CAN THO UNIVERSITY
COLLEGE OF AGRICULTURE
DEPARTMENT OF ANIMAL SCIENCES

PROGRAMME SPECIFICATION

PROGRAMME: BACHELOR OF ENGINEERING IN ANIMAL SCIENCE

(COHORT 45)

Can Tho, December 2020

MINISTRY OF EDUCATION AND TRAINING
CAN THO UNIVERSITY

SOCIALIST REPUBLIC OF VIETNAM
Independence – Freedom - Happiness

PROGRAMME SPECIFICATION
PROGRAMME: BACHELOR OF ENGINEERING IN ANIMAL SCIENCE

I. PROGRAMME SPECIFICATION

According to the Decision No. 2435/QD-DHCT dated August 31st, 2020 of the Rector of Can Tho University (CTU) on the promulgation of the graduate study programme, the Bachelor of Engineering in Animal Sciences programme is described as follows:

1. General information about the programme

Study programme (in Vietnamese)	Chăn nuôi
Study programme	Animal Sciences
Programme code	7620105
Awarding institution	Can Tho University
Degree	Bachelor of Engineering in Animal Science
Training Level	Undergraduate (Bachelor)
Number of credits accumulated	150 credits
Mode of training	Full-time
Training time	4.5 years
Candidate	People with high school diploma or equivalent
Grading scale	4-point
Eligibility for graduation	- Accumulate enough courses and credits specified in the programme with the cumulative GPA of the whole programme is 2.0 or higher (on a 4-point scale); - Complete all compulsory courses. In addition, the overall GPA of the National Defense Education courses must be 5.0 or higher (on a 10-point scale); - Not being prosecuted for criminal responsibility, not being suspended at the last school year due to violating CTU's regulation
Career prospects	- Agricultural production and business companies and enterprises; factories for processing animal feed and producing veterinary drugs; Animal insurance company…; - Agricultural agencies and related fields such as Animal Breeding Center, Agricultural Extension

	Center, Sub-Department of Animal Husbandry - Veterinary Medicine, Center for Agricultural Science and Technology Services...; - Research institutes, universities; - Consulting companies, technology transfer, agricultural design and construction,...; - Self-managing and operating farms, production and business establishments in the field of animal husbandry - veterinary medicine.
Higher education after graduation	- Continuing to study training programmes at master's and doctoral levels at domestic and foreign universities in the fields of animal husbandry, veterinary medicine, biotechnology and other related disciplines. - Conduct in-depth research on animal husbandry, veterinary medicine, biotechnology,...
References when developing the programme	Law on Higher Education; The Vietnamese Qualifications Framework; the 6-level foreign language competency framework for Vietnam; requirements on the capacity that learners can achieve after graduating from university (Circular 07/2015/TT-BGDDT); Basic information technology skills standards (Circular 03/2014/TT-BTTTT); Standards for assessing the quality of training programs at all levels of higher education (Circular 04/2016/TT-BGDDT); Standards for assessing the quality of training programmes of the ASEAN University Network (AUN-QA).
Information about accreditation at programme level	CTU has been certified to achieve the quality of educational institutions in the period of 2018-2023.
Time to updating the programme specification	December 2020

2. Programme Educational Objectives (PEOs)

2.1. Overall objectives

Training scientific and technical staff to meet the outcome standards of Level 6 (National Qualifications Framework according to Decision 1982/QD-TTg), and be granted engineering degrees in Animal Science.

After completing the study programme, students have ethical qualities, a sense of service, good health; knowledge and skills to work in the livestock industry, professional dedication, the ability to cooperate and manage resources; the ability to adapt to diverse jobs, manage production, enterprises or create production and service jobs in the livestock-veterinary industry; meeting human needs for the sustainable development of agricultural production in the direction of modernity, safety and efficiency.

2.2. Specific objectives

The training programme BEAS has a number of objectives as follows:

PEO1. Providing students with basic knowledge of politics, defence, law, foreign languages and IT in accordance with current regulations; Training students to be healthy, have a serious working attitude and work ethic, and be able to adapt to diverse jobs and international integration.

PEO2. Equipping basic and specialized knowledge, practical skills in the livestock industry, ability to cooperate and manage resources, and manage production in the livestock industry.

PEO3. Equip students with scientific research methods, practical access, formulation and implementation of scientific research and technology transfer in the field of animal husbandry; ability to analytical thinking, express and communicate effectively and creatively; ability to work independently or in effective teams.

PEO4. Ability to grasp needs and adapt to economic and social development; self-creation of production and service jobs in the veterinary industry; the ability to self-train, self-update knowledge and scientific research to continue studying at higher levels.

3. Programme Expected Leanring Outcomes (PLOs)

Completing the training program, students gain the following knowledge, skills, autonomy and responsibility as follows:

3.1. Knowledge

3.1.1. General knowledge

PLO1. Demonstrate ethical and professional responsibility, combined with possessing extensive knowledge to understand the impact of livestock solutions in social, environmental, economic and global contexts.

PLO2. Apply foreign language knowledge, entrepreneurship and creativity and informatics to the practical work of an engineer in animal science.

3.1.2. Fundamental knowledge block

PLO3. Develop and implement appropriate animal management procedures, analyze and interpret data, and use technical judgment to draw conclusions.

PLO4. Apply modern techniques, skills and equipment to provide solutions that meet identified needs taking into account public health, safety and welfare as well as taking into account economic, environmental, social, cultural and global factors.

3.1.3. Specialized knowledge

PLO5. Use techniques, skills and technical tools necessary for animal husbandry and veterinary operations.

PLO6. Illustrate the ability to communicate effectively and perform tasks in multidisciplinary teams/groups.

3.2. Skills

3.2.1. Hard skills

PLO7. Design a system, component or process that meet expected needs under realistic technical, economic, social, health, safety and environmental constraints.

PLO8. Formulate outline, conduct scientific research and transfer technology in the field of animal husbandry; analyze data, interpret and communicate performance results, and evaluate work quality and performance.

3.2.2. Transferable skills

PLO9. Demonstrate the development and application of new knowledge as needed, using appropriate learning strategies.

PLO10. Demonstrate the competence to work independently, have the ability to communicate and develop good personal and team relationships, guide and supervise others to perform tasks effectively in a constantly changing context of work.

PLO11. Identify, select solutions to solve and improve problems related to practical work in the BEAS appropriately.

3.3. Attitudes, autonomy and responsibility

PLO12. Recognize properly economic and social issues; self-created production and service jobs in the animal husbandry industry; ability to self-educate, self-update knowledge and conduct scientific research to continue studying at higher levels.

4. Admission criteria

Pursuant to MOET's regulations on admission criteria and CTU’s yearly enrolment plan.

5. Relationship matrix between PEOs, PLOs and courses

5.1. Matrix of the relationship between Programme Educational Objectives (PEOs) and Programme Expected Leanring Outcomes (PLOs)

PEOs (2.2)	PLOs of BEAS											
	Knowledge (3.1)						Skills (3.2)					Autonomy and responsibility (3.3)
	General knowledge (3.1.1)		Fundamental knowledge (3.1.2)		Specialised knowledge (3.1.3)		Hard skills (3.2.1)		Transferable skills (3.2.2)			
	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9	PLO10	PLO11	PLO12
PEO1		x	x	x	x	x	x	x	x	x	x	x
PEO2		x							x	x		x
PEO3									x	x	x	x
PEO4		x	x	x	x	x	x	x	x	x	x	x

5.2. Relationship matrix between courses and PLOs

No	Code	Course name	Expected Learning Outcome (3)											
			Knowledge (3.1)						Kỹ năng (3.2)					Attitude and consciousness (3.3)
			General knowledge (3.1.1)		Fundamental knowledge (3.1.2)		Khối kiến thức chuyên ngành (3.1.3)		Hard skills (3.2.1)		Soft skills (3.2.2)			
			PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9	PLO10	PLO11	PLO12
General knowledge														
1	QP006	National Defence and Security Education 1 (*)	**x**											**x**
2	QP007	National Defence and Security Education 2 (*)	**x**											**x**
3	QP008	National Defence and Security Education 3 (*)	**x**											**x**
4	QP009	National Defence and Security Education 4 (*)	**x**											**x**
5	TC100	Physical Education 1+2+3 (*)	**x**											**x**
6	XH023	General English 1 (*)		x										
7	XH024	General English 2 (*)		x										
8	XH025	General English 3 (*)		x										
9	XH031	Level B2 English 1 (*)		x										
10	XH032	Level B2 English 2 (*)		x										

