MINISTRY OF EDUCATION AND TRAINING
QUY NHON UNIVERSITY

UNDERGRADUATE PROGRAM

Level	: **Undergraduate**
Major	: **Biology Education**
Code	: **7140213**
Mode of Study	: **Full-time**

Gia Lai, 2025

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QUY NHON UNIVERSITY

SOCIALIST REPUBLIC OF VIET NAM
Independence - Freedom - Happiness

UNDERGRADUATE PROGRAM

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

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1. OBJECTIVES

1.1. General objectives

The Bachelor's program in Biology Education aims to train graduates who possess sound political and ethical qualities, as well as good health; have a solid foundation in basic sciences and educational sciences. Graduates are expected to have the ability to apply professional knowledge to solve problems in education, biology teaching, and scientific research. Furthermore, they will develop digital competencies, lifelong learning capabilities, and adaptability to evolving educational environments. Ultimately, graduates exhibit professional responsibility and a strong 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 Biology Education are expected to:

+ **PO1**: Demonstrate professional knowledge and practical competencies required for Biology teachers.

+ **PO2**: Exhibit professional competencies in education, biology teaching, and scientific research, meeting the requirements of national general education reform and international integration.

+ **PO3**: Develop self-directed learning, digital, communication and collaboration competencies to adapt to the evolving educational environment.

+ **PO4**: Display pedagogical ethics, professional responsibility, a positive attitude, and a commitment to community service.

2. JOB OPPORTUNITIES AND PROFESSIONAL DEVELOPMENT/ FURTHER STUDY

Graduates of the Bachelor's program in Biology Education are qualified to assume the following professional positions:

+ Biology teachers at upper secondary schools; teaching assistants or lecturers at universities, colleges, professional secondary schools, and other vocational education institutions.

+ Researchers at institutes and research centers focusing on Biological Sciences and Educational Sciences; educational specialists at Departments of Education and Training, as well as other educational organizations.

+ Pursue postgraduate studies in specialized fields within Life Sciences and Educational Sciences.

3. LEARNING OUTCOMES

The Bachelor's program in Biology Education is designed to ensure that upon graduation, students attain the following learning outcomes:

PLO1: Apply general education knowledge, field knowledge and foundational disciplinary knowledge to perform professional tasks	**PI 1.1:** Identify general education knowledge, field knowledge and foundational disciplinary knowledge required to perform professional tasks
	PI 1.2: Apply general education knowledge, field knowledge and foundational disciplinary knowledge to perform professional tasks
PLO2: Apply core biological knowledge to solve professional problems	**PI 2.1:** Apply core biological knowledge to solve discipline-specific scientific problems
	PI 2.2: Apply core biological knowledge to connect and analyze the subject matter of Upper-Secondary Biology Curriculum
PLO3: Analyze advanced biological knowledge to acquire new knowledge and solve practical problems	**PI 3.1:** Analyze advanced biological knowledge to acquire new knowledge
	PI 3.2: Analyze advanced biological knowledge to solve practical problems
PLO4: Demonstrate biological experimental procedures and **interpret** their results	**PI 4.1:** Demonstrate biological experimental procedures
	PI 4.2: Interpret the results of biological experiments
PLO5: Organize teaching and educational activities and apply pedagogical communication skills in these 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: Assess effectiveness of teaching and educational activities oriented toward the

	development of students' qualities and competencies
PLO6: Conduct scientific research in professional practice	**PI 6.1:** Plan scientific research in professional practice
	PI 6.2: Implement scientific research in professional practice
PLO7: Use specialized English, digital tools and technologies in professional practice	**PI 7.1** Use specialized English in professional practice
	PI 7.2 Use digital tools and technologies in professional practice
PLO8: Demonstrate autonomy in learning and research, personal responsibility, and effective collaboration in academic and professional environments	**PI 8.1:** Demonstrate autonomy in learning and research, along with personal responsibility, to proactively acquire knowledge, develop independent thinking, and construct effective learning strategies
	PI 8.2: Demonstrate effective collaboration to enhance learning quality, support learners' holistic development, and contribute to the development of an educational environment that reflects the institution's distinctive culture
PLO9: Demonstrate professional ethics, teacher responsibility, and community engagement in contributing to holistic human development	**PI 9.1:** Identify key issues related to teachers' professional ethics, professional responsibility, and community engagement
	PI 9.2: Demonstrate professional ethics, professional responsibility, and active community engagement in order to guide learners' character formation, cultivate a positive learning environment, and contribute to holistic human development

