MINISTRY OF EDUCATION AND TRAINING

QUY NHON UNIVERSITY

UNDERGRADUATE PROGRAM

Level	: **Undergraduate**
Major	: **Mathematics Education**
Code	: **7140209**
Mode of Study	: **Full-time**

Gia Lai, 2025

MINISTRY OF EDUCATION AND TRAINING
QUY NHON UNIVERSITY

SOCIALIST REPUBLIC OF VIET NAM
Independence - Freedom – Happiness

UNDERGRADUATE PROGRAM

(Issued in conjunction with Decision No.: 2178/QĐ-ĐHQN dated August 01, 2025 by the Rector of Quy Nhon University)

Level : Undergraduate
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1. PROGRAM OBJECTIVES (POs)

1.1. General Objectives

To train bachelor's graduates in Mathematics Teacher Education with good political qualities, good health, high professional dedication and responsibility; with comprehensive knowledge in foundational sciences and educational sciences; with the competence to teach Mathematics effectively at all school levels; with the capacity for self-directed learning and lifelong research; with a sense of community service; meeting the requirements of general education reform, contributing to socio-economic development, national defense and security, and international integration in the new era.

1.2. Specific Objectives

The specific objectives of the Mathematics Teacher Education bachelor's program are as follows:

1) PO1: Possess professional knowledge, skills, and practical competencies of a Mathematics teacher.
2) PO2: Demonstrate critical thinking, proactive collaboration, and the ability to address educational issues at the school, local, national, and regional levels.
3) PO3: Demonstrate teaching competency, innovative and creative capacity, digital literacy, and the capacity for self-directed learning and lifelong research.

4) PO4: Demonstrate professional ethics, responsibility, and a commitment to community service.

2. JOB OPPORTUNITIES AND PROFESSIONAL DEVELOPMENT

Upon completion of the Mathematics Teacher Education bachelor's program, graduates may pursue the following career positions and further study opportunities:

- Teaching positions at secondary schools, universities, colleges, and vocational secondary schools;
- Research positions at institutes and research centers;
- Postgraduate study at the master's and doctoral levels in disciplines within the field of Mathematics.

3. PROGRAM LEARNING OUTCOMES

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

PLO1: Apply general education knowledge, foundational disciplinary knowledge to perform professional tasks	**PI1.1**: Identify general education knowledge and foundational disciplinary knowledge to perform professional tasks
	PI1.2: Apply general education knowledge and foundational disciplinary knowledge to perform professional tasks
PLO2: Apply major knowledge and supplementary knowledge to develop educational plans and lesson plans for Mathematics in schools	**PI2.1:** Identify major knowledge and supplementary knowledge to develop educational plans and lesson plans for Mathematics
	PI2.2: Apply major knowledge and supplementary knowledge to develop educational plans and lesson plans for Mathematics
PLO3: Apply major knowledge and supplementary knowledge to organize educational activities and Mathematics teaching and learning activities in schools	**PI3.1:** Synthesize major knowledge and supplementary knowledge to organize educational activities and Mathematics teaching and learning activities
	PI3.2: Manage the process of organizing educational activities and Mathematics teaching and learning activities
	PI4.1: Identify assessment methods and forms oriented toward developing students' qualities and competencies

PLO4: Apply major knowledge and supplementary knowledge to assess and evaluate learners	**PI4.2:** Use assessment methods and forms oriented toward developing students' qualities and competencies
PLO5: Apply relevant knowledge and pedagogical communication knowledge in the process of learning and professional practice	**PI5.1:** Identify relevant knowledge and pedagogical communication knowledge of teachers in schools
	PI5.2: Apply relevant knowledge and pedagogical communication knowledge to enhance teaching effectiveness and develop relationships among schools, families, and society
PLO6: Conduct scientific research and apply critical thinking	**PI6.1:** Conduct scientific research to contribute to improving learning effectiveness and professional practice
	PI6.2: Apply critical thinking to develop comprehensive competencies for learners
PLO7: Use digital technology and artificial intelligence to support learning, research, and professional practice	**PI7.1**: Identify digital technology and artificial intelligence tools to support teaching and learning activities, research, and professional practice
	PI7.2: Use digital technology and artificial intelligence tools to enhance the quality of learning, research, and professional practice, innovate education, and create a modern, effective, and creative learning environment
PLO8: Demonstrate autonomy, self-directed learning, self-directed research, and personal responsibility, along with the capacity for effective collaboration in academic and professional environments	**PI8.1:** Demonstrate autonomy, self-directed learning, self-directed research, and personal responsibility to proactively acquire knowledge, develop independent thinking, and build effective learning strategies
	PI8.2: Demonstrate the capacity for collaboration to enhance learning quality, promote holistic development of learners, and build an educational environment that reflects the distinctive culture of the school
PLO9: Demonstrate professional ethics and responsibility as a teacher and engage in community service activities contributing to holistic human development	**PI9.1**: Identify issues relating to professional ethics, responsibility of teachers, and commitment to community service
	PI9.2: Demonstrate professional ethics, responsibility, and community service to shape learners' character, build a positive learning environment, and contribute to holistic human development

4. PROGRAM DURATION AND TOTAL ACADEMIC WORKLOAD

4.1. Program Duration: 4 years

4.2. Total academic workload: 135 credits (Excluding Physical Education and National Defense and Security Education)

Program Structure	Number of Credits
General Education Knowledge Block	**24**
Professional Education Knowledge Block	**114**
- Foundational Disciplinary Knowledge	32
- Major and Specialization Knowledge	42
- Supplementary Knowledge	34
- Graduation Thesis / Substitute Course	6
Total:	**138**

5. ADMISSION REQUIREMENTS

Applicants wishing to apply for admission to the Mathematics Teacher Education program must satisfy the following conditions:

a) Persons who have been recognized as having graduated from upper secondary school in Vietnam, or who hold an Upper Secondary Education Graduation Diploma from a foreign country recognized as equivalent.

b) Persons who hold an Intermediate Professional Education Diploma in a field belonging to the same field group as the program applied for, and who have completed the required volume of general education knowledge 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 entry threshold and other requirements for teacher education programs as stipulated in the Regulations on University Admissions and College Admissions for Early Childhood Education Programs of the Ministry of Education and Training, and the University Admission Regulations of Quy Nhon University.

6. TRAINING METHOD, GRADUATION REQUIREMENTS

6.1. Training method:: Credit-based training system

6.2. Graduation requirements (academic requirements, prerequisite courses, foreign language proficiency standard, IT proficiency standard, program learning outcomes standard):

- Academic requirements: Students must accumulate a sufficient number of courses and credit hours as required by the training program; the cumulative Grade Point Average (GPA) for the entire program must be 2.00 or above (on a 4-point scale).
- Physical Education and National Defense & Security Education (PE & NDSE): Students must successfully complete all Physical Education (PE) courses and hold a certificate in National Defense and Security Education (NDSE) as prescribed.
- Foreign Language Proficiency Standard: Students must meet the foreign language proficiency standard in accordance with the current regulations of Quy Nhon University.
- IT Proficiency Standard: Students must meet the information technology skills standard in accordance with the current regulations of Quy Nhon University.
- Program Learning Outcomes Standard: Students must achieve the program learning outcomes in the assessment courses as specified in the training program.

