching method 2	7	2				60		35	2010037	Education	
79	1020146	Assessment and Evaluation in Physics Teaching	6	2	25		10			60	2010199	Education	

No	Course codes	Course Name	Semester	Number of credits	In-class hours			Experiment, Practice	Others	Self-study hours	Prerequisite Course Code	Department in charge of the course	Note
					Theory	Exercise	Discussion						
80	2010202	Applied educational research	7	2	20			20		55	2010199	Education	
81	1020166	English for Physics	6	2	28		4			63	1090166 1020056	Natural Sciences	
82	2020364	Mechanics-Thermology Experiment	3	2				60		35	1020011	Natural Sciences	
83	2020366	Electricity – Vibrations experiment	4	2				60		35	1020023	Natural Sciences	
84	2020370	Optical Experiment	5	1				30		15	1020056	Natural Sciences	
III.3.1b. Elective Courses				*4*									
Choose 1 of the following 2 courses:				*2*									
85	2010039	STEM education in Physics	7	2	25		10			60	2010199	Education	
86	1150422	Start-up	7	2	25		10			60	2010199	Finance and Banking & Business Administration	
Choose 1 of the following 2 courses:				*2*									
87	2010041	Positive teaching methods in physics teaching	7	2	25		10			60	2010199	Education	
88	2010203	Actively activating students' cognitive activities in physics teaching	7	2	25		10			60	2010199	Education	
II.3.2. Professional Internship				*7*									
89	1020071	Teaching Practicum 1	7	1					TT		2010037	Education	
90	1020072	Teaching Practicum 2	8	5					TT		1020071	Education	
91	1020157	Face-Finding Trip	6	1					TT		2020367	Education	
II.4. Graduation Thesis, Alternative Courses				***6***									
92	2010043	Graduation thesis	8	6					KL			Education	
Alternative Courses				*6*									
93	2010204	Employing laboratory equipment in physics teaching	8	2				60		35	1020072	Education	

No	Course codes	Course Name	Semester	Number of credits	In-class hours			Experiment, Practice	Others	Self-study hours	Prerequisite Course Code	Department in charge of the course	Note
					Theory	Exercise	Discussion						
94	2020720	Extended General Physics	8	2	20	10				65	1020072	Natural Sciences	
95	2020374	Scientific Research in Physics	8	2	10		40			45	1020072	Natural Sciences	
Total:				**138**									

9. TENTATIVE TEACHING PLAN

Semester 1

No	Course code	Course name	Number of credits	In-class hours			Experiment, Practice	Others	Self-study hours	Prerequisite Course Code	Department in charge of the course	Note
				Theory	Exercise	Discussion						
1	1130299	Philosophy of Marxism and Leninism	3	40		10			95		Political Theory, Law and Public Administration	
2	1130049	Fundamentals of Law	2	27		6			62		Political Theory, Law and Public Administration	
3	1090061	English 1	3	30	15				100		Foreign Languages	
4	1050242	ICT Fundamentals for Education	3	30			30		85		Information Technology	
5	2010163	Advanced Mathematics 1	2	20	10						Education	
6	2020619	Math for Physics 1	2	25	5				65		Natural Sciences	
7	2020620	Mechanics 1	2	20	8	4			63		Natural Sciences	

No	Course code	Course name	Number of credits	In-class hours			Experiment, Practice	Others	Self-study hours	Prerequisite Course Code	Department in charge of the course	Note
				Theory	Exercise	Discussion						
Choose 1 of the following 8 courses:			***1***									
8	1120172	Physical Education 1 (Football 1)	1	4			26		21		Physical Education	
9	1120175	Physical Education 1 (Volleyball 1)	1	4			26		21		Physical Education	
10	1120178	Physical Education 1 (Basketball 1)	1	4			26		21		Physical Education	
11	1120181	Physical Education 1 (Badminton 1)	1	4			26		21		Physical Education	
12	1120184	Physical Education 1 (Vietnamese Traditional Matial Arts 1)	1	4			26		21		Physical Education	
13	1120187	Physical Education 1 (Taekwondo Matial Arts 1)	1	4			26		21		Physical Education	
14	1120190	Physical Education 1 (Karatedo Matial Arts 1)	1	4			26		21		Physical Education	
15	1120239	Physical Education 1 (Pickleball 1)	1	4			26		21		Physical Education	
Total (excluding Physical Education courses):			**17**									