4. PROGRAM DURATION AND TOTAL ACADEMIC WORKLOAD

4.1. Program Duration: 04 years

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

Program structure	Credits
General Education Knowledge	**24**
Professional Knowledge	**114**
- Fundamental Knowledge	28
- Major and Specialized Knowledge (if any)	45
- Supplementary Knowledge	35
- Graduation Thesis, Alternative courses	6
Total	**138**

5. ADMISSION REQUIREMENTS

Applicants who wish to apply for admission to the Bachelor program in Biology Education must meet the following requirements:

a. Hold a Vietnamese upper secondary school diploma or a recognized equivalent foreign diploma.

b. Hold a professional secondary diploma in a related field and have completed the required general education subjects at the upper secondary level, as prescribed by law.

c. Meet the health requirements for 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:

- *Academic Requirements:* In accordance with the current Regulations on Undergraduate Education issued by the Ministry of Education and Training, and the current Regulations on Undergraduate Education and Undergraduate Training of Quy Nhon University. Students must successfully complete all required courses and the total academic workload of the program; achieve a cumulative Grade Point Average (GPA) of at least 2.00 for the entire program; and attain all Program Learning Outcomes (PLOs).

- *Physical Education and National Defense and Security Education:* Fulfill the requirements for Physical Education and obtain the Certificate of National Defense and Security Education.

- *Foreign Language Requirement:* Meet the foreign language proficiency standard as prescribed by the University.

- *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:* Meet the information technology proficiency standard as prescribed by the University.

7. TEACHING METHODS AND LEARNING ASSESSMENT

7.1 Teaching Methods

No	Teaching strategies	Teaching methods
1	**Face-to-Face Teaching:** Face-to-Face Teaching is a teaching process in which the instructor directly delivers information and fundamental knowledge to learners. In this	- Lecture/Presentation - Explanation and Illustration - Question-Answer Interaction - Problem-posing

No	Teaching strategies	Teaching methods
	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.	- 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 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.	- Case-based learning - Problem-based learning - Guiding questions - Online teaching - Assignments - Discussion - Debate - Project-based 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	- Experiential learning - Internship - Fieldwork - Simulation - Practice - Discussion - Project-based learning

No	Teaching strategies	Teaching methods
	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.	
4	**Interactive Teaching and Learning:** Interactive Teaching and Learning 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 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.	- Interactive lectures - Group work - Discussions - Debates - Practice - Internships - Fieldwork - Project-based learning
5	**Self-Study:** Self-Study 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,	- Online learning - Homework assignments - Self-directed learning - Practice - Internships - Fieldwork - Project-based learning

No	Teaching strategies	Teaching methods
	as well as their autonomy and sense of responsibility in the learning process.	

7.2 Learning Assessment

7.2.1. Assessment of Program Learning Outcomes: Learning assessment is conducted in accordance with the current Undergraduate Academic Regulations and the Regulations on the Assessment of Undergraduate 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 theory-practice integrated courses</td><td rowspan="2">The overall course grade (referred to as the course grade) consists of two components: the continuous assessment grade and the final examination grade</td><td>Continuous assessment grade: Weighted at 30%, 40%, or 50% of the course grade.</td><td rowspan="2">Assessment methods, formats, and the specific weight of each component grade are regulated in the detailed syllabus of each course.</td></tr>
<tr><td>Final examination grade: Weighted at 70%, 60%, or 50% of the course grade.</td></tr>
<tr><td>2. Experimental or practical-only courses</td><td colspan="3">The practical course grade is the average score of all practical assignments throughout the semester, rounded to one decimal place.</td></tr>
<tr><td>3. Specific courses (internships, field trips, course projects, or capstone projects)</td><td colspan="3">The department managing the course shall propose the assessment method, subject to the Rector's approval.</td></tr>
<tr><td>4. Assessment of capstone projects and graduation theses</td><td colspan="2">- The assessment of projects and theses is conducted by a committee established by the Rector's decision..
- The committee consists of 03 members: Chairperson, Reviewer, and Secretary (the supervisor is not a member of the committee). The committee organizes the defense and assessment only when all members are present.</td><td>- The final grade is the average of the component grades from the committee members and the supervisor: ([Supervisor grade + Committee member grades (3 scores)] / 4).
- Component grades are marked on a 10-point scale to one decimal place, the final project/thesis grade is calculated on a 10-point scale, rounded to one</td></tr>
</table>

Assessment and Grading of Courses		
		decimal place, and converted to a letter grade scale.

