

PROGRAM SPECIFICATION

Program title: Horticulture and Landscape Design
Education level: Bachelor's degree
Major: Horticulture and Landscape Design
Program code: 762 0113
Type of program: Full-time
Program duration: 4 years
Total required credits: 131 credits
Degree name: Bachelor of Horticulture and Landscape Design
Awarding Institution: Vietnam National University of Agriculture

1. PROGRAM OBJECTIVES AND EXPECTED LEARNING OUTCOMES

1.1. Program Educational Objectives (PEO)

General objective:

Training Bachelor of Horticulture and Landscape Design: have ethical and healthy qualities; has a solid professional qualification in the field of Horticulture and Landscape Design, meeting the demand for high-quality human resources and the changing labor market in the field of Horticulture and Landscape Design.

Specific objective:

After graduation from the Horticulture and Landscape Design, the graduates can:

- Objective 1: Develop a successful career in the chosen direction in an ethical manner, always learn to improve qualifications and new skills to meet the changing labor market of the Horticulture and Landscape Design
- Objective 2: Receive the trust and respect of the organization and the working group for responsible coordination with the group; Solve complex problems, communicate and deal effectively with stakeholders.
- Objective 3: Pioneer in research, research, and proactive innovation in the Horticulture and Landscape Design
- Objective 4: Carry out the responsibility to improve the quality of life for the community, actively contribute to the sustainable development of society.

1.2 Program Expected learning outcomes (PELOs)

Upon completion of the program, students are able to:	
General knowledge	1. Apply natural, environmental and social science knowledge and understanding of contemporary issues in the Horticulture and Landscape Design.
	1.1. Apply natural science knowledge in Horticulture and Landscape Design.
	1.2. Apply environmental science knowledge in the Horticulture and Landscape Design.
	1.3. Apply social science knowledge and understanding of contemporary issues in the Horticulture and Landscape Design.
Professional knowledge	2. Apply scientific knowledge and cultivation techniques to produce horticultural products to meet market demand.
	2.1. Apply crop science knowledge to build high-tech demonstration farms/ advanced procedures for producing horticultural products to meet market demand.
	2.2. Apply crop farming techniques to build high-tech demonstration farms/ advanced procedures for producing horticultural products to meet market demand.
	3. Apply knowledge of landscape design, construction and maintenance to meet specific cultural, social, environmental and economic needs.
	3.1. Apply knowledge of landscape and landscape design to find ideas for landscape design that meet specific cultural, social, environmental and economic needs.
	3.2. Apply knowledge of landscape design for designing landscapes to meet specific goals.
	3.3. Apply knowledge of landscape for constructing landscapes to meet design standards.
	3.4. Apply knowledge of landscape for maintaining landscapes according to artistic and technical standards.
General skills	4. Work effectively in a team where members join together to lead the team, create a collaborative and inclusive environment, set goals, plan tasks, and meet goals.
	4.1. Apply proficiently plan and time management skills during teamwork.
	4.2. Apply proficiently build and development internal relationship skills for establishing connections, resolving conflicts and external relations in the working process of the group.
	4.3. Apply proficiently evaluation skills for determining individual, team and collaboration performance with the team in continuous improvement.
	5. Communicate effectively with stakeholders (farmers, clients, professionals, managers).
	5.1. Collect, process and communicate information with stakeholders effectively.
	5.2. Use context-appropriate language: academic and social communication.
	5.3. Use a combination of communication elements: feelings, emotions and values (feelings, emotions, values) for communicating effectively.
	5.4. Behave appropriately with stakeholders in a diverse environment, respecting multicultural differences.
	5.5. Use English at the B1 level.
	5.6. Use proficiently information technology for production and design work.
Professional skill	6. Scientific research in the professional field.
	6.1. Survey for identifying problems those need to be researched.
	6.2. Assess accurately the strengths, weaknesses, similarities and differences of the survey methods (forms of inquiry) and select the appropriate method.
	6.3. Implement properly survey and research methods.
	6.4. Infer based on accurate scientific conclusions and drawing creative solutions for solving successfully the research problem.
	7. Research domestic and international markets to develop horticulture and landscape products those meet the demands of public health, environment and economy.
	7.1. Analyze domestic market of horticulture and landscape products.
	7.2. Analyze world market of horticulture and landscape products.

	7.3. Propose strategies to develop horticulture and landscape products to meet the demands of public health, environment and economy in Vietnam and towards the world market.
	8. Transfer technical advances and new technologies to horticultural production and landscape management.
	8.1. Transfer technical advances and new technologies into horticultural production.
	8.2. Transfer technical advances and new technologies into landscape management.
Attitudes	9. Maintain professional ethics, carry out environmental protection responsibilities and behave in accordance with ethical standards and respect multiculturalism.
	9.1. Maintain professional ethics.
	9.2. Take responsibility for environmental protection.
	9.3. Behave in an ethical manner and show respect for multiculturalism.
	10. Show a willingness to learn for life, an innovative and creative spirit to respond to rapid changes in science and technology.
	10.1. Identify accurately own limitations to the knowledge and competencies required of a bachelor's degree of the Horticulture and Landscape Design and modern trends in the profession.
	10.2. Be willing to learn when given the opportunity to learn, and improve knowledge and capacity.
	10.3 Be open to different and creative ideas.

2. CAREER ORIENTATION AND OPPORTUNITIES AFTER GRADUATE

* *Career field*

Producing, researching and developing horticulture and landscapes products.

* *Working position*

- Working in companies operating in the field of production and business of high-tech agricultural products, urban agriculture; design, construction and maintenance of garden landscape works, urban landscape, ecological zone landscape, etc.
- Startup in the field of agricultural production and trading; landscape design, construction and maintenance; items that meet the needs of society such as food, construction, beauty, etc.
- Become officials and lecturers in the government management agencies, research institutes, domestic and foreign universities in the field of horticulture and landscapes.
- Trainees improve their skills in countries such as Israel, China, the Netherlands, the United States, Japan, etc.

* *Working place*

- Group of high-tech agricultural production, urban construction company, ecotourism company, export processing zone, industrial zone...
- Management agencies, researches, institutes, centers, domestic and international universities in the field of Horticulture and landscape design.
- National parks, biosphere reserves, nature reserves, botanical gardens, historical sites...
- Consulting, research and production agencies such as architects' offices, Department of Construction...

3. POST-GRADUATE STUDY OPPORTUNITIES

The undergraduated students from the Horticulture and Landscape Design program can continue to study and research at master and doctoral levels in Horticulture and Landscape Design and other related fields such as Crop Science, Plant Breeding and Plant Protection... in Vietnam and abroad

4. ADMISSION TO THE PROGRAM

Vietnamese students

People who graduated from high school can be admitted by 3 methods: (1) Direct admission to the university; (2) Based on high school academic results; (3) Based on the results of the national high school graduation exam organized by the Ministry of Education and Training

International students

International students who graduated from high school and submitted academic transcripts and a motivation letter to the International Cooperation Office. The International Cooperation Office will be responsible to contact with Office of Education Management and relevant faculties for approval.

5. EDUCATIONAL PHILOSOPHY, TEACHING AND LEARNING STRATEGIES

****Educational Philosophy***

Foa's Educational Philosophy is to comprehensively develop learners intellectually and ethically, think creatively, wholeheartedly for lifelong learning through experiential learning, scientific research, and service community in the field of Agriculture.

****Teaching and learning strategy***

Lecturers play an important role in advising students on how to improve their knowledge throughout lectures and other useful activities. Teaching and learning strategies are:

- 1) Theory study combined with laboratory practice, internship at companies, joining scientific research activities;
- 2) Students are encouraged for self-study and teamwork;
- 3) Students participate in social activities and community services.

6. ASSESSMENT METHODS

1. Student assessment constructively aligned with expected learning outcomes of the program.
2. Assessment methods include Entrance assessment, Progress assessment and Graduation assessment
 - Entrance assessment: Admission methods include (i): Direct admission; (ii): Admission based on the grade point average (GPA) in high school; (iii): Admission based on the results of the National High School Graduate Examination.
 - Progress assessment: Student assessment methods are diverse, which included classroom learning activities such as homework, group discussions, essays, presentations, practice, projects, mid-term examination and final examination.
 - Graduation assessment: 100% of students before graduation are required to do graduation thesis in 4 – 6 months. Students can register to do the graduation thesis when they have accumulated at least 70% of the credits of the training program (excluding Physical Education and Defense Education credits) and the cumulative GPA at the time of consideration ≥ 2.00 .

7. REGULATION OF ASSESSMENT AND ACADEMIC STANDARDS

Grading system: 4 - point scale

Summary of grade and mark classification

No	10-point scale GPA	4-point scale GPA		Pass/Fail	Classification
		Grade	Score		
1	8.5 – 10	A	4.0	Pass	Outstanding
2	8.0 – 8.4	B+	3.5	Pass	Excellent
3	7.0 – 7.9	B	3.0	Pass	Good
4	6.5 – 6.9	C+	2.5	Pass	Good
5	5.5 – 6.4	C	2.0	Pass	Pass
6	5.0 – 5.4	D+	1.5	Pass	Pass
7	4.0 – 4.9	D	1.0	Conditional Pass	Conditional Pass
8	< 4.0	F	0	Fail	Fail

Summary of Degree classification

No	Cumulative Point Average	Degree classification
1	3.60 – 4.00	Outstanding
2	3.20 – 3.59	Excellent
3	2.50 – 3.19	Good
4	2.00 – 2.49	Pass
5	< 2.00	Fail

Training process

The program is organized in 8 semesters, 2 semesters/year. The maximum time for studying is 6 years. Students need to accumulate a total of 131 credits (30 general credits, 36 fundamental credits, 55 specialized credits (45 prerequisite credits, 10 elective credits). Students are also required to complete 3 credits for physical training, 8 credits for Citizen Military training, 6 credits for soft skill training and 2 credits for computer skills.

Graduation requirements

Students are eligible for graduation when completing a total of 131 credits of the program, having an accumulative point average above 2.0 and the minimum English proficiency is equivalent to (or higher than) level B1 of The Common European Framework of Reference for Languages, achieving physical, information technology, Citizen Military Training and soft skill certificates.

8. CURRICULUM STRUCTURE & CONTENT

<p>GENERAL COURSES (30 CREDITS) NATURAL SCIENCES (9 CREDITS)</p> <ol style="list-style-type: none"> 1. Biology (2) 2. General chemistry (2) 3. General biochemistry (2) 4. Probability and statistics (3) <p>ENVIRONMENTAL SCIENCE (4 CREDITS)</p> <ol style="list-style-type: none"> 5. Agrometeorology (2) 6. Organic chemistry (2) <p>SOCIAL SCIENCE (17 CREDITS)</p> <ol style="list-style-type: none"> 7. Principle of macroeconomics and microeconomics (2) 8. Introduction to laws (2) 9. Marxism - Leninism philosophy (3) 10. Marxist-Leninist political economy (2) 11. Socialism (2) 12. Sociology (2) 13. Ho Chi Minh Ideology (2) 14. Vietnamese communist party history (2) 	<p>FOUNDATIONAL COURSES (36 CREDITS)</p> <p>PLANT SCIENCE (18 CREDITS)</p> <ol style="list-style-type: none"> 1. Introduction to horticulture Industry (2) 2. Plant physiology (3) 3. Introduction to biotechnology (2) 4. Principles of cultivation (2) 5. Principle of genetics and plant breeding (3) 6. Experimental methods (2) 7. Soil and fertilizers (2) 8. Irrigation and drainage management (2) <p>LANDSCAPE DESIGN (6 CREDITS)</p> <ol style="list-style-type: none"> 9. Landscape design and construction 1 (2) 10. Principle of landscape design (2) 11. Botany (2) <p>POST-HARVEST TECHNOLOGY (4 CREDITS)</p> <ol style="list-style-type: none"> 12. Postharvest handling of horticultural crops (2) 13. Food quality and food safety (2) <p>ECONOMIC SCIENCE (8 CREDITS)</p> <ol style="list-style-type: none"> 14. Business project design and analysis (2) 15. Economic analysis (2) 16. Principle of marketing and horticulture market systems (2) 17. Farm management (2) 	<p>SPECIALIZED COURSES (25 CREDITS)</p> <p>COMPULSOLY COURSES (17 CREDITS)</p> <ol style="list-style-type: none"> 1. General fruit tree (3) 2. General vegetable crops (2) 3. General flowers and ornamental (2) 4. General plant pathology(2) 5. General entomology (2) 6. Principle of Greenhouse Crop Production (2) 7. Business management in Horticulture (2) 8. Professional English 1 (2) <p>CHOOSE 1 OF 2 SPECIALIZATIONS</p> <p>GREENHOUSE PRODUCTION AND MANAGEMENT (8 CREDITS)</p> <ol style="list-style-type: none"> 1. Soilless culture (2) 2. Specialized fruit production (2) 3. Specialized vegetable crops(2) 4. Specific flower and ornamental crops(2) <p>LANDSCAPE DESIGN AND CONSTRUCTION (8 CREDITS)</p> <ol style="list-style-type: none"> 1. Applied IT in landscape design (2) 2. Landscape design and construction I (2) 3. Urban forestry management(2) 4. Landscape plant production and maintenance(2) 	<p>SPECIALIZED ELECTIVE COURSES (10 CREDITS) <i>(Choose 10 credits from the below courses)</i></p> <p>FOR BOTH SPECIALIZATIONS</p> <ol style="list-style-type: none"> 1. Communication in Trade and Marketing (2) 2. leadership capacity (2) 3. Principle of public relation (2) 4. Applied Geographic Information System (2) 5. Organic farming (2) 6. Floral design (2) 7. Project Evaluation and Management (2) <p>SPECIALIZATION 1 GREENHOUSE PRODUCTION AND MANAGEMENT</p> <ol style="list-style-type: none"> 1. Interior Landscaping (2) 2. Fruit and Vegetable Processing (2) 3. Breeding of greenhouse plants (2) 4. Research methods (2) 5. Apiculture (2) 6. Planning and Sales Management (2) 7. Urban forestry management (2) 8. Professional English 2 of specialization 1 (2) <p>SPECIALIZATION 2 LANDSCAPE DESIGN AND CONSTRUCTION</p> <ol style="list-style-type: none"> 1. Interior landscaping (2) 2. Specialized fruit tree (2) 3. Specialized vegetable crops (2) 4. Specific flower and ornamental crops (2) 5. Planning and sales management (2) 6. Soilless culture (2) 7. Apiculture (2) 8. Professional English 2 of specialization 2 (2) 	<p>PRAC. EXPERIENCE (12 CREDITS)</p> <ol style="list-style-type: none"> 1. Field trip (0) 2. Project 1: Production management in horticulture (2) 3. Project 2: Greenhouse Production and Management/ Project management in landscape (3) 4. Internship 1: Basic skills and production management in horticulture (2) 5. Internship 2: Professional skills in greenhouse production/ Skills in landscape design and construction (5) <p>CONDITIONAL COURSES (non-credits)</p> <ol style="list-style-type: none"> 1. General physical education 2. Physical education 3. Citizen Military Training 1 4. Citizen Military Training 2 5. Citizen Military Training 3 6. Citizen Military Training 4 <p>SOFT SKILLS (non-credits) <i>Choose 3 out of 10 courses:</i></p> <ol style="list-style-type: none"> 1. Communication skills 2. Leadership skills 3. Self-management skills 4. Job search skills 5. Teamwork skills 6. International integration skills 7. Startup skills 8. Sales skills 9. Presentation skills 10. Stakeholder work skills
<p>SUPPORTING COURSE (8 CREDITS)</p> <ol style="list-style-type: none"> 1. English1 (3) * 2. English 2 (3) 3. Applied informatics (2) 		<p>GRADUATION THESIS (10 CREDITS)</p> <p>Thesis (10)</p>		

* Before taking English 1, students must take an entrance exam to assess their English level. If they do not meet the requirements, they will have to take two English courses, which are Supplementary English in semester 1 and English 0 in semester 2 and do not count towards the program's credits.