7. TEACHING METHODS AND LEARNING ASSESSMENT

7.1. Teaching Methods

No.	Teaching Strategy	Teaching Methods
1	**Direct Instruction:** Direct Instruction is a process in which the lecturer directly transmits foundational knowledge and information to learners, with the lecturer taking an active role in controlling, guiding, and implementing teaching activities. Through detailed presentation, explanation, and guidance, the lecturer helps learners access and understand lesson content. This strategy is effective in delivering systematic knowledge, introducing new skills, and building a solid foundation for learners to apply in professional practice, thereby developing practical competencies.	- Lecture / Presentation - Explanation and Demonstration - Questioning and Answering - Problem Posing - Simulation - Guided Practice (Modeling)
2	**Indirect Instruction:** Indirect Instruction is a teaching strategy in which the lecturer creates a learning environment that allows learners to	- Case-Based Learning - Problem-Based Learning - Open-Ended Questioning

	proactively acquire knowledge without direct intervention. This strategy encourages learners to actively participate in the learning process, applying critical thinking and problem-solving skills independently. Rather than the lecturer directly transmitting knowledge, learners discover, investigate, and apply what they have learned on their own. This strategy not only develops the capacity for self-directed learning and self-directed research but also enhances learners' awareness and personal responsibility in their learning and professional development.	- Online Teaching - Exercises - Discussion - Debate - Project
3	**Experiential Learning:** Experiential Learning consists of four cycles: Concrete Experience, in which learners engage in practical activities such as group discussions, laboratory practice, or field trips; Reflective Observation, when learners reflect on and analyze outcomes, behaviors, and emotions from the experience; Abstract Conceptualization, when learners draw lessons and theories from reflection; and Active Experimentation, when learners apply knowledge to new situations to test and adjust. This strategy not only develops knowledge and skills but also enhances learners' attitudes.	- Experiential Learning - Teaching Practicum - Field Experience - Simulation - Hands-on Practice - Discussion - Project
4	**Interactive Instruction:** Interactive Instruction is a teaching strategy in which learners not only receive knowledge from the lecturer but also actively engage in discussion, dialogue, and collaboration with peers and the lecturer. The lecturer organizes and facilitates the learning process, creating opportunities for learners to interact and provide continuous feedback. This strategy develops communication skills, collaboration, critical thinking, and problem-solving, while also enhancing learners' confidence and initiative.	- Interactive Lecture - Group Assignment - Discussion - Debate / Argumentation - Hands-on Practice - Teaching Practicum - Field Experience - Project

5	**Independent Study:** Independent Study is a learning strategy in which learners are autonomous in setting goals, developing plans, and managing their own learning process, with minimal support from the lecturer. Learners proactively seek out resources and carry out learning tasks through assignments, projects, or problems proposed by the lecturer. This strategy not only develops the capacity for self-directed learning and research but also promotes learners' autonomy, personal responsibility, and independent problem-solving skills.	- E-Learning - Homework - Self-Directed Learning - Hands-on Practice - Teaching Practicum - Field Experience - Project

7.2. Learning Assessment

Learning assessment shall comply with the Academic Regulations for Undergraduate Training and the Regulations on Program Learning Outcomes Assessment at the Undergraduate Level currently in force at Quy Nhon University.

7.2.1. Course Grading and Assessment

<table>
<tr><th colspan="4">Course Grading and Assessment</th></tr>
<tr><td rowspan="2">1. For theory courses or combined theory and practice courses</td><td rowspan="2">The Course Final Grade consists of two components: the Continuous Assessment Score and the Final Examination Score</td><td>Continuous Assessment Score: weighted at 30%, 40%, or 50% of the Course Final Grade</td><td rowspan="2">Assessment methods, forms, and the weighting of each component score shall be specified in the course syllabus of each course</td></tr>
<tr><td>Final Examination Score: weighted at 70%, 60%, or 50% of the Course Final Grade</td></tr>
<tr><td>2. For practical courses only</td><td colspan="3">The arithmetic mean of scores from all practical exercises during the semester, rounded to one decimal place, shall constitute the grade for the practical course</td></tr>
</table>

3. For courses with special characteristics such as teaching practicum and field experience	The faculty responsible for the course shall propose the assessment method; the Rector of Quy Nhon University shall make the final decision	
4. Graduation Thesis Assessment	- Graduation Thesis assessment is carried out by a Council appointed by the Rector of Quy Nhon University. - The Council shall consist of 3 members: a Chairperson, a Reviewer, and a Secretary (the Supervisor shall not serve on the Council). The Council shall organize the thesis defense and assessment when all members are present.	The Graduation Thesis grade shall be the arithmetic mean of the component scores of the Council members and the Supervisor ([Supervisor's score + Council members' scores (3 score columns)] / 4). Component scores shall be graded on a 10-point scale rounded to one decimal place; the Graduation Thesis grade shall be calculated on a 10-point scale rounded to one decimal place and converted to a letter grade.

Grading Scales

Grading Scales	10-point scale: Comprises numbers from 0 to 10 (with one decimal place), used to assess and record continuous assessment scores, final examination scores, and course final grades
	Letter grade scale: Used to classify courses in an alternative way corresponding to course final grades on the 10-point scale

	4-point scale: Used to calculate the semester GPA and cumulative GPA, to assess students' academic performance after each semester and academic stage, and to classify graduation results

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**

7.2.2. ***Assessment Methods***

Assessment Methods	
Observation Assessment	Assesses learners' diligence and learning attitude, including monitoring their learning awareness, independence, and creativity, such as taking attendance, attitude toward lesson preparation, participation in class discussions, and contributions to building the lesson in class.
Exercise Assessment	Assesses how well learners complete exercises assigned by the lecturer, related to lesson content during and after class. These exercises may be completed individually or in groups and scored based on pre-announced criteria.
Presentation Assessment	Learners are required to work individually or in groups and present their results to the class. This method not only assesses how well learners have acquired subject-specific knowledge but also evaluates the development of skills such as communication, negotiation, and teamwork.
Written Test Methods	Written tests include open-ended (essay-type) tests, objective (multiple-choice) tests, or a combination of both.
Practical Assessment	Learners are assessed based on criteria regarding how correctly they perform the required steps and procedures, as well as their practical results and reports.
Oral Examination	Learners are assessed through direct questioning and oral responses. This method is used in certain courses to assess

	learners' overall ability, including knowledge as well as communication and presentation skills.
Group Work Assessment	This method is used during group-based teaching and learning activities to assess learners' teamwork skills.
Essay / Major Assignment Assessment	Learners are assessed through writing a report on an issue within a course or a real-world issue, with the aim of drawing conclusions, offering opinions, and suggesting solutions for addressing or improving the issue raised. Essay assessment includes evaluation of structure, content, conclusions, and presentation format.
Learning Project Product Assessment	Through products developed by learners, the lecturer assesses the quality of development, creativity, and effectiveness of the finished product. The criteria and standards for product assessment are varied. Product assessment is grounded in the specific real-world context.