Semester 2:

No	Course code	Course name	Number of credits	In-class hours			Experiment, Practice	Others	Self-study hours	Prerequisite Course Code	Department in charge of the course	Note
				Theory	Exercise	Discussion						
1	1130300	Political economics of marxism and leninism	2	27		6			62	1130299	Political Theory, Law and Public Administration	
2	1090166	English 2	4	40	20				135	1090061	Foreign Languages	
3	1100086	Psychology	3	30	10	10			95	1130299	Social Sciences and Humanities	
4	2010164	Advanced Mathematics 2	2	20	10					2010163	Education	
5	2020621	Math for Physics 2	2	22	8				65	2020619	Natural Sciences	
6	1020155	Math for Physics 3	2	20	10				65	2020619	Natural Sciences	
7	1020011	Mechanics 2	2	15	10	10			60	2020620	Natural Sciences	
Choose 1 of the following 8 courses:			***1***									
8	1120173	Physical Education 2 (Football 2)	1	4			26		21	1120172	Physical Education	
9	1120176	Physical Education 2 (Volleyball 2)	1	4			26		21	1120175	Physical Education	
10	1120179	Physical Education 2 (Basketball 2)	1	4			26		21	1120178	Physical Education	
11	1120182	Giáo dục thể chất 2 (Cầu lông 2)	1	4			26		21	1120181	Physical Education	
12	1120185	Physical Education 2 (Vietnamese Traditional Matial Arts 2)	1	4			26		21	1120184	Physical Education	

No	Course code	Course name	Number of credits	In-class hours			Experiment, Practice	Others	Self-study hours	Prerequisite Course Code	Department in charge of the course	Note
				Theory	Exercise	Discussion						
13	1120188	Physical Education 2 (Taekwondo Matial Arts 2)	1	4			26		21	1120187	Physical Education	
14	1120191	Physical Education 2 (Karatedo Matial Arts 2)	1	4			26		21	1120190	Physical Education	
15	1120240	Physical Education 2 (Pickleball 2)	1	4			26		21	1120239	Physical Education	
Total (excluding Physical Education courses):			**17**									

Semester 3:

No	Course code	Course name	Number of credits	In-class hours			Experiment, Practice	Others	Self-study hours	Prerequisite Course Code	Department in charge of the course	Note
				Theory	Exercise	Discussion						
1	1130301	Science socialism	2	27		6			62	1130300	Political Theory, Law and Public Administration	
2	2030410	Pedagogics	4	36	20	0	8		131	1100086	Social Sciences and Humanities	
3	2020708	Methods of Mathematical Physics	2	22	8				65	2020621	Natural Sciences	
4	2020710	Thermology	3	30	12	6			97	1020011	Natural Sciences	
5	2020459	Electromagnetism 1	2	18	10	4			63	2020620	Natural Sciences	

No	Course code	Course name	Number of credits	In-class hours			Experiment, Practice	Others	Self-study hours	Prerequisite Course Code	Department in charge of the course	Note
				Theory	Exercise	Discussion						
6	2020460	Electromagnetism 2	2	18	10	4			63	1020011	Natural Sciences	
7	1020023	Vibriation and wave	2	18	10	4			63	2020620	Natural Sciences	
8	2020364	Mechanics-Thermology Experiment	2				60		35	1020011	Natural Sciences	
Choose 1 of the following 8 courses:			***1***									
9	1120174	Physical Education 3 (Football 3)	1	4			26		21	1120173	Physical Education	
10	1120177	Physical Education 3 (Volleyball 3)	1	4			26		21	1120176	Physical Education	
11	1120180	Physical Education 3 (Basketball 3)	1	4			26		21	1120179	Physical Education	
12	1120183	Physical Education 3 (Badminton 3)	1	4			26		21	1120182	Physical Education	
13	1120186	Physical Education 3 (Vietnamese Traditional Matial Arts 3)	1	4			26		21	1120185	Physical Education	
14	1120189	Physical Education 3 (Taekwondo Matial Arts 3)	1	4			26		21	1120188	Physical Education	
15	1120192	Physical Education 3 (Karatedo Matial Arts 3)	1	4			26		21	1120191	Physical Education	
	1120241	Physical Education 3 (Pickleball 3)	1	4			26		21	1120240	Physical Education	
Total (excluding Physical Education courses):			**19**									

