

## UNIVERSITY CURRICULUM

**Name of program: FERTILIZES AND PLANT NUTRITION**

**Level: UNDERGRADUATE**

**Major Code: 7620108**

**Type of training: Full time**

### **1. Objective and Outcome standards:**

**1.1. Objectives:** Training Fertilizes and Pedology engineers who have political qualities and good morality, knowledge and capacities to commensurate with the undergraduate level; have the health to meet the requirements of the the industrialization and modernization of the country; to build Vietnam for the goal of rich people, strong country, fair, democratic and civilized society.

#### **1.2. Outcome standards**

##### **1.2.1. Knowledge**

+ Having the basic knowledge about national military and people's security, the Party's opinion and the State's policies on national military and security ; traditional anti-aggression of the nation, people's Armed Forces and Military Art of Vietnam; building the entire people's military, the people's security and the people's armed forces; having basic knowledge of civil defense, military skills; Ready to implement military duty to defend the country.

+ Understanding, analyzing and evaluating the scientific knowledge system about : the basic principles of Marxist-Leninist ; Ho Chi Minh Ideology; guidelines of the Party and laws of the State; applying these scientific knowledge into the real life.

+ Understanding and applying the knowledge in natural sciences such as Mathematics, Physics, Chemistry, Social Sciences and Humanities to solve the issues related to Fertilizes and Pedology.

+ Applying the knowledge about the process of soil conversion and techniques of classification, taking soil, water, fertilizers and plants samples to assess the levels of soil pollution.

##### **1.2.2. Skills**

+ Understanding and applying the knowledge in natural sciences such as Mathematics, Physics, Chemistry, Social Sciences and Humanities to solve the issues related to Fertilizers and Pedology.

+ Analyzing and evaluating the basic knowledge in geology, soils, microbiology, cultivation and mapping to develop the new knowledge, study + Applying the methods of determining physical, chemical and biological properties and indicators of soil to analyze and evaluate the research results of soil, plants and fertilizers in accordance to FAO, from that find out the principles in Fertilizers and Pedology mapping, in higher degrees.

+ Understanding and applying the basic knowledge of information technology, the issues of working safety, environmental protection in utilizing information technology and media, and some basic issues related to the law in utilizing information technology; proficiency in using computer and some basic softwares like Word, Excel, Powerpoint; proficiency in softwares in building maps of Fertilizers and Pedology.

+ The minimum English level that students need to get is TOEIC 400 and the equivalent. Students can understand simple conversations; understand main ideas in the social life. Students can take simple dialogues; express limited opinions on the cultural, social and deal with some common professional situations. Students can read and understand the popular documents related to the familiar cultural and social issues in English; exchange the professional knowledge in land management, water resources, soil science and fertilizers.

### ***1.2.3. Capacity of self control and responsibility***

+ Believing in Marxism and Lennism, Ho Chi Minh Ideology, at the same time, doing well the citizen's duties toward the Party's line and the State's law.

+ Active, positive awareness and adaptation to the working environment and political, security and socio-economic issues related to Fertilizers and Pedology.

+ Synthesizing and evaluating the advantages and disadvantages in land use and management, from that proposing effective and suitable solutions for land owners.

+ Updating and giving solutions for the new issues in Fertilizers and Pedology.

+ Having abilities to create solutions in solving problems in Fertilizers and Pedology.

+ Having abilities to work in groups, listen to and respect the other ideas; Interacting to plan and solve the raised problems in Fertilizers and Pedology.

+ Having abilities to work independently, implement works and solve the internal problems, inspect and monitor people, plan works.

+ Self-studying, accumulation of experience to improve the degree in Fertilizers and Pedology for land use and management.

### ***1.2.4. Career orientation of the students after graduation***

Students after graduating from the Fertilizes and Pedology can take the position in specialists and leaders in:

+ Ministry of Agriculture and Rural Development, Ministry of Natural Resources and Environment, Ministry of Sciences and Technologies, Ministry of Education and Training.

+ Departments of Agriculture and Rural Development, Departments of Natural Resources and Environment, Offices of Agriculture and Rural Development, Offices of Natural Resources and Environment in cities, rural districts, towns, ect.

+ Technical staffs in the companies of researching and producing fertilizers.

+ Technical staffs in the environmental companies.

+ Technical staffs in the research institutes of soils and soil science.

+ Teachers in colleges, intermediate schools and universities.

+ Analytical technicians in the offices of soil and environmental analysis.