11	XH033	Level B2 English 3 (*)		x										
12	FL001	General French 1 (*)		x										
13	FL002	General French 2		x										
14	FL003	General French 3 (*)		x										
15	FL007	Intensive French 1 (*)		x										
16	FL008	Intensive French 2 (*)		x										
17	FL009	Intensive French 3 (*)		x										
18	TN033	Basic Informatics (*)		x										
19	TN034	Basic Informatics in Labs (*)		x										
20	ML014	Marxist – Leninist Philosophy	x											x
21	ML016	Marxist – Leninist Political Economy	x											x
22	ML018	Scientific Socialism	x											x
23	ML019	History of the Communist Party of Viet Nam	x											x
24	ML021	Ho Chi Minh's thought	x											x
25	TN059	Advanced Mathematics B		x										
26	TN021	General Inorganic And Organic Chemistry		x										
27	TN022	Experiments in General, Organic and Inorganic Chemistry		x										
28	TN028	General Biology A2		x										
29	TN030	Experiment on General Biology A2		x										
30	KL001	General Law		x										x
31	ML007	General Logic		x										x
32	XH028	Overview of Sociology		x										x
33	XH011	Basic Vietnamese Culture		x										x
34	XH012	Vietnamese in use		x										x
35	XH014	General Management Documents and Archives		x										x
36	NN100	Transferable Skills		x										x
37	KN002	Entrepreneurship and Innovation		x										x
		Fundamental knowledge												
38	NN123	Biochemistry			x									
39	NN124	Experimental Biochemistry			x									
40	NN101	Animal Breeding			x									
41	NN102	Anatomy of Domestic Animals			x									
42	NN103	Animal Genetics			x	x								
43	NN105	Domestic Animal Physiology			x									

44	NN547	Animal Nutrition			x	x								
45	NN107	Animal Feeds			x	x								
46	NN118	Microbiology in Animal Husbandry			x									
47	NN173	Veterinary Pharmacology			x	x								
48	NN172	Probability Statics and Experimental Design in Animal Sciences and Veterinary Medicine				x								
49	NN301	Veterinary obstetrics and Artificial Insemination				x			x	x		x		
50	NS349	Veterinary Internal Medicine			x				x					
51	NS329	Veterinary Surgery			x				x					
52	NN114	Applied informatics				x			x	x		x		
53	NN549	Sciences Research Methodology				x				x				x
54	NS343	English for Animal Sciences			x					x				
55	XH019	French for Science and Technology			x					x				
56	NN112	Immunology			x					x				
57	NS263	Animal Histology			x					x				
58	NN303	Epidemiology			x				x	x				
59	NN320	Animal Farm Structure and Building			x						x			x
60	NN324	Veterinary Hygiene			x	x			x	x				
61	NN325	Livestock Production Systems			x	x			x	x				
62	NN326	Agricultural Extension			x					x				x
63	NN170	Animal Ecology			x	x				x				x
		Specialized knowledge								x				
64	NN305	Poultry Production A					x	x		x				
65	NN306	Ruminant Production					x	x		x				
66	NN307	Swine Production A					x	x			x			
67	NS260	Law of Animal Science and Verinary Medicine					x	x	x	x				x
68	NN309	Management of Animal Production					x	x						x
69	NN310	Pet companion					x	x	x	x				x
70	NS444	Practical Internship 1					x	x	x	x				x
71	NS445	Practical Internship 2					x	x						x
72	NS446	Practical Internship 3					x	x	x	x				x
73	NN318	Environmental Hygiene in Animal Production					x	x	x	x				x
74	NS361	Infectious diseases of domestic animals					x	x	x	x				
75	NN308	Apiculture					x	x	x	x				

76	NS345	Proposal Writing in Animal Sciences					x	x		x				
77	NN492	Vietnam Good Animal Husbandry Practices					x	x	x	x				x
78	NN115	Animal Feed Technology					x	x		x		x		x
79	NS362	Veterinary parasitology					x	x		x				
80	NN116	Facilities and Equipments for livestock production					x	x		x				
81	NN304	Nutritional Diseases					x	x	x	x				
82	NN321	Diseases of the Dog and Cat					x	x		x				x
83	NS353	Veterinary Subclinical Diagnosis					x	x						
84	NN316	Wild Animals Keeping					x	x		x				x
85	NN317	Animal Laboratory					x	x		x				x
86	NN319	Rabbit Production					x	x		x				
87	NN336	Goat Production					x	x		x				
88	NN495	Animal Biotechnology					x	x	x	x		x		
89	NN496	Animal Breeding Management					x	x		x				x
90	NN499	Farm Animal Behaviour and Welfare					x	x	x	x				x
91	NS513	Graduation thesis					x	x		x				
92	NS426	Graduation Research in Animal Sciences					x	x		x				
93	NS346	Animal Farming Techniques					x	x		x				
94	NS347	Biotechnology in Animal Science					x	x	x	x				x
95	NN322	Food of animals hygiene					x	x	x	x		x		x
96	NS348	Tropical Diseases in Animals					x	x	x	x				x

II. PROGRAMME STRUCTURE AND CURRICULUM

Pursuant to the Decision No. 2345/QD-ĐHCT dated August 31st, 2020 of the Rector of Can Tho University on the promulgation of the university-level training program, the Bachelor of Engineering in Animal Science is described as follows:

1. Programme structure

The minimum number of credits accumulated: 150 credits

General knowledge: 48 credits (Compulsory: 33 credits; Elective: 15 credits)

Fundamental knowledge: 45 credits (Compulsory: 37 credits ; Elective: 8 credits)

Specialised knowledge: 57 credits (Compulsory: 37 credits ; Elective: 20 credits)

2. Curriculum

No	Course code	Course name	Credit	Compul-sory	Elective	Theory hour	Practice hour	Course prerequisite	Corequisite	Semester
General knowledge										
1	QP006	National Defence and Security Education 1 (*)	2	2		30		Divided by specialized sub-group		
2	QP007	National Defence and Security Education 2 (*)	2	2		30		Divided by specialized sub-group		
3	QP008	National Defence and Security Education 3 (*)	3	3		20	65	Divided by specialized sub-group		
4	QP009	National Defence and Security Education 4 (*)	1	2		10	10	Divided by specialized sub-group		
5	TC100	Physical Education 1+2+3 (*)	1+1+1		3		90			I,II,III
6	XH023	General English 1 (*)	4	EN	10 EN or FR	60				I,II,III
7	XH024	General English 2 (*)	3			45			XH023	I,II,III
8	XH025	General English 3 (*)	3			45			XH024	I,II,III
9	XH031	Level B2 English 1 (*)	4			60			XH025	I,II,III
10	XH032	Level B2 English 2 (*)	3			45			XH031	I,II,III
11	XH033	Level B2 English 3 (*)	3			45			XH032	I,II,III
12	FL001	General French 1 (*)	4	FR		60				I,II,III
13	FL002	General French 2 (*)	3			45			FL001	I,II,III
14	FL003	General French 3 (*)	3			45			FL002	I,II,III
15	FL007	Intensive French 1 (*)	4			60			FL003	I,II,III
16	FL008	Intensive French 2 (*)	3			45			FL007	I,II,III
17	FL009	Intensive French 3 (*)	3			45			FL008	I,II,III
18	TN033	Basic Informatics (*)	1	1		15				I,II,III
19	TN034	Basic Informatics in Labs (*)	2	2			60		TN033	I,II,III
20	ML014	Marxist – Leninist Philosophy	3	3		45				I,II,III
21	ML016	Marxist – Leninist Political Economy	2	2		30		ML014		I,II,III
22	ML018	Scientific Socialism	2	2		30		ML016		I,II,III
23	ML019	History of The Communist Party of Viet Nam	2	2		30		ML018		I,II,III
24	ML021	Ho Chi Minh's thought	2	2		30		ML019		I,II,III
25	TN059	Advanced Mathematics B	3	3		45				I,II,III
26	TN021	General Inorganic and Organic Chemistry	2	2		30				I,II,III
27	TN022	Experiments in General, Organic and Inorganic Chemistry	1	1			30			I,II,III
28	TN028E	General Biology A2	2	2		30				I,II,III
29	TN030	Experiment on General Biology A2	1	1			30			I,II,III
30	KL001	General Law	2	2		30				I,II,III
31	ML007	General Logic	2		2	30				I,II,III
32	XH028	Overview of Sociology	2			30				I,II,III
33	XH011	Basic Vietnamese Culture	2			30				I,II,III
34	XH012	Vietnamese In Use	2			30				I,II,III