CURRICULUM CONTENT

Curriculum content

Note: (CR: credit, TH: Theory, PR: Practice, C/E= Compulsory/ Elective)

SPECIALITY 1: GREENHOUSE PRODUCTION AND MANAGEMENT

No	Year	Code	Course name	CR	TH	PR	C/E	Prerequisite name	Prerequisite code
GENERAL COURSES									
1	1	RQ01003	Agrometeorology	2	1,5	0,5	C		
2	1	RQ01005	Biology	2	1,5	0,5	C		
3	1	MT01001	General Chemistry	2	1,5	0,5	C		
4	1	PKT01003	Principles of Macro and micro-economics	2	2	0	C		
5	1	ML01009	Introduction to laws	2	2	0	C		
6	1	PTH01002	Applied probability and statistic in agricultural science	3	3	0	C		
7	1	MT01002	Organic Chemistry	2	1,5	0,5	C		
8	1	CP02005	General biochemistry	2	1,5	0,5	C		
9	2	ML01020	Philosophy of Marxism and Leninism	3	3	0	C		
10	2	ML01021	Political economy of Marxism and Leninism	2	2	0	C		
11	2	RQ01007	Applied informatics	2	1	1	C		
12	2	SN01032	English 1	3	3	0	C		
13	3	SN01033	English 2	3	3	0	C	English 1	SN01032
14	3	ML01022	Socialism	2	2	0	C		
15	3	ML01005	Ho Chi Minh Ideology	2	2	0	C		
16	3	RQ01011	Sociology	2	1,5	0,5	C		
17	4	ML01023	Vietnamese Communist Party History	2	2	0	C		
18	4	RQ03002	Professional English 1	2	2	0	C	English 2	SN01033
19	4	RQ03010	Professional English 2	2	2	0	E		
FOUNDATIONAL COURSES									
1	1	RQ02001	Principles of Farming	2	1,5	0,5	C		
2	1	RQ02002	Introduction to Horticulture Industry	2	1,5	0,5	C		
3	1	PQL02048	Soil and Fertilizer	2	1	1	C		

4	1	RQ02005	Botany	2	1,5	0,5	C		
5	1	PNH02003	Plant Physiology	3	2	1	C		
6	2	RQ02010	Principles of landscape design	2	1,5	0,5	C		
7	2	RQ02012	Landscape design and construction 1	2	1,5	0,5	C		
8	2	RQ02013	Business project design and analysis	2	1,5	0,5	C	Principles of Macro and micro-economics	PKT01003
9	2	RQ02014	Economic analysis	2	2	0	C		
10	2	RQ02015	Principles of marketing and horticulture market systems	2	2	0	C		
11	2	RQ02016	Food quality and food safety	2	1,5	0,5	C		
12	2	RQ02019	Introduction to Biotechnology	2	1,5	0,5	C	Biology	RQ01005
13	2	RQ02024	Farm Management	2	1,5	0,5	C		
14	3	RQ02018	Principles of Genetics and Plant Breeding	3	2	1	C	Biology	RQ01005
15	3	NH02005	Experimental Methods	2	1,5	0,5	C		
16	3	RQ02029	Irrigation and Drainage management	2	1,5	0,5	C		
17	3	RQ02030	Postharvest handling of horticultural crops	2	1,5	0,5	C		
SPECIALIZED COURSES									
1	1	RQ02032	General fruit production	3	2	1	C		
2	1	PNH03070	General vegetable crops	2	1,5	0,5	C		
3	2	PNH03080	General flowers and ornamentals	2	1,5	0,5	C		
4	2	NH02038	General Plant Pathology	2	1,5	0,5	C		
5	2	NH02037	General Entomology 1	2	1,5	0,5	C		
6	2	RQ02023	Business management in horticulture	2	2	0	C		
7	2	RQ02025	Principles of Greenhouse Crop Production	2	1,5	0,5	C		
8	2	RQ02026	Internship 1: Basic skills and production management in Horticulture	2	0	2	C		
9	3	RQ02031	Project 1: Production management in Horticulture industry	2	0	2	C		
10	3	RQ03071	Specialized vegetable crops	2	1	1	C		
11	3	RQ03081	Specific flower and ornamental crops	2	1,5	0,5	C		
12	3	RQ03043	Specialized fruit production	2	1,5	0,5	C		

13	3	RQ03044	Internship 2: Vocational skills on production in covered houses	5	0	5	C	Internship 1	RQ02026
14	3	RQ03030	Project Evaluation and Management	2	2	0	E		
15	3	RQ03032	Applied Geographic Information System	2	1,5	0,5	E		
16	3	NH03056	Apiculture	2	1,5	0,5	E		
17	3	RQ03034	Communication in Trade and Marketing	2	2	0	E		
18	4	RQ03007	Soilless Culture	2	1	1	C		
19	4	RQ03011	Project 2: Greenhouse Production and management	3	0	3	C	Project 1	RQ02031
20	4	RQ03009	Breeding of greenhouse plants	2	1	1	E		
21	4	RQ03035	Fruit and Vegetable Processing	2	1,5	0,5	E		
22	4	RQ03036	Floral design	2	1	1	E		
23	4	ML02030	Principle of public relation	2	2	0	E		
24	4	RQ03015	Interior Landscaping	2	1,5	0,5	E		
25	4	RQ02028	Research methods	2	2	0	E		
26	4	RQ03039	Leadership capacity	2	1,5	0,5	E		
27	4	RQ03040	Organic farming	2	1,5	0,5	E		
28	4	RQ03025	Planning and Sales Management	2	2	0	E		
29	4	RQ03017	Urban forestry management	2	1,5	0,5	E		
30	4	RQ04997	Graduated Thesis	10	0	10	C		

SPECIALITY 2: LANDSCAPE DESIGN AND CONSTRUCTION

No	Year	Code	Course name	CR	TH	PR	C/E	Prerequisite name	Prerequisite code
GENERAL COURSE									
1	1	RQ01003	Agrometeorology	2	1,5	0,5	C		
2	1	RQ01005	Biology	2	1,5	0,5	C		
3	1	MT01001	General Chemistry	2	1,5	0,5	C		
4	1	PKT01003	Principles of Macro and micro-economics	2	2	0	C		
5	1	ML01009	Introduction to laws	2	2	0	C		
6	1	PTH01002	Probability and statistic	3	3	0	C		
7	1	MT01002	Organic Chemistry	2	1,5	0,5	C		
8	1	CP02005	General biochemistry	2	1,5	0,5	C		
9	2	ML01020	Philosophy of Marxism and Leninism	3	3	0	C		
10	2	ML01021	Political economy of Marxism and Leninism	2	2	0	C		
11	2	RQ01007	Applied informatics	2	1	1	C		
12	2	SN01032	English 1	3	3	0	C		
13	3	SN01033	English 2	3	3	0	C	English 1	SN01032
14	3	ML01022	Socialismn	2	2	0	C		
15	3	ML01005	Ho Chi Minh Ideology	2	2	0	C		
16	3	RQ01011	Sociology	2	1,5	0,5	C		
17	4	ML01023	Vietnamese Communist Party History	2	2	0	C		
18	4	RQ03002	Professional English 1	2	2	0	C	English 2	SN01033
19	4	RQ03010	Professional English 2	2	2	0	E		
FUNDAMENTAL COURSES									
1	1	RQ02001	Principles of Farming	2	1,5	0,5	C		
2	1	RQ02002	Introduction to Horticulture Industry	2	1,5	0,5	C		
3	1	PQL02048	Soil and Fertilizer	2	1	1	C		
4	1	RQ02005	Botany	2	1,5	0,5	C		
5	1	PNH02003	Plant Physiology	3	2	1	C		
6	2	RQ02010	Principles of landscape design	2	1,5	0,5	C		
7	2	RQ02012	Landscape design and construction 1	2	1,5	0,5	C		

8	2	RQ02013	Business project design and analysis	2	1,5	0,5	C	Principles of Macro and micro-economics	PKT01003
9	2	RQ02014	Economic analysis	2	2	0	C		
10	2	RQ02015	Principles of marketing and horticulture market systems	2	2	0	C		
11	2	RQ02016	Food quality and food safety	2	1,5	0,5	C		
12	2	RQ02019	Introduction to Biotechnology	2	1,5	0,5	C	Biology	RQ01005
13	2	RQ02024	Farm Management	2	1,5	0,5	C		
14	3	RQ02018	Principles of Genetics and Plant Breeding	3	2	1	C	Biology	RQ01005
15	3	NH02005	Experimental Methods	2	1,5	0,5	C		
16	3	RQ02029	Irrigation and Drainage management	2	1,5	0,5	C		
17	3	RQ02030	Postharvest handling of horticultural crops	2	1,5	0,5	C		
SPECIALIZED COURSES									
1	1	RQ02032	General fruit production	3	2	1	C		
2	1	PNH03070	General vegetable crops	2	1,5	0,5	C		
3	2	PNH03080	General flowers and ornamentals	2	1,5	0,5	C		
4	2	NH02038	General Plant Pathology	2	1,5	0,5	C		
5	2	NH02037	General Entomology 1	2	1,5	0,5	C		
6	2	RQ02023	Business management in horticulture	2	2	0	C		
7	2	RQ02025	Principles of Greenhouse Crop Production	2	1,5	0,5	C		
8	2	RQ02026	Internship 1: Basic skills and production management in Horticulture	2	0	2	C		
9	3	RQ02031	Project 1: Production management in Horticulture industry	2	0	2	C		
10	3	RQ03012	Applied IT in Landscape Design	2	1,5	0,5	C		
11	3	RQ03013	Landscape design and construction II	2	1,5	0,5	C		
12	3	RQ03017	Urban forestry management	2	1,5	0,5	C		
13	3	RQ03045	Internship 2: Landscape design and construction skills	5	0	5	C	Internship 1	RQ02026
14	3	RQ03030	Project Evaluation and Management	2	2	0	E		
15	3	RQ03032	Applied Geographic Information System	2	1,5	0,5	E		
16	3	NH03056	Apiculture	2	1,5	0,5	E		

17	3	RQ03043	Specialized fruit production	2	1,5	0,5	E		
18	4	RQ03071	Specialized vegetable crops	2	1	1	E		
19	4	RQ03081	Specific flower and ornamental crops	2	1,5	0,5	E		
20	3	RQ03034	Communication in Trade and Marketing	2	2	0	E		
21	4	RQ03018	Landscape Plant Production and Maintenance	2	1	1	C		
22	4	RQ03019	Project 2: Landscape project management	3	0	3	C	Project 1	RQ02031
23	4	RQ03015	Interior Landscaping	2	1,5	0,5	E		
24	4	RQ03007	Soilless Culture	2	1	1	E		
25	4	RQ03036	Floral design	2	1	1	E		
26	4	ML02030	Principle of public relation	2	2	0	E		
27	4	RQ03039	Leadership capacity	2	1,5	0,5	E		
28	4	RQ03040	Organic farming	2	1,5	0,5	E		
29	4	RQ03025	Planning and Sales Management	2	2	0	E		
30	4	RQ04998	Graduated Thesis	10	0	10	C		

Soft skill training (students must obtain 6 credits)

Course code	Course name	Credits	Course status
KN01002	Leadership Skills	2	Elective
KN01001	Communication Skills	2	Elective
KN01003	Self-management Skills	2	Elective
KN01004	Job searching Skills	2	Elective
KN01005	Teamwork Skills	2	Elective
KN01006	International Integration	2	Elective
KN01007	Start-up skills	2	Elective
KN01008	Sales skills	2	Elective
KN01009	Presentation skills	2	Elective
KN01010	Stakeholder work skills	2	Elective

Physical and Citizen Military training

Module title	Course code	Course name	Credits	Course code	Course status
Physical education	GT01016	General Physical Education	1		Compulsory
	GT01017	Athletics	1		Elective
	GT01018	Aerobics	1		Elective
	GT01019	Football	1		Elective
	GT01020	Volleyball	1		Elective
	GT01021	Basketball	1		Elective
	GT01022	Badminton	1		Elective
	GT01023	Chess	1		Elective
	GT01014	Dance sport	1		Elective
	GT01015	Swimming	1		Elective
Citizen Military education	QS01011	Citizen Military Training 1	3		Compulsory
	QS01012	Citizen Military Training 2	2		Compulsory
	QS01013	Citizen Military Training 3	2		Compulsory
	QS01014	Citizen Military Training 4	4		Compulsory
Total			21		

Courses for computer skills (students must obtain 4 credits)

Course code	Course name	Credits	Course status
RQ01007	Application Informatics	2	Compulsory

9. STUDY PLAN (SAMPLE)

(CR: credit, TH: Theory, PR: Practice, C/E= Compulsory/ Elective)

Year 1

Semester	Code	Course name	SPECIALITY 1				SPECIALITY 2				Prerequisite code
			CR	TH	PR	C/E	CR	TH	PR	C/E	
1	SN00010	An Introduction to CEFR-based Tests	1	1	0	-	1	1	0	-	
1	GT01016	General Physical Education	1	0.5	0.5	C	1	0.5	0.5	C	
1	RQ02001	Principles of Farming	2	1.5	0.5	C	2	1.5	0.5	C	
1	RQ01003	Agrometeorology	2	1.5	0.5	C	2	1.5	0.5	C	
1	RQ02002	Introduction to Horticulture Industry	2	1.5	0.5	C	2	1.5	0.5	C	
1	RQ01005	Biology	2	1.5	0.5	C	2	1.5	0.5	C	
1	MT01001	General Chemistry	2	1.5	0.5	C	2	1.5	0.5	C	
1	PQL02048	Soil and Fertilizer	2	1	1	C	2	1	1	C	
1	PKT01003	Principles of Macro and micro-economics	2	2	0	C	2	2	0	C	
1	ML01009	Introduction to laws	2	2	0	C	2	2	0	C	
2	QS01011	Citizen Military Training 1	3	3	0	C	3	3	0	C	
2	QS01012	Citizen Military Training 2	2	2	0	C	2	2	0	C	
2	QS01013	Citizen Military Training 3	2	1	1	C	2	1	1	C	
2	QS01014	Citizen Military Training 4	4	0.3	3.7	C	4	0.3	3.7	C	
2	SN00011	English 0	2	2	0	-	2	2	0	-	
2	PTH01002	Applied probability and statistic in agricultural science	3	3	0	C	3	3	0	C	
2	MT01002	Organic Chemistry	2	1.5	0.5	C	2	1.5	0.5	C	
2	RQ02005	Botany	2	1.5	0.5	C	2	1.5	0.5	C	
2	PNH02003	Plant Physiology	3	2	1	C	3	2	1	C	
2	CP02005	General biochemistry	2	1.5	0.5	C	2	1.5	0.5	C	
2	RQ02032	General fruit production	3	2	1	C	3	2	1	C	
2	PNH03070	General vegetable crops	2	1.5	0.5	C	2	1.5	0.5	C	
Total compulsory credits			33	25.5	7.5		33	25.5	7.5		
Total Physical and Citizen Military training credits			12	6.3	5.7		12	6.3	5.7		
Total computer course credits			0								
Total Soft skill training credits			0								