Applicable Grading Scales

Grading scales	**10-point scale:** Ranging from 0 to 10 (with one decimal place), used to evaluate and record continuous assessment grades, final examination grades, and overall course grades.
	Letter grade scale: Used to classify course performance as an alternative format, corresponding to the course grade on the 10-point scale.
	4-point scale: Used to calculate the semester Grade Point Average (GPA) and Cumulative Grade Point Average (CGPA), to evaluate students' academic performance after each semester and study phase, and to determine graduation classification.

Conversion Rules Between Grading Scales

10-point scale	Letter grade	4-point Scale	Result
From 9.0 to 10	A+	4.0	Pass
From 8.0 to 8.9	A	3.5	
From 7.0 to 7.9	B+	3.0	
From 6.0 to 6.9	B	2.5	
From 5.0 to 5.9	C	2.0	
From 4.0 to 4.9	D	1.5	
From 0 to 3.9	F	0	Fail

7.2.3. Assessments Methods

Assessments Methods	
Formative Assessment	This method is used to assess students' attendance and learning attitudes, including their learning awareness, independence, and creativity. It involves monitoring class attendance, preparation for lessons, participation in discussions, and contributions to classroom 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 criteria that have been communicated to students in advance.

Presentation Assessment	Students are required to work individually or in groups and present their results to other students. This activity not only assesses the extent to which students achieve the required subject-specific knowledge but also evaluates the development of skills such as communication, negotiation, and teamwork.
Written Assessment	Written assessment methods include essay-type tests and objective tests in the form of multiple-choice questions, or a combination of both.
Practical Exercise	Students are assessed based on criteria such as the accuracy of procedures and operations performed, the outcomes achieved, and the quality of the practical report.
Oral Examination	Students are assessed through interviews and direct question-and-answer sessions. This method is used in certain courses to evaluate students' overall competence, including their knowledge as well as communication and presentation skills.
Group Assignment	This method is used in group-based learning activities to evaluate students' teamwork skills.
Term Paper / Major Assignment Assessment	Students are assessed through writing a report on a topic related to a course or a practical issue in order to draw conclusions, provide insights, and propose solutions for implementation or improvement of the identified problem. The assessment of the term paper includes evaluation of the structure, content, conclusions, and the format of presentation.
Learning Project Product Assessment	Through the products developed by students, the instructor evaluates the level of development, creativity, and effectiveness of the completed product. The criteria and standards used to assess the product may vary. Product assessment is conducted based on the specific context of real-world situations.

Assessment Methods – PLOs Alignment Matrix

Assessments Methods	**Program Learning Outcomes (PLOs)**								
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
Formative Assessment			×	×	×	×	×	×	×
Assignment Assessment	×	×	×	×	×	×	×	×	×
Presentation Assessment	×	×	×	×	×	×	×	×	×
Written Examination	×	×	×	×	×	×	×	×	×

Practical Exercise	×	×	×	×	×	×	×	×	×
Oral Examination	×	×	×	×	×	×	×	×	×
Group Assignment		×		×	×	×	×	×	×
Term Paper / Major Assignment	×	×	×	×	×	×	×	×	×
Learning Project Product Assessment	×	×	×	×	×	×	×	×	