No	Course code	Course name	Credit	Compul-sory	Elective	Theory hour	Practice hour	Course prerequisite	Corequisite	Semester
35	XH014	General Management Documents and Archives	2			30				I,II,III
36	NN100	Transferable Skills	2			20	20			I,II,III
37	KN002	Entrepreneurship and Innovation	2			20	20			I,II,III
Sub-total: 48 credits (Compulsory: 33 credits; Elective: 15 credits)										
Fundamental knowledge										
38	NN123	Biochemistry B	2	2		30				I,II
39	NN124	Experimental Biochemistry	1	1			30			I,II
40	NN101	Animal Breeding	2	2		20	20	NN103		I,II
41	NN102	Anatomy of Domestic Animals	2	2		20	20			I,II
42	NN103	Animal Genetics	2	2		20	20			I,II
43	NN105	Domestic Animal Physiology	3	3		30	30		NN102	I,II
44	NN547	Animal Nutrition	3	3		30	30			I,II
45	NN107	Animal Feeds	2	2		20	20		NN547	I,II
46	NN118	Microbiology in Animal Husbandry	2	2		20	20			I,II
47	NN173	Veterinary Pharmacology	3	3		30	30			I,II
48	NN172	Probability Statics and Experimental Design in Animal Sciences and Veterinary Medicine	3	3		30	30	TN059		I,II
49	NN301	Veterinary Obstetrics and Artificial Insemination	2	2		20	20			I,II
50	NS349	Veterinary Internal Medicine	3	3		30	30			I,II
51	NS329	Veterinary Surgery	3	3		30	30			I,II
52	NN114	Applied Informatics	2	2		20	20			I,II
53	NN549E	Sciences Research Methodology	2	2		20	20			I,II,III
54	NS343	English for Animal Sciences	2		2	30		XH025		I,II
55	XH019	French for Science and Technology	2			30		FL003		I,II
56	NN112	Immunology	2	2	9	20	20			I,II
57	NS263	Animal Histology	2			20	20			I,II
58	NN303	Epidemiology	2			20	20			I,II
59	NN320	Animal Farm Structure and Building	2	2		20	20			I,II
60	NN324	Veterinary Hygiene	2			20	20			I,II
61	NN325	Livestock Production Systems	2			20	20			I,II
62	NN326	Agricultural Extension	2			20	20			I,II
63	NN170	Animal Ecology	2			20	20			I,II
Sub-total: 45 credits (Compulsory: 37 credits; Elective: 8 credits)										
Specialized knowledge										
64	NN305	Poultry Production A	3	3		30	30			I, II
65	NN306	Ruminant Production A	3	3		30	30		NN101, NN105, NN547	I, II
66	NN307	Swine Production A	3	3		30	30		NN101, NN102, NN103, NN107	I, II
67	NS260	Law of Animal Science and Verinary Medicine	2	2		20	20			I, II
68	NN309	Management of Animal Production	2	2		20	20	NS344		I, II
69	NN310	Pet Companion	2	2		20	20			I, II
70	NS444	Practical Internship 1	3	3			90			III
71	NS445	Practical Internship 2	4	4			120			III
72	NS446	Practical Internship 3	5	5			150			III
73	NN318	Environmental Hygiene in Animal Production	2	2		20	20			I, II
74	NS361	Infectious Diseases of Domestic Animals	3	3		30	30			I, II
75	NN308	Apiculture	2	2		20	20			I, II
76	NS345	Proposal Writing in Animal Sciences	1	1			30		NN549	I, II
77	NN492	Vietnam Good Animal Husbandry Practices	2	2		20	20	NN305, NN306, NN307		I, II

No	Course code	Course name	Credit	Compul-sory	Elective	Theory hour	Practice hour	Course prerequisite	Corequisite	Semester
78	NN115	Animal Feed Technology	2	2	6	20	20			I, II
79	NS362	Veterinary Parasitology	3			30	30			I, II
80	NN116	Facilities and Equipments for Livestock Production	2			20	20			I, II
81	NN304	Nutritional Diseases	2			20	20	NN547		I, II
82	NN321	Diseases of the Dog and Cat	2			20	20			I, II
83	NS353	Veterinary Subclinical Diagnosis	2			20	20			I, II
84	NN316	Wild Animals Keeping	2			20	20			I, II
85	NN317	Animal Laboratory	2			20	20			I, II
86	NN319	Rabbit Production	2			20	20			I, II
87	NN336	Goat Production	2			20	20			I, II
88	NN495	Animal Biotechnology	2			20	20			I, II
89	NN496	Animal Breeding Management	2			20	20			I, II
90	NN499	Farm Animal Behaviour and Welfare	2			20	20			I, II
91	NS502	Graduation Thesis	14		15		420	≥120TC, NS345		I, II
92	NS426	Graduation Research in Animal Sciences	6				180	≥ 120 TC		I, II
93	NS346	Animal Farming Techniques	4			15	60	≥ 115 TC		I, II
94	NS347	Biotechnology in Animal Science	3			30	30	≥ 115 TC		I, II
95	NN322	Food of Animals Hygiene	2			20	20			I, II
96	NS348	Tropical Diseases in Animals	3			30	30	≥ 115 TC		I, II
Sub-total: 57 credits (Compulsory: 37 credits; Elective: 20 credits)										
Total: 150 credits (Compulsory: 107 credits; Elective: 43 credits)										

3. Study plan

No	Code	Course name	Credit	Compulsory	Elective	Theory hours	Practice hours	Course prerequisite	Ghi chú
Semester 1									
1	KL001	General Law	2	2		30			
2	ML014	Marxist – Leninist Philosophy	3	3		45			
3	TN059	Advanced Mathematics B	3	3		45			
4	TN028	General Biology A2	2	2		30			
5	TN030	Experiment on General Biology A2	1	1			30		
6	TN021	General Inorganic and Organic Chemistry	2	2		30			
7	TN022	Experiments in General, Organic and Inorganic Chemistry	1	1			30		
		Sub-total	**14**	**14**					
Semester 2									
1	QP006	National Defence and Security Education 1 (*)	2	2		30		Divided by specialised sub-group	
2	QP007	National Defence and Security Education 2 (*)	2	2		30			
3	QP008	National Defence and Security Education 3 (*)	3	3		20	65		
4	QP009	National Defence and Security Education 4 (*)	1	1		10	10		
5	ML016	Marxist – Leninist Political Economy	2	2		30		ML014	
6	TN033	Basic Informatics (*)	1	1		15			
7	TN034	Basic Informatics in Labs (*)	2	2			60		
8	NN123	Biochemistry B	2	2		30			
9	NN124	Experimental Biochemistry	1	1			30		
10	NN102	Anatomy of Domestic Animals	2	2		20	20		
		Sub-total	**18**	**18**					
Semester III									
1	NS444	Practical Internship 1	3	3			90		
		Sub-total	**3**	**3**					
Semester 3									
1	TC100	Physical Education 1+2+3	1		1		30		
2	XH023	General English 1	4		4	60			
3	ML018	Scientific Socialism	2	2		30		ML016	
4	XH011	Basic Vietnamese Culture	2		2	30			

5	ML007	General Logic	2			30			
6	XH028	Overview of Sociology	2			30			
7	XH012	Vietnamese In Use	2			30			
8	XH014	General Management Documents and Archives	2			30			
9	NN100	Transferable Skills	2			20	20		
10	KN002	Entrepreneurship and Innovation	2			20	20		
11	NN103	Animal Genetics	2	2		20	20		
12	NN105	Domestic Animal Physiology	3	3		30	30		
13	NN547	Animal Nutrition	3	3		30	30		
14	NN112	Immunology	2	2		20	20		
15	NS263	Animal Histology	2		2	20	20		
16	NN303	Epidemiology	2			20	20		
		Sub-total	**19**	**10**	**9**				
Semester 4									
1	TC100	Physical Education 1+2+3	1		1		30		
2	XH024	General English 2 (*)	3		3	45			
3	ML019	History of The Communist Party of Viet Nam	2	2		30		ML018	
4	NN101	Animal Breeding	2	2		20	20	NN103	
5	NN107	Animal Feeds	2	2		20	20		
6	NN118	Microbiology in Animal Husbandry	2	2		20	20		
7	NN173	Veterinary Pharmacology	3	3		30	30		
8	NS349	Veterinary Internal Medicine	3	3		30	30		
		Sub-total	**18**	**14**	**4**				
Semester III									
1	NS445	Practical Internship 2	4	4			120		
		Sub-total	**4**	**4**					
Semester 5									
1	TC100	Physical Education 1+2+3	1		1		30		
2	XH025	General English 3	3		3	45			
3	ML021	Ho Chi Minh's thought	2	2		30		ML019	
4	NN172	Probability Statics and Experimental Design in Animal Sciences and Veterinary Medicine	3	3		30	30	TN059	
5	NN301	Veterinary obstetrics and Artificial Insemination	2	2		20	20		
6	NS329	Veterinary Surgery	3	3		30	30		
7	NN114	Applied informatics	2	2		20	20		
8	NN549	Sciences Research Methodology	2	2		20	20		
		Sub-total	**18**	**14**	**4**				
Semester 6									
1	NN305	Poultry Production A	3	3		30	30		
2	NN306	Ruminant Production A	3	3		30	30		
3	NN307	Swine Production A	3	3		30	30		
4	NN310	Pet Companion	2	2		20	20		
5	NN336	Goat Production	2			20	20		
6	NN116	Facilities and Equipments for Livestock Production	2			20	20		
7	NN115	Animal Feed Technology	2	2		20	20		
8	NS362	Veterinary Parasitology	3			30	30		
9	NN304	Nutritional Diseases	2		4	20	20	NN547	
10	NN321	Diseases of the Dog and Cat	2			20	20		
11	NS353	Veterinary Subclinical Diagnosis	2			20	20		
12	NN316	Wild Animals Keeping	2			20	20		
13	NN317	Animal Laboratory	2			20	20		
14	NS260	Law of Animal Science and Verinary Medicine	2	2		20	20		
15	NN309	Management of Animal Production	2	2		20	20		
		Sub-total	**19**	**15**	**4**				
Semester III									
1	NS446	Practical Internship 3	5	5			150		
		Sub-total	**5**	**5**					
Semester 7									