Year 2

Semester	Code	Course name	Speciality 1				Speciality 2				Prerequisite code
			CR	TH	PR	C/E	CR	TH	PR	C/E	
3	GT01017/ GT01018/ GT01019/ GT01020/ GT01021/ GT01022/ GT01023/ GT01014/ GT01015	General Physical Education (select 2 from 9 courses: Athletics, Aerobics, Soccer, Volleyball, Basketball, Badminton, Chess, Dance sport, Swimming)	1	0	1	C	1	0	1	C	
3	KN01001/ KN01002/ KN01003/ KN01004/ KN01005/ KN01006/	Soft skill training: 90 credits (select 3 out of 6 courses, each course 30 credits: Leadership Skills, Communication Skills, Self -management Skills, Job searching Skills, Teamwork Skills, International Integration)				C				C	
3	ML01020	Philosophy of Marxism and Leninism	3	3	0	C	3	3	0	C	
3	RQ02010	Principles of landscape design	2	1.5	0.5	C	2	1.5	0.5	C	
3	PNH03080	General flowers and ornamentals	2	1.5	0.5	C	2	1.5	0.5	C	
3	RQ02012	Landscape design and construction 1	2	1.5	0.5	C	2	1.5	0.5	C	
3	RQ02013	Business project design and analysis	2	1,5	0,5	C	2	1,5	0,5	C	PKT01003
3	RQ02014	Economic analysis	2	2	0	C	2	2	0	C	
3	RQ02015	Principles of marketing and horticulture market systems	2	2	0	C	2	2	0	C	
3	RQ02016	Food quality and food safety	2	1.5	0.5	C	2	1.5	0.5	C	
3	RQ01007	Applied informatics	2	1	1	C	2	1	1	C	
4	SN01032	English 1	3	3	0	C	3	3	0	C	
4	ML01021	Political economy of Marxism and Leninism	2	2	0	C	2	2	0	C	
4	RQ02019	Introduction to Biotechnology	2	1.5	0.5	C	2	1.5	0.5	C	RQ01005
4	NH02038	General Plant Pathology	2	1.5	0.5	C	2	1.5	0.5	C	
4	NH02037	General Entomology 1	2	1.5	0.5	C	2	1.5	0.5	C	
4	RQ02023	Business management in horticulture	2	2	0	C	2	2	0	C	
4	RQ02024	Farm Management	2	1,5	0,5	C	2	1,5	0,5	C	
4	RQ02025	Principles of Greenhouse Crop Production	2	1.5	0.5	C	2	1.5	0.5	C	
4	RQ02026	Internship 1	2	0	2	C	2	0	2	C	
Total compulsory credits			38	29.5	8.5		38	29.5	8.5		
Total Physical and Citizen Military training credits			2	0	2		2	0	2		
Total computer course credits			2	1	1		2	1	1		
Total Soft skill training credits			6				6				

Year 3

Semester	Code	Course name	SPECIALITY 1				SPECIALITY 2				Prerequisite code
			CR	TH	CR	TH	CR	TH	CR	TH	
5	SN01033	English 2	3	3	0	C	3	3	0	C	SN01032
5	RQ02018	Principles of Genetics and Plant Breeding	3	2	1	C	3	2	1	C	RQ01005
5	ML01022	Socialism	2	2	0	C	2	2	0	C	
5	RQ01011	Sociology	2	1,5	0,5	C	2	1,5	0,5	C	
5	NH02005	Experimental Methods	2	1,5	0,5	C	2	1,5	0,5	C	
5	RQ02029	Irrigation and Drainage management	2	1,5	0,5	C	2	1,5	0,5	C	
5	RQ02030	Postharvest handling of horticultural crops	2	1,5	0,5	C	2	1,5	0,5	C	
5	RQ02031	Project 1	2	0	2	C	2	0	2	C	
6	ML01005	Ho Chi Minh Ideology	2	2	0	C	2	2	0	C	
6	RQ03071	Specialized vegetable crops	2	1	1	C					
6	RQ03081	Specific flower and ornamental crops	2	1,5	0,5	C					
6	RQ03043	Specialized fruit production	2	1,5	0,5	C	2	1,5	0,5	E	
6	RQ03044	Internship 2	5	0	5	C					RQ02026
6	RQ03030	Project Evaluation and Management	2	2	0	E	2	1,5	0,5	E	
6	RQ03032	Applied Geographic Information System	2	1,5	0,5	E	2	1,5	0,5	E	
6	NH03056	Apiculture	2	1,5	0,5	E	2	1,5	0,5	E	
6	RQ03034	Communication in Trade and Marketing	2	2	0	E	2	2	0	E	
6	RQ03012	Applied IT in Landscape Design					2	1,5	0,5	C	
6	RQ03013	Landscape design and construction 2					2	1,5	0,5	C	
6	RQ03017	Urban forestry management					2	1,5	0,5	C	
6	RQ03045	Internship 2					5	0	5	C	RQ02026
Total compulsory credits			31	19	12		31	19,5	11,5		
Total Physical and Citizen Military training credits			4				4				
Total computer course credits			0	0	0		0	0	0		
Total Soft skill training credits			0	0	0		0	0	0		
Total compulsory credits			0	0	0		6				

Year 4

Semester	Code	Course name	SPECIALITY 1				SPECIALITY 2				Prerequisite code
			CR	TH	CR	TH	CR	TH	CR	TH	
7	RQ03007	Soiless Culture	2	1	1	C	2	1	1	E	
7	RQ03002	Professional English 1	2	2	0	C	2	2	0	C	SN01033
7	ML01023	Vietnamese Communist Party History	2	2	0	C	2	2	0	C	
7	RQ03011	Project 2	3	0	3	C					RQ02031
7	RQ03009	Breeding of greenhouse plants	2	1	1	E					
7	RQ03010	Professional English 2	2	2	0	E					
7	RQ03035	Fruit and Vegetable Processing	2	1.5	0.5	E					
7	RQ03036	Floral design	2	1	1	E	2	1	1	E	
7	ML02030	Principle of public relation	2	2	0	E	2	2	0	E	
7	RQ03015	Interior Landscaping	2	1.5	0.5	E	2	1.5	0.5	E	
7	RQ02028	Research methods	2	2	0	E					
7	RQ03039	Leadership capacity	2	1.5	0.5	E	2	1.5	0.5	E	
7	RQ03040	Organic farming	2	1.5	0.5	E	2	1.5	0.5	E	
7	RQ03025	Planning and Sales Management	2	2	0	E	2	2	0	E	
7	RQ03017	Urban forestry management	2	1.5	0.5	E					
7	RQ03018	Landscape Plant Production and Maintenance					2	1	1	C	
7	RQ03019	Project 2					3	0	3	C	RQ02031
7	RQ03016	Professional English 2					2	2	0	E	
7	RQ03071	Specialized vegetable crops					2	1	1	E	
7	RQ03081	Specific flower and ornamental crops					2	1.5	0.5	E	
8	RQ04997	Graduated Thesis	10	0	10	C					
8	RQ04998	Graduated Thesis					10	0	10	C	
Total compulsory credits			19	5	14		19	5	14		
Total elective credits			6				6				
Total Physical and Citizen Military training credits			0	0	0		0	0	0		
Total computer course credits			0	0	0		0	0	0		
Total Soft skill training credits			0	0	0		0	0	0		

10. COURSE CONTENT AND WORKLOAD

I. GENERAL COURSE

1. SN01032. English 1. 3 credits (Theory: 3 - Practice: 0 - Self Study: 9)

This course consists of 6 units at the pre-intermediate level on the six topics including Life (Unit 1), Work (Unit 2), Time out (Unit 3), Great Minds (Unit 4), Travel (Unit 5) and Fitness (Unit 6). In each unit, English grammar, vocabulary, and skills are provided and practiced by students through different activities.

2. SN01033. English 2. 3 credits (Theory: 3 - Practice: 0 - Self Study: 9)

This course consists of 6 units at the pre-intermediate level about the five topics including Changes (Unit 1), Money (Unit 2), Nature (Unit 3), Society (Unit 4), Technology (Unit 5) and Fame (Unit 6). In each unit, English grammar, vocabulary, and skills are provided and practiced by students through different sections: Grammar/Function; Vocabulary; Pronunciation; Speaking; Reading; Listening; Writing. Prerequisite course: English 1

3. RQ03002. Professional English 1. 2 credits (2/0/6) (Theory: 2 - Practice: 0 - Self Study: 6)

This course consists of 6 units including unit 1 - Introduction, unit 2 - Horticultural crops, unit 3 – Floriculture, unit 4 - Site and microclimate in horticulture, and unit 6 - Gardening. Each unit provides a wide range of technical vocabulary, grammar, and expressions through different reading passages, grammar exercises, and use-of-English activities in the contexts of horticulture and landscaping. Listening, presenting, and writing activities are designed properly based on the topic of each unit. Prerequisite course: English 2

4. RQ03010. Professional English 2 (Greenhouse Production And Management). 2 credits (Theory: 2 - Practice: 0 - Self Study: 6)

This course consists of 6 units including unit 1 - Introduction, unit 2 - Greenhouse vegetable production, unit 3 - How to build a greenhouse, unit 4 - Site selection for the greenhouse, unit 5 - Greenhouse types, designs, and construction, unit 6 - Production methods in the greenhouse. Each unit provides a wide range of technical vocabulary, grammar, and expressions through different reading passages, grammar exercises, and use-of-English activities in the contexts of greenhouse production and management. Listening, presenting, and writing activities are designed properly based on the topic of each unit.

5. RQ03010. Professional English 2 (Landscape Design And Construction). 2 credits (Theory: 2 - Practice: 0 - Self Study: 6)

This course consists of 6 units including unit 1 - Introduction to today's landscaping, unit 2 - Design analysis, unit 3 - Areas and circulation, unit 4 - Studying the landforms, unit 5 - Planning the alteration of landforms, unit 6 - The walls and ceiling. Each unit provides a wide range of technical vocabulary, grammar, and expressions through different reading passages, grammar exercises, and use-of-English activities in the context of landscaping. Listening, presenting, and writing activities are designed properly based on the topic of each unit.

6. ML01020. Philosophy of Marxism and Leninism. 3 credits (Theory: 3 - Practice: 0 - Self Study: 9)

This course includes a Thesis on Philosophy and Marxist-Leninist philosophy; dialectical materialism; historical materialism.

7. ML01021. Political economy of Marxism and Leninism: 2 credits (Theory: 2 - Practice: 0 - Self Study: 6)

The course consists of 6 chapters, presenting the following issues: Objects, research methods, and functions of Marxist-Leninist political economy; Commodities, markets, and the roles of actors; Surplus value; Competition and monopoly; Socialist-oriented market economy and economic interest relations in Vietnam; Vietnam's industrialization, modernization, and international economic integration and industrialization.

8. ML01022. Socialism. 2 credits (Theory: 2 - Practice: 0 - Self Study: 6)

The course includes: Introduction to scientific socialism; The historical mission of the working class; Socialism and the transition to socialism; Democracy and the socialist state; Social structure - classes and alliances of classes and classes in the transition to socialism; Ethnic and religious issues in the transition to socialism; Family problems in the transition to socialism.

9. ML01005. Ho Chi Minh Ideology. 2 credits (Theory: 2 - Practice: 0 - Self Study: 6)

The course content is Ho Chi Minh's ideology on the path of national liberation and building a new society.

10. RQ01011. Sociology. 2 credits (Theory: 1.5 - Practice: 0.5 - Self Study: 6)

The process of formation and development of sociology; Objects and research methods of sociology; Social structure; Social action and social interaction; Social status and roles; Social groups and social institutions; Culture and socialization.

11. ML01023. Vietnamese Communist Party History. 2 credits (Theory: 2 - Practice: 0 - Self Study: 6)

This course includes: Objects, functions, tasks, content and methods of research and study History of the Communist Party of Vietnam. The Communist Party of Vietnam was born and led the struggle for power (1930-1945). The Party led two wars, completed national liberation and reunification (1945-1975). The Party led the country in the transition to socialism and carried out the renew (1975-2018). Conclusion on the great victories of the Vietnamese revolution and great lessons on the leadership of the Party.

12. RQ01003. Agrometeorology. 2 credits (Theory: 1.5 - Practice: 0.5 - Self Study: 6)

This course includes basic knowledge about solar radiation regimes; ozone; the temperature regime of the soil and air; rain, evaporation and air humidity regimes; wind and disaster regimes; Effects of meteorological and weather factors on crops (vegetables, flowers, fruits, and other plants); Methods of survey, analysis of agro-meteorological criteria and assessment of the impact of weather on vegetables, fruits and ornamental plants...

13. RQ01005. Biology. 2 credits (Theory: 1.5 - Practice: 0.5 - Self Study: 6)

The course consists of the following chapters: Chapter 1: Overview of the organization of living organisms; Chapter 2: Energy and metabolism of cells; Chapter 3: The process of cell division and reproduction of organisms; Chapter 4: Sensitivity and adaptation of organisms; Chapter 5: Evolution of the living world. Practical exercises: Lesson 1: Microscopes and how to use them; Lesson 2: Observing prokaryotic and eukaryotic cells, the phenomenon of cytoplasmic contraction and contraction; Lesson 3: Observe the phases of mitosis and meiosis.

14. MT01001. General Chemistry. 2 credits (Theory: 1.5 - Practice: 0.5 - Self Study: 6)

The course consists of 7 theoretical chapters with the following contents: Some basic concepts and laws, substance structure, thermodynamics, reaction rate and chemical equilibrium, solutions, electricity chemistry, colloidal system, and 3 laboratory exercises.

15. PKT01003. Principles of macro and microeconomics. 2 credits (Theory: 2 - Practice: 0 - Self Study: 6)

Introduction to basic principles of Microeconomics, Applying microeconomics to agricultural market analysis, Macroeconomics, Applying analytical macroeconomics policy. 3 parts, (A) General problems of economics, (B) Fundamentals of microeconomics, and (C) Fundamentals of macroeconomics.

16. ML01009. Introductory to Laws. 2 credits (Theory: 2 - Practice: 0 - Self Study: 6)

Some basic theoretical issues about the State and Law; Some basic contents about the State and Law of the Socialist Republic of Vietnam; Basic contents of Civil Law and Criminal Law; Basic contents of

Economic Law, Labor Law, Marriage and Family Law; Basic content of the Administrative Law and the law on anti-corruption.

17. PTH01002. Applied Probability and Statistics in Agricultural Sciences. 3 credits (Theory: 3 - Practice: 0 - Self Study: 9)

This course consists of 7 chapters: Descriptive statistics; Distribution of the population; Sample distribution; Parameter estimation; Statistical hypothesis testing; One-factor analysis of variance; Correlation and regression.

18. MT01002. Organic Chemistry. 2 credits (Theory: 1.5 - Practice: 0.5 - Self Study: 6)

The theoretical part includes the basic concepts of organic chemistry such as: Isomerism and the mutual influence between atoms and groups of atoms in molecules of organic compounds. Structure and basic properties of important organic functional groups. Reaction mechanisms of some basic organic reactions. Structure, properties and roles of some groups of natural compounds: Glucit, lipids, amino acids, proteins... The practical part includes qualitative experiments on the chemical properties of basic organic compounds. 3 lab exercises).

19. CP02005. General Biochemistry. 2 credits (Theory: 1.5 - Practice: 0.5 - Self Study: 6)

The theoretical part consists of 07 chapters: Protein; Vitamin; Enzyme; Nucleic acid; Carbohydrates; Lipids; Amino acid and protein metabolism; Metabolism and energy. The practical part consists of 03 lessons: Protein content analysis; Analysis of reducing sugar, and total sugar; Analysis of the content of vitamin C and organic acids.

20. RQ01007. Applied Informatics. 2 credits (Theory: 1 - Practice: 1 - Self Study: 6)

This course includes an Overview of IT; Computer hardware; Computer software and operating systems; Computer networks and Internet services; MS Word, MS PowerPoint, MS Excel. Social issues of IT.

II. FOUNDATIONAL COURSE

1. RQ02001. Principles of Cultivation. 2 credits (Theory: 1.5 - Practice: 0.5 - Self Study: 6)

This course includes the following contents: Introduction to plants and principles of exploitation of plant products; Climate-crop relationship and basic principles of exploiting climate factors; The soil-crop relationship and the principles of exploitation, maintaining, and improving soil fertility; Principles of basic farming techniques in crop production.

2. RQ02002. Introduction to Horticulture and Landscape. 2 credits (Theory: 1.5 - Practice: 0.5 - Self Study: 6)

The course consists of 4 chapters, dealing with the following issues: introduction to the career-oriented Horticulture and Landscape technology training program; position and role of vegetable, flower, and fruit production and landscape design; the current status and development trend of the industry; introduce the world of work (WoW) and job opportunities of students after graduation; Practice teamwork, design questionnaires, conduct field surveys, write reports, organize student seminars.