Semester 4:

No	Course code	Course name	Number of credits	In-class hours			Experiment, Practice	Others	Self-study hours	Prerequisite Course Code	Department in charge of the course	Note
				Theory	Exercise	Discussion						
1	1130302	History of Vietnamese Communist Party	2	27		6			62	1130301	Political Theory, Law and Public Administration	
2	2010156	Pedagogical Communication	2	20			20		55	2030410	Education	
3	1020056	Optics	3	30	11	8			96	1020011	Natural Sciences	
4	2020711	Atomic and Nuclear Physics	3	30	13	4			98	2020460	Natural Sciences	
5	1020132	Astronomy	2	20	8	4			63	1020011	Natural Sciences	
6	2020365	Theoretical Mechanics	2	20	8	4			63	1020011	Natural Sciences	
7	2010199	Theory and Methods of Teaching Physics	3	35		20			90	2030410	Education	
8	2020366	Electricity – Vibrations experiment	2				60		35	1020023	Natural Sciences	
Total			**19**									

Semester 5:

No	Course code	Course name	Number of credits	In-class hours			Experiment, Practice	Others	Self-study hours	Prerequisite Course Code	Department in charge of the course	Note
				Theory	Exercise	Discussion						
1	1130091	Ho Chi Minh thought	2	27		6			62	1130302	Political Theory, Law and Public Administration	
2	2010171	Experiential and Career-Oriented Activities in Schools	2	20			20		55	2030410	Education	
3	2020367	Electrical Engineering	3	30			30		85	2020460	Natural Sciences	
4	2020368	Electrodynamics	2	20	8	4			63	1020155	Natural Sciences	
5	2020369	Quantum Mechanics	3	39	6				100	1020023	Natural Sciences	
6	2020709	Physics and life	2	22	6	4			63	1020023	Natural Sciences	
7	2010200	Analysis and development of general physics program 1	2	20		20			55	2030410	Education	
8	2020370	Optical Experiment	1				30		15	1020056	Natural Sciences	
National Defense and Security Education			**9**									
9	1120168	National Defense and Security Education 1	3	37		8			82		National Defense and Security Education	
10	1120169	National Defense and Security Education 2	2	22		8			52		National Defense and Security Education	
11	1120170	National Defense and Security Education 3	2	14			16		44		National Defense and Security Education	

No	Course code	Course name	Number of credits	In-class hours			Experiment, Practice	Others	Self-study hours	Prerequisite Course Code	Department in charge of the course	Note
				Theory	Exercise	Discussion						
12	1120171	National Defense and Security Education 4	2	4			56		36		National Defense and Security Education	
Total (excluding National Defense-Security Education courses):			**17**									

Semester 6:

No	Course code	Course name	Number of credits	In-class hours			Experiment, Practice	Others	Self-study hours	Prerequisite Course Code	Department in charge of the course	Note
				Theory	Exercise	Discussion						
1	2020712	Electronics	3	29	8	4	12		104	2020367	Natural Sciences	
2	2020713	Statistical Physics	2	25	5				65	2020711	Natural Sciences	
3	2020714	Solid State Physics	3	34	9	4			98	2020369	Natural Sciences	
4	2010201	Analysis and development of general physics program 2	2	20		20			55	2010200	Education	
5	2010036	Experiment In Teaching Physics	2				60		35	2010199	Education	
6	2010037	Training of teaching method 1	2				60		35	2010200 2010199	Education	
7	1020146	Assessment and Evaluation in Physics Teaching	2	25		10			60	2010199	Education	
8	1020166	English for Physics	2	28		4			63	1090166 1020056	Natural Sciences	