1	NN318	Environmental Hygiene in Animal Production	2	2		20	20		
2	NS345	Proposal Writing in Animal Sciences	1	1			30		
3	NS361	Infectious Diseases of Domestic Animals	3	3		30	30		
4	NN308	Apiculture	2	2		20	20		
5	NN492	Vietnam Good Animal Husbandry Practices	2	2		20	20	NN305, NN306, NN307	
6	NS343	English for Animal Sciences	2		2	30		XH025	
7	XH019	French for Science and Technology	2			30		FL003	
8	NN320	Animal Farm Structure and Building	2	2		20	20		
9	NN325	Livestock Production Systems	2			20	20		
10	NN324	Veterinary hygiene	2		4	20	20		
11	NN326	Agricultural Extension	2			20	20		
12	NN170	Animal Ecology	2			20	20		
13	NN499	Farm Animal Behaviour and Welfare	2			20	20		
14	NN495	Animal Biotechnology	2		2	20	20		
15	NN496	Animal Breeding Management	2			20	20		
16	NN319	Rabbit Production	2			20	20		
		Sub-total	**18**	**10**	**8**				
Semester 8									
1	NS502	Graduation thesis	14		14		420	≥ 120 TC, NS345	
2	NS426	Graduation Research in Animal Sciences	6				180	≥ 115 TC	
3	NS346	Animal Farming Techniques	4			15	60	≥ 115 TC	
4	NS347	Biotechnology in Animal Science	3			30	30	≥ 115 TC	
5	NN322	Food of Animals Hygiene	2			20	20	≥ 115 TC	
6	NS348	Tropical Diseases in Animals	3			30	30	≥ 115 TC	
		Sub-total		**14**	**14**				
		Total	**150**	**107**	**43**				

4. Brief description of the courses

No	Code	Course name	Credit	Brief description of the course	Administration Unit name
1	QP006	National Defence and Security Education 1	2	The course deals with the basic theory of the Party on the military line, including: basic issues of Marxist-Leninist doctrine, Ho Chi Minh's thought on war, army and national defense; the Party's views on the people's war, the building of the armed forces, the all-people national defense, and the people's security; the Party's viewpoints on combining socio-economic development with strengthening defense and security consolidation. The course spends a certain amount of time introducing some basic contents about the history of Vietnamese military art through the periods; construction and protection of border sovereignty, sovereignty over seas and islands, national security and assurance of social order and safety.	Center for National Defence Education
2	QP007	National Defence and Security Education 2	2	The course of the course covers the basic contents of national defense and security tasks of the Party and State in the new situation, including: building militia, self-defense forces, reserve forces and mobilization, strengthen the potential of defense facilities and techniques, defeat the strategy of "peaceful evolution", riots and subversion of forces hostile to the	Center for National Defence Education

No	Code	Course name	Credit	Brief description of the course	Administration Unit name
				Vietnamese revolution. The course deals with a number of ethnic and religious issues and the struggle against the enemy from taking advantage of ethnic and religious issues to oppose the Vietnamese revolution; fight against crime and maintain social order and safety, fight against law violations in cyberspace and non-traditional security threats in Vietnam.	
3	QP008	National Defence and Security Education 3	3	This course deals with general military contents in order to equip learners with some basic knowledge about living regimes, regular routines, basic skills to practice the movements of Commanding troops and other basic military skills. Necessary military skills, basic knowledge of maps, military terrain, avoiding enemy fire attacks with high-tech weapons, training through military content and being equipped knowledge and skills on fire prevention, fighting and rescue.	Center for National Defence Education
4	QP009	National Defence and Security Education 4	1	Theory combines with practice to equip learners with some basic skills to practice AK submachine gun shooting techniques, practice skills in using grenades in combat, and practice combat skills in attack, defending and doing the duty of guarding and guarding.	Center for National Defence Education
5	TC100	Physical Education 1+2+3 (*)	1+1+1	The course is for students who are not majoring in Physical Education to complete their training programme. Students do not register for the TC100 course, but instead must register for each specific course depending on their ability and need to learn such as: Taekwondo course, students register for 03 courses: Taekwondo 1 (TC003), Taekwondo 2(TC004), Taekwondo 3 (TC019). Other physical education courses do the same.	Department of Physical Education
6	XH023	General English 1 (*)	4	The course provides students with common English vocabulary in basic communication, focusing on topics such as introduction to personal information, family, place of residence, objects in daily life, sports, free time activities and basic shopping. In addition to developing the ability to communicate some basic communication situations in English on these topics, the curriculum also aims to develop foreign language ability at A2 level for students according to 6-step framework (VSTEP Vietnam).	School of Foreign Languages
7	XH024	General English 2 (*)	3	The course provides students with common English vocabulary in basic communication, focusing on topics such as introduction to their favorite countryside, cities, food, travel, fashion, and money. In addition to developing the ability to communicate some basic communication situations in English on these topics, the curriculum also aims to develop foreign	School of Foreign Languages

No	Code	Course name	Credit	Brief description of the course	Administration Unit name
				language ability at A2 level for students according to 6-step framework (VSTEP Vietnam).	
8	XH025	General English 3 (*)	3	The course provides students with common English vocabulary in basic communication, focusing on topics such as introduction to film genres, science and technology, tourism and the natural environment. In addition to developing the ability to communicate some basic communication situations in English on these topics, the curriculum also aims to develop foreign language ability at A2 level for students according to 6-step framework (VSTEP Vietnam).	School of Foreign Languages
9	XH031	Level B2 English 1 (*)	4	The course provides students with English knowledge and the opportunity to practice the necessary skills in accordance with the requirements of international communication ability with common situations. The program demonstrates the following principles and characteristics: (1) towards developing competency-based learning; (2) integrated method (integrated and blended learning); (3) promoting learner independence in learning; (4) through interaction and practice (learning by interaction and by doing); (5) meaningful learning; and (6) flexibility. In addition to developing the ability to communicate and use language, the curriculum also aims to support students to reach B1 level (level 3) in the foreign language competency system according to the competency framework for students. Vietnam (passing the VSTEP exam).	School of Foreign Languages
10	XH032	Level B2 English 2 (*)	3	The course provides students with English knowledge and the opportunity to practice the necessary skills in accordance with the requirements of international communication ability with common situations. The program demonstrates the following principles and characteristics: (1) towards developing competency-based learning; (2) integrated method (integrated and blended learning); (3) promoting learner independence in learning; (4) through interaction and practice (learning by interaction and by doing); (5) meaningful learning; and (6) flexibility. In addition to developing the ability to communicate and use language, the curriculum also aims to support students to reach B1 level (level 3) in the foreign language competency system according to the competency framework for students. Vietnam (passing the VSTEP exam).	School of Foreign Languages
11	XH033	Level B2 English 3 (*)	3	The course provides students with English knowledge and the opportunity to practice the	School of Foreign Languages

No	Code	Course name	Credit	Brief description of the course	Administration Unit name
				necessary skills in accordance with the requirements of international communication ability with common situations. The program demonstrates the following principles and characteristics: (1) towards developing competency-based learning; (2) integrated method (integrated and blended learning); (3) promoting learner independence in learning; (4) through interaction and practice (learning by interaction and by doing); (5) meaningful learning; and (6) flexibility. In addition to developing the ability to communicate and use language, the curriculum also aims to support students to reach the B1 level (level 3) in the foreign language competency system according to the competency framework for Vietnam (through the VSTEP exam).	
12	FL001	General French 1 (*)	4	The course content is aimed at communicating in everyday life, such as introducing yourself, your family, talking about your habits and hobbies, getting to know and introduce someone, and speaking and writing about time in a way general and administrative... In addition, knowledge of French language and culture is also integrated into the content of the curriculum. Through this course, students will be familiar with the pronunciation, intonation, alphabet of the French language, know how to conjugate group I, group II and some group III verbs in the present tense, writing some simple sentences.	School of Foreign Languages
13	FL002	General French 2 (*)	3	The course continues to equip learners with basic knowledge of French grammar, phonetics, vocabulary, etc. The course content is aimed at communication in daily life such as asking for information, explaining, accepting invitations or refusing, talking about their working day, talking about future plans... Students get acquainted with the way of asking, asking questions with more complicated pronouns of French, knowing how to conjugate group I, group II and some group III verbs in imperative form, know directions, locate in space,. .. In addition, knowledge of French language and culture is also integrated into the curriculum content.	School of Foreign Languages
14	FL003	General French 3 (*)	3	The content of the course continues to target communication in daily life such as discussing holidays, Tet, food, describing people, objects, clothes, expressing choices, quantity, introducing In this course, students are introduced to courses of 100 words or more, longer conversations, and writing paragraphs of about 100 words. , write letter. Students can	School of Foreign Languages