3. PQL02048. Soil and Fertilizer. 2 credits (Theory: 1 - Practice: 1 - Self Study: 6)

This course consists of 3 chapters introducing the process of soil formation; basic properties of the soil; the nature and characteristics of the main soil types in Vietnam; The relationship between crops, soil, and fertilizers; The issue of effective and sustainable land use in tropical monsoon conditions; The method of rational use of organic and mineral fertilizers is related to the yield and quality of agricultural products, soil fertility and environmental safety.

4. RQ02005. Botany 2 credits (Theory: 1.5 - Practice: 0.5 - Self Study: 6)

This course includes chapters on Plant Tissues; Nutritional organs of angiosperms; Reproduction in angiosperms; Plant taxonomy methods, taxa, and nomenclature; Preliminary classification of the plant

kingdom; Classification of two cotyledons; Classification of one cotyledon (Classification of plants according to habitat and use value).

5. PNH02003. Plant physiology. 3 credits (Theory: 2 - Practice: 1 - Self Study: 9)

This course includes the following chapters: Cell physiology; Water exchange; Mineral nutrition; Photosynthesis; Respiratory; Transportation and distribution of homogenized products; Growth and development; Adaptive response to adverse ecological conditions.

6. RQ02010 Principles of landscape design. 2 credits (Theory: 1.5 - Practice: 0.5 - Self Study: 6)

Basic concepts; Basic objects in landscape design; Steps to take in landscape design; Visual elements in landscape design; Landscape design of specific areas.

7. RQ02012. Landscape design and construction 1. 2 credits (Theory: 1.5 - Practice: 0.5 - Self Study: 6)

This course includes the general contents of the construction steps of a landscape project; types of materials and their applications in the garden. The following sections focus on knowledge blocks on organization of landscape construction, construction techniques for garden paths; construction techniques of water elements and techniques of combining green plants. Prerequisite course: Principles of landscape design

8. RQ02013. Business projects design and analysis. 2 credits (Theory: 1.5 - Practice: 0.5 - Self Study: 6)

This course consists of 5 chapters related to Project Overview, Business Project Making (DAKD); Technical analysis of DAKD technology; Financial analysis of DAKD; Socio-economic and environmental analysis DAKD; DAKD risk analysis. Prerequisite course: Principle of macro and micro economic

9. RQ02014. Economic Analysis. 2 credits (Theory: 2 - Practice: 0 - Self Study: 6)

The Business Analysis course aims to equip students: General issues of agricultural economic analysis, Analysis of production costs in agriculture, and Analysis of production and business results in agriculture.

10. RQ02015. Principles of marketing and horticulture market systems. 2 credits (Theory: 2 - Practice: 0 - Self Study: 6)

Overview of marketing; Market segmentation, target market selection and product positioning; Product decisions; Deciding on the selling price; Deciding on product distribution; Decision on promotion mix; Fruit and vegetable market.

11. RQ02016. Food quality and food safety. 2 credits (Theory: 1.5 - Practice: 0.5 - Self Study: 6)

Introduction. Food quality and management - inspection activities. Food contamination and causes. Standardization system. Exercise 1: Determination of chemical residues on agricultural and food products. Lesson 2: Identify microorganisms that cause food poisoning. Lesson 3: Hazard identification and CCP.

12. RQ02019. Introduction to Biotechnology. 2 credits (Theory: 1.5 - Practice: 0.5 - Self Study: 6)

This course includes General Introduction to Biotechnology; Background techniques of modern biotechnology; Biotechnology in horticulture: plant tissue culture technology and genetically modified plant breeding technology; Biosecurity of genetically modified crops.

13. RQ02024. Farm management. 2 credits (Theory: 1.5 - Practice: 0.5 - Self Study: 6)

Overview of household and farm economic management; Determine the direction and scale of production of households and farms; Apply economic principles in production; Develop production plan; Management of factors of production; Accounting and analysis of business results.

14. RQ02018. Genetics and Plant breeding. 3 credits (Theory: 2 - Practice: 2 - Self Study: 9)

This course includes knowledge about genetic material; DNA structure and replication at the molecular and cellular level; Regulating gene expression; Mendelian principles of heredity; heredity at the population level and heredity; Principles and methods of breeding mainly in plants (sexual and asexual reproduction). Evolution; phenotypic variation, genotype, heritability, artificial selection. Prerequisite course: Biology

15. NH02005. Experimental Method. 2 credits (Theory: 1.5 - Practice: 0.5 - Self Study: 6)

This course includes: Introduction to scientific research; Experimental design; Conduct field experiments; Summary of observed data; Estimates; Statistical hypothesis testing; Methods of arranging experimental formulas and analyzing results; Regression correlation analysis; Experiment summary.

16. RQ02029. Irrigation and Drainage Management. 2 credits (Theory: 1.5 - Practice: 0.5 - Self Study: 6)

The course consists of the following main contents: Agricultural production and water use; Soil water, Plant water requirements; Watering mode for plants; Irrigation methods and irrigation techniques; Irrigation system. Four practical exercises: Determination of soil moisture, measurement of soil water permeability, sprinkler irrigation, drip irrigation.

17. RQ02030. Postharvest handling of horticultural crops. 2 credits (Theory: 1.5 - Practice: 0.5 - Self Study: 6)

The course introduces the causes affecting the quality and safety of horticultural crops products after harvest; Techniques for harvesting, preliminary processing, preservation and management of post-harvest horticultural crops products to reduce losses, ensure quality and food hygiene and safety

III. SPECIALIZED COURSE

SPECIALITY 1: GREENHOUSE PRODUCTION AND MANAGEMENT

1. RQ02032. General fruit production. 3 credits (Theory: 2 - Practice: 1 - Self Study: 9)

This course covers the importance of fruit trees; the situation of fruit tree production in the world and in Vietnam; the growth and development characteristics of fruit trees; ecological requirements of fruit trees; nursery and fruit tree propagation methods; planning and designing orchards; management and care of fruit orchards; market and fruit quality.

2. PNH03070. General vegetable crops. 2 credits (Theory: 1.5 - Practice: 0.5 - Self Study: 6)

Importance, development history, characteristics and direction of vegetable production; Biological and ecological characteristics of vegetable crops; Main technical measures in vegetable production; Safe vegetable production; Harvest and post-harvest techniques of vegetable products; Harvesting and post-harvest techniques of vegetable products.

3. PNH03080. General flowers and ornamentals. 2 credits (Theory: 1.5 - Practice: 0.5 - Self Study: 6)

The course includes content on the role of ornamental flowers in life; The situation of production and consumption of flowers and ornamental plants at home and abroad. Major commercial flower production areas in Vietnam. Methods of classifying flowers/plants. External requirements of flowers and ornamental plants; Nursery techniques and methods of propagating ornamental flowers; Some technical measures for planting and caring for ornamental flowers; Methods of preserving cut flowers and applicability in Vietnam.

4. NH02038. General Plant Pathology. 2 credits (Theory: 1.5 - Practice: 0.5 - Self Study: 6)

The course includes the following contents: Basic concepts of plant diseases; Changes in diseased plants; Groups of plant diseases; Plant diseases; Diagnosis of plant diseases and prevention; Fungi and fungal diseases of plants; Bacteria and bacterial diseases harmful to plants; Viruses and viral diseases of plants; The nematode and nematode diseases of plants.

5. NH02037. General Entomology. 2 credits (Theory: 1.5 - Practice: 0.5 - Self Study: 6)

Introduction; Insect morphology; insect biology; Insect ecology; Classification of insects to order; Principles and methods of pest control.

6. RQ02023. Business management in horticulture. 2 credits (Theory: 2 - Practice: 0 - Self Study: 6)

The course consists of 5 chapters with the following contents: General issues of agribusiness administration; Types of agribusiness; Financial statements in the enterprise; Marketing activities of the enterprise; and Enterprise Resources.

7. RQ02025. Principles of Greenhouse Crop Production. 2 credits (Theory: 1.5 - Practice: 0.5 - Self Study: 6)

Introduction to the structure, materials, and equipment of greenhouse; an operating way to control the environment suitable for growing vegetables and fruits in the greenhouse; control plant growth and development by nutrition, irrigation methods, growth regulators, growing plants on substrates; Basic principles of pest and disease management and product quality maintenance of greenhouse.

8. RQ02026. Internship 1: Basic skills and production management in Horticulture. 2 credits (Theory: 0 - Practice: 2 - Self Study: 6)

Working at establishments that have activities related to vegetables, fruits, and ornamental plants to master technical measures for producing vegetables, fruits, and ornamental plants; Investigate the production process of crops, business activities, and production management of the establishment; Write a report and present the results of the internship.

9. RQ02031. Project 1: Production management in Horticulture industry. 2 credits (Theory: 0 - Practice: 2 - Self Study: 6)

This course introduces the Production Management Project in the field of horticulture; the Benefits and objectives of the Production Management Project in Horticulture; Roles and responsibilities of stakeholders (Department, instructors, students and the Community); Guidelines for building Project Notes; Organizing and supervising the implementation; Guidelines for writing project implementation reports; Evaluation of the results of Project 1.

10. RQ03071. Specialized vegetable crops. 2 credits (Theory: 1 - Practice: 1 - Self Study: 6)

The course consists of 5 chapters, each program presents each main vegetable representing 3 groups of leafy vegetables (cabbage plants), fruit vegetables (tomatoes, cucumbers) and root vegetables. (potatoes, onions) with the contents; introduction of nutritional value, economic significance, origin, distribution, classification, requirements for external conditions, planting, care, harvesting and seed production techniques of these vegetables. The course has 5 practical lessons with content on tillage techniques, planting, care, harvesting and assessing the growth and development of cabbage, tomato, cucumber, potato and onion vegetables.

11. RQ03081. Specialized flower and ornamental crops. 2 credits (Theory: 1.5 - Practice: 0.5 - Self Study: 6)

The course includes the following contents: Production and consumption of some key flowers in the world and Vietnam. Production techniques produce several popular carpet flowers. Practice propagation, care, and production of some types of cut, bulbous, and carpet flowers.

12. RQ03043. Specialized fruit trees. 2 credits (Theory: 1.5 - Practice: 0.5 - Self Study: 6)

The course introduces the requirements for external conditions; techniques of propagation, planting, care, pest control, and harvesting for tropical, subtropical, and temperate fruit trees according to the GAP process.

13. RQ03045. Internship 2: Vocational skills on production in covered houses. 5 credits (Theory: 0 - Practice: 5- Self Study: 15)

This course includes: Learning about the structure of the greenhouse and operating methods, and production techniques in the greenhouse: propagation, planting, operating the irrigation system, and preparing the solution. The nutrient solution, fertilizing, preparing substrates, making scaffolding, pruning trees, preventing pests and diseases, and harvesting. Prerequisite course: Internship 1

14. RQ03030. Project evaluation and management. 2 credits (Theory: 2 - Practice: 0- Self Study: 6)

Project concept, project cycle, concept of project evaluation and management; Project implementation planning; Organizing and managing project personnel; Organize the mobilization of equipment for project implementation; Contract management; Management of training and training; Project risk management; Building a project monitoring system; Project monitoring methods/tools; How to organize, method/tool to evaluate the project.

15. RQ03032. Applied Geographic Information System. 2 credits (Theory: 1.5 - Practice: 0.5 - Self Study: 6)

General introduction to Geographic Information Systems (GIS); Data structure in GIS; Elevation Digital Modeling (DEM): DEM representation method, DEM construction method; Data analysis in GIS: buffering function, map overlay function, spatial interpolation function, search function, network analysis function.

16. NH03056. Apiculture. 2 credits (Theory: 1.5 - Practice: 0.5 - Self Study: 6)

Introduction; morphological characteristics; biology, ecology of honey bees; beekeeping techniques; honey bee diseases and prevention; preservation and processing of bee products; Genetics and selection of honey bee varieties.

17. RQ03034. Communication in Trade and marketing. 2 credits (Theory: 2 - Practice: 0 - Self Study: 6)

Overview of trading and marketing communication, communication skills, communication in the office, negotiation skills in commercial and marketing business, understanding of customer psychology in communication.

18. RQ03007. Soilless Culture. 2 credits (Theory: 1 - Practice: 1 - Self Study: 6)

The course consists of 4 chapters, dealing with the following issues: History of growing plants without soil, current status and development trends of soilless crop technology in crop production; introduction of soilless growing systems; nutrient needs, and the ability to absorb nutrients through the roots of plants; method of preparing nutrient solution; the role and features of the soilless growing medium, the method of mixing the medium; techniques for propagating vegetables and flowers without using soil; production techniques for some common vegetables and flowers on hydroponics, aeroponics and potted media systems.

19. RQ03019. Project 2: Greenhouse Production and management. 3 credits (Theory: 0 - Practice: 3 - Self Study: 9)

This course introduces Project 2 - Greenhouse Production and management of Vegetables-Flowers-Fruits; Benefits and objectives of the Project of Production and production management of Vegetables, Flowers, and Fruits in a greenhouse; Roles and responsibilities of stakeholders (Department, instructors, students, and the Community); Guidelines for building Project Notes; Organizing and supervising the implementation; Guidelines for Writing Project 2 implementation reports; Evaluate the results of Project 2. Prerequisite course: Project 1.

20. RQ03009. Breeding of greenhouse plants. 2 credits (Theory: 1- Practice: 1 - Self Study: 6)

This course includes the following contents: Basic concepts, objectives and strategies of indoor plant breeding; Basic problems in the selection and breeding of houseplants under shade; Selective methods in plant variety selection; Method of selecting and creating some varieties of indoor plants with greenhouse (roses, cucumbers, orchids...). Prerequisite course: Genetics and Plant breeding

22. RQ03036. Floral design. 2 credits (Theory: 1 - Practice: 1 - Self Study: 6)

Introduction to the art of flower arrangement/bouquet (the history of the development of the art of flower arranging, the schools of flower arrangement, the common types of flowers used in flower arranging), the art of making dried flowers, the art of making pressed flowers... The principles of color mixing/combining, the principles of oriental flower arrangement (the art of Ikebana flower arrangement) and the West, methods of making dried flowers and pressed flowers. Practice flower bouquet/arrangement techniques.

23. ML02030. Principles of public relations. 2 credits (Theory: 2 - Practice: 0 - Self Study: 6)

General public relations; Public relations activities and applied public relations; use skills of public relations; Public relations management; Some legal and ethical issues pose to public relations activities.

24. RQ03015. Interior Landscape. 2 credits (Theory: 1.5 - Practice: 0.5 - Self Study: 6)

General introduction to interior landscape; Requirements for outdoor conditions of interior plants; Techniques of propagation, planting and care of interior plants; Introduce some types of interior plants; Principles of interior landscape design; Steps to take in landscape design furniture; Interior landscape design for some specific projects: Interior of offices, agencies, Trade centers, Exhibition of flowers...

25. RQ02028. Research Methods. 2 credits (Theory: 2 - Practice: 0 - Self Study: 6)

The course includes the following contents: Role and importance of scientific research; Classification of scientific research; Research process; Identify ideas, problems and develop research proposal; Review of documents and sources of information; Basic concepts of experimental design and sampling in experimental research; Publication of research results.

26. RQ03039. Leadership capacity. 2 credits (Theory: 1.5 - Practice: 0.5 - Self Study: 6)

Introduction of the subject; Leadership concepts, leadership competencies and leadership behavior; The nature of leadership and effective leadership behavior; Leadership capacity and gender; Leadership qualities and skills; Situations in leadership behavior; Leadership models.

27. RQ03040. Organic Farming. 2 credits (Theory: 1.5 - Practice: 0.5 - Self Study: 6)

This course includes: Basics of organic agriculture; History of organic agriculture development; The principles of organic agriculture; Land and water management for organic production; Nutrient management for organic crops; Management of farming techniques for organic crops; Pest management in organic production; Management in preliminary processing and preservation of organic products; Market management of organic products; The practice of organic production in Vietnam.

28. RQ03025. Planning and Sales Management. 2 credits (Theory: 2 - Practice: 0 - Self Study: 6)

This course includes: Overview of sales and sales management; Analysis of the sales environment; Product analysis; Customer analysis; Sales force analysis; Distribution channel analysis; Set up sales strategy; Sales planning; Intensive training in sales; Test and evaluation in sales.