8. PROGRAM CONTENT

No	Course Code	Course Name	Semester	Number of credits	In-class hours			Experiment/ Pratice	Others	Self-study Hours	Prerequisite Course Code	Department in charge	Note
					Theory	Assignment	Discussion						
I. General Knowledge				**24**									
I.1. Political Science and Law				***13***									
01	1130299	Marxist-Leninist Philosophy	1	3	40		10			95		DPSLM	
02	1130300	Marxist-Leninist Political Economy	2	2	27		6			62	1130299	DPSLM	
03	1130049	Introduction to Law	1	2	27		6			62		DPSLM	
04	1130301	Scientific Socialism	3	2	27		6			62	1130300	DPSLM	
05	1130302	History of the Communist Party of Vietnam	4	2	27		6			62	1130301	DPSLM	
06	1130091	Ho Chi Minh Thought	5	2	27		6			62	1130302	DPSLM	
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		DPE	
08	1120173	Physical Education 2 (Football 2)	2	1	4			26		21	1120172	DPE	
09	1120174	Physical Education 3 (Football 3)	3	1	4			26		21	1120173	DPE	
10	1120175	Physical Education 1 (Volleyball 1)	1	1	4			26		21		DPE	
11	1120176	Physical Education 2 (Volleyball 2)	2	1	4			26		21	1120175	DPE	
12	1120177	Physical Education 3 (Volleyball 3)	3	1	4			26		21	1120176	DPE	
13	1120178	Physical Education 1 (Basketball 1)	1	1	4			26		21		DPE	
14	1120179	Physical Education 2 (Basketball 2)	2	1	4			26		21	1120178	DPE	
15	1120180	Physical Education 3 (Basketball 3)	3	1	4			26		21	1120179	DPE	
16	1120181	Physical Education 1 (Badminton 1)	1	1	4			26		21		DPE	
17	1120182	Physical Education 2 (Badminton 2)	2	1	4			26		21	1120181	DPE	
18	1120183	Physical Education 3 (Badminton 3)	3	1	4			26		21	1120182	DPE	
19	1120184	Physical Education 1 (Vietnamese Traditional Martial Arts 1)	1	1	4			26		21		DPE	
20	1120185	Physical Education 2	2	1	4			26		21	112018	DPE	

No	Course Code	Course Name	Semester	Number of credits	In-class hours			Experiment/ Pratice	Others	Self-study Hours	Prerequisite Course Code	Department in charge	Note
					Theory	Assignment	Discussion						
		(Vietnamese Traditional Martial Arts 2)									4		
21	1120186	Physical Education 3 (Vietnamese Traditional Martial Arts 3)	3	1	4			26		21	1120185	DPE	
22	1120187	Physical Education 1 (Taekwondo 1)	1	1	4			26		21		DPE	
23	1120188	Physical Education 2 (Taekwondo 2)	2	1	4			26		21	1120187	DPE	
24	1120189	Physical Education 3 (Taekwondo 3)	3	1	4			26		21	1120188	DPE	
25	1120190	Physical Education 1 (Karate-do 1)	1	1	4			26		21		DPE	
26	1120191	Physical Education 2 (Karate-do 2)	2	1	4			26		21	1120190	DPE	
27	1120192	Physical Education 3 (Karate-do 3)	3	1	4			26		21	1120191	DPE	
28	1120239	Physical Education 1 (Pickleball 1)	1	1	4			26		21		DPE	
29	1120240	Physical Education 2 (Pickleball 2)	2	1	4			26		21	1120239	DPE	
30	1120241	Physical Education 3 (Pickleball 3)	3	1	4			26		21	1120240	DPE	
National Defense and Security Education				***9***									
31	1120168	National Defense and Security Education 1	5	3	37		8			82		CNDSE	
32	1120169	National Defense and Security Education 2	5	2	22		8			52		CNDSE	
33	1120170	National Defense and Security Education 3	5	2	14			16		44		CNDSE	
34	1120171	National Defense and Security Education 4	5	2	4			56		36		CNDSE	
I.3. Foreign Language				***7***									
35	1090061	English 1	1	3	30	15				100		DFL	
36	1090166	English 2	2	4	40	20				135	1090061	DFL	
I.4. Social Sci./Mathematics; Natural Sci.–Environment; Management Sci.				***4***									
37	2010156	Pedagogical Communication	4	2	20			20		55	2030410	DE	
38	2010171	Experiential and Career-Oriented Activities in Schools	5	2	20			20		55	2030410	DE	
II. Professional Knowledge				**114**									