Matrix of Relationships Between Assessment Methods and Program Learning Outcomes (PLOs)

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

8. COURSES AND THEIR RELATIONSHIPS WITH PROGRAM LEARNING OUTCOMES (PLOs)

* Note: X = Direct contribution; Y = Indirect contribution; L, M, H = Level of contribution to the PLOs (Low, Medium, High); A = Assessment of the corresponding PLO Performance Indicator (PI) conducted within the course.

No.	Course Code	Course	Semester	Knowledge	Number of credits	Type Category	PLO1		PLO2		PLO3		PLO4		PLO5		PLO6		PLO7		PLO8		PLO9	
							1.1	1.2	2.1	2.2	3.1	3.2	4.1	4.2	5.1	5.2	6.1	6.2	7.1	7.2	8.1	8.2	9.1	9.2
1	1130049	Fundamentals of Law	1	General Education	2	Compulsory	Y, L														Y, L	Y, L		Y, L
2	1130299	Philosophy of Marxism and Leninism	1	General Education	3	Compulsory	Y, L											Y, L				Y, L		Y,L
3	1090061	English 1	1	General Education	3	Compulsory		Y, L								Y.L				Y, L		Y, L		
4	1050242	Computing Fundamentals for Teacher Education	1	Basic Disciplinary and Field	3	Compulsory		X, L												X, M		X, L		
5	1010343	Sets and Logic	1	Basic Disciplinary and Field	2	Compulsory	X, M	X, M													Y, M			
6	1010174	Linear Algebra 1	1	Basic Disciplinary and Field	3	Compulsory	X, M	X, M													Y, M			
7	1010319	Mathematical Analysis 1	1	Basic Disciplinary and Field	4	Compulsory	X, M	X, M													Y, M			
Select 1 of the following 8 courses in Physical Education:																								
8	1120172	Physical Education 1 (Football 1)	1	General Education	1	Elective	Y, L														Y, L			

No.	Course Code	Course	Semester	Knowledge	Number of credits	Type Category	PLO1		PLO2		PLO3		PLO4		PLO5		PLO6		PLO7		PLO8		PLO9	
							1.1	1.2	2.1	2.2	3.1	3.2	4.1	4.2	5.1	5.2	6.1	6.2	7.1	7.2	8.1	8.2	9.1	9.2
9	1120175	Physical Education 1 (Volleyball 1)	1	General Education	1	Elective	Y, L														Y, L			
10	1120178	Physical Education 1 (Basketball 1)	1	General Education	1	Elective	Y, L														Y, L			
11	1120181	Physical Education 1 (Badminton 1)	1	General Education	1	Elective	Y, L														Y, L			
12	1120184	Physical Education 1 (Vietnamese Traditional Martial Arts 1)	1	General Education	1	Elective	Y, L														Y, L			
13	1120187	Physical Education 1 (Taekwondo 1)	1	General Education	1	Elective	Y, L														Y, L			
14	1120190	Physical Education 1 (Karatedo 1)	1	General Education	1	Elective	Y, L														Y, L			
15	1120239	Physical Education 1 (Pickleball 1)	1	General Education	1	Elective	Y, L														Y, L			
16	1130300	Political Economics of Marxism and Leninism	2	General Education	2	Compulsory	Y, L														Y, L		Y, L	
17	1010117	Discrete Mathematics	2	Major Knowledge	2	Compulsory			X, M	X, M											Y, M			
18	1090166	English 2	2	General Education	4	Compulsory		Y, M								Y, M				Y, M		Y, M		

No.	Course Code	Course	Semester	Knowledge	Number of credits	Type Category	PLO1		PLO2		PLO3		PLO4		PLO5		PLO6		PLO7		PLO8		PLO9	
							1.1	1.2	2.1	2.2	3.1	3.2	4.1	4.2	5.1	5.2	6.1	6.2	7.1	7.2	8.1	8.2	9.1	9.2
19	1100086	Psychology	2	Basic Disciplinary and Field	3	Compulsory		X, M, A								X, M, A						Y, M		Y, M
20	1010382	Linear Algebra 2	2	Basic Disciplinary and Field	2	Compulsory	X, M	X, M													Y, M			
21	1010317	Abstract Algebra 1	2	Basic Disciplinary and Field	3	Compulsory	X, M	X, M													Y, M			
22	1010053	Mathematical Analysis 2	2	Basic Disciplinary and Field	3	Compulsory	X, M	X, M													Y, M			
Select 1 of the following 8 courses in Physical Education:																								
23	1120173	Physical Education 2 (Football 2)	2	General Education	1	Elective	Y, M														Y, M			
24	1120176	Physical Education 2 (Volleyball 2)	2	General Education	1	Elective	Y, M														Y, M			
25	1120179	Physical Education 2 (Basketball 2)	2	General Education	1	Elective	Y, M														Y, M			
26	1120182	Physical Education 2 (Badminton 2)	2	General Education	1	Elective	Y, M														Y, M			
27	1120185	Physical Education 2 (Vietnamese Traditional Martial Arts 2)	2	General Education	1	Elective	Y, M														Y, M			
28	1120188	Physical Education 2 (Taekwondo 2)	2	General Education	1	Elective	Y, M														Y, M			

No.	Course Code	Course	Semester	Knowledge	Number of credits	Type Category	PLO1		PLO2		PLO3		PLO4		PLO5		PLO6		PLO7		PLO8		PLO9	
							1.1	1.2	2.1	2.2	3.1	3.2	4.1	4.2	5.1	5.2	6.1	6.2	7.1	7.2	8.1	8.2	9.1	9.2
29	1120191	Physical Education 2 (Karatedo 2)	2	General Education	1	Elective	Y, M														Y, M			
30	1120240	Physical Education 2 (Pickleball 2)	2	General Education	1	Elective	Y, M														Y, M			
31	1130301	Scientific Socialism	3	General Education	2	Compulsory	Y, M															Y, M	Y, M	
32	2030410	Pedagogics	3	Basic Disciplinary and Field	4	Compulsory		X, M, A				Y, L	Y, L			X, M								X, M, A
33	1010318	Abstract Algebra 2	3	Basic Disciplinary and Field	2	Compulsory	X, M	X, M													Y, M			
34	1010320	Mathematical Analysis 3	3	Basic Disciplinary and Field	3	Compulsory	X, M	X, M													Y, M			
35	1010104	Linear Programming	3	Major Knowledge	2	Compulsory			X, M	X, M											Y, M			
36	2010006	Practice in Solving Elementary Mathematics 1 (Algebra and Analysis)	3	Supplementary Knowledge	3	Compulsory			X, M	X, M											Y, M			
37	1010073	Affine Geometry and Euclidean Geometry	3	Major Knowledge	3	Compulsory			X, M	X, M											Y, M			
Select 1 of the following 8 courses in Physical Education:																								