29. RQ03017. Urban forestry management. 2 credits (Theory: 1.5 - Practice: 0.5 - Self Study: 6)

Urban forestry management provides basic knowledge about the concept, classification, role, and environmental characteristics of urban trees. The content focuses mainly on the organization and management of the incubator; organizing the management of street trees and park trees. In addition, the course content also provides pruning techniques, felling techniques, and measures to take care of urban trees.

30. RQ04997. Graduation thesis. 10 credits (Theory: 0- Practice: 10 - Self Study: 30)

Implement a specific project on the production and management of fruit and vegetable production and landscaping; apply and practice professional skills and soft skills; develop capacity for transferring technical and technological advances, planning, implementing and solving problems with scientific basis; build professional relationships.

SPECIALIZED IN LANDSCAPE DESIGN AND CONSTRUCTION

1. RQ02032. General fruit production. 3 credits (Theory: 2 - Practice: 1 - Self Study: 9)

This course covers the importance of fruit trees; the situation of fruit tree production in the world and in Vietnam; the growth and development characteristics of fruit trees; ecological requirements of fruit trees; nursery and fruit tree propagation methods; planning and designing orchards; management and care of fruit orchards; market and fruit quality.

2. PNH03070. General vegetable crops. 2 credits (Theory: 1.5 - Practice: 0.5 - Self Study: 6)

Importance, development history, characteristics and direction of vegetable production; Biological and ecological characteristics of vegetable crops; Main technical measures in vegetable production; Safe vegetable production; Harvest and post-harvest techniques of vegetable products; Harvesting and post-harvest techniques of vegetable products.

3. PNH03080. General flowers and ornamentals. 2 credits (Theory: 1.5 - Practice: 0.5 - Self Study: 6)

The course includes content on the role of ornamental flowers in life; The situation of production and consumption of flowers and ornamental plants at home and abroad. Major commercial flower production areas in Vietnam. Methods of classifying flowers/plants. External requirements of flowers and ornamental plants; Nursery techniques and methods of propagating ornamental flowers; Some technical measures for planting and caring for ornamental flowers; Methods of preserving cut flowers and applicability in Vietnam.

4. NH02038. General Plant Pathology. 2 credits (Theory: 1.5 - Practice: 0.5 - Self Study: 6)

The course includes the following contents: Basic concepts of plant diseases; Changes in diseased plants; Groups of plant diseases; Plant diseases; Diagnosis of plant diseases and prevention; Fungi and fungal diseases of plants; Bacteria and bacterial diseases harmful to plants; Viruses and viral diseases of plants; The nematode and nematode diseases of plants.

5. NH02037. General Entomology. 2 credits (Theory: 1.5 - Practice: 0.5 - Self Study: 6)

Introduction; Insect morphology; insect biology; Insect ecology; Classification of insects to order; Principles and methods of pest control.

6. RQ02023. Business management in horticulture. 2 credits (Theory: 2 - Practice: 0 - Self Study: 6)

The course consists of 5 chapters with the following contents: General issues of agribusiness administration; Types of agribusiness; Financial statements in the enterprise; Marketing activities of the enterprise; and Enterprise Resources.

7. RQ02025. Principles of Greenhouse Crop Production. 2 credits (Theory: 1.5 - Practice: 0.5 - Self Study: 6)

Introduction to the structure, materials, and equipment of greenhouse; an operating way to control the environment suitable for growing vegetables and fruits in the greenhouse; control plant growth and development by nutrition, irrigation methods, growth regulators, growing plants on substrates; Basic principles of pest and disease management and product quality maintenance of greenhouse.

8. RQ02026. Internship 1: Basic skills and production management in Horticulture. 2 credits (Theory: 0 - Practice: 2 - Self Study: 6)

Working at establishments that have activities related to vegetables, fruits, and ornamental plants to master technical measures for producing vegetables, fruits, and ornamental plants; Investigate the production process of crops, business activities, and production management of the establishment; Write a report and present the results of the internship.

9. RQ02031. Project 1: Production management in Horticulture industry. 2 credits (Theory: 0 - Practice: 2 - Self Study: 6)

This course introduces the Production Management Project in the field of horticulture; the Benefits and objectives of the Production Management Project in Horticulture; Roles and responsibilities of stakeholders (Department, instructors, students and the Community); Guidelines for building Project Notes; Organizing and supervising the implementation; Guidelines for writing project implementation reports; Evaluation of the results of Project 1.

10. RQ03012. Applied IT in landscape design. 2 credits (Theory: 1.5 - Practice: 0.5 - Self Study: 6)

This course includes: Application of AutoCAD software; Applications of Sketchup software and Applications of Photoshop software in landscape design.

11. RQ03012. Landscape design and construction 2. 2 credits (Theory: 1.5 - Practice: 0.5 - Self Study: 6)

This course includes in-depth construction content on the principles of rockery production and construction techniques of rockeries and hills; Principles and construction techniques of lighting systems in the garden landscape. Apply the principles to create a complete garden landscape. The course provides basic knowledge about landscape construction organization and landscape work removal and estimation.

12. RQ03017. Urban forestry management. 2 credits (Theory: 1.5 - Practice: 0.5 - Self Study: 6)

Urban forestry management provides basic knowledge about the concept, classification, role, and environmental characteristics of urban trees. The content focuses mainly on the organization and management of the incubator; organizing the management of street trees and park trees. In addition, the course content also provides pruning techniques, felling techniques, and measures to take care of urban trees.

13. RQ03045. Internship 2: Landscape design and construction skills. 5 credits (Theory: 0 - Practice: 5 - Self Study: 15)

This course includes: This course includes understanding aas in the facility's landscaping field. Practice design, construction, landscape creation, maintenance and care of plants and flowers through direct participation in activities at the facility.. Prerequisite course: Internship 1

14. RQ03030. Project evaluation and management. 2 credits (Theory: 2 - Practice: 0 - Self Study: 6)

Project concept, project cycle, concept of project evaluation and management; Project implementation planning; Organizing and managing project personnel; Organize the mobilization of equipment for project implementation; Contract management; Management of training and training; Project risk management; Building a project monitoring system; Project monitoring methods/tools; How to organize, method/tool to evaluate the project.

15. RQ03032. Applied Geographic Information System. 2 credits (Theory: 1.5 - Practice: 0.5 - Self Study: 6)

General introduction to Geographic Information Systems (GIS); Data structure in GIS; Elevation Digital Modeling (DEM): DEM representation method, DEM construction method; Data analysis in GIS: buffering function, map overlay function, spatial interpolation function, search function, network analysis function.

16. NH03056. Apiculture. 2 credits (Theory: 1.5 - Practice: 0.5 - Self Study: 6)

Introduction; morphological characteristics; biology, ecology of honey bees; beekeeping techniques; honey bee diseases and prevention; preservation and processing of bee products; Genetics and selection of honey bee varieties.

17. RQ03071. Specialized vegetable crops. 2 credits (Theory: 1 - Practice: 1 - Self Study: 6)

The course consists of 5 chapters, each program presents each main vegetable representing 3 groups of leafy vegetables (cabbage plants), fruit vegetables (tomatoes, cucumbers) and root vegetables. (potatoes, onions) with the contents; introduction of nutritional value, economic significance, origin, distribution, classification, requirements for external conditions, planting, care, harvesting and seed production techniques of these vegetables. The course has 5 practical lessons with content on tillage techniques, planting, care, harvesting and assessing the growth and development of cabbage, tomato, cucumber, potato and onion vegetables.

18. RQ03081. Specialized flower and ornamental crops. 2 credits (Theory: 1.5 - Practice: 0.5 - Self Study: 6)

The course includes the following contents: Production and consumption of some key flowers in the world and Vietnam. Production techniques produce several popular carpet flowers. Practice propagation, care, and production of some types of cut, bulbous, and carpet flowers.

19. RQ03043. Specialized fruit trees. 2 credits (Theory: 1.5 - Practice: 0.5 - Self Study: 6)

The course introduces the requirements for external conditions; techniques of propagation, planting, care, pest control, and harvesting for tropical, subtropical, and temperate fruit trees according to the GAP process.

20. RQ03034. Communication in Trade and marketing. 2 credits (Theory: 2 - Practice: 0- Self Study: 6)

Overview of trading and marketing communication, communication skills, communication in the office, negotiation skills in commercial and marketing business, understanding of customer psychology in communication.

21. RQ03018. Landscape Plant Production and Maintenance. 2 credits (Theory: 1 - Practice: 1 - Self Study: 6)

Identifying, selecting and grouping landscape plants; Growth and development characteristics and external requirements of some popular landscape crops; Propagation methods and techniques for growing some types of landscape crops; Planning to maintain landscape plants; Basic techniques for caring and maintaining groups of landscape plants.

22. RQ03019. Project 2: Landscape project management. 3 credits (Theory: 0 - Practice: 3 - Self Study: 9)

This course introduces Project2-Project management on landscape; Benefits and objectives of the Project; Roles and responsibilities of stakeholders (Department, instructors, students and the Community); Guidelines for building Project Notes; Organizing and supervising the implementation; Guidelines for writing Project 2 implementation reports; Evaluate the results of Project 2. Prerequisite course: Project 1.

23. RQ03015. Interior Landscape. 2 credits (Theory: 1.5 - Practice: 0.5 - Self Study: 6)

General introduction to interior landscape; Requirements for outdoor conditions of interior plants; Techniques of propagation, planting and care of interior plants; Introduce some types of interior plants; Principles of interior landscape design; Steps to take in landscape design furniture; Interior landscape design for some specific projects: Interior of offices, agencies, Trade centers, Exhibition of flowers...

24. RQ03007. Soilless Culture. 2 credits (Theory: 1- Practice: 1 - Self Study: 6)

The course consists of 4 chapters, dealing with the following issues: History of growing plants without soil, current status and development trends of soilless crop technology in crop production; introduction of soilless growing systems; nutrient needs, and the ability to absorb nutrients through the roots of plants; method of preparing nutrient solution; the role and features of the soilless growing medium, the method of mixing the medium; techniques for propagating vegetables and flowers without using soil; production techniques for some common vegetables and flowers on hydroponics, aeroponics and potted media systems.

25. RQ03036. Floral design. 2 credits (Theory: 1- Practice: 1 - Self Study: 6)

Introduction to the art of flower arrangement/bouquet (the history of the development of the art of flower arranging, the schools of flower arrangement, the common types of flowers used in flower arranging), the art of making dried flowers, the art of making pressed flowers... The principles of color mixing/combining, the principles of oriental flower arrangement (the art of Ikebana flower arrangement) and the West, methods of making dried flowers and pressed flowers. Practice flower bouquet/arrangement techniques.

26. ML02030. Principles of public relations. 2 credits (Theory: 2- Practice: 0 - Self Study: 6)

General public relations; Public relations activities and applied public relations; use skills of public relations; Public relations management; Some legal and ethical issues pose to public relations activities.

27. RQ03039. Leadership capacity. 2 credits (Theory: 1.5- Practice: 0.5 - Self Study: 6)

Introduction of the subject; Leadership concepts, leadership competencies and leadership behavior; The nature of leadership and effective leadership behavior; Leadership capacity and gender; Leadership qualities and skills; Situations in leadership behavior; Leadership models.

28. RQ03040. Organic Farming. 2 credits (Theory: 1.5- Practice: 0.5 - Self Study: 6)

This course includes: Basics of organic agriculture; History of organic agriculture development; The principles of organic agriculture; Land and water management for organic production; Nutrient management for organic crops; Management of farming techniques for organic crops; Pest management in organic production; Management in preliminary processing and preservation of organic products; Market management of organic products; The practice of organic production in Vietnam

29. RQ03025. Planning and Sales Management. 2 credits (Theory: 2- Practice: 0 - Self Study: 6)

This course includes: Overview of sales and sales management; Analysis of the sales environment; Product analysis; Customer analysis; Salesforce analysis; Distribution channel analysis; Set up sales strategy; Sales planning; Intensive training in sales; Test and evaluation in sales.

30. RQ04998. Graduation thesis. 10 credits (Theory: 0- Practice: 10 - Self Study: 30)

Implement a specific project on the production and management of fruit and vegetable production and landscaping; apply and practice professional skills and soft skills; develop capacity for transferring technical and technological advances, planning, implementing and solving problems with a scientific basis; build professional relationships.

Hanoi, 29th July, 2022

DEAN OF FACULTY

PRESIDENT

Assoc. Prof. Dr. Tran Van Quang

APPENDIX 1. FACILITIES

Table 1. Classrooms, lecture halls, teaching aids of the University

No	Room types	Number	Area (m ²)
I	<i>University level</i>		
	<i>Classroom</i>		
1	Meetings, large meeting rooms with over 200 seats	3	986
2	Computer Science	16	1198
3	Foreign language classroom	4	351.12
4	Multi-purpose classroom	4	440
5	Other room	132	39,275.88
	<i>Function room</i>		
6	Library/Learning Resource Center.	18	3,955.7
7	Practice room and laboratory	293	18,191.8
8	Workshop, practice room	12	1,177.2
9	Multi-purpose gym	2	11,200
10	Head office (working house)	66	3,269
	<i>Other area</i>		
11	Dormitory area	10	40,948.2
12	Stadium	6	18,100
II	<i>Faculty Level</i>		
1	Hall	<i>1</i>	<i>50</i>
2	Offices of staff and teachers	<i>10</i>	<i>250</i>
3	Computer room	<i>1</i>	<i>100</i>
4	Specialized reading room	<i>1</i>	<i>100</i>
5	English reading room	<i>1</i>	<i>50</i>
6	Multimedia classrooms (for project courses)	<i>1</i>	<i>50</i>
7	Group discussion room	<i>1</i>	<i>50</i>
8	Consultant service room	<i>1</i>	<i>20</i>

Table 2. Laboratory, practice facilities and equipment for experiments and practices of the Faculty of Agronomy

No	Lab	Area	Equipment	Main analytical criteria
1	Genetics and rice breeding (JICA)	300m2	Illumina System PCR machine Electrophoresis system Centrifuge Incubator with shaker Experimental ice machine Water purifier Refrigerator -80°C Realtime-PCR Machine Microscope Freeze-drying machine	Plant breeding and analyzing target genes
2	Plant Production Physiology Laboratory (JICA)	70 m2	Kjeldahl automatic nitrogen analysis system, photometer, SPAD index meter, liquid chromatography system, gas chromatograph system, UV2700 spectrophotometer, root scanner, leaf area meter, balance	Analysis of plant physiological parameters (Total N, P, K content, easy to digest; Metal content in plants such as Na, Mg, Ca, Cu, Zn, Mn) Analysis of plant physiological parameters (Absciscic acid content) Analysis of plant physiological parameters (Proline content in plants, amylose content, anthocyanin content in seeds) Analysis of genetic indicators of plants (identifying genes, DNA) Analysis of heavy metal content indicators in soil (Ca, Na, K, Mg, Pb, Cu, Zn, Mn, Cd, Fe, S)
3	Central Laboratory of Tropical Plant Diseases	100 m2	Biological incubator, Autoclave, PCR machine, ELISA reader, incubator, desktop centrifuge, ultracentrifuge, freezer -80, cabinet -20, Optical microscope, microscope Stereomicroscope, Pipette, gel scanner, electrophoresis machine, microbial culture shaker,	Diagnostic assessment of plant pathogens including fungi, bacteria, viruses and nematodes. Training undergraduate, graduated and PhD students, conducting research projects related to the above issue.