No	Course Code	Course Name	Semester	Number of credits	In-class hours			Experiment/ Pratice	Others	Self-study Hours	Prerequisite Course Code	Department in charge	Note
					Theory	Assignment	Discussion						
II.1. Fundamental and Disciplinary Knowledge				***28***									
39	1050242	ICT Fundamentals for Education	1	3	30			30		85		DIT	
40	1100086	Psychology	2	3	30	10	10			95	1130299	DSSH	
41	2030410	Pedagogics	3	4	36	20		8		131	1100086	DSSH	
42	1010478	Probability and Statistics	2	2	20	10				65		DMS	
43	2020613	Fundamental Physics in Life Sciences	1	2	22	8				65		DNS	
44	2020614	Fundamental Chemistry in Life Sciences	1	2	22	8				65		DNS	
45	2020616	Fundamental Chemistry Practice in Life Sciences	2	1				30		15	2020614	DNS	
46	2020615	Cell Biology	1	3	37		4	12		92		DNS	
47	2020381	Biophysics	3	2	25			10		60	2020615 2020613	DNS	
48	2020380	Biochemistry	3	3	37		4	12		92	2020614	DNS	
49	1040221	Basic Microbiology	3	3	34		6	16		89	2020615	DNS	
II.2. Major and Specialization Knowledge				***45***									
II.2.1. Major Knowledge				***45***									
II.2.1a. Compulsory Courses				*39*									
50	2020617	Botany 1	2	3	34		6	16		89	2020615	DNS	
51	2020688	Botany 2	3	3	34		6	16		89	2020617	DNS	
52	2020618	Zoology 1	2	3	35		4	16		90	2020615	DNS	
53	2020689	Zoology 2	3	3	35		4	16		90	2020618	DNS	
54	1040222	Human Anatomy	4	2	23		4	10		58	2020689	DNS	
55	2020690	Plant Physiology	4	4	48		6	18		123	2020615 2020380	DNS	
56	2020691	Human and Animal Physiology	5	4	48		6	18		123	1040222	DNS	
57	2020692	Ecology, Environment and Biodiversity	4	3	34		6	16		89	2020688 2020689	DNS	
58	2020693	Genetics 1	4	3	36	4		10		95	2020688 2020689	DNS	
59	2020694	Genetics 2	5	3	34	3		16		92	2020693	DNS	

No	Course Code	Course Name	Semester	Number of credits	In-class hours			Experiment/ Pratice	Others	Self-study Hours	Prerequisite Course Code	Department in charge	Note
					Theory	Assignment	Discussion						
60	2020695	Evolution	5	2	25		4	6		60	2020688 2020689	DNS	
61	2020696	Biotechnology	6	4	48		6	18		123	2020694	DNS	
62	2020697	Applications of Biological Advances in Daily Life	6	2	25		10			60	2020690 2020691 2020694	DNS	
II.2.1a. Elective Courses				*6*									
Choose 1 of the following 3 courses				*2*									
63	1040242	Microbiology Application	7	2	25			10		60	1040221	DNS	
64	2020698	Medical Genetics	7	2	25		10			60	2020694	DNS	
65	2020699	Basic Techniques in Molecular Biology	7	2	25			10		60	2020694	DNS	
Choose 1 of the following 3 courses				*2*									
66	2020700	Plant Nutrition and Clean Agriculture	7	2	28		4			63	2020690	DNS	
67	2020701	Biological Control	7	2	28		4			63	2020692	DNS	
68	2020702	Human Ecology and Sustainable Development	7	2	28		4			63	2020692	DNS	
Choose 1 of the following 3 courses				*2*									
69	2020387	Animal nutrition	7	2	28		4			63	2020380 2020691	DNS	
70	2020703	Infectious Diseases and Immunity	7	2	28		4			63	1040221 2020691	DNS	
71	2020704	Animal Behavior	7	2	28		4			63	2020691	DNS	
II.3. Supplementary Knowledge				***35***									
II.3.1. Professional training and Skill Development				***28***									
III.3.1a. Compulsory Courses				*26*									
72	2010187	Theoretical Foundations of Biology Teaching	5	3	32		8	18		87	2030410	DE	
73	2010188	Methods of Teaching Biology 1	6	4	40	5		30		120	2010187	DE	
74	2010189	Methods of Teaching Biology 2	6	3	32	4		18		91	2010187	DE	
75	2010190	Active Teaching Methods and Techniques in Biology	6	2	25		10			60	2010187	DE	
76	2020705	English for Biology	4	2	24	4	4			63	1090166	DNS	