No	Code	Course name	Credit	Brief description of the course	Administration Unit name
				apply knowledge of grammar in their writing such as coordinating nouns, adjectives, conjugating verbs in the past tense, combining tenses in the past tense,... After completing the course, students will also know how to explain and argue simply.	
15	FL007	Intensive French 1 (*)	4	The course content continues to target communication in daily life such as introducing family members; get to know a person; recount daily activities; describe people, places of residence; compare in terms of quantity or quality;... In addition, knowledge of French language and culture is also integrated into the curriculum content.	School of Foreign Languages
16	FL008	Intensive French 2 (*)	3	The course provides students with a rich and diverse amount of knowledge about vocabulary and grammar structures to help students develop comprehensively the four skills of listening, speaking, reading and writing related to six skills. The main topics are about eating habits, sports, employment, education, communication and entertainment.	School of Foreign Languages
17	FL009	Intensive French 3 (*)	3	The course provides students with a rich and diverse knowledge of vocabulary and grammatical structures to help students develop comprehensively the four skills of listening, speaking, reading and writing related to six skills. The main topics are about expressing opinions when speaking, talking about memories, traveling, about habits, personal motivation, reporting other people's words.	School of Foreign Languages
18	TN033	Basic Informatics (*)	1	This course provides students with a basic theoretical understanding of information technology: the concept of information, the general structure of computers, the Windows operating system, and commands and operations for word processing. Using Microsoft Word, processing spreadsheets using Microsoft Excel, presenting reports using Microsoft Powerpoint, using internet and e-mail.	College of Natural Sciences
19	TN034	Basic Informatics in Labs (*)	2	By practicing on computers, students are trained in skills: Using Windows operating system, editing documents using Microsoft Word, processing spreadsheets using Microsoft Excel, presenting reports using Microsoft Powerpoint, use the Internet and e-mail. In the practical part, skills in writing scientific reports are also integrated, skills in composing presentations on multimedia projectors.	College of Natural Sciences
20	ML014	Marxist – Leninist Philosophy	3	Students will be provided with basic and in-depth knowledge about Marxist-Leninist philosophy, including: Philosophy on the role of philosophy in social life, Marxist-Leninist	School of Political Science

No	Code	Course name	Credit	Brief description of the course	Administration Unit name
				philosophy and the role of Marxist philosophy - Lenin in social life; Dialectical materialism: matter and consciousness, materialistic dialectic and cognitive reasoning; Historical materialism: Theory of socio-economic form, class and nation, State and social revolution, social consciousness, philosophy of people.	
21	ML016	Marxist – Leninist Political Economy	2	Trong học phần này, sinh viên sẽ được cung cấp những kiến thức cơ bản và chuyên sâu về kinh tế chính trị Mác - Lênin bao gồm; Đối tượng, phương pháp nghiên cứu và chức năng của Kinh tế chính trị Mác - Lênin; Hàng hoá, thị trường và vai trò của các chủ thể khi tham gia thị trường; Giá trị thặng dư trong nền kinh tế thị trường; Cạnh tranh và độc quyền trong nền kinh tế thị trường; Kinh tế thị trường định hướng xã hội chủ nghĩa và các quan hệ lợi ích kinh tế ở Việt nam.	School of Political Science
22	ML018	Scientific Socialism	2	In this course, students will study the general theoretical issues of socialism and practice in the construction of socialism in our country today. The content mainly focuses on a number of issues such as: the birth and development of scientific socialism; the historical mission of the working class, socialism and the transition to socialism; socialist democracy and socialist state; class alliances, classes; ethnic and religious issues; family problems during the transition to socialism.	School of Political Science
23	ML019	History of The Communist Party of Viet Nam	2	The course equips students with an understanding of the objects, purposes, tasks, research methods, study of Party History and basic, core and systematic knowledge about the birth of the Party. 1920-1930); the process of the Party leading the struggle for power (1930-1945); led two resistance wars against French colonialists and American imperialists, completing national liberation and reunification (1945-1975); led the country in the transition to socialism and carried out the renovation (1975-2018). Thereby affirming the successes, stating the limitations, summarizing the experiences of the Party's revolutionary leadership to help learners improve their awareness and belief in the Party and the ability to apply their learned knowledge. practical work, contributing to the construction and defense of the Socialist Vietnam Fatherland.	School of Political Science
24	ML021	Ho Chi Minh's thought	2	Together with the course Basic principles of Marxism-Leninism, the course of Ho Chi Minh's Thought creates insights on the ideological foundation, the action guideline of the Party and our country's revolution, continues to provide basic knowledge of Marxism-Leninism, contributing to building a new human	School of Political Science

No	Code	Course name	Credit	Brief description of the course	Administration Unit name
				moral foundation. In addition to the opening chapter, the course content includes 7 chapters: Chapter 1 presents the basis, process of formation and development of Ho Chi Minh's thought; Chapters 2 to 7 present the basic contents of Ho Chi Minh Thought according to the subject's objectives, providing systematic understanding of Ho Chi Minh's ideology, morality and cultural values.	
25	TN059	Advanced Mathematics B	3	The course introduces basic knowledge of advanced mathematics such as systems of linear equations, functions, limits, continuity, derivatives, integrals of a variable and functions of many variables.	College of Natural Sciences
26	TN021	General Inorganic and Organic Chemistry	2	This course equips biology majors with the basic knowledge of Chemistry about: atomic structure, chemical bonding, the basis of thermochemistry, and the basis of chemical kinetics. The relationship between the composition, structure and properties of solutes, solvents, and solutions. Theory of acids-bases and acid-base reactions. Provides basic knowledge about the nomenclature, structure, and chemical properties of some important organic functional groups as a foundation for learning other courses.	College of Natural Sciences
27	TN022	Experiments in General, Organic and Inorganic Chemistry	1	Consolidate and illustrate the general chemistry knowledge that has been learned in theory through experiments. In addition, the content of the course also helps students master the basic operations in chemistry experiments, how to use laboratory equipment and safety in experiments.	College of Natural Sciences
28	TN028E	General Biology A2	2	Students will be provided with an overview of plants and animals including the organization, body, structure and operation of organs, plant hormones affecting the growth of plants. Students will learn, system and understand the body structure of organs and animal organ systems, have an overview of the diversity of animals and plants from lower to higher level, and understand the main principles of taxonomy and naming of organisms.	College of Natural Sciences
29	TN030	Experiment on General Biology A2	1	The course provides an overview of the principles of construction and use of microscopes and stereoscopes. Students learn how to make slides to observe plant and animal tissues; recognize some simple forms of reproduction in organisms and some stages of tissue development in animals; how to dissect the vertebrate body and identify the arrangement of organ systems and organs; observe representatives of phyla in the plant kingdom to see the diversity and evolution of vegetative and reproductive organs in plants, observe	College of Natural Sciences

No	Code	Course name	Credit	Brief description of the course	Administration Unit name
				representatives of lower to higher order invertebrates to see diversity and evolution in invertebrates.	
30	KL001	General Law	2	This course is designed for non-law students. The course introduces basic theoretical issues of Marxist-Leninist theory on the state and law from the origin, nature, form, function as well as the types of state and law that have formed and existed. and developed through the different socio-economic formations in human history. In addition, the course also includes the study of the position of the state in the political system, constituting the state apparatus, and the systems of state agencies. A large amount of basic knowledge of common law disciplines of Vietnam is also introduced such as basic rights and obligations of citizens, crimes, administrative law violations, legal regulations on marriage, divorce, inheritance...	School of Law
31	ML007	General Logic	2	The course equips the knowledge of formal logic. Provide the rules and requirements of the basic laws of thinking such as: The Law of Identity; The law of non-contradiction; Rule of dismissing the third; The law of full reason. And the basic forms of thinking such as: Concept; Judge; Deductive; Hypothesis; Prove; Refusal and Fallacy.	School of Political Science
32	XH028	Overview of Sociology	2	The course studies the laws and regulations of the formation, movement, and change of relationships and interactions between people and society. The object of study of Sociology is the social relations and social interactions expressed through the behavior between people in groups, organizations, and social systems.	School of Social Sciences and Humanities
33	XH011	Basic Vietnamese Culture	2	The course content includes general knowledge about Vietnamese culture and culture, about the system of elements, characteristics and development rules of Vietnamese culture and cultural regions of Vietnam; approaches to understanding and researching issues of Vietnamese culture; practice skills in applying cultural knowledge to analyze language and literary works.	School of Social Sciences and Humanities
34	XH012	Vietnamese In Use	2	The course is designed into 4 chapters. Each chapter consists of two main parts compiled and interwoven: a summary of the theory and a system of practical exercises. Chapter 1 focuses on handwriting and spelling. Chapter 2 focuses on practicing vocabulary skills. Similarly, the content of Chapter 3 is to practice sentence skills. Chapter 4 trains skills in creating and receiving texts.	School of Social Sciences and Humanities