4	Laboratory of Plant Protection Department	30m2	Additional teacher Huy helps	Assess and diagnose plant pathogens including fungi, bacteria, viruses and nematodes. Training undergraduate, graduate and PhD students, conducting research projects related to the above issue.
5	Laboratories Department of Industrial Plants	30m2	Technical electronic scale Tempering cabinet Oven Microscope Soil moisture meter Brix meter Weighing urine Leaf area meter Technical scales	- Providing the equipment for the research work of educational staff, researchers and graduate students in the Department - Ability to analyze experiments: drying samples, determining the ability to accumulate dry matter, soil moisture, grain moisture and some agro-biological criteria for soybean, peanut, tea, tree the coffee.....
6	Laboratories Department of Food Crop Science	30m2	Shaking cabinet TOC system Spectrograph Centrifuge Heated magnetic stirrer Analytical balance vortex shaker Desktop pH meter Titrator Root sampler Clean water filtration system Plant water potential meter Photosynthetic machine LI-3100 . Leaf Area Scanner Leaf Area Scanner Tensiometer Soil moisture meter Humidity and air temperature meter LPM water kofloc Magnifying glass SPAD Meter Fv/Fm . meter respirator Portable pH meter Micropipettes Light intensity meter Sample Crusher Keldahl . Protein Analyzer Deep refrigerator	- Providing the equipment for the research work of educational staff, researchers and graduate students in the Department

7	Laboratory of Cultivation Department	30m2	Shaking cabinet TOC . system Spectrograph Centrifuge Heated magnetic stirrer Analytical balance Photosynthetic machine Drying cabinet	Teaching principles of cultivation, Experiments and practices related to farming
8	Laboratory of Entomology	30m2	Elbantoh Insulation Cabinet Biological Microscope 2 eyes magnifying glass Wind speed meter Light meter Magnifying glass drawing projector Eco cabinet 2 eyes magnifying glass Camera through electric magnifier Double horn projector	- teaching and practicing insect expertise - Center for storing and preserving insect specimens for teaching and scientific research at the department - Insect lab is also a place to deploy scientific research projects of entomology
9	Laboratory of Genetics and Plant Breeding	30m2	Germination cabinet Oven Rice husk peeling machine Individual stripping machine milling machine Small cleaning machine Binocular microscope Deep fridge Electronic Brix Meter Handheld Brix Meter Electronic scales Dry cabinet	For seed incubation, specimen drying, weighing of all kinds of 1000 seeds, specimen preservation, grain moisture measurement, cytology..
10	Practice room Department of Experimental Methods and Biostatistics	30m2	Electric Microscope analytical balance 1 eye microscope 2 eyes magnifying glass China drying oven	The criteria can be analyzed: Weight, morphology, quantity, size Measure, observe and preserve experimental specimens: silkworms, bees, mulberries and some other specimens
11	Practice rooms of the Department of Horticulture and Landscapes	30m2	Tree height gauge Oven Tempering cabinet Electronic balance Kern Optical Magnifier brix meter Soil moisture meter Light intensity meter Leaf area meter Oxygen concentration meter PH meter Binocular microscope	Analysis and measurement of experimental parameters such as grain moisture, pH, leaf area, sample drying, sample stirring, sample observation by microscope, sample weighing, sample stabilization, sample preservation under controlled conditions. deep cold...

			Laboratory stone table Binocular microscope Tempering cabinet Drying oven	
12	Practice rooms of the Department of Plant Physiology	30m2	Handheld hygrometer Light intensity meter Binocular microscope Electronic scales Tree height measuring tool 1 eye microscope System for measuring CO2 and photosynthetic intensity Sterile incubator Leaf area meter Oven Electrophoresis system Soil moisture meter Humidity meter for agricultural products	Practice of applied plant physiology, and analysis of indicators: Measure chlorophyll, light intensity ...
13	Practice rooms of the Department of Botany	30m2	Screen Microscope Microscope (2 eyes) Microscope (1 eye) Leaf area meter Floating Magnifying Glass Weigh analysis Technical scales Microscope Versatile Microscope Stereo microscope Water distiller Deep fridge Fume hood	Analyze and measure experimental parameters such as leaf area, observe and take pictures of samples with a television microscope, observe samples with a stereo microscope, weigh samples, stabilize samples, and preserve them. samples in deep cold conditions,...
14	Field experiment area	47,000 m2	Field experiment for cash crop and rice	Practical course Experiments and scientific research of lecturers, students, masters and researchers

Greenhouse

No	Greenhouse	Area	Department in charge	Research group
1	Greenhouse 1	1000 m ²	Horticulture and Landscaping	Flower: 800m ² Vegetable: 200 m ²
2	Greenhouse 2	500 m ²	Horticulture and Landscaping	Fruit
3	Greenhouse 2	500 m ²	Botany	Flower
4	Greenhouse 3	60 m ²	Plant Protection	Blast: 16 m ² Fungi and industrial plants bacteria: 22 m ² Fungi and crop bacteria: 22 m ²
5	Greenhouse 4	96 m ²	JICA project	Rice
6	Greenhouse 5	100 m ²	Genetic and Plant Breeding	Rice: 60 m ² Bean: 40 m ²
7	Greenhouse 6	126 m ²	Botany	Flower
8	Greenhouse 7	63 m ²	Plant Protection	Virus: 20 m ² Roots fungi: 23 m ² Leaves fungi: 20 m ²
9	Greenhouse 7	63 m ²	Entomology	Can not use (too hot)
10	Greenhouse 8	63 m ²	Horticulture and Landscaping	Horticulture
11	Greenhouse 8	63 m ²	Plant Physiology	Applied Plant physiology practice, graduate student
12	Greenhouse 9	126 m ²	Industrial and Medicinal Plant	Medicinal plant: 80 m ² Short day industrial plant: 46 m ²
13	Greenhouse 10	324 m ²	Food Crop Science	Rice: 60 m ² Corn: 36 m ² Seasonal crops: 30 m ²
14	Greenhouse 11	200 m ²	Horticulture and Landscaping	Horticulture
15	Greenhouse 12	100 m ²	Experimental Methods and Biostatistics	Vegetable: 70 m ² Aquaponic: 30 m ²
16	Greenhouse 12	100 m ²	Plant Physiology	Bean: 50 m ² Graduated student: 50 m ²
17	Greenhouse 12	100 m ²	Cultivation science	Rice: 50 m ² Peanut: 20 m ² Ngón biển: 25 m ² Quinoa: 5 m ²
18	Greenhouse 12	100 m ²	Horticulture and Landscape Design	Flower: 50m ² Vegetable: 50m ²
19	Greenhouse semi-nature	60 m ²	Entomology	Brown Plant Hopper
20	Advanced Crop Science Program Greenhouse	220 m ²	Agronomy	Long-day industrial plant: 110 m ² Short-day industrial plant: 110 m ²

APPENDIX 2. TEXTBOOK, LECTURES

No	Course	Textbook, Lectures	Author	Publisher	Publish year
GENERAL COURSES					
1.	English 1	Speakout (2 nd Edition) Pre-intermediate Student's Book	Antonia C. & JJ W.	Pearson Education Limited	2016
2.	English 2	Speakout (2 nd Edition) Pre-intermediate Student's Book	Antonia C. & JJ W.	Pearson Education Limited	2016
3.	Professional English 1	English for Horticulture	Nguyen Thi Bich Ngoc	Vietnam National University of Agriculture	2019
4.	Professional English 2 (Greenhouse Production And Management)	English for Greenhouse	Nguyen Thi Bich Ngoc	Vietnam National University of Agriculture	2019
5.	Professional English 2: Landscape Design And Construction	English for Landscaping	Nguyen Thi Bich Ngoc	Vietnam National University of Agriculture	2019
6.	Philosophy of Marxism and Leninism	Textbook of Marxist-Leninist Philosophy	Ministry of Education and Training	National Political Publishing House of Truth	2021
7.	Political economy of Marxism and Leninism	Textbook of Marxist-Leninist political economy	Ministry of Education and Training	Ministry of Education and Training	2019
8.	Socialism	Textbook of Scientific Socialism	Ministry of Education and Training	Ministry of Education and Training	2021
9.	Ho Chi Minh Ideology	Textbook of Ho Chi Minh Ideology	Ministry of Education and Training	National Political Publishing House	2021
10.	Sociology	Textbook of general sociology	Truong Thi Hien	Ho Chi Minh City General Publishing House	2020
11.	Vietnamese Communist Party History	Textbook of History of the Communist Party of Vietnam	Ministry of Education and Training	Ministry of Education and Training	2021
12.	Agrometeorology	Textbook of Agricultural Meteorology	Doan Van Diem et al.	Agriculture Publishing House.	2005
13.	Biology	General Biology Lecture	Dong Huy Gioi, Nguyen Thi	Vietnam National	2020

No	Course	Textbook, Lectures	Author	Publisher	Publish year
			Thuy Hanh, Bui Thi Thu Huong, Phi Thi Cam Mien	University of Agriculture.	
14.	General Chemistry	Practice and Exercises General Chemistry	Nguyen Thi Hong Hanh	Vietnam University of Agriculture Publishing House.	2021
15.	Principles of macro and microeconomics	Textbook of Macroeconomics 1	Nguyen Tat Thang & Tran Duc Tri	Agriculture Publishing House.	2022
16.	Organic Chemistry	Organic Chemistry Textbook	Doan Thi Thuy Ai, Nguyen Thi Hien, Vu Thi Huyen, Le Thi Mai Linh, Nguyen Thi Hong Hanh	Vietnam National University of Agricultural Publishing House.	2021
17.	General Biochemistry	Protein-enzyme technology	Nguyen Xuan Canh	Vietnam National University of Agricultural Publishing House.	2018
18.	Applied Informatics	Information technology applied in Commune Economy	Ngo Cong Thang, Le Thi Nhung	Vietnam National University of Agricultural Publishing House.	2021
FOUNDATIONAL COURSE					
1.	Principles of Cultivation	Pest management in organic farming	Thieu Thi Phong Thu, Pham Tien Dung, Tran Thi Thiem, Nguyen Duc Tung	Vietnam National University of Agricultural Publishing House.	2020
2.	Introduction to Horticulture and Landscape	Lecture on the Introduction to Horticulture and Landscape	Tran Thi Minh Hang	Vietnam National University of Agricultural	2022
3.	Soil and Fertilizer	Textbook of crop fertilizer analysis.	Nguyen Thi Lan Anh,	Vietnam National	2019

No	Course	Textbook, Lectures	Author	Publisher	Publish year
			Nguyen Thu Ha, Nguyen Van Thao, Nguyen Thanh Trung	University of Agricultural Publishing House.	
4.	Botany	Botany textbook,	Phung Thi Thu Ha, Nguyen Huu Cuong, Tran Binh Da, Nguyen Thi Hoa, Pham Phu Long, Pham Thi Huyen Trang	Vietnam National University of Agricultural Publishing House.	2021
5.	Principles of landscape design	Lecture on principles of landscape design	Nguyen Anh Duc	Vietnam National University of Agriculture.	2020
6.	Landscape design and construction 1	Lecture on Landscape design and construction 1.	Department of Horticulture and Landscape Design	Vietnam National University of Agriculture.	2021
7.	Business projects design and analysis	Investment project formulation textbook	Nguyen Bach Nguyet	National Economics University Publishing House.	2012
8.	Economic Analysis	Textbook of Business Analysis	Pham Thi My Dung, Bui Bang Doan	Agricultural Publishing House.	2001
9.	Principles of marketing and horticulture market systems	Basic Marketing Course	Nguyen Van Phuong	Vietnam National University of Agricultural Publishing House	2021
10.	Food quality and food safety	Food safety training course	Le Thi Hong Anh, Cao Xuan Thuy	Ho Chi Minh City National University Publishing House.	2017
11.	Farm management	Corporate Governance	Nguyen Quoc Chinh and Pham Thi Huong Diu	Vietnam National University of Agricultural Publishing House	2022
12.	Genetics and Plant breeding	Textbook of Genetics	Nguyen Hong Minh	Agricultural Publishing House.	1999

No	Course	Textbook, Lectures	Author	Publisher	Publish year
13.	Experimental Method	Lectures on experimental methods.	Do Thi Huong	Vietnam National University of Agriculture.	2021
14.	Irrigation and Drainage Management	Textbook of Irrigation	Nguyen Van Dung, Ngo Thi Dung, Nguyen Thi Giang, Vu Thi Xuan	Agricultural Publishing House.	2016
15.	Postharvest handling of horticultural crops	Lecture on Postharvest handling of horticultural crops	Nguyen Thi Bich Thuy	Vietnam National University of Agriculture.	2021
SPECIALIZED COURSES					
1.	General fruit production	Giáo trình Cây ăn quả đại cương	Doan Van Lu et al	Agricultural Publishing House.	2021
2.	General vegetable crops	Lectures on vegetable plants	Vu Quynh Hoa	Department of Horticulture and Landscape Design	2020
3.	General flowers and ornamentals	Lectures on ornamental plants and flowers	Pham Thi Minh Phuong	Department of Horticulture and Landscape Design	2021
4.	General Plant Pathology	Textbook of plant pathology	Vu Trieu Man	Agricultural Publishing House.	2007
5.	Principles of Greenhouse Crop Production	Lecture on the Principles of Greenhouse Crop Production	Vu Thanh Hai	Vietnam National University of Agriculture.	2019
6.	Business management in horticulture	Lectures on Business management in horticulture	Tran Thi Thu Huong	Vietnam National University of Agriculture.	2022
7.	Communication in Trade and Marketing	Lectures on Business Communication and Negotiation.	Dang Van Tien	Vietnam National University of Agriculture.	2010
8.	Leadership capacity	Leadership from the Inside Out	Kevin Cashman	Author of the Pause Principle, Third Edition	2017
9.	Principles of public relations	Lecture on Public Relations	Nguyen Dinh Toan	National Economics University	2018

No	Course	Textbook, Lectures	Author	Publisher	Publish year
				Publishing House	
10.	Applied Geographic Information System	Textbook of Geographic Information Systems	Le Thi Giang	Agricultural Publishing House	2020
11.	Organic Farming	Lectures on Organic Farming.	Nguyen Thi Ai Nghia	Vietnam National University of Agriculture.	2021
12.	Floral design	Art flower design lecture	Pham Thi Minh Phuong	Vietnam National University of Agriculture.	2019
13.	Project evaluation and management	Methods of analysis of development projects.	Mai Thanh Cuc, Nguyen Thi Minh Hien, Mai Lan Phuong	National Political Publishing House	2012
14.	Internship 1	Handbook of professional internship	Department of Horticulture and Landscape Design	Vietnam National University of Agriculture.	2020
15.	Internship 2	Handbook of professional internship	Department of Horticulture and Landscape Design	Vietnam National University of Agriculture.	2020
<i>SPECIALITY 1: GREENHOUSE PRODUCTION AND MANAGEMENT TEXTBOOKS</i>					
1.	Soilless Culture	Lecture of Soilless Culture	Tran Thi Minh Hang	Vietnam National University of Agriculture.	2022
2.	Specialized fruit trees	Specialized fruit tree curriculum	Vu Thanh Hai et al	Vietnam National University of Agriculture.	2022
3.	Specialized vegetable crops	Lectures on specialized vegetable crops.	Vu Quynh Hoa	Vietnam National University of Agriculture.	2020
4.	Specialized flower and ornamental crops	Lectures on specialized flowers and ornamental crops	Pham Thi Minh Phuong	Vietnam National University of Agriculture.	2020
5.	Interior Landscape	Lecture Interior Landscape	Nguyen Anh Duc	Vietnam National University of Agriculture.	2020

No	Course	Textbook, Lectures	Author	Publisher	Publish year
6.	Breeding of greenhouse plants	Selection of plant varieties	Phan Thanh Kiem	Agricultural Publishing House.	2016
7.	Apiculture	Textbook of honey bee disease.	Pham Hong Thai, Nguyen Thi Lan, Nguyen Duc Khanh	Agricultural Publishing House.	2022
8.	Sales planning and management	Sales Management Course	Vu Minh Duc & Vu Huy Thong	National Economics University Publishing House.	2018
9.	Urban forestry management	Lecture on Urban forestry management	Department of Horticulture and Landscape Design	Vietnam National University of Agriculture.	2021