No	Course code	Course name	Number of credits	In-class hours			Experiment, Practice	Others	Self-study hours	Prerequisite Course Code	Department in charge of the course	Note
				Theory	Exercise	Discussion						
9	1020157	Face-Finding Trip	1					TT		2020367	Education	
Total			**19**									

Semester 7:

No	Course code	Course name	Number of credits	In-class hours			Experiment, Practice	Others	Self-study hours	Prerequisite Course Code	Department in charge of the course	Note
				Theory	Exercise	Discussion						
1	1020079	Applications of information technology in teaching physics	2				60		35	2010199	Education	
2	1020051	Methods of teaching physics problem solving	2	15	15				65	2010199	Education	
3	2010038	Training of teaching method 2	2				60		35	2010037	Education	
4	1020071	Teaching Practicum 1	1					TT		2010037	Education	
5	2010202	Applied educational research	2	20		20			55	2010199	Education	
Choose 1 of the following 2 courses:			2									
6	2020715	Semiconductor Physics and Devices	2	22	6	4			63	2020714	Natural Sciences	
7	2020716	Magnetism and Superconductivity	2	22	6	4			63	2020714	Natural Sciences	

No	Course code	Course name	Number of credits	In-class hours			Experiment, Practice	Others	Self-study hours	Prerequisite Course Code	Department in charge of the course	Note
				Theory	Exercise	Discussion						
Choose 1 of the following 2 courses:			2									
8	2020717	Materials Fabrication Methods	2	25	4	2			64	2020714	Natural Sciences	
9	1020145	Experimental Methods for Materials	2	25	4	2			64	2020714	Natural Sciences	
Choose 1 of the following 2 courses:			2									
10	2020718	Applied Electronics	2	23	4		6		62	2020712	Natural Sciences	
11	2020719	Computational Simulations in Physics	2	23	4		6		62	2020369	Natural Sciences	
Choose 1 of the following 2 courses:												
12	2010039	STEM education in Physics	2	25		10			60	2010199	Education	
13	1150422	Start-up	2	25		10			60	2010199	Finance and Banking & Business Administration	
Choose 1 of the following 2 courses:												
14	2010041	Positive teaching methods in physics teaching	2	25		10			60	2010199	Education	
15	2010203	Actively activating students' cognitive activities in physics teaching	2	25		10			60	2010199	Education	
Total			**19**									

Semester 8:

No	Course code	Course name	Number of credits	In-class hours			Experiment, Practice	Others	Self-study hours	Prerequisite Course Code	Department in charge of the course	Note
				Theory	Exercise	Discussion						
1	1020072	Teaching Practicum 2	5					TT		1020071	Education	
Graduation thesis												
2	2010043	Graduation thesis	6					KL			Education	
Alternative Courses												
3	2010204	Employing laboratory equipment in physics teaching	2				60		35	1020072	Education	
4	2020720	Extended General Physics	2	20	10				65	1020072	Natural Sciences	
5	2020374	Scientific Research in Physics	2	10		40			45	1020072	Natural Sciences	
Total			**11**									

10. GUIDELINES FOR THE IMPLEMENTATION OF THE PROGRAM

This training program is applied from the 2025 admission cohort for students majoring in Physics Teacher Education.

The training process is implemented based on a curriculum that has been designed in accordance with the training objectives, learner characteristics, workforce requirements, and the specific demands of the discipline. For elective courses, depending on actual conditions, development trends, and social needs, the Faculty will provide guidance to help students select appropriate courses.

The Head of the Faculty is responsible for organizing and guiding the principles for developing detailed course syllabi to ensure that the objectives, content, and requirements are met, while also responding to the needs of learners and society.

The training program is regularly reviewed, evaluated, and updated. The results of these reviews and evaluations are used to improve and enhance the quality of training. The comprehensive review cycle of the training program is conducted at least once every five years.

Gia Lai, July 22 , 2025

RECTOR

Assoc. Prof. Dr. Doan Duc Tung