No	Code	Course name	Credit	Brief description of the course	Administration Unit name
35	XH014	General Management Documents and Archives	2	The course equips students with theoretical and practical knowledge about management documents and archival documents, helping students to be aware of the role of administrative documents and archival documents for management. In addition, this subject also helps learners master the method of drafting and scientific management of administrative documents, knowing how to select and classify documents for archiving; know how to search and use archival documents to be able to do well in school management as well as in agencies in general.	School of Social Sciences and Humanities
36	NN100	Transferable Skills	2	The course provides basic knowledge and instructions for training necessary skills for learners: communication skills, general principles of communication; effective listening, speaking and presentation skills; Teamwork skills ensure good cooperation in learning and working; creative thinking skills; time management skills and emotion management skills.	Center for Students Consultancy, Assistancy and Start-up
37	KN002	Entrepreneurship and Innovation	2	The content of the course focuses on general knowledge about creativity, innovation and starting up ideas, choosing the type of business ownership, and understanding the basics of intellectual property rights. In addition, students are also provided with basic knowledge and skills about the market such as assessing strengths, opportunities, threats, and risks of commercializing products from business ideas, discovering business potentials, and start-up planning. More importantly, students have the opportunity to share startup experiences from successful entrepreneurs and/or visit successful startup models.	Center for Students Consultancy, Assistancy and Start-up
38	NN123	Biochemistry B	2	The course content follows the biology curriculum at high schools with a deeper level in order to equip students with basic knowledge about the structure, physico-chemical properties of related compounds. to living organisms as proteins, carbohydrates, lipids, hormones, vitamins and biological catalysts. Equip knowledge about the processes of metabolism of matter and energy in living organisms of the main groups of carbohydrates, lipids and proteins through a number of basic metabolic processes such as glycolysis, Krebs cycle , pentose phosphate cycle, fatty acid oxidation, amino acid metabolism reactions, urea cycle and some basic biosynthetic processes of substances in living organisms to see the relationship between living organism and external	College of Agriculture

No	Code	Course name	Credit	Brief description of the course	Administration Unit name
				environment, better understand the nature of life.	
39	NN124	Experimental Biochemistry	1	Reinforcing the biochemical knowledge learned in the theoretical part. Help students master basic biochemical analysis methods for analyzing the chemical composition of nutrients in living organisms such as the qualitative and quantitative determination of carbohydrates, basic indices in lipids, and determination of nutrients. Calculation and quantification of amino acids, proteins and some vitamins, experiments on extraction of phospholipid compounds, enzymes and research on factors affecting enzyme-catalyzed reactions in order to equip basic knowledge for research advanced in bioengineering.	College of Agriculture
40	NN101	Animal Breeding	2	The course helps learners to grasp knowledge about the history of livestock breeding, the process of breeding livestock, the laws of livestock development, methods of livestock evaluation, methods of selection and mating. Breeding and breeding animals and new knowledge about biotechnology applications in livestock breeding.	College of Agriculture
41	NN102	Anatomy of Domestic Animals	2	Học phần cung cấp các thông tin tổng quan về cơ thể học vật nuôi; Đặc điểm cấu tạo của bộ xương gia súc, gia cầm, các loại khớp trong một cơ thể; Đặc điểm cấu tạo, vị trí, chức năng của hệ cơ, hệ thần kinh, mạch máu, hệ hô hấp, hệ tiêu hóa, hệ tiết niệu - sinh dục, chức năng hoạt động của hệ nội tiết, cơ quan cảm giác trong cơ thể và đặc điểm, cấu tạo cơ thể học của gia cầm. The course provides an overview of animal anatomy; Structural characteristics of cattle and poultry skeletons, types of joints in a body; Features of the structure, position and function of the muscular system, nervous system, blood vessels, respiratory system, digestive system, urinary - genitourinary system, function of the endocrine system, sensory organs in the body and characteristics, anatomical structure of poultry.	College of Agriculture
42	NN103	Animal Genetics	2	The course provides students with the process of forming genetics. Students will be provided with knowledge of Mendelian genetics, additional post-Mendelian findings, population genetics, mutation, the structure of population genetics as well as basic characteristics of traits and heritability of quantitative traits.	College of Agriculture
43	NN105	Domestic Animal Physiology	3	Course contents include the meaning and importance of physiology in the industry, functions and mechanisms regulating physiological activities of muscles and nerves, blood, heart and vascular system, respiratory,	College of Agriculture

No	Code	Course name	Credit	Brief description of the course	Administration Unit name
				digestive system. , excretory, endocrine, reproductive physiology in cattle and poultry breeds. In each chapter are presented basic functions, mechanisms of action, relationships and impacts between organs and organizations in the body and the living environment, with illustrations of the regulation mechanism of each organ and knowledge application in production practice of the Animal husbandry-Veterinary medicine.	
44	NN547	Animal nutrition	3	Animal nutrition is a basic course divided into 3 main contents: (1) The role of nutrients in the digestion, absorption and metabolism of animals such as: water, protein, lipid, carbohydrate, macronutrients and trace minerals, vitamins.... (2) Principles of nutrition and nutritional value system; (3) Nutritional research methods such as nutritional balance experiments, feeding experiments and modern methods for measuring biological processes: determining the basal exchange through exothermic processes, respiration... or simulate biochemical and physiological processes by *in vitro* experiments. There are also chemical analyzes to determine the nutritional needs of the animal, or the chemical composition of the feed.	College of Agriculture
45	NN107	Animal Feeds	2	Animal feed is a basic course divided into 4 main contents: Classification of cattle and poultry feed; Introduction to grasslands and tropical forage crops; Introduce some popular methods of storing and processing animal feed; and Some methods of formulating diets for cattle.	College of Agriculture
46	NN118	Microbiology in Animal Husbandry	2	Animal microbiology is the scientific study of beneficial microorganisms in livestock that are applied to the production of animal feed. At the same time, the course also provides information about harmful microorganisms in animal products and how to prevent and treat them.	College of Agriculture
47	NN173	Veterinary Pharmacology	3	Học phần cung cấp kiến thức về tác động qua lại giữa thuosc và cơ thể trong đó chia thành 2 phần: phần cơ bản là đại cương về dược động học và dược lực học, phần chuyên khoa trình vày tác dụng của thuốc theo từng chức năng sinh lý vật nuôi và thoe từng loại mầm bệnh.	College of Agriculture
48	NN172	Probability Statics and Experimental Design in Animal Sciences and Veterinary Medicine	3	Học phần gồm các nội dung chính: những khái niệm cơ bản về lý thuyết xác suất; những khái niệm liên quan đến thống kê mô tả, ước lượng các tham số thống kê tổng thể, trắc nghiệm giả thuyết thống kê; khảo sát mô hình hồi quy hai biến; thiết kế các mô hình thí nghiệm cơ bản và phương pháp điều tra chọn mẫu.	College of Agriculture

No	Code	Course name	Credit	Brief description of the course	Administration Unit name
49	NN301	Veterinary obstetrics and Artificial Insemination	2	The course provides basic and in-depth content on obstetrics and artificial insemination as follows: Obstetrics: reproductive physiology of male and female cattle, techniques for identifying cattle to breed, diagnostic techniques for pregnant cattle, midwifery techniques and intervention for difficult calving in cattle. For artificial insemination: methods of semen collection, examination and evaluation of semen quality, artificial insemination technique, frozen sperm production technology, and semen preservation technology.	College of Agriculture
50	NS349	Veterinary Internal Medicine	3	Veterinary internal medicine is the science that specializes in diseases that occur in the internal organs of an animal's body (nervous, endocrine, circulatory, respiratory, digestive, and excretory) and are not contagious. The contents that the course covers in each disease include disease causes, disease mechanisms, diagnostic methods, symptoms, disease prognosis, prevention, and treatment methods.	College of Agriculture
51	NS329	Veterinary Surgery	3	The course helps students familiarize themselves with surgical instruments, and apply methods of sterilizing instruments, animals, technicians, and other related subjects; significance of bleeding and methods of hemostasis; the meaning of anesthesia, anesthetic methods and some anesthetics used in cattle; infections and treatment methods. In addition, the course also provides some common surgical cases in cattle such as hernia, rectal prolapse, horn sawing, caesarean section, rumen caesarean section.	College of Agriculture
52	NN114	Applied Informatics	2	The course will help learners grasp the basic steps in the operation of Minitab statistical software including: instructions for use, making spreadsheets, retrieving statistical results, drawing graphs and data management. Besides, the application of Minitab in descriptive statistics can help learners understand the raw data types, thereby processing and testing in the most accurate way. Participants in this course also gain knowledge about experimental design, analysis of variance, regression and correlation analysis, and presentation of statistics in accordance with the principles of scientific research.	College of Agriculture
53	NN549	Sciences Research Methodology	2	The course is a basic subject divided into 4 main contents: (1) Concepts, scientific research methods and scientific research products; (2) Methods of developing and writing scientific research outlines; (3) Data collection techniques in scientific research; and (4) The presentation of scientific reports in sildes, and the skills	College of Agriculture

No	Code	Course name	Credit	Brief description of the course	Administration Unit name
				necessary to write scientific articles and graduate thesis.	
54	NS343	English for Animal Sciences	2	The content of the course includes professional knowledge, specialized terms on livestock production systems; Nutrition and animal feed, domestic animal and poultry raising techniques, …	College of Agriculture
55	XH019	French for Science and Technology	2	The course aims to communicate in the field of science and technology such as introducing oneself, introducing scientific and technical activities, presenting projects in the field of science and technology, exchanging professional terms in which the focus is on technical vocabulary. In addition, knowledge of French language and culture is also integrated into the curriculum.	College of Agriculture
56	NN112	Immunology	2	The course provides basic knowledge about the animal's immune system, the structure and function of antigens and antibodies, the response and regulation of immune response, the principle of specific combination of antigens and antibodies, immunological techniques applied in disease diagnosis and principles of preservation and use of preventive vaccines. The knowledge acquired during the course of study will help students familiarize themselves with the nature of the animal's immune system and better understand the importance of the immune system to the protection of human health and animal species.	College of Agriculture
57	NS263	Animal Histology	2	The course provides knowledge related to the structure and function of cells, organization, the generation and development of animal embryos in normal physiological state. This knowledge forms the basis for the study of pathological changes of tissues and organs. In addition, learners understand the role and function of structures, and the response of cells, tissues, and organs to environmental influences; research and detect microscopic and viral structures in cells, tissues and organs; understand their functioning and functional significance; study the development regulation and differentiation of cells and tissues; study their adaptation, physiological regeneration, regeneration under the influence of biological, physical and chemical factors.	College of Agriculture
58	NN303	Epidemiology	2	Epidemiology is a course that applies statistics and many other sciences to study the distribution of diseases, factors related to diseases in a certain population, application in determining the causes of diseases and controlling diseases. The knowledge acquired in the learning process will help learners solve problems related to the	College of Agriculture