TEXTBOOK OF SPECIALITY COURSE: LANDSCAPE DESIGN AND CONSTRUCTION

1.	Applied IT in landscape design	Lecture on IT applications in landscape design.	Nguyen Anh Duc	Vietnam National University of Agriculture.	2020
2.	Landscape design and construction 2	Lecture on Landscape design and construction 2	Department of Horticulture and Landscape Design	Vietnam National University of Agriculture.	2021
3.	Urban forestry management	Lecture on Urban forestry management	Department of Horticulture and Landscape Design	Vietnam National University of Agriculture.	2021
4.	Landscape Plant Production and Maintenance	Lecture Landscape Plant Production and Maintenance	Department of Horticulture and Landscape Design	Vietnam National University of Agriculture.	2021
5.	Interior Landscape	Lecture Interior Landscape	Nguyen Anh Duc	Vietnam National University of Agriculture.	2020
6.	Specialized fruit trees	Specialized fruit tree curriculum	Vu Thanh Hai et al	NXB Nông nghiệp	2022
7.	Specialized vegetable crops	Lectures on specialized vegetable crops.	Vu Quynh Hoa	Vietnam National University of Agriculture.	2020

No	Course	Textbook, Lectures	Author	Publisher	Publish year
8.	Specialized flower and ornamental crops	Lectures on specialized flowers and ornamental	Pham Thi Minh Phuong	Vietnam National University of Agriculture.	2020
9.	Sales planning and management	Sales Management Course	Vu Minh Duc & Vu Huy Thong	National Economics University Publishing House	2018
10.	Soilless Culture	Lecture of Soilless Culture	Tran Thi Minh Hang	Vietnam National University of Agriculture.	2022
11.	Apiculture	Textbook of honey bee disease.	Pham Hong Thai, Nguyen Thi Lan, Nguyen Duc Khanh	Agricultural Publishing House.	2022

APPENDIX 3. LIST OF LECTURES IN CHARGE

No	Course	Faculty in charge	Lecturer in charge		
			Lecturer name	Year of birth	Highest Diploma
LECTURERS IN CHARGE OF GENERAL COURSE					
1.	English 1	Education and Foreign Language	Nguyễn Thị Hường	1990	Master
2.	English 2	Education and Foreign Language	Phạm Thị Hạnh	1990	Master
3.	Professional English 1	Education and Foreign Language	Phạm Hương Lan	1985	Master
4.	Professional English 2 (Greenhouse Production And Management)	Education and Foreign Language	Phạm Hương Lan	1985	Master
5.	Professional English 2: Landscape Design And Construction	Education and Foreign Language	Phạm Hương Lan	1985	Master
6.	Philosophy of Marxism and Leninism	Political and Social Science	Lê Văn Hùng	1978	Doctoral
7.	Political economy of Marxism and Leninism	Political and Social Science	Lê Thị Xuân	1981	Master
8.	Socialism	Political and Social Science	Hà Thị Yến	1981	Master
9.	Ho Chi Minh Ideology	Political and Social Science	Trần Lê Thanh	1968	Doctoral
10.	Sociology	Political and Social Science	Nguyễn Thị Thu Hà	1976	Doctoral
11.	Vietnamese Communist Party History	Political and Social Science	Vũ Hải Hà	1982	Master
12.	Agrometeorology	Natural Resources and Environment	Phan Thị Hải Luyến	1985	Doctoral
13.	Biology	Biotechnology	Bùi Thị Thu Hương	1977	Doctoral
14.	General Chemistry	Natural Resources and Environment	Lê Thị Thu Hương	1986	Doctoral
15.	Principles of macro and microeconomics	Economic and Rural Development	Nguyễn Tất Thắng	1969	Doctoral
16.	Introductory to Laws	Political and Social Science	Vũ Văn Tuấn	1973	Doctoral
17.	Probability and Statistics	Information Technology	Vũ Thị Thu Giang	1983	Doctoral

No	Course	Faculty in charge	Lecturer in charge		
			Lecturer name	Year of birth	Highest Diploma
18.	Organic Chemistry	Natural Resources and Environment	Nguyễn Thị Hiền	1985	Doctoral
19.	General Biochemistry	Food Science and Technology	Hoàng Hải Hà	1972	Doctoral
20.	Applied Informatics	Information Technology	Hoàng Thị Hà	1978	Doctoral

LECTURERS IN CHARGE OF FOUNDATIONAL COURSE

1.	Principles of Cultivation	Agronomy	Nguyễn Thị Loan	1985	Doctoral
2.	Introduction to Horticulture and Landscape	Agronomy	Trần Thị Minh Hằng	1971	Doctoral
3.	Soil and Fertilizer	Natural Resources and Environment	Nguyễn Thành Trung	1984	Doctoral
4.	Botany	Agronomy	Phùng Thị Thu Hà	1983	Doctoral
5.	Plant physiology	Agronomy	Trần Anh Tuấn	1974	Doctoral
6.	Principles of landscape design	Agronomy	Nguyễn Anh Đức	1984	Master
7.	Landscape design and construction 1	Agronomy	Phạm Thị Bích Phương	1989	Master
8.	Business projects design and analysis	Accounting and Bussiness Management	Nguyễn Thị Kim Oanh	1987	Doctoral
9.	Economic Analysis	Accounting and Bussiness Management	Đỗ Quang Giám	1972	Doctoral
10.	Principles of marketing and horticulture market systems	Accounting and Bussiness Management	Chu Thị Kim Loan	1968	Doctoral
11.	Food quality and food safety	Food Science and Technology	Nguyễn Thị Thanh Thủy	1970	Doctoral
12.	Introduction to Biotechnology	Biotechnology	Đặng Thị Thanh Tâm	1985	Doctoral
13.	Farm management	Accounting and Bussiness Management	Nguyễn Quốc Chính	1962	Doctoral
14.	Genetics and Plant breeding	Agronomy	Lê Thị Tuyết Châm	1979	Doctoral
15.	P Experimental Method	Agronomy	Đỗ Thị Hường	1978	Doctoral

No	Course	Faculty in charge	Lecturer in charge		
			Lecturer name	Year of birth	Highest Diploma
16.	Irrigation and Drainage Management	Natural Resources and Environment	Nguyễn Thị Giang	1981	Master
17.	Postharvest handling of horticultural crops	Food Science and Technology	Nguyễn Thị Bích Thủy	1970	Master
LECTURERS IN CHARGE OF SPECIALITY COURSE					
1.	General fruit production	Agronomy	Vũ Thanh Hải	1975	Doctoral
2.	General vegetable crops	Agronomy	Vũ Quỳnh Hoa	1984	Doctoral
3.	General flowers and ornamentals	Agronomy	Phạm Thị Minh Phượng	1974	Doctoral
4.	General Plant Pathology	Agronomy	Hà Viết Cường	1970	Doctoral
5.	General Entomology	Agronomy	Phạm Hồng Thái	1966	Doctoral
6.	Principles of Greenhouse Crop Production	Agronomy	Vũ Thanh Hải	1975	Doctoral
7.	Business management in horticulture	Accounting and Business Management	Trần Thị Thu Hương	1979	Doctoral
8.	Communication in Trade and marketing	Accounting and Business Management	Nguyễn Trọng Tuynh	1989	Master
9.	Leadership capacity	Economic and Rural Development	Đặng Nam Phương	1995	Master
10.	Principles of public relations	Political and Social Science	Hà Thị Yến	1981	Master
11.	Applied Geographic Information System	Natural Resources and Environment	Lê Thị Giang	1973	Doctoral
12.	Organic Farming	Agronomy	Nguyễn Thị Ái Nghĩa	1981	Doctoral
13.	Floral design	Agronomy	Phạm Thị Minh Phượng	1974	Doctoral
14.	Project evaluation and management	Economic and Rural Development	Mai Thanh Cúc	1958	Doctoral
15.	Internship 1	Agronomy	Nguyễn Anh Đức	1984	Master
16.	Project 1	Agronomy	Phạm Thị Bích Phương	1989	Master
17.	Graduation thesis	Agronomy	Vũ Thanh Hải	1975	Doctoral
LECTURERS IN CHARGE OF SPECIALITY 1: GREENHOUSE PRODUCTION AND MANAGEMENT					

No	Course	Faculty in charge	Lecturer in charge		
			Lecturer name	Year of birth	Highest Diploma
1.	Soiless Culture	Agronomy	Trần Thị Minh Hằng	1971	Doctoral
2.	Specialized fruit trees	Agronomy	Vũ Thanh Hải	1975	Doctoral
3.	Specialized vegetable crops	Agronomy	Vũ Quỳnh Hoa	1984	Doctoral
4.	Specialized flower and ornamental crops	Agronomy	Phạm Thị Minh Phượng	1974	Doctoral
5.	Interior Landscape	Agronomy	Nguyễn Anh Đức	1984	Master
6.	Fruit and Vegetable Processing	Food Science and Technology	Trần Thị Lan Hương	1966	Doctoral
7.	Breeding of greenhouse plants	Agronomy	Nguyễn Thanh Tuấn	1982	Doctoral
8.	Research Methods	Agronomy	Nguyễn Thị Ngọc Dinh	1984	Doctoral
9.	Apiculture	Agronomy	Phạm Hồng Thái	1966	Doctoral
10.	Sales planning and management	Accounting and Bussiness Management	Nguyễn Anh Trự	1978	Doctoral
11.	Urban forestry management	Agronomy	Phạm Thị Bích Phương	1989	Master
12.	Internship 2	Agronomy	Nguyễn Anh Đức	1984	Master
13.	Project 2	Agronomy	Phạm Thị Bích Phương	1989	Master
<i>LECTURERS IN CHARGE OF SPECIALITY 2: LANDSCAPE DESIGN AND CONSTRUCTION</i>					
1.	Applied IT in landscape design	Agronomy	Nguyễn Anh Đức	1984	Master
2.	Landscape design and construction 2	Agronomy	Phạm Thị Bích Phương	1989	Master
3.	Urban forestry management	Agronomy	Phạm Thị Bích Phương	1989	Master
4.	Landscape Plant Production and Maintenance	Agronomy	Phạm Thị Bích Phương	1989	Master
5.	Interior Landscape	Agronomy	Nguyễn Anh Đức	1984	Master
6.	Specialized fruit trees	Agronomy	Vũ Thanh Hải	1975	Doctoral
7.	Specialized vegetable crops	Agronomy	Vũ Quỳnh Hoa	1984	Doctoral
8.	Specialized flower and ornamental crops	Agronomy	Phạm Thị Minh Phượng	1974	Doctoral

No	Course	Faculty in charge	Lecturer in charge		
			Lecturer name	Year of birth	Highest Diploma
9.	Sales planning and management	Accounting and Bussiness Management	Nguyễn Anh Trù	1978	Doctoral
10.	Soiless Culture	Agronomy	Trần Thị Minh Hằng	1971	Doctoral
11.	Apiculture	Agronomy	Phạm Hồng Thái	1966	Doctoral
12.	Intership 2	Agronomy	Nguyễn Anh Đức	1984	Master
13.	Project 2	Agronomy	Phạm Thị Bích Phương	1989	Master

APPENDIX 4: CONSISTENCY BETWEEN PEOS AND PLOS

Program Educational Objectives (PEOs)	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9	PLO10
<u>Objective 1:</u> Develop a successful career in the chosen direction in an ethical manner, always learn to improve qualifications and new skills to meet the changing labor market of the Horticulture and Landscape Design		X	X			X	X		X	X
<u>Objective 2:</u> Receive the trust and respect of the organization and the working group for responsible coordination with the group; Solve complex problems, communicate and deal effectively with stakeholders.	X			X	X				X	
<u>Objective 3:</u> Pioneer in research, research and proactive innovation in the Horticulture and Landscape Design	X	X	X			X				X
<u>Objective 4:</u> Carry out the responsibility to improve the quality of life for the community, actively contribute to the sustainable development of society.	X							X	X	

**APPENDIX 5: COMPREHENSION OF OUTPUT STANDARDS OF BIOTECH INDUSTRY TRAINING PROGRAMS WITH
INTERNATIONAL AND INTERNATIONAL REFERENCE PROGRAMS**

No	PLOs of Horticulture and Landscape Design VNUA	PLOs of Landscape and garden techniques Ho Chi Minh City University of Agriculture and Forestry	PLOs of Urban Forestry Forestry University	PLOs of BA Horticultural Sciences Texas A&M University	PLOs of Plant science Wageningen University	PLOs of Horticulture University of Georgia	Comment
1	PLO1. Apply natural, environmental and social science knowledge and understanding of contemporary issues in the Horticulture and Landscape Design.	Having general knowledge to collaborate with industry groups close to landscape architecture such as: agronomy, forestry, architecture, construction, urban planning, etc. in medium and large projects.	Understand the knowledge of: botany, plant physiology, fine art drawing, soil science, urban botany, landscape ecology, general urban forestry, general informatics, garden design - parks, landscape design principles... to explain theoretical and practical issues in the field of Urban Forestry				<ul style="list-style-type: none"> - There is a certain similarity with the Ho Chi Minh City University of Agriculture and Forestry - There are some similarities with the University of Forestry - General knowledge is not described in the Texas A&M University program and the Wageningen University Plant Science program

2	PLO2. Apply scientific knowledge and cultivation techniques to produce horticultural products to meet market demand.	Having knowledge on techniques of breeding, planting, caring and maintaining trees, flowers and ornamental plants in order to create quality products that meet aesthetic requirements, contributing to environmental protection and green space development. in a sustainable way.	Understand and apply specialized knowledge of Urban Forestry to form ideas, build, organize, implement and evaluate options and projects in the field of Urban Forestry.	- These degrees are designed to provide students with the knowledge and skills needed for production, management and marketing of horticultural and floriculture crops -	- Explain the biology of plants in their environment, both at a fundamental level and in terms of the various functions of plants for people and animals and the environment, based on knowledge of plant physiology, morphology and taxonomy, biochemistry, organic and physical chemistry, molecular and cell biology, mathematics, statistics, genetics and ecology; - Apply the knowledge of fundamental processes in plants at the molecular and cellular level in order to analyze the development of novel varieties, the interactions between plants and their pests and pathogens, and the use of plants and plant products for food and health purposes (Major A - Plant Genomics and Health); - Apply the knowledge of the role of natural resources and	The Bachelor of Science degree in horticulture provides a strong background in plant sciences, complimented with technical courses providing graduates with the knowledge to pursue their dream horticulture career	- Similar to the Ho Chi Minh City University of Agriculture and Forestry - There are similarities with the program of the University of Forestry - Basically, similar to the PLO section of the Horticultural Sciences program of Texas A&M University. In it, there is a description of the knowledge and skills that the program provides to students related to the production and marketing of ornamental flowers and plants. - The specialized knowledge part of the Plant Science program (Wageningen University) is described in detail and in detail. - Similar to the specialized knowledge section of the University of Georgia
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					environmental factors on plant and (agro-) system development in order to analyze open and protected plant production systems, and the interactions between agriculture and its environment in a wide range of agro-ecological systems (Major B - Plant Production and Ecology);		
			Apply practical knowledge, practice and management in the field of Urban Forestry to quickly integrate into the future working environment or be able to receive higher training at the master's and doctoral level.				PLO about this knowledge of the University of Forestry is not specific and quite general.
3	PLO3. Apply knowledge of landscape design, construction and maintenance to meet specific cultural,	Having professional competence in the field of landscape design, construction and management, capable of analyzing, planning	Skills in using graphic software to apply in design; skills in organizing and			The horticulture degree teaches the science of plant growth and development, as well as the	Similar to Ho Chi Minh City University of Agriculture and Forestry - Has similarities with Forestry University

	social, environmental and economic needs.	and solving landscape construction problems as required by practice and economic development. - society	supervising the construction of green landscape works; skills to look, care and maintain landscape trees			management of economic crops and enterprises.	- There are some similarities with the University of Georgia in terms of specialized knowledge related to business and social needs
4	PLO4. Work effectively in a team where members join together to lead the team, create a collaborative and inclusive environment, set goals, plan tasks, and meet goals.	- Ability to work independently and in a team	- Teamwork skills: have the ability to work in a team and adapt to the changes of the working group. - Professional skills: Having organizational skills and work arrangement capable of being independent, confident in the working environment; have skills in building personal goals and motivational skills;				
				Career prospects range from			- Texas A&M University mentions the career