No	Course Code	Course Name	Semester	Number of credits	In-class hours			Experiment/ Pratice	Others	Self-study Hours	Prerequisite Course Code	Department in charge	Note
					Theory	Assignment	Discussion						
77	2010191	Applying Information Technology in Biology Teaching	7	2				60		35	1050242 2010187	DE	
78	2010192	Biology Assignments in Secondary Education	6	2	15	10	10			60	2010187	DE	
79	2010057	Testing and Assessment in Biology Teaching	7	2	25			10		60	2010188 2010189	DE	
80	2010193	Applied Pedagogical Research in Biology Teaching	7	2	20			20		55	1010478 2010187	DE	
81	2010055	Pedagogical Competency Development 1	6	2				60		35	2010187	DE	
82	2010056	Pedagogical Competency Development 2	7	2				60		35	2010055	DE	
III.3.1b. Elective Courses				*2*									
Choose 1 of the following 3 courses				*2*									
83	2010194	Experiential Learning in Biology Teaching	7	2	25		10			60	2010188 2010189	DE	
84	2010195	STEM and STEAM Education in Biology	7	2	25		10			60	2010188 2010189	DE	
85	1150422	Entrepreneurship	7	2	20	5	10			60	1130049	DFBA	
II.3.2. Professional Internship (PI)				***7***									
86	2010196	Field Studies in Biology	4	1					PI		2020688 2020689	DE	
87	1040128	Teaching Practicum 1	7	1					PI		2010188 2010189	DE	
88	1040115	Teaching Practicum 2	8	5					PI		1040128	DE	
II.4. Graduation Thesis (GT), Alternative Courses				***6***									
89	2010060	Graduation Thesis	8	6					GT			DE	
Alternative Courses				***6***									
90	2020706	Selected Topics in Modern Biology	8	2	20	5	10			60	2020694	DNS	
91	2020707	Research Methodology in Biological Science	8	2	15			30		50	1010478 2020688 2020689	DNS	
92	2010197	Integrated & Differentiated Approaches to Biology Teaching	8	2	25		10			60	2010188 2010189	DE	
Total				**138**									

9. TEACHING PLAN

Semester 1:

No	Course Code	Course Năm	Number of credits	In-class hours			Experiment/ Pratice	Others	Self-study Hours hours	Prerequisite Course Code	Department in Charge	Note
				Theory	Assignment	Discussion						
01	1130299	Marxist–Leninist Philosophy	3	40		10			95		DPSLM	
02	1130049	Introduction to Law	2	27		6			62		DPSLM	
03	1090061	English 1	3	30	15				100		DFL	
04	1050242	ICT Fundamentals for Education	3	30			30		85		DIT	
05	2020613	Fundamental Physics in Life Sciences	2	22	8				65		DNS	
06	2020614	Fundamental Chemistry in Life Sciences	2	22	8				65		DNS	
07	2020615	Cell Biology	3	37		4	12		92		DNS	
Choose 1 of the following 8 courses												
08	1120172	Physical Education 1 (Football 1)	1	4			26		21		DPE	
09	1120175	Physical Education 1 (Volleyball 1)	1	4			26		21		DPE	
10	1120178	Physical Education 1 (Basketball 1)	1	4			26		21		DPE	
11	1120181	Physical Education 1 (Badminton 1)	1	4			26		21		DPE	
12	1120184	Physical Education 1 (Vietnamese Traditional Martial Arts 1)	1	4			26		21		DPE	
13	1120187	Physical Education 1 (Taekwondo 1)	1	4			26		21		DPE	
14	1120190	Physical Education 1 (Karate-do 1)	1	4			26		21		DPE	
15	1120239	Physical Education 1 (Pickleball 1)	1	4			26		21		DPE	
Total (excluding Physical Education courses)			**18**									

Semester 2:

No	Course Code	Course Name	Number of credits	In-class hours			Experimental/ Pratice	Others	Self-study Hours hours	Prerequisite Course Code	Department in charge	Note
				Theory	Assignment	Discussion						
01	1130300	Marxist–Leninist Political Economy	2	27		6			62	1130299	DPSLM	
02	1090166	English 2	4	40	20				135	1090061	DFL	
03	1100086	Psychology	3	30	10	10			95	1130299	DSSH	
04	1010478	Probability and Statistics	2	20	10				65		DMS	
05	2020616	Fundamental Chemistry Practice in Life Sciences	1				30		15	2020614	DNS	
06	2020617	Botany 1	3	34		6	16		89	2020615	DNS	
07	2020618	Zoology 1	3	35		4	16		90	2020615	DNS	
Choose 1 of the following 8 courses												
08	1120173	Physical Education 2 (Football 2)	1	4			26		21		DPE	
09	1120176	Physical Education 2 (Volleyball 2)	1	4			26		21		DPE	
10	1120179	Physical Education 2 (Basketball 2)	1	4			26		21		DPE	
11	1120182	Physical Education 2 (Badminton 2)	1	4			26		21		DPE	
12	1120185	Physical Education 2 (Vietnamese Traditional Martial Arts 2)	1	4			26		21		DPE	
13	1120188	Physical Education 2 (Taekwondo 2)	1	4			26		21		DPE	
14	1120191	Physical Education 2 (Karate-do 2)	1	4			26		21		DPE	
15	1120240	Physical Education 2 (Pickleball 2)	1	4			26		21		DPE	
Total (excluding Physical Education courses)			**18**									