No	Code	Course name	Credit	Brief description of the course	Administration Unit name
				health and disease of animals, research to determine the causes of diseases and risk factors for the formation of epidemics, thereby orienting the prevention of diseases for animals.	
59	NN320	Animal Farm Structure and Building	2	The course equips students with knowledge about housing, the intimate relationship between housing and livestock, the influence of environmental factors on livestock, and solutions to raise animals to create optimal conditions for achieving high productivity and good product quality. In addition, the course also helps students have an understanding of related building materials and how to choose those materials suitable for each geographical location, and guides students to know how to design and build a livestock farm according to each animal species, monitor the construction and evaluate the quality of the work.	College of Agriculture
60	NN324	Veterinary Hygiene	2	Students participating in the course will be provided with basic and specialized content in the field of veterinary medicine such as: principles of animal disease prevention and treatment, sanitation of air, soil, water, housing, feed and hygiene and disease safety.	College of Agriculture
61	NN325	Livestock Production Systems	2	The course content covers the location and importance of livestock production systems, the characteristics of livestock species related to production in agricultural systems, extensive livestock systems with investment and income. lowland livestock systems (livestock systems in irrigated farmland, highland livestock systems, lowland livestock systems, etc.), intensive livestock production systems with high input (sustainable raising models in the VAC system, intensive monogastric animal farming systems,...) and small animal farming systems (crabs, snails,...).	College of Agriculture
62	NN326	Agricultural Extension	2	The course provides knowledge about the development history of agricultural extension in Vietnam and the world, characteristics of farmers and agricultural extension methods, advantages and disadvantages of methods, and application of participatory technical development. participation in agricultural extension work, and skills for agricultural extension activities.	College of Agriculture
63	NN170	Animal Ecology	2	The content of the course includes: (1) Provide students with general knowledge about ecology and livestock ecosystems; (2) Impact of environmental factors on livestock ecosystems as well as productivity and quality of livestock products; (3) The interrelationship between the environment and the animal; and (4) Help students have integrated raising techniques and	College of Agriculture

No	Code	Course name	Credit	Brief description of the course	Administration Unit name
				biosecurity in ecological livestock production and application in practical conditions.	
64	NN305	Poultry Production A	3	The course provides information about the poultry production sector, biological characteristics and production capacity of poultry, poultry breeding and breeding, poultry housing system, nutritional needs, poultry feed and farming techniques; Techniques for hatching eggs, raising poultry in the direction of biosecurity and organic, procedures for disease prevention and treatment of some common diseases in poultry; Waste treatment systems in poultry farms, and value chain linkages in the poultry production sector.	College of Agriculture
65	NN306	Ruminant Production A	3	The course includes the following contents: (1) Concepts of terms used in the course , guidelines and policies of Vietnam and the world, as well as the role and importance of the ruminnat production sector in the world; (2) Knowledge of the benefits, duties and activities of raising buffaloes, cows, and goats and sheep. Biological characteristics, behavior and potential of ruminant rearing in terms of environmental conservation, production of products such as meat, milk, fur, traction, energy, medicinal herbs,...; (3) Detailed knowledge of genetics, breeds, housing, nutrition, feed, feeding techniques and disease prevention in ruminant farming and (4) guidance for students to gain practical skills in ruminant production to provide products of meat, milk, fur, traction, energy, medicinal herbs,....	College of Agriculture
66	NN307	Swine Production A	3	Learners are able to learn and grasp the market for livestock products (breeding, meat, ...), from which to have a plan to organize production suitable for the consumption market on the basis of basic knowledge and new knowledge is updated regularly.	College of Agriculture
67	NS260	Law of Animal Science and Verinary Medicine	2	The course focuses on understading about Animal Husbandry Law and Veterinary Law. For the Law on Livestock, the course introduces the management system in livestock production, the animal husbandry law and current documents on the livestock sector, the production and business registration process and the regulations on goods labels. For the Law on Veterinary Medicine, an introduction to the World Organization for Animal Health (OIE), the organizational structure of the veterinary sector from the central to local levels, the system of legal documents on veterinary medicine and a number of international conventions that our country participated.	College of Agriculture

No	Code	Course name	Credit	Brief description of the course	Administration Unit name
68	NN309	Management of Animal Production	2	Students are introduced to the nature of production management, types of agricultural production and business organizations; how to plan production and use human resources in animal husbandry production; Calculating the movement of livestock and poultry, calculating production costs, making production plans for the animal husbandry and veterinary medicine units.	College of Agriculture
69	NN310	Pet Companion	2	This course helps learners better understand the care of pet companion techniques and apply them in the process of caring for and raising pets, especially dogs and cats.	College of Agriculture
70	NS444	Practical Internship 1	3	Students will practice in the laboratories of the Department of Animal Sciences and visit the animal feed factory. Through it, learners will understand the safety rules in the laboratory and at the feed factory. Understand the operating principles and be able to operate a number of livestock laboratory equipment and feed production lines.	College of Agriculture
71	NS445	Practical Internship 2	4	The course helps students gain practical knowledge on techniques of breed evaluation, selection, breeding and disease control in livestock; apply the learned knowledge into the reality of each establishment and livestock farm; at the same time help students gain practical experience as well as appropriate handling. In addition, the course also helps students to have the ability to plan, organize work and manage breeding stock, techniques and disease treatment on livestock farms in the most effective way.	College of Agriculture
72	NS446	Practical Internship 3	5	Students are divided into groups, introduced to practice at advanced Animal Husbandry-Veterinary medicine stations/farms/facilities in the Mekong Delta and Southeast provinces for 10-12 weeks. Depending on the internship and animal species, students master the tasks that need to be performed daily according to the requirements of the facility/farm; apply the knowledge learned in animal husbandry practice; At the same time, with the support of technical staff, the camp owner helps the students gain practical knowledge and skills to live and work. During the internship period, students must keep an internship diary at the stations/farms/production facilities as a basis for the assessment of course results. After the internship period, students return to school to report their internship results based on the comments and contributions of the stations/farms/facilities.	College of Agriculture
73	NN318	Environmental Hygiene in	2	Environmental hygiene in animal production is a subject that provides students with knowledge	College of Agriculture

No	Code	Course name	Credit	Brief description of the course	Administration Unit name
		Animal Production		about the sources and agents of environmental pollution in the activities of the livestock and veterinary fields. Know how to manage and treat livestock waste for reuse in cultivation, production of animal feed, biogas and aquaculture; Waste treatment models at livestock farms; Clean water sources and clean livestock.	
74	NS361	Infectious Diseases of Domestic Animals	3	For general infectious diseases, the content of the course provides knowledge about infectious causes of diseases in animals, disease transmission mechanism, disease generation, immune characteristics of the animal body against diseases. pathogenic microorganisms, principles and measures to prevent infectious diseases. For specialized infectious diseases, the course deals with common diseases between animals and humans, and diseases in livestock and poultry. In addition, students are also provided with knowledge on how to perform an autopsy; Diagnostic; ways to preserve, use, and produce vaccines and antibodies to prevent and treat livestock diseases.	College of Agriculture
75	NN308	Apiculture	2	Through the theory in the textbook and lectures with pictures, movies and field visits, students understand and can learn techniques for creating queen bee, dividing flocks, exploiting honey and other products. Diseases on bees such as parasitic diseases, bacterial diseases, viral diseases, diseases caused by bees poisoning by pesticides, because the source of flowers contains toxic substances that bees harvest to the hive are also introduced in the study.	College of Agriculture
76	NS345	Proposal Writing in Animal Sciences	1	The course provides students with basic knowledge about initial research related to a specific field or research problem; basic knowledge about a research project (requirements on form, content, presentation of scientific reports). In addition, they also practice basic skills, initially to carry out a research topic such as selecting and identifying a topic, reading and synthesizing documents, developing a general outline, a detailed outline and presenting a presentation.	College of Agriculture
77	NN492	Vietnam Good Animal Husbandry Practices	2	The course content includes: 1. Good husbandry practices for safe pig production in Vietnam; 2. Good husbandry practices for safe poultry production in Vietnam; 3. Good husbandry practices for safe dairy farming in Vietnam; 4. Good husbandry practices for safe beekeeping in Vietnam, and 5. Good husbandry practices for safe poultry, dairy, beef cattle, pigs and bees in households.	College of Agriculture