No.	Course Code	Course	Semester	Knowledge	Number of credits	Type Category	PLO1		PLO2		PLO3		PLO4		PLO5		PLO6		PLO7		PLO8		PLO9	
							1.1	1.2	2.1	2.2	3.1	3.2	4.1	4.2	5.1	5.2	6.1	6.2	7.1	7.2	8.1	8.2	9.1	9.2
38	1120174	Physical Education 3 (Football 3)	3	General Education	1	Elective	Y, M														Y, M			
39	1120177	Physical Education 3 (Volleyball 3)	3	General Education	1	Elective	Y, M														Y, M			
40	1120180	Physical Education 3 (Basketball 3)	3	General Education	1	Elective	Y, M														Y, M			
41	1120183	Physical Education 3 (Badminton 3)	3	General Education	1	Elective	Y, M														Y, M			
42	1120186	Physical Education 3 (Vietnamese Traditional Martial Arts 3)	3	General Education	1	Elective	Y, M														Y, M			
43	1120189	Physical Education 3 (Taekwondo 3)	3	General Education	1	Elective	Y, M														Y, M			
44	1120192	Physical Education 3 (Karatedo 3)	3	General Education	1	Elective	Y, M														Y, M			
45	1120241	Physical Education 3 (Pickleball 3)	3	General Education	1	Elective	Y, M														Y, M			
46	1130302	History of Vietnamese Communist Party	4	General Education	2	Compulsory	Y, M															Y, M		Y, M
47	2010156	Pedagogical Communication	4	General Education	2	Compulsory	X,M	X, M, A								X, M, A						X, M		X, M

No.	Course Code	Course	Semester	Knowledge	Number of credits	Type Category	PLO1		PLO2		PLO3		PLO4		PLO5		PLO6		PLO7		PLO8		PLO9	
							1.1	1.2	2.1	2.2	3.1	3.2	4.1	4.2	5.1	5.2	6.1	6.2	7.1	7.2	8.1	8.2	9.1	9.2
48	2010206	Application of Information Technology in Mathematics Teaching	4	Supplementary Knowledge	2	Compulsory					X, M								X, M	X, M, A	X, M			
49	1010486	English for Mathematics Undergraduates	4	Supplementary Knowledge	2	Compulsory		X, M		X, M						Y, M			Y, M		Y, M	Y, M		
50	1010383	Arithmetic	4	Major Knowledge	2	Compulsory			X, M	X, M											Y, M			
51	1010323	Ordinary Differential Equations	4	Major Knowledge	2	Compulsory			X, M	X, M											Y, M			
52	1010324	Functions of Complex Variable	4	Major Knowledge	2	Compulsory			X, M	X, M											Y, M			
53	2010007	Practice in Solving Elementary Mathematics 2 (Geometry)	4	Supplementary Knowledge	2	Compulsory					X, M						X, M	X, M			X, M			
54	1010088	Module Theory	4	Major Knowledge	2	Compulsory			X, M	X, M											Y, M			
55	1130091	Ho Chi Minh Thought	5	General Education	2	Compulsory	X, M									X, M					Y, M		X, M	
56	2010171	Experiential and Career-Oriented Activities in Schools	5	General Education	2	Compulsory		X,M						Y, L		X, M, A						X, M, A		X, M, A

No.	Course Code	Course	Semester	Knowledge	Number of credits	Type Category	PLO1		PLO2		PLO3		PLO4		PLO5		PLO6		PLO7		PLO8		PLO9	
							1.1	1.2	2.1	2.2	3.1	3.2	4.1	4.2	5.1	5.2	6.1	6.2	7.1	7.2	8.1	8.2	9.1	9.2
57	1010385	Probability and Statistics	5	Major Knowledge	3	Compulsory			X, M	X, M											Y, M			
58	1010099	Partial Differential Equations	5	Major Knowledge	2	Compulsory			X, M	X, M											Y, M			
59	1010325	Functional Analysis 1	5	Major Knowledge	2	Compulsory			X, M	X, M											Y, M			
60	2010008	Theory and Methodology of Mathematics Teaching	5	Supplementary Knowledge	3	Compulsory				X, M		X, M						X, H, A						X, M
61	1010077	Differential Geometry	5	Major Knowledge	3	Compulsory			X, M	X, M											Y, M			
National Defense and Security Education																								
62	1120168	National Defense and Security Education 1	5	General Education	3	Compulsory	Y, M																	Y, M
63	1120169	National Defense and Security Education 2	5	General Education	2	Compulsory	Y, M																	Y, M
64	1120170	National Defense and Security Education 3	5	General Education	2	Compulsory	Y, M																	Y, M
65	1120171	National Defense and Security Education 4	5	General Education	2	Compulsory	Y, M																	Y, M
66	1010326	Functional Analysis 2	6	Major Knowledge	3	Compulsory			X, M	X, M											Y, M			

No.	Course Code	Course	Semester	Knowledge	Number of credits	Type Category	PLO1		PLO2		PLO3		PLO4		PLO5		PLO6		PLO7		PLO8		PLO9	
							1.1	1.2	2.1	2.2	3.1	3.2	4.1	4.2	5.1	5.2	6.1	6.2	7.1	7.2	8.1	8.2	9.1	9.2
67	1010327	Convex Analysis and Its Applications	6	Major Knowledge	2	Compulsory			X, M	X, M											Y, M			
68	2010209	Teaching methods in Algebra and Probability	6	Supplementary Knowledge	2	Compulsory			X, M			X, M		X, M							X, M			
69	2010010	Teaching methods in Analysis	6	Supplementary Knowledge	2	Compulsory			X, M	X, M	X, M										X, M			
70	2010210	Tests and assessments in teaching Mathematics	6	Supplementary Knowledge	2	Compulsory							X, H	X, H, A					X, H				Y, M	
71	2010013	Pedagogic Profession Training 1	6	Supplementary Knowledge	2	Compulsory				X, H, A		X, H, A		X, H		X, H, A		X, M				X, M		X, H
72	2010208	Action Educational Research	6	Supplementary Knowledge	2	Compulsory		X, M									X, M, A	X, M		X, M, A	X, M			
Select 1 of the following 3 special topics in Algebra-Geometry:																								
73	1010333	Fundamentals on Field and Galois Theories	6	Major Knowledge	2	Elective			X, M	X, M											Y, M			
74	1010329	Projective Geometry	6	Major Knowledge	2	Elective			X, M	X, M											Y, M			
75	1010332	Combinatorial Geometry	6	Major Knowledge	2	Elective			X, M	X, M											Y, M			