Semester 3:

No	Course Code	Course Name	Number of credits	In-class hours			Experimental/ Pratice	Others	Self-study Hours hours	Prerequisite Course Code	Department in charge	Note
				Theory	Assignment	Discussion						
01	1130301	Scientific Socialism	2	27		6			62	1130300	DPSLM	
03	2030410	Pedagogics	4	36	20		8		131	1100086	DSSH	

03	2020688	Botany 2	3	34		6	16		89	2020617	DNS	
04	2020689	Zoology 2	3	35		4	16		90	2020618	DNS	
05	2020381	Biophysics	2	25			10		60	2020615 2020613	DNS	
06	2020380	Biochemistry	3	37		4	12		92	2020614	DNS	
07	1040221	Basic Microbiology	3	34		6	16		89	2020615	DNS	
Choose 1 of the following 8 courses												
08	1120174	Physical Education 3 (Football 3)	1	4			26		21		DPE	
09	1120177	Physical Education 3 (Volleyball 3)	1	4			26		21		DPE	
10	1120180	Physical Education 3 (Basketball 3)	1	4			26		21		DPE	
11	1120183	Physical Education 3 (Badminton 3)	1	4			26		21		DPE	
12	1120186	Physical Education 3 (Vietnamese Traditional Martial Arts 3)	1	4			26		21		DPE	
13	1120189	Physical Education 3 (Taekwondo 3)	1	4			26		21		DPE	
14	1120192	Physical Education 3 (Karate-do 3)	1	4			26		21		DPE	
15	1120241	Physical Education 3 (Pickleball 3)	1	4			26		21		DPE	
Total (excluding Physical Education courses)			**18**									

Semester 4:

No	Course Code	Course Name	Number of credits	In-class hours			Experimental/ Pratice	Others	Self-study Hours hours	Prerequisite Course Code	Department in charge	Note
				Theory	Assignment	Discussion						
01	1130302	History of the Communist Party of Vietnam	2	27		6			62	1130301	DPSLM	
02	2010156	Pedagogical Communication	2	20			20		55	2030410	DE	
03	1040222	Human Anatomy	2	23		4	10		58	2020689	DNS	
04	2020690	Plant Physiology	4	48		6	18		123	2020615	DNS	

										2020380		
05	2020693	Genetics 1	3	36	4		10		95	2020688 2020689	DNS	
06	2020692	Ecology, Environment and Biodiversity	3	34		6	16		89	2020688 2020689	DNS	
07	2020705	English for Biology	2	24	4	4			63	1090166	DNS	
08	2010196	Field Studies in Biology	1					Internship		2020688 2020689	DE	
Total			**19**									

Semester 5:

No	Course Code	Course Name	Number of credits	In-class hours			Experimental/ Pratice	Others	Self-study Hours hours	Prerequisite Course Code	Department in charge	Note
				Theory	Assignment	Discussion						
01	1130091	Ho Chi Minh Thought	2	27		6			62	1130302	DPSLM	
02	2010171	Experiential and Career-Oriented Activities in Schools	2	20			20		55	2030410	DE	
03	2020691	Human and Animal Physiology	4	48		6	18		123	1040222	DNS	
04	2020694	Genetics 2	3	34	3		16		92	2020693	DNS	
05	2020695	Evolution	2	25		4	6		60	2020688 2020689	DNS	
06	2010187	Theoretical Foundations of Biology Teaching	3	32		8	18		87	2030410	DE	
National Defense–Security Education												
07	1120168	National Defense-Security Education 1	3	37		8			82		CNDSE	
08	1120169	National Defense-Security Education 2	2	22		8			52		CNDSE	
09	1120170	National Defense-Security Education 3	2	14			16		44		CNDSE	
10	1120171	National Defense-Security Education 4	2	4			56		36		CNDSE	
Total (excluding National Defense-Security Education courses):			**16**									

Semester 6:

No	Course Code	Course Name	Number of credits	In-class hours			Experimental/ Pratice	Others	Self-study Hours hours	Prerequisite Course Code	Department in charge	Note
				Theory	Assignment	Discussion						
01	2020696	Biotechnology	4	48		6	18		123	2020694	DNS	
02	2020697	Applications of Biological	2	25		10			60	2020690	DNS	

		Advances in Daily Life								2020691 2020694		
03	2010188	Methods of Teaching Biology 1	4	40	5		30		120	2010187	DE	
04	2010189	Methods of Teaching Biology 2	3	32	4		18		91	2010187	DE	
05	2010190	Active Teaching Methods & Techniques in Biology	2	25		10			60	2010187	DE	
06	2010192	Biology Assignments in Secondary Education	2	15	10	10			60	2010187	DE	
07	2010055	Pedagogical Competency Development 1	2				60		35	2010187	DE	
Total			**19**									

Semester 7:

No	Course Code	Course Name	Number of credits	In-class hours			Experimental/ Pratice	Others	Self-study Hours hours	Prerequisite Course Code	Department in charge	Note
				Theory	Assignment	Discussion						
01	2010191	Applying IT in Biology Teaching	2				60		35	1050242 2010187	DE	
02	2010057	Testing and Assessment in Biology Teaching	2	25			10		60	2010188 2010189	DE	
03	2010193	Applied Pedagogical Research in Biology Teaching	2	20			20		55	1010478 2010187	DE	
04	2010056	Pedagogical Competency Development 2	2				60		35	2010055	DE	
05	1040128	Teaching Practicum 1	1					Internship		2010188 2010189	DE	
Choose 1 of the following 3 courses												
06	1040242	Microbiology Application		25			10		60	1040221	DNS	
07	2020698	Medical Genetics		25		10			60	2020694	DNS	
08	2020699	Basic Techniques in Molecular Biology		25			10		60	2020694	DNS	
Choose 1 of the following 3 courses												
09	2020700	Plant Nutrition and Clean Agriculture		28		4			63	2020690	DNS	
10	2020701	Biological Control		28		4			63	2020692	DNS	
11	2020702	Human Ecology and Sustainable Development		28		4			63	2020692	DNS	
Choose 1 of the following 3 courses												
12	2020387	Animal nutrition		28		4			63	2020380 2020691	DNS	
13	2020703	Infectious Diseases and Immunity		28		4			63	1040221 2020691	DNS	
14	2020704	Animal Behavior		28		4			63	2020691	DNS	

Choose 1 of the following 3 courses												
15	2010194	Experiential Learning in Biology Teaching		25		10			60	2010188 2010189	DE	
16	2010195	STEM and STEAM Education in Biology		25		10			60	2010188 2010189	DE	
17	1150422	Entrepreneurship		20	5	10			60	1130049	DFBA	
Total			**17**									

Semester 8:

No	Course Code	Course Name	Number of credits	In-class hours			Experimental/ Pratice	Others	Self-study Hours hours	Prerequisite Course Code	Department in charge	Note
				Theory	Assignment	Discussion						
01	1040115	Teaching Practicum 2	5					Internship		1040128	DE	
Graduation Thesis												
02	2010060	Bachelor Thesis	6					Thesis			DE	
Alternative Courses												
03	2020706	Selected Topics in Modern Biology	2	20	5	10			60	2020694	DNS	
04	2020707	Research Methodology in Biological Science	2	15			30		50	1010478 2020688 2020689	DNS	
05	2010197	Integrated & Differentiated Approaches to Biology Teaching	2	25		10			60	2010188 2010189	DE	
Total			**11**									

10. GUIDELINES FOR TRAINING PROGRAM IMPLEMENTATION

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

The training process is based on the designed curriculum, training objectives, target learners, workforce requirements, and specific requirements for the program. For elective courses, depending on practical conditions, development trends, and social needs, the Faculty will advise students to select appropriate courses.

The Dean of the Faculty is responsible for organizing and providing guidance on the principles for developing detailed course syllabi to ensure that the objectives, contents, and requirements of the program are met, while also satisfying the needs of learners and society.

The program is regularly reviewed, evaluated, and updated. The results of the review and evaluation are used to improve and enhance the quality of the program. The cycle for comprehensive program evaluation is no more than five years.

Gia Lai, July 22, 2025

RECTOR

Assoc. Prof. Dr. Doan Duc Tung