#### ***1.2.5. Orientation to improve degrees after graduation***

Students after graduating from the Fertilizes and Pedology can be continuous to improve degrees in the following majors and specializations:

+ Master degree in Soil Science, Fertilizes and Pedology;

+ Master degree in Cultivation Science;

+ Master degree in Land Management;

+ Master degree in Environmental Science;

+ Doctor degree in Soil Science;

+ Doctor degree in Land Management;

+ Doctor degree in Environmental Science;

+ Doctor degree in Cultivation Science;

## FERTILIZES AND PLANT NUTRITION

No	Year	Code	English name	Total	Theory	Practice	Compulsory	Previous Course	Code
<b>TOTAL GENERAL COURSES</b>				<b>40</b>					
1	1		Maxism – Lennism + Foreign Languages	16			x		
2	1	ML01009	<i>Introduction to laws</i>	2	2	0	x		
3	1	MT01004	Analytic chemistry	2	1.5	0.5	x	Basic chemistry	MT01001
4	1	TH01007	Probability and statistics	3	3	0	x		
5	1	MT01001	Basic chemistry	2	1.5	0.5	x		
6	1	SH01001	Basic biology	2	1.5	0.5	x		
7	1	NH02019	Basic crop science	3	2	1	x		
8	1	MT02033	Basis microbiology	2	1.5	0.5	x		
9	1	KQ03107	<i>Basic of marketing 1</i>	2	2	0	x		
10	1	SN01023	<i>Scientific approach methodologies</i>	2	1.5	0.5			
11	1	MT01008	<i>Ecology - Environment</i>	2	2	0			
12	1	MT01002	<i>Organic chemistry</i>	2	1.5	0.5		Basic chemistry	MT01001
13	1	QL02005	<i>Geology</i>	3	2	1			
14	1	NH03027	<i>General plant protection</i>	2	1.5	0.5			
15	1	QL03053	<i>Applied Informatics in Mapping</i>	2	1	1			
<b>TOTAL BASED MAJOR COURSES</b>				<b>20</b>					
16	2	MT01006	Agrometeorology	2	1.5	0.5	x		
17	2	NH02003	Plant physiology	3	2	1	x		
18	2	NH02005	<i>Design of experiments</i>	2	0.5	1.5	x		
19	2	MT02003	<i>Environmental chemistry</i>	2	1.5	0.5	x	Basic chemistry	MT01001
20	2	QL02008	<i>General Pedology</i>	2	1.5	0.5	x	Basic chemistry	MT01001

No	Year	Code	English name	Total	Theory	Practice	Compulsory	Previous Course	Code
21	2	QL02041	<i>Irrigation and drainage</i>	2	1.5	0.5	x		
22	2	QL02007	<i>Soil chemistry</i>	3	2	1	x	<i>General Pedology</i>	QL02008
23	2	NH03055	<i>Extension</i>	2	1.5	0.5			
24	2	QL03048	<i>Chemicals application in agriculture and environment</i>	2	2	0			
25	2	NH03025	<i>Intergrated pest management</i>	2	1,5	0,5			
<b>TOTAL MAJOR COURSES</b>				<b>70</b>					
26	3	SN03054	<i>English for Land Management</i>	2	2	0	x	Tiếng anh 2	
27	3	QL02009	<i>Specialized Pedology</i>	2	1.5	0.5	x	<i>General Pedology</i>	QL02008
28	3	QL03043	<i>Fertilizer</i>	2	1.5	0.5	x		
29	3	QL03044	<i>Scientific basis of fertilization</i>	3	2	1	x	<i>Fertilizer</i>	QL03043
30	3	QL03014	<i>Land evaluation</i>	2	2	0	x		
31	3	QL03019	<i>Soil and water analysis</i>	3	1	2	x		
32	3	QL03045	<i>Fertilizer and plant analysis</i>	2	0.5	1.5	x	<i>Fertilizer</i>	QL03043
33	3	QL03023	<i>Fertilizer application for plant 1</i>	2	1.5	0.5	x	<i>Fertilizer</i>	QL03043
34	3	QL03065	<i>Soil and Agrochemistry mapping</i>	3	2	1	x		
35	3	QL03063	<i>Agrochemistry for soil reclamation</i>	2	1.5	0.5	x	<i>Fertilizer</i>	QL03043
36	3	QL03017	<i>soil fertility</i>	2	2	0	x		
37	3	QL03068	<i>Fertilizer application for plant 2</i>	2	1,5	0,5	x	<i>Fertilizer</i>	QL03043
38	3	QL04016	<i>Fieldtrips</i>	8	0	8	x		

No	Year	Code	English name	Total	Theory	Practice	Compulsory	Previous Course	Code
39	3	QI04017	<i>Fieldtrips</i>	12	0	12	x		
40	3	QL03064	<i>Intergrated crop nutrition management</i>	2	1	1	x	<i>Fertilizer application for plant 1</i>	QL03023
41	3	NH02030	<i>Cultivation</i>	2	1.5	0.5	x		
42	3	QL03047	<i>Biological indicators for environment</i>	2	2	0	x		
43	4	QL04996	<i>Thesis of Agrochemistry</i>	10	0	10	x	<i>Fieldtrips</i>	QI04017
44	4	QL03087	<i>Land use planning</i>	2	2	0			
46	4	QL03067	<i>Soilless culture</i>	1	1	0		<i>Fertilizer</i>	QL03043
47	4	KT03037	<i>Agricultural statistics</i>	3	3	0			
48	4	QL03069	<i>Application growth substance in agriculture</i>	2	1,5	0,5			
49	4	QL03036	<i>Agrocultural Planning</i>	2	1.5	0.5			