No.	Course Code	Course	Semester	Knowledge	Number of credits	Type Category	PLO1		PLO2		PLO3		PLO4		PLO5		PLO6		PLO7		PLO8		PLO9	
							1.1	1.2	2.1	2.2	3.1	3.2	4.1	4.2	5.1	5.2	6.1	6.2	7.1	7.2	8.1	8.2	9.1	9.2
76	1010085	Theory of Measure and Integration	7	Major Knowledge	3	Compulsory			X, M	X, M											Y, M			
77	1010069	Numerical Analysis	7	Major Knowledge	3	Compulsory			X, M	X, M											Y, M			
78	2010011	Teaching Methods in Geometry	7	Supplementary Knowledge	2	Compulsory			X, M	X, M	X, M									X, M	X, M			
79	2010014	Pedagogic Profession Training 2	7	Supplementary Knowledge	2	Compulsory		X, H, A		X, H, A		X, H,A		X, H,A								X, H		X, H
80	1010130	Teaching practicum 1	7	Supplementary Knowledge	1	Compulsory		X, H		X,H	X, H, A					X, H		X,H		X, H	X, H	X, H, A		X, H, A
Select 1 of the following 3 special topics in Mathematical Analysis:																								
81	1010388	Stability Theory	7	Major Knowledge	2	Elective			X, M	X, M											Y, M			
82	1010389	Topological Vector Spaces	7	Major Knowledge	2	Elective			X, M	X, M											Y, M			
83	1010485	Complex Analysis and Applications	7	Major Knowledge	2	Elective			X, M	X, M											Y, M			
Select 1 of the following 4 special topics:																								
84	2010015	Inequalities and Extremal Problems	7	Supplementary Knowledge	2	Elective			X, M	X, M											X, M			

No.	Course Code	Course	Semester	Knowledge	Number of credits	Type Category	PLO1		PLO2		PLO3		PLO4		PLO5		PLO6		PLO7		PLO8		PLO9	
							1.1	1.2	2.1	2.2	3.1	3.2	4.1	4.2	5.1	5.2	6.1	6.2	7.1	7.2	8.1	8.2	9.1	9.2
85	2010016	Vector Method in Solving Geometric Problems	7	Supplementary Knowledge	2	Elective			X, M	X, M											X, M			
86	2010017	Graphs and Applications in Solving Elementary Mathematics	7	Supplementary Knowledge	2	Elective			X, M	X, M											X, M			
87	1150422	Startup	7	Supplementary Knowledge	2	Elective			X, M	X, M											X, M			
Select 1 of the following 3 special topics in Applied Mathematics:																								
88	1010346	Applied Statistics	7	Major Knowledge	2	Elective			X, M	X, M											Y, M			
89	1010391	Difference Equations	7	Major Knowledge	2	Elective			X, M	X, M											Y, M			
90	1010338	Theory of Extremal Problems	7	Major Knowledge	2	Elective			X, M	X, M											Y, M			
91	1010109	Teaching practicum 2	8	Supplementary Knowledge	5	Compulsory		X, H		X, H, A		X, H,A		X, H, A		X, H		X, H		X, H, A	X, H	X, H, A		X, H, A
Graduation Thesis																								
92	2010032	Graduation thesis	8	Graduation Thesis	6	Compulsory		X, H		X, H, A	X, H	X, H					X, H, A	X, H		X, H	X, H, A	X, H		X, H, A

No.	Course Code	Course	Semester	Knowledge	Number of credits	Type Category	PLO1		PLO2		PLO3		PLO4		PLO5		PLO6		PLO7		PLO8		PLO9	
							1.1	1.2	2.1	2.2	3.1	3.2	4.1	4.2	5.1	5.2	6.1	6.2	7.1	7.2	8.1	8.2	9.1	9.2
Substitute Course																								
Select 1 of the following 3 courses in Mathematics Education Theory:																								
93	2010207	Organizing STEM-themed Teaching in Secondary School	8	Substitute Course	2	Elective				X, H								X, H, A	X, H		X, H, A		X, H, A	
94	2010034	A Constructivist Theory Approach to The Teaching of Mathematics	8	Substitute Course	2	Elective						X, H		X, H			X, H, A		X, H		X, H, A			X, H, A
95	2010035	Mathematical Modeling in Teaching Mathematics	8	Substitute Course	2	Elective				X, H							X, H, A		X, H		X, H, A		X, H, A	
Select 1 of the following 3 courses in Mathematical Analysis:																								
96	1010339	Fourier Series and Applications	8	Substitute Course	2	Elective		X, H		X, H, A											X, H			
97	1010340	Implicit Functions and Applications	8	Substitute Course	2	Elective		X, H		X, H, A											X, H			
98	1010341	Integral Transformation	8	Substitute Course	2	Elective		X, H		X, H, A											X, H			

No.	Course Code	Course	Semester	Knowledge	Number of credits	Type Category	PLO1		PLO2		PLO3		PLO4		PLO5		PLO6		PLO7		PLO8		PLO9	
							1.1	1.2	2.1	2.2	3.1	3.2	4.1	4.2	5.1	5.2	6.1	6.2	7.1	7.2	8.1	8.2	9.1	9.2
Select 1 of the following 3 courses in Algebra-Geometry:																								
99	1010347	Number Systems	8	Substitute Course	2	Elective		X, H		X, H, A											X, H			
100	1010348	Algorithmic Arithmetics	8	Substitute Course	2	Elective		X, H		X, H, A											X, H			
101	1010342	Introduction to Grobner Bases	8	Substitute Course	2	Elective		X, H		X, H, A											X, H			

9. PROGRAM CONTENT

No.	Course Code	Course Name	Semester	Credits	In-class hours			Experiment/ Practice	Others	Self-study hours	Prerequisite Course Code	Department in charge of the course	Note
					Lecture	Exercise	Discussion						
I. General Education Knowledge Block				**24**									
I.1. Political Science and Law				***13***									
1	1130049	Fundamentals of Law	1	2	27		6			62		Political Theory, Law and Public Administration	
2	1130299	Philosophy of Marxism and Leninism	1	3	40		10			95		Political Theory, Law and Public Administration	
3	1130300	Political Economics of Marxism and Leninism	2	2	27		6			62	1130299	Political Theory, Law and Public Administration	
4	1130301	Scientific Socialism	3	2	27		6			62	1130300	Political Theory, Law and Public Administration	
5	1130302	History of Vietnamese Communist Party	4	2	27		6			62	1130301	Political Theory, Law and Public Administration	
6	1130091	Ho Chi Minh Thought	5	2	27		6			62	1130302	Political Theory, Law and Public Administration	
I.2. Physical Education and National Defense and Security Education				**12**									
Physical Education: Students select 1 of the following 8 groups				**3**									
7	1120172	Physical Education 1 (Football 1)	1	1	4			26		21		Physical Education	
8	1120173	Physical Education 2 (Football 2)	2	1	4			26		21	1120172	Physical Education	
9	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	
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 Martial Arts 1)	1	1	4			26		21		Physical Education	
20	1120185	Physical Education 2 (Vietnamese Traditional Martial Arts 2)	2	1	4			26		21	1120184	Physical Education	
21	1120186	Physical Education 3 (Vietnamese Traditional Martial Arts 3)	3	1	4			26		21	1120185	Physical Education	
22	1120187	Physical Education 1 (Taekwondo 1)	1	1	4			26		21		Physical Education	
23	1120188	Physical Education 2 (Taekwondo 2)	2	1	4			26		21	1120187	Physical Education	
24	1120189	Physical Education 3 (Taekwondo 3)	3	1	4			26		21	1120188	Physical Education	
25	1120190	Physical Education 1 (Karatedo 1)	1	1	4			26		21		Physical Education	
26	1120191	Physical Education 2 (Karatedo 2)	2	1	4			26		21	1120190	Physical Education	
27	1120192	Physical Education 3 (Karatedo 3)	3	1	4			26		21	1120191	Physical Education	
28	1120239	Physical Education 1 (Pickleball 1)	1	1	4			26		21		Physical Education	
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			100		National Defense and Security Education	
32	1120169	National Defense and Security Education 2	5	2	22		8			65		National Defense and Security Education	
33	1120170	National Defense and Security Education 3	5	2	14			16		65		National Defense and Security Education	
34	1120171	National Defense and Security Education 4	5	2	4			56		35		National Defense and Security Education	
I.3. Foreign Language				***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 Block				**114**									
II.1. Basic Disciplinary and Field Knowledge				***32***									