No	Code	Course name	Credit	Brief description of the course	Administration Unit name
78	NN115	Animal Feed Technology	2	Animal feed technology includes components of animal feed technology; factors affecting productivity and quality of animal feed technology and types of animal feed technology.	College of Agriculture
79	NS362	Veterinary Parasitology	3	The course provides students with a complete knowledge of parasitology, morphological characteristics, the harmful effects of the disease, etc. From that, the direction of disease prevention and treatment is proposed.	College of Agriculture
80	NN116	Facilities and Equipments for Livestock Production	2	This is a course that helps students gain the concepts and necessity of equipment and tools in livestock production, the basic principles in the design of equipment. Provide students with knowledge about the structure, operating principle and description of machinery and equipment in animal husbandry. In addition, the subject also helps students to know and understand the types of equipment and tools needed for each livestock object as well as for each livestock system, from which students can design equipment and tools for each animal species.	College of Agriculture
81	NN304	Nutritional Diseases	2	The course provides the following contents: The concept of nutritional disease and descriptions of the principal principles of energy-borne illness and nutrients such as proteins, fats, minerals and vitamins; Importance of management, metabolic disorders and physical factors causing disease in livestock; Secondary compounds, toxins and molds present in plants, animals and other foods. In each disease, students will be provided with causes, symptoms, lesions, diagnosis, methods of prevention and treatment.	College of Agriculture
82	NN321	Diseases of the Dog and Cat	2	The course provides students with the principles of clinical diagnosis and some laboratory diagnoses. That helps determine the right treatment for your dog or cat.	College of Agriculture
83	NS353	Veterinary Subclinical Diagnosis	2	The subclinical diagnosis course is divided into the following main contents: Imaging diagnosis, laboratory diagnosis, analyse diagnostic results and disease prognosis.	College of Agriculture
84	NN316	Wild Animals Keeping	2	The course provides knowledge about the benefits, tasks and activities of raising wild animals; characteristics, behavior and potential of wild animals in terms of environmental conservation, conservation of rare and precious animal genetic resources and economic development. In addition, detailed content on biological characteristics, growth and development behavior, food sources, nutritional requirements and techniques of feeding and disease prevention in wild animal keeping is also	College of Agriculture

No	Code	Course name	Credit	Brief description of the course	Administration Unit name
				included.	
85	NN317	Animal Laboratory	2	The content of the course helps students master the knowledge on how to select breeds, manage and taking care of animals before and after the experiment; animal handling, injection, surgery.	College of Agriculture
86	NN319	Animal Laboratory	2	This course provides the following contents: 1. The importance and biological characteristics of rabbits, 2. Rabbit breed and breeding, 3. Rabbit nutrition and feed, 4. Rabbit cages, 5. Rabbit farming techniques, 6. Common diseases in rabbits, and 7. Rabbit meat processing methods.	College of Agriculture
87	NN336	Goat Production	2	Goat prduction is a specialized subject with 4 main contents: (1) Role, meaning, and situation of goat farming in the world and in Vietnam; Origin and biological characteristics of goats; (2) Characteristics of goat breeds in the world and in Vietnam; Nutritional characteristics of goat's feed; (3) The housing in goat prduction and (4) Techniques for raising goats.	College of Agriculture
88	NN495	Animal Biotechnology	2	The course will help learners understand the basic principles of biotechnology, some economic and scientific aspects in this field as well as the direction of animal biotechnology in the future. Learners are also equipped with knowledge about recombinant DNA technology, including basic techniques, enzymes and vectors used in animal biotechnology. In addition, learners have access to knowledge about the applicability of animal biotechnology in a number of research areas on genetic markers in cattle and poultry; Genetic diversity of some livestock breeds in Vietnam. Some other related fields such as embryo transfer technology, animal feed technology and application of biotechnology techniques in the diagnosis of livestock diseases are also presented in this course.	College of Agriculture
89	NN496	Animal Breeding Management	2	The course will provide students with the basic characteristics of livestock breeds, the process of forming cattle breeds. Students will be provided with basic knowledge of breed management methods in livestock establishments. In addition, the subject also provides students with knowledge about breeding selection methods, mating pairs and methods of cattle breeding. In particular, students are also provided with some basic knowledge on conservation techniques and preservation of livestock genetic resources.	College of Agriculture
90	NN499	Farm Animal Behaviour and Welfare	2	Equip students with general knowledge about the behavior of each species of domesticated animal, applied in practice. Humane issues as well as the relationship between care, behavior and disease in animals.	College of Agriculture

No	Code	Course name	Credit	Brief description of the course	Administration Unit name
91	NS502	Graduation Thesis	14	The course helps students know how to write and conduct a small study, besides, students can apply the specialized knowledge they have learned to explain and argue experimental results related to the research. Students will carry out a research project to solve problems related to animal husbandry, veterinary medicine, biotechnology, genetics, etc. In addition, the course also helps students to practice reality through internships at a livestock establishment, farm or research institutes, accumulate experience and be able to solve related problems. At the same time, helping students have the skills to write and present an independent research result.	College of Agriculture
92	NS426	Graduation Research in Animal Sciences	6	This course helps students get acquainted with scientific research under the guidance of lecturer. By completing the graduation essay, students master the subject knowledge and deepen their understanding of specialized knowledge, from which they can continue to study further if they expand their learning opportunities. In addition, it also helps students practice skills in analyzing, synthesizing and processing information, working independently, creatively and lifelong learning skills, skills in investigation, analysis and related problem solving. to theory and practice, skills in using information technology and other techniques in research, skills in writing and presenting scientific reports, honesty in research; diligence, patience, cooperation, respect for the opinions of others and respect for rules and principles in research.	College of Agriculture
93	NS346	Animal Farming Techniques	4	The course content covers advanced livestock and poultry farming techniques mainly in the production of meat and egg foods under different husbandry systems from smallholder farmers to intensive intensive farming. In addition, research on the situation of ruminant herding and livestock development orientations in the future, knowledge on how to choose breeds and current feeds used in ruminant raising. Methods of designing, building barns, techniques in care, nutrition and management in animal production. Understanding the factors affecting the productivity and quality of livestock products, the regulations on the production of clean livestock products, and the clean production processes that are being applied... for high economic efficiency for farmers.	College of Agriculture

No	Code	Course name	Credit	Brief description of the course	Administration Unit name
94	NS347	Biotechnology in Animal Science	3	The course will help learners understand the basic principles of biotechnology, some economic and scientific aspects in this field as well as the direction of animal biotechnology in the future. Learners are also equipped with knowledge about recombinant DNA technology, including basic techniques, enzymes and vectors used in animal biotechnology. In addition, learners have access to knowledge about the applicability of animal biotechnology in a number of research areas on genetic markers in cattle and poultry; Genetic diversity of some livestock breeds in Vietnam. Some other related fields such as embryo transfer technology, animal feed technology and application of biotechnology techniques in the diagnosis of livestock diseases are also presented in this course.	College of Agriculture
95	NN322	Food of Animals Hygiene	2	The course includes the following main contents: food microbiology; animal diseases transmitted to humans; meat biochemistry, meat modification; engineering design and construction of slaughterhouses; techniques for examining live animals and examining meat during and after slaughter, common pathologies when examining meat, the relationship between clinical lymph node disease and carcass disease; methods of preserving meat and livestock products; testing milk, eggs and mollusca.	College of Agriculture
96	NS348	Tropical Diseases in Animals	3	The course provides students with basic knowledge about tropical diseases, tropical diseases caused by viruses, bacteria and parasites. On that basis, the direction of prevention and treatment for the community is proposed.	College of Agriculture

Detailed course outlines are attached in the Appendix.

5. Teaching and learning methods

Teaching and learning methods are selected on the basis of meeting the learning outcomes of the course (CLOs), the objectives (POs), and the outcomes of the study programme (PLOs) in order to develop the ability to discover knowledge, cognitive ability and ability to create new knowledge of learners. Depending on the characteristics of each programme and the content of each course, lecturers use different teaching methods and teaching methods. The form of teaching organization can include forms such as: teaching directly in the classroom or in the community (at production and business establishments, livestock farms, ...) or teaching online. For teaching and learning methods, lecturers often use independently or combine a variety of teaching methods as follows: observation method, practical experience method, project-based learning method, case study method, problem-solving method, presentation method, group discussion method, independent self-study,...

6. Student assessment method

- The assessment method selected is suitable with the course content and the teaching and learning method while ensuring the achievement levels of PLOs. There are two forms of student assessment commonly used by lecturers: regular assessment (continuous assessment throughout the training process) and integrated assessment (e.g. mid-semester and end-of-semester assessments). Direct and indirect assessment methods through: multiple-choice, essay, short test, discussion, presentation, practice diary, practice test, individual assignments, assignments groups, Q&A, reports, graduation essays,...

- Course scores on a 10-point scale are rounded to one decimal place, then converted to letter grades (A, B, C, D) and scores on a 4-point scale as stated by the regulations on academic affairs of the University.

Can Tho, 25th December, 2020

ON BEHALF OF RECTOR DEAN OF COLLEGE	HEAD OF DEPARTMENT
Le Van Vang	Nguyen Thi Kim Khang