				<p>producing herb crops for upscale restaurants, to managing landscape businesses for growing communities, to marketing fruits and vegetables for healthier lifestyles. Many former students are self-employed, owning their own greenhouse, nursery or landscape operation. Others work in upper management of large corporations or travel the world developing future horticultural crops. Each degree also offers students with strong interests in science and/or technology opportunities in research related fields including graduate studies</p>			<p>opportunities of students after completing the Horticultural Science training program</p>
5	PLO5. Communicate		Communication skills: have				- Not in Forestry University

	effectively with stakeholders (farmers, clients, professionals, managers).		basic skills in written communication , e-mail, contact and consultation with partners; have presentation skills				
6	PLO6. Scientific research in the professional field.	<ul style="list-style-type: none"> - Able to work under high pressure Have the skill to equip themselves with knowledge -Having practical skills in breeding, planting, caring and maintaining green trees, flowers and ornamental plants of high economic value. - Skilled in using computer software for landscape design, planning and management 	Ability to research and discover knowledge		<ul style="list-style-type: none"> - apply laboratory techniques, analytical measurements, mathematical and statistical methods for the collection, processing and analysis of experimental data in plant science, and to judge their suitability in solving specific research questions; translate a scientific problem in plant sciences into research questions and develop a relevant research plan in which problem definition, hypothesis, experimental set-up and data analysis are described in relation to the existing literature (under supervision); - perform (under supervision) simple 	Many horticulture courses incorporate experiential and service learning as a way to learn by doing.	<p>There is a similarity between VNUA and Ho Chi Minh City University of Agriculture and Forestry</p> <ul style="list-style-type: none"> - Similar to Forestry University - This section is not specifically covered in the Texas A&M university program - Skills in scientific research are described very specifically in the program of Wageningen University - There is a slight similarity with the University of Georgia in terms of experiments

					<p>scientific experiments and analyze and interpret experimental data, in order to develop or design a novel solution, system, model or product;</p> <p>- establish a scientific approach by:</p> <ul style="list-style-type: none"> * retrieving and critically evaluating relevant literature from bibliographic databases; * combining new knowledge with previously obtained knowledge; * demonstrating an understanding of the process of testing hypotheses, theories and models through experiments. 		
7	<p>PLO7. Research domestic and international markets to develop horticulture and landscape products those meet the demands of public health, environment and economy.</p>	<p>- Have skills in landscape design, construction and management at small and medium scale.</p> <p>- Skilled in consulting, supervising construction works of landscape and gardens and producing ornamental plants and</p>	<p>Social and external context. Understand the needs of society with specialized knowledge in Urban Forestry.</p>				<p>There is a similarity between VNUA and Ho Chi Minh City University of Agriculture and Forestry</p> <p>There is a partial similarity with Urban Forestry of Forestry University</p>

		flowers to meet market requirements. - Skilled in construction, administration and management of small and medium-sized projects					
8	PLO8. Transfer technical advances and new technologies to horticultural production and landscape management.				- understand the international, socio-economic, ethical, (inter-) cultural and temporal context of new developments in plant sciences;		Not in Ho Chi Minh City University of Agriculture and Forestry - Not clearly reflected in the programs of the Forestry University,
9	PLO9. Maintain professional ethics, carry out environmental protection responsibilities and behave in accordance with ethical standards and respect multiculturalism.	- Show humanity, professional ethics - Interested in the development of green space everywhere. - Have a enthusiastic in work, love of nature, a sense of protection and embellishment of natural and man-made landscapes. - Honesty and enthusiasm in work, cooperation with colleagues, attachment to the masses, a spirit of cooperation for the	Professional ethics: honesty, responsibility, reliability, enthusiasm and passion for work				VNUA's PLO is more condensed but still shows similarities with the PLO of Ho Chi Minh City University of Agriculture and Forestry

		development of the community.					
ten	PLO10. Show a willingness to learn for life, an innovative and creative spirit to respond to rapid changes in science and technology.	<p>Be proactive, creative and always improve at work.</p> <p>- Have a progressive spirit, always learning and updating knowledge and skills in the process of working.</p>	<p>Professional ethics: honesty, responsibility, reliability, enthusiasm and passion for work</p> <p>Personal skills: being able to criticize and adapt to the working environment</p>		reflect (under supervision) on personal knowledge, skills, attitudes and functioning, both individually and in discussions with others, and design and plan a personal learning path.	The horticulture curriculum is flexible, allowing students to focus on subjects related to career and personal goals	<p>- Similar to Ho Chi Minh City University of Agriculture and Forestry</p> <p>- There are some similarities with the personal qualities and skills of the Urban Forestry (University of Forestry)</p> <p>- Texas A&M University's program does not reflect this output standard</p> <p>- Wageningen University's program does not directly address the willingness to learn for life, but does reflect on building and planning a personal learning path.</p> <p>- Somewhat similar to the program of the University of Georgia on personal development</p>

APPENDIX 6. COURSE CONTRIBUTION MATRIX TO PLOs

Course Contribution Levels to PLOs: I – Introduction ; P – Practice; R – Reinforce; M – Master

N o.	Seme ster	No. of cre dits	Subject	PLO1. Apply natural, environmental and social science knowledge and understanding of contemporary issues in the Horticulture and Landscape Design.			PLO2. Apply scientific knowledge and cultivation techniques to produce horticultural products to meet market demand		PLO3. Apply knowledge of landscape design, construction and maintenance to meet specific cultural, social, environmental and economic needs.				PLO4. Work effectively in a team where members join together to lead the team, create a collaborative and inclusive environment, set goals, plan tasks, and meet goals.			PLO5. Communicate effectively with stakeholders (farmers, clients, professionals, managers)						PLO6. Scientific research in the professional field.				PLO7. Research domestic and international markets to develop horticulture and landscape products those meet the demands of public health, environment and economy.			PLO8. Transfer technical advances and new technologies to horticultural production and landscape management.		PLO9. Maintain professional ethics carry out environmental protection responsibilities and behave in accordance with ethical standards and respect multiculturalism.			PLO10. Show a willingness to learn for life, an innovative and creative spirit to respond to rapid changes in science and technology.			Total
				1 1	1 2	1 3	21	22	3 1	3 2	3 3	3 4	4 1	4 2	4 3	5 1	5 2	5 3	5 4	5 5	5 6	6 1	6 2	6 3	6 4	7 1	7 2	7 3	81	82	91	92	93	10 1	10 2	10 3	
1	1	2	Biology	I			I																I	I												5	
2	1	2	General chemistry	I	I																															4	
3	1	2	Agrometeorology	I	I																															4	
4	1	2	Principles of macro and micro-economics			I																				I	I	I								I	5
5	1	2	Introductory to Laws			I								I		I		I															I				5
6	1	2	Introduction to horticulture industry					I				I						I				I												I			6
7	1	2	Principles of cultivation					I					I																I	I					I		5
8	1	2	Soil and fertilizer	P				P	P					I																				P			5
9	2	2	General Biochemistry	P	P																	I												P			4
10	2	3	Probability and statistics	P																	I		I		I									I			5
11	2	2	Botany	P						I	I															I										I	5
12	2	3	Plant physiology						P				P	I																					I		5
13	2	3	General fruit production					P	P										I										P							I	5

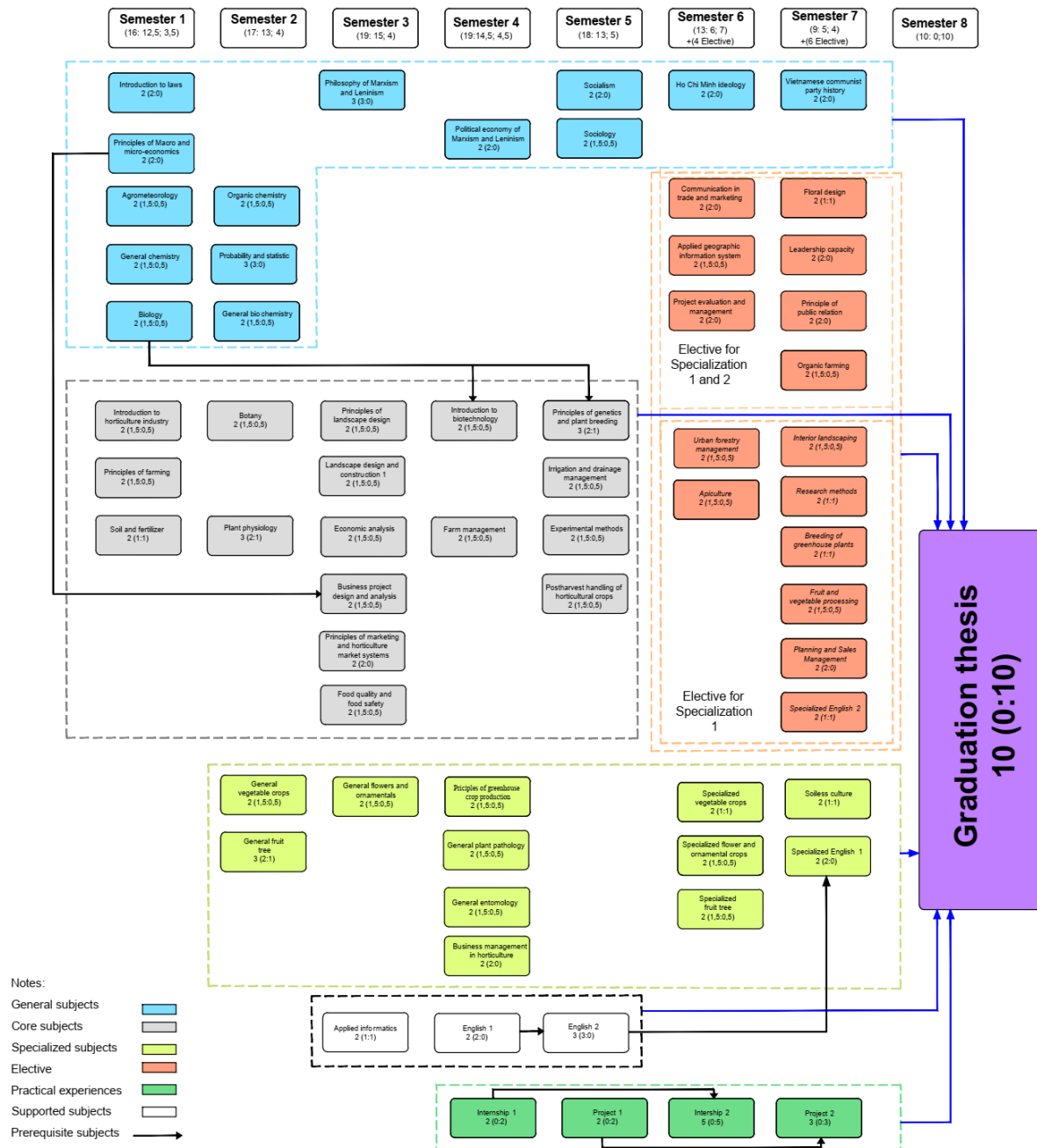
1 4	2	2	General vegetable crops				P	P	P																	P					I		5
1 5	2	2	Organic chemistry	P																													4
1 6	3	3	Philosophy of Marxism and Leninism			I																											5
1 7	3	2	landscape design and construction 1								P		P																				6
1 8	3	2	Principles of landscape design								P	P																					5
1 9	3	2	business project design and analysis			I																											5
2 0	3	2	Economic analysis			I																											5
2 1	3	2	general flowers and Ornamentals					P				P																					5
2 2	3	2	Applied Informatics																														5
2 3	3	2	Principles of marketing and horticulture market systems																														5
2 4	3	2	Food quality and food safety					P																									5
2 5	4	2	Business management in horticulture				R																										5
2 6	4	2	Introduction to Biotechnology					P	P																								4
2 7	4	2	Farm management				P																										4
2 8	4	2	General Plant Pathology			P			P	P																							5
2 9	4	2	General Entomology 1			P				P																							4
3 0	4	2	Principles of Greenhouse Crop Production					R	R																								5
3 1	4	2	Political economy of Marxism and Leninism				P																										5
3 2	4	3	English 1				P																										5
3 3	4	2	TTNN1: Basic skills and production management in Horticulture						R	R																							7
3 4	5	2	Sociology				R																										5
3 5	5	2	Experimental methods	R																													4

36	5	3	Genetics and Plant breeding	R				R			P									P						P	5		
37	5	2	Irrigation and Drainage management		R			R			P															P	4		
38	5	2	Postharvest handling of horticultural crops				R													P			R			P	4		
39	5	2	Socialism			R									P										P	P	4		
40	5	3	English 2			R							P	R		R									P		5		
41	5	2	Project 1: Production management in Horticulture industry				R	R		R	R		R	R		R											7		
42	6	2	Ho Chi Minh Ideology			R								R									R			R	4		
43	6	2	Specialized fruit trees				M	M													R			R			4		
44	6	2	Specialized vegetable crops				M	M										R					M				4		
45	6	2	Specialized flower and ornamental crops				M	M										R								R	4		
46	6	2	Urban forestry management					R				M											R			R	4		
47	6	2	Communication in Trade and marketing			R							M				M								R		4		
48	6	2	Applied Geographic Information			R					R							M								R	4		
49	6	2	Project Evaluation and management									M		M							R	R				R	5		
50	6	2	Apiculture					R				R											R			R	4		
51	6	2	Applied IT in landscape design						R	R								M								R	4		
52	6	2	Landscape design and construction 2						R			M												R			R	4	
53	6	5	Internship 2: Professional skills on production in greenhouses					M					M					M				R			R		R	6	
54	6	5	Internship 2: Skills of landscape design and construction						R			M	M						M						R		R	6	
55	7	2	Professional English 1				R												M				R				M	M	5
56	7	2	Professional English 2 (SP1)				R													M			R				M	M	5
57	7	2	Professional English 2 (SP2)				R													M			R				M	M	5

58	7	2	Leadership Capacity			R							R	R		M												M				5					
59	7	2	Principles of public relations			R						R			R													M				4					
60	7	2	Organic farming				R	R															R				M			M		5					
61	7	2	Interior Landscaping						R	R		R												R					M			5					
62	7	2	Fruit and Vegetable processing	R				R															M				M					4					
63	7	2	Breeding of greenhouse plants				R							R					R			R								M		5					
64	7	2	Research method	R															R	R	M	R									M	6					
65	7	2	Planning and sales management			R						M											M	M							M	5					
66	7	2	Vietnamese Communist Party History			M								R					R									M				4					
67	7	2	Soilless Culture			M	M																M				M					4					
68	7	2	Floral design						M							M				R						M				M		5					
69	7	2	Landscape Plant Production and Maintenance		M						M														M		M					4					
70	7	3	Project 2: Greenhouse Production and management	M			M		M				M										M	M						M		7					
71	7	3	Project 2: Landscape project management	M			M		M				M										M	M						M		7					
72	8	10	Graduation thesis on Greenhouse production and management					M				M		M	M	M	M			M	M	M	M	M			M					12					
73	8	10	Graduation thesis on landscape design and construction						M			M		M	M	M	M				M	M	M	M			M						11				
				I	3	2	5	2	1	1	1	1	1	2	2	1	2	1	3	3	1	2	2	2	4	3	1	1	1	1	2	4	2	3	8	5	
				P	5	3	4	7	7	4	1	1	5	2	2	1	3	3	1	3	2	1	1	1	2	2	3	3	4	3	2	2	6	3	1	5	1
				R	4	2	12	5	9	5	4	2	2	2	1	2	3	1	1	1	1	2	5	1	4	4	2	2	1	3	4	1	3	1	2	8	1
				M	2	1	2	6	5	3	1	3	4	5	2	2	2	3	2	4	3	3	2	2	3	2	3	3	3	1	2	1	4	5	3	7	2
				Total	14	8	23	20	22	13	7	7	12	11	7	6	10	8	7	11	7	8	10	6	13	11	9	9	9	8	9	6	17	11	9	28	9

APPENDIX 7. CURRICULUM MAP

SPECIALIZATION 1: GREENHOUSE PRODUCTION AND MANAGEMENT



SPECIALIZATION 2: LANDSCAPE DESIGN AND CONSTRUCTION