39	1050242	Computing Fundamentals for Teacher 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		8		131	1100086	Social Sciences and Humanities	
42	1010343	Sets and Logic	1	2	22	8				65		Mathematics and Statistics	
43	1010174	Linear Algebra 1	1	3	30	15				100		Mathematics and Statistics	
44	1010382	Linear Algebra 2	2	2	20	10				65	1010174	Mathematics and Statistics	
45	1010317	Abstract Algebra 1	2	3	30	15				100	1010343	Mathematics and Statistics	
46	1010318	Abstract Algebra 2	3	2	20	10				65	1010317	Mathematics and Statistics	
47	1010319	Mathematical Analysis 1	1	4	40	20				135		Mathematics and Statistics	
48	1010053	Mathematical Analysis 2	2	3	30	15				100	1010174 1010319	Mathematics and Statistics	
49	1010320	Mathematical Analysis 3	3	3	30	15				100	1010053	Mathematics and Statistics	
II.2. Major and Specialized Knowledge (if any)				***42***									
II.2.1. Major Knowledge				***42***									
II.2.1a. Compulsory component				*36*									
50	1010117	Discrete Mathematics	2	2	24	6				65	1010319 1010174	Mathematics and Statistics	
51	1010104	Linear Programming	3	2	20	10				65	1010382 1010053	Mathematics and Statistics	
52	1010073	Affine Geometry and Euclidean Geometry	3	3	30	15				100	1010382	Mathematics and Statistics	
53	1010383	Arithmetic	4	2	20	10				65	1010343	Mathematics and Statistics	
54	1010088	Module Theory	4	2	20	10				65	1010174 1010318	Mathematics and Statistics	
55	1010323	Ordinary Differential Equations	4	2	20	10				65	1010320 1010174	Mathematics and Statistics	
56	1010324	Functions of Complex Variable	4	2	20	10				65	1010320	Mathematics and Statistics	
57	1010385	Probability and Statistics	5	3	37	8				100	1010117 1010320	Mathematics and Statistics	
58	1010077	Differential Geometry	5	3	30	15				100	1010320 1010073	Mathematics and Statistics	
59	1010099	Partial Differential Equations	5	2	20	10				65	1010323 1010382	Mathematics and Statistics	
60	1010325	Functional Analysis 1	5	2	20	10				65	1010320 1010174	Mathematics and Statistics	
61	1010326	Functional Analysis 2	6	3	30	15				100	1010325	Mathematics and Statistics	
62	1010327	Convex Analysis and Its Applications	6	2	20	10				65	1010320 1010382	Mathematics and Statistics	
63	1010069	Numerical Analysis	7	3	30	15				100	1010053 1010382	Mathematics and Statistics	
64	1010085	Theory of Measure and Integration	7	3	30	15				100	1010325	Mathematics and Statistics	
II.2.1b. Elective component				*6*									
Select 1 of the following 3 special topics in Algebra-Geometry:				*2*									

65	1010333	Fundamentals on Field and Galois Theories	6	2	20	10				65	1010382 1010318	Mathematics and Statistics	
66	1010329	Projective Geometry	6	2	20	10				65	1010382 1010073	Mathematics and Statistics	
67	1010332	Combinatorial Geometry	6	2	20	10				65	1010073	Mathematics and Statistics	
Select 1 of the following 3 special topics in Mathematical Analysis:				*2*									
68	1010388	Stability Theory	7	2	24	6				65	1010323	Mathematics and Statistics	
69	1010389	Topological Vector Spaces	7	2	20	10				65	1010326	Mathematics and Statistics	
70	1010485	Complex Analysis and Applications	7	2	20	10				65	1010324	Mathematics and Statistics	
Select 1 of the following 3 special topics in Applied Mathematics:				*2*									
71	1010346	Applied Statistics	7	2	20	5		10		60	1010385	Mathematics and Statistics	
72	1010391	Difference Equations	7	2	20	10				65	1010326	Mathematics and Statistics	
73	1010338	Theory of Extremal Problems	7	2	20	10				65	1010323 1010326	Mathematics and Statistics	
II.3. Supplementary Knowledge				***34***									
II.3.1. Pedagogical Training and Professional Skills Development				***28***									
II.3.1a. Compulsory component				*26*									
74	2010006	Practice in Solving Elementary Mathematics 1 (Algebra and Analysis)	3	3	33	12				100	1010319	Education	
75	2010007	Practice in Solving Elementary Mathematics 2 (Geometry)	4	2	20	10				65	1010073	Education	
76	2010206	Application of Information Technology in Mathematics Teaching	4	2	15	10		10		60	1050242	Education	
77	2010008	Theory and Methodology of Mathematics Teaching	5	3	30	5		20		90	2030410	Education	
78	2010209	Teaching methods in Algebra and Probability	6	2	20	10				65	2010006 2010008	Education	
79	2010010	Teaching methods in Analysis	6	2	20	5		10		60	2010008 1010053	Education	
80	2010210	Tests and assessments in teaching Mathematics	6	2	20	10				65	2010008	Education	
81	2010208	Action Educational Research	6	2	20	5		10		60	2010008	Education	
82	2010013	Pedagogic Profession Training 1	6	2				60		35	2010008	Education	
83	2010014	Pedagogic Profession Training 2	7	2				60		35	2010013	Education	
84	2010011	Teaching Methods in Geometry	7	2	20	5		10		60	2010008 1010073	Education	
85	1010486	English for Mathematics Undergraduates	4	2	15	10	10			60	1090166	Mathematics and Statistics	
II.3.1b. Elective component				*2*									
Select 1 of the following 4 courses:				*2*									
86	2010015	Inequalities and Extremal Problems	7	2	20	10				65	1010319	Education	

87	2010016	Vector Method in Solving Geometric Problems	7	2	18	12				65	1010382 1010073	Education	
88	2010017	Graphs and Applications in Solving Elementary Mathematics	7	2	20	10				65	1010053 1010174	Education	
89	1150422	Startup	7	2	20	5	10			60	1130049	TC-NH&QTKD	
II.3.2. Professional Internship and Graduation Practicum				***6***									
90	1010130	Teaching Practicum 1	7	1					Practicum		2010008	Education	
91	1010109	Teaching Practicum 2	8	5					Practicum		1010130	Education	
II.4. Graduation Thesis / Substitute Course				***6***									
92	2010032	Graduation Thesis	8	6					Thesis			Education	
Substitute Course				*6*									
Select 1 of the following 3 courses in Mathematics Education Theory:				*2*									
93	2010207	Organizing STEM-themed Teaching in Secondary School	8	2	25	5				65	2010008	Education	
94	2010034	A Constructivist Theory Approach to The Teaching of Mathematics	8	2	20	10				65	2010008	Education	
95	2010035	Mathematical Modeling in Teaching Mathematics	8	2	20	5	10			60	2010008	Education	
Select 1 of the following 3 courses in Mathematical Analysis:				*2*									
96	1010339	Fourier Series and Applications	8	2	20	10				65	1010320	Mathematics and Statistics	
97	1010340	Implicit Functions and Applications	8	2	20	10				65	1010174 1010320	Mathematics and Statistics	
98	1010341	Integral Transformation	8	2	20	10				65	1010099	Mathematics and Statistics	
Select 1 of the following 3 courses in Algebra-Geometry:				*2*									
99	1010347	Number Systems	8	2	20	10				65	1010318	Mathematics and Statistics	
100	1010348	Algorithmic Arithmetics	8	2	20	10				65	1010382 1010383	Mathematics and Statistics	
101	1010342	Introduction to Grobner Bases	8	2	22	8				65	1010174 1010318	Mathematics and Statistics	
Total:				**138**									

10. TEACHING PLAN

Semester I

No.	Course Code	Course Name	Credits	In-class hours			Experiment / Practice	Others	Self-study hours	Prerequisite Course Code	Department in charge of the course
				Lecture	Exercise	Discussion					
01	1130049	Fundamentals of Law	2	27		6			62		Political Theory, Law

											and Public Administration
02	1130299	Philosophy of Marxism and Leninism	3	40		10			95		Political Theory, Law and Public Administration
03	1090061	English 1	3	30	15				100		Foreign Languages
04	1050242	Computing Fundamentals for Teacher Education	3	30			30		85		Information Technology
05	1010343	Sets and Logic	2	22	8				65		Mathematics and Statistics
06	1010174	Linear Algebra 1	3	30	15				100		Mathematics and Statistics
07	1010319	Mathematical Analysis 1	4	40	20				135		Mathematics and Statistics
Select 1 of the following 8 courses in Physical Education:			***1***								
08	1120172	Physical Education 1 (Football 1)	1	4			26		21		Physical Education
09	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 Martial Arts 1)	1	4			26		21		Physical Education
13	1120187	Physical Education 1 (Taekwondo 1)	1	4			26		21		Physical Education
14	1120190	Physical Education 1 (Karatedo 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)**:**			**20**								

Semester II

No.	Course Code	Course Name	Credits	In-class hours			Experiment/ Practice	Others	Self-study hours	Prerequisite Course Code	Department in charge of the course
				Lecture	Exercise	Discussion					
01	1130300	Political Economics of Marxism and Leninism	2	27		6			62	1130299	Political Theory, Law and Public Administration
02	1010117	Discrete Mathematics	2	24	6				65	1010319 1010174	Mathematics and Statistics
03	1090166	English 2	4	40	20				135	1090061	Foreign Languages

04	1100086	Psychology	3	30	10	10			95	1130299	Social Sciences and Humanities
05	1010382	Linear Algebra 2	2	20	10				65	1010174	Mathematics and Statistics
06	1010317	Abstract Algebra 1	3	30	15				100	1010343	Mathematics and Statistics
07	1010053	Mathematical Analysis 2	3	30	15				100	1010319 1010174	Mathematics and Statistics
Select 1 of the following 8 courses in Physical Education:			***1***								
08	1120173	Physical Education 2 (Football 2)	1	4			26		21	1120172	Physical Education
09	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	Physical Education 2 (Badminton 2)	1	4			26		21	1120181	Physical Education
12	1120185	Physical Education 2 (Vietnamese Traditional Martial Arts 2)	1	4			26		21	1120184	Physical Education
13	1120188	Physical Education 2 (Taekwondo 2)	1	4			26		21	1120187	Physical Education
14	1120191	Physical Education 2 (Karatedo 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)**:**			**19**								

Semester III

No.	**Course Code**	**Course Name**	**Credits**	**In-class hours**			**Experiment/ Practice**	**Others**	**Self-study hours**	**Prerequisite Course Code**	**Department in charge of the course**
				Lecture	**Exercise**	**Discussion**					
01	1130301	Scientific Socialism	2	27		6			62	1130300	Political Theory, Law and Public Administration
02	2030410	Pedagogics	4	36	20		8		131	1100086	Social Sciences and Humanities
03	1010318	Abstract Algebra 2	2	20	10				65	1010317	Mathematics and Statistics
04	1010320	Mathematical Analysis 3	3	30	15				100	1010053	Mathematics and Statistics
05	1010104	Linear Programming	2	20	10				65	1010382 1010053	Mathematics and Statistics

06	2010006	Practice in Solving Elementary Mathematics 1 (Algebra and Analysis)	3	33	12				100	1010319	Education
07	1010073	Affine Geometry and Euclidean Geometry	3	30	15				100	1010382	Mathematics and Statistics
Select 1 of the following 8 courses in Physical Education:			**1**								
08	1120174	Physical Education 3 (Football 3)	1	4			26		21	1120173	Physical Education
09	1120177	Physical Education 3 (Volleyball 3)	1	4			26		21	1120176	Physical Education
10	1120180	Physical Education 3 (Basketball 3)	1	4			26		21	1120179	Physical Education
11	1120183	Physical Education 3 (Badminton 3)	1	4			26		21	1120182	Physical Education
12	1120186	Physical Education 3 (Vietnamese Traditional Martial Arts 3)	1	4			26		21	1120185	Physical Education
13	1120189	Physical Education 3 (Taekwondo 3)	1	4			26		21	1120188	Physical Education
14	1120192	Physical Education 3 (Karatedo 3)	1	4			26		21	1120191	Physical Education
15	1120241	Physical Education 3 (Pickleball 3)	1	4			26		21	1120240	Physical Education
Total (excluding Physical Education courses)**:**			**19**								

Semester IV

No.	Course Code	Course Name	Credits	In-class hours			Experiment/ Practice	Others	Self-study hours	Prerequisite Course Code	Department in charge of the course
				Lecture	Exercise	Discussion					
01	1130302	History of Vietnamese Communist Party	2	27		6			62	1130301	Political Theory, Law and Public Administration
02	2010156	Pedagogical Communication	2	20			20		55	2030410	Education
03	2010206	Application of Information Technology in Mathematics Teaching	2	15	10		10		60	1050242	Education
04	1010486	English for Mathematics Undergraduates	2	15	10	10			60	1090166	Mathematics and Statistics
05	1010383	Arithmetic	2	20	10				65	1010343	Mathematics and Statistics
06	1010323	Ordinary Differential Equations	2	20	10				65	1010320 1010174	Mathematics and Statistics
07	1010324	Functions of Complex Variable	2	20	10				65	1010320	Mathematics and Statistics
08	2010007	Practice in Solving Elementary Mathematics 2 (Geometry)	2	20	10				65	1010073	Education

09	1010088	Module Theory	2	20	10				65	1010174 1010318	Mathematics and Statistics
Total:			**18**								

Semester V

No.	Course Code	Course Name	Credits	In-class hours			Experiment/ Practice	Others	Self-study hours	Prerequisite Course Code	Department in charge of the course
				Lecture	Exercise	Discussion					
01	1130091	Ho Chi Minh Thought	2	27		6			62	1130302	Political Theory, Law and Public Administration
02	2010171	Experiential and Career-Oriented Activities in Schools	2	20			20		55	2030410	Education
03	1010385	Probability and Statistics	3	37	8				100	1010117 1010320	Mathematics and Statistics
04	1010099	Partial Differential Equations	2	20	10				65	1010323 1010382	Mathematics and Statistics
05	1010325	Functional Analysis 1	2	20	10				65	1010320 1010174	Mathematics and Statistics
06	2010008	Theory and Methodology of Mathematics Teaching	3	30	5		20		90	2030410	Education
07	1010077	Differential Geometry	3	30	15				100	1010320 1010073	Mathematics and Statistics
National Defense and Security Education			**9**								
08	1120168	National Defense and Security Education 1	3	37		8			100		National Defense and Security Education
09	1120169	National Defense and Security Education 2	2	22		8			65		National Defense and Security Education
10	1120170	National Defense and Security Education 3	2	14			16		65		National Defense and Security Education
11	1120171	National Defense and Security Education 4	2	4			56		35		National Defense and Security Education
Total (excluding National Defense and Security Education courses)**:**			**17**								

Semester VI

No.		Course Name	Credits	In-class hours					

	Course Code			Lecture	Exercise	Discussion	Experiment/ Practice	Others	Self-study hours	Prerequisite Course Code	Department in charge of the course
01	1010326	Functional Analysis 2	3	30	15				100	1010325	Mathematics and Statistics
02	1010327	Convex Analysis and Its Applications	2	20	10				65	1010320 1010382	Mathematics and Statistics
03	2010209	Teaching methods in Algebra and Probability	2	20	10				65	2010006 2010008	Education
04	2010010	Teaching methods in Analysis	2	20	5		10		60	2010008 1010053	Education
05	2010210	Tests and assessments in teaching Mathematics	2	20	10				65	2010008	Education
06	2010013	Pedagogic Profession Training 1	2				60		35	2010008	Education
07	2010208	Action Educational Research	2	20	5		10		60	2010008	Education
Select 1 of the following 3 special topics in Algebra-Geometry:			*2*								
08	1010333	Fundamentals on Field and Galois Theories	2	20	10				65	1010318 1010382	Mathematics and Statistics
09	1010329	Projective Geometry	2	20	10				65	1010382 1010073	Mathematics and Statistics
10	1010332	Combinatorial Geometry	2	20	10				65	1010073	Mathematics and Statistics
Total:			**17**								

Semester VII

No.	Course Code	Course Name	Credits	In-class hours			Experiment/ Practice	Others	Self-study hours	Prerequisite Course Code	Department in charge of the course
				Lecture	Exercise	Discussion					
01	1010085	Theory of Measure and Integration	3	30	15				100	1010325	Mathematics and Statistics
02	1010069	Numerical Analysis	3	30	15				100	1010053 1010382	Mathematics and Statistics
03	2010011	Teaching Methods in Geometry	2	20	5		10		60	2010008 1010073	Education

04	2010014	Pedagogic Profession Training 2	2				60		35	2010013	Education
05	1010130	Teaching Practicum 1	1					Practicum		2010008	Education
Select 1 of the following 3 special topics in Mathematical Analysis:			*2*								
06	1010388	Stability Theory	2	24	6				65	1010323	Mathematics and Statistics
07	1010389	Topological Vector Spaces	2	20	10				65	1010326	Mathematics and Statistics
08	1010485	Complex Analysis and Applications	2	20	10				65	1010324	Mathematics and Statistics
Select 1 of the following 4 special topics:			*2*								
09	2010015	Inequalities and Extremal Problems	2	20	10				65	1010319	Education
10	2010016	Vector Method in Solving Geometric Problems	2	18	12				65	1010382 1010073	Education
11	2010017	Graphs and Applications in Solving Elementary Mathematics	2	20	10				65	1010174 1010053	Education
12	1150422	Startup	2	20	5	10			60	1130049	Finance, Banking and Business Administration
Select 1 of the following 3 special topics in Applied Mathematics:			*2*								
13	1010346	Applied Statistics	2	20	5		10		60	1010385	Mathematics and Statistics
14	1010391	Difference Equations	2	20	10				65	1010326	Mathematics and Statistics
15	1010338	Theory of Extremal Problems	2	20	10				65	1010323 1010326	Mathematics and Statistics
Total:			**17**								

Semester VIII

No.	Course Code	Course Name	Credits	In-class hours			Experiment/ Practice	Others	Self-study hours	Prerequisite Course Code	Department in charge of the course
				Lecture	Exercise	Discussion					
01	1010109	Teaching Practicum 2	5					Practicum		1010130	Education
Graduation Thesis			**6**								
02	2010032	Graduation Thesis	6					Thesis			Education
Substitute Course			**6**								

Select 1 of the following 3 courses in Mathematics Education Theory:			*2*								
03	2010207	Organizing STEM-themed Teaching in Secondary School	2	25	5				65	2010008	Education
04	2010034	A Constructivist Theory Approach to The Teaching of Mathematics	2	20	10				65	2010008	Education
05	2010035	Mathematical Modeling in Teaching Mathematics	2	20	5	10			60	2010008	Education
Select 1 of the following 3 courses in Mathematical Analysis:			*2*								
06	1010339	Fourier Series and Applications	2	20	10				65	1010320	Mathematics and Statistics
07	1010340	Implicit Functions and Applications	2	20	10				65	1010320 1010174	Mathematics and Statistics
08	1010341	Integral Transformation	2	20	10				65	1010099	Mathematics and Statistics
Select 1 of the following 3 courses in Algebra-Geometry:			*2*								
09	1010347	Number Systems	2	20	10				65	1010318	Mathematics and Statistics
10	1010348	Algorithmic Arithmetics	2	20	10				65	1010382 1010383	Mathematics and Statistics
11	1010342	Introduction to Grobner Bases	2	22	8				65	1010174 1010318	Mathematics and Statistics
Total:			**11**								

11. GUIDELINES FOR IMPLEMENTING THE TRAINING PROGRAM

- This training program applies from the 2025 admission year for students enrolled in the Mathematics Teacher Education program.

- The training process is based on the designed curriculum, taking into account the training objectives, target learners, human resource requirements, and specific training demands. With regard to elective courses, the Faculty will advise students on selecting appropriate courses in accordance with actual development trends and societal needs.

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

- The training program is reviewed and updated every 2–3 years to keep pace with developments in the field of Mathematics Teacher Education and to align with socio-economic development needs.

Gia Lai, August 01, 2025

RECTOR

Assoc. Prof. Dr. Doan Duc Tung