

Doctor of Philosophy Program in  
Interdisciplinary Veterinary Science  
International Program  
(Revised Curriculum 2012)

1. Degree Program

Doctor of Philosophy Program in Interdisciplinary Veterinary Science

2. Degree Offered

Doctor of Philosophy (Interdisciplinary Veterinary Science)

Ph.D. (Interdisciplinary Veterinary Science)

3. Objectives

3.1 Knowledge in principles and theories of veterinary science as a multidisciplinary sciences, and able to apply the principles and theories for problem-solving in the field of veterinary science.

3.2 Skills in problem analysis, development plan in veterinary science, as well as skills in conducting and analyzing research on the physical circumstances, society, economy, technology and environment of an individual locality.

3.3 Communication and exchanging the knowledge of veterinary science and related topics efficiently.

3.4 Conduct veterinary occupation professionally with ethics and morality.

4. Structure of Programs

4.1 Type 1.1

Compulsory courses (Audits)	3 Credits
Dissertation	48 Credits
Total (at least)	48 Credits

4.2 Type 2.1

Compulsory courses	4 Credits
Elective courses	8 Credits
Total (at least)	36 Credits
Total (at least)	48 Credits

#### 4.3 Type 2.2

Compulsory courses	9 Credits
Elective courses	15 Credits
Total (at least)	48 Credits
Total (at least)	72 Credits

### 5. List of Course

#### 5.1 Type 1.1

##### 5.1.1 Compulsory Courses

Students in the doctoral program of Interdisciplinary Veterinary Medicine, type 1.2 program, must enroll in the following courses or enroll with no credits according to a recommendation from advisory committee.

710 991 Seminar in Interdisciplinary Veterinary Articles I	1(1-0-2)
710 992 Seminar in Interdisciplinary Veterinary Articles II	21(1-0-2)
710 993 Seminar in Interdisciplinary Veterinary Articles III	1(1-0-2)
5.1.2 Dissertation	48 credit
710 997 Dissertation	48 credit

#### 5.2 Type 2.1

##### 5.2.1 Compulsory course

710 991 Seminar in Interdisciplinary Veterinary Articles I	1(1-0-2)
710 992 Seminar in Interdisciplinary Veterinary Articles II	1(1-0-2)
710 993 Seminar in Interdisciplinary Veterinary Articles III	1(1-0-2)
710 896 Writing and Presenting Scientific Papers	1(1-0-2)

##### 5.2.2 Elective courses (not less than)

Anatomy	
711 711 Veterinary Orthopedic Anatomy	3(2-3-5)
Physiology	
712 721 Animal Physiology	3(3-0-6)
Pharmacology and Toxicology	
713 721 Advanced Veterinary Pharmacology	2(2-0-4)
713 722 Advanced Veterinary Toxicology	2(2-0-4)
Pathobiology	
714 711 Advanced Veterinary Clinical Pathology	3(2-3-5)

714 721	Cellular Pathology Techniques in Veterinary Science	2(2-0-4)
714 722	Principles of Pathogenesis in Veterinary Sciences	2(2-0-4)
714 731	Laboratory Techniques in Veterinary Parasitology	2(1-3-3)
714 732	Advanced Veterinary Parasitology	2(2-0-4)
714 741	Diagnostic Technique in Veterinary Microbiology	3(1-6-4)
Surgery and Theriogenology		
715 700	Advanced Endocrinology of Animal Reproduction	3(3-0-3)
715 730	Advanced Reproduction in Cattle and Buffalo	3(3-0-6)
715 731	Advanced Reproduction in Swine	3(3-0-6)
715 732	Advanced Reproduction in Goat and Sheep	2(2-0-4)
715 733	Advanced Reproduction in Horse	3(3-0-6)
715 734	Advanced Reproduction in Companion Animals	3(3-0-6)
715 740	Advanced Techniques in Theriogenology	2(1-3-3)
715 741	Biotechnology in Animal Reproduction	3(3-0-6)
715 750	Dairy Cattle Herd Health Management	3(3-0-6)
715 751	Swine Herd Health Management	3(3-0-6)
715 752	Reproductive System Diseases in Livestock	3(3-0-6)
Public Health		
716 711	Tropical Zoonotic Disease	2(2-0-4)
716 712	Advanced Veterinary Epidemiology	3(3-0-6)
716 713	Risk Analysis for Veterinary Public Health	2(2-0-4)
716 715	Analysis of Residue in Foods of Animal Origin	2(1-3-3)
716 717	Microbial Control in Food of Animal Origin	3(2-3-5)
716 718	Toxicology of Food, Feed and Law in Veterinary Public Health	2(2-0-4)
716 719	Biostatistics for Veterinary Science	3(3-0-6)
716 721	Analysis of Microbial in the Food Chain	2(1-3-3)
716 761	Environmental and Livestock Waste Management	2(2-0-4)
716 764	Economics and Administration of Veterinary Public Health	3(3-0-6)
Medicine		
717 720	Advanced Veterinary Clinical Medicine	3(3-0-6)
717 721	Advanced Veterinary Medicine	3(3-0-6)
717 723	Swine Diseases and Farm Management	3(2-3-5)
717 724	Advanced Small Animal Medicine	3(2-3-5)

717 725	Advanced Equine Medicine		3(2-3-5)
717 726	Advanced Ruminant Medicine		3(2-3-5)
717 727	Aquatic Medicine and Farm Management		3(2-3-5)
717 728	Equine Stud Farm Health Management		3(2-3-5)
717 729	Equine Sports Medicine and Exercise Physiology		3(2-3-5)
5.3.3	Dissertation	36	credits
	710 999 Dissertation	36	credits
5.3 Type 2.2			
5.2.1	Compulsory course	9	credit
	710 701 Statistics for Veterinary Research		3(2-3-5)
	710 721 Experimental Design in Veterinary Medicine		2(2-0-4)
	710 991 Seminar in Interdisciplinary Veterinary Articles I		1(1-0-2)
	710 992 Seminar in Interdisciplinary Veterinary Articles II		1(1-0-2)
	710 993 Seminar in Interdisciplinary Veterinary Articles III		1(1-0-2)
	710 896 Writing and Presenting Scientific Papers 1(1-0-2)		
5.2.2	Elective courses (not less than)	15	credits
	Anatomy		
	711 711 Veterinary Orthopedic Anatomy		3(2-3-5)
	Physiology		
	712 721 Animal Physiology		3(3-0-6)
	Pharmacology and Toxicology		
	713 721 Advanced Veterinary Pharmacology		2(2-0-4)
	713 722 Advanced Veterinary Toxicology		2(2-0-4)
	Pathobiology		
	714 711 Advanced Veterinary Clinical Pathology		3(2-3-5)
	714 721 Cellular Pathology Techniques in Veterinary Science		2(2-0-4)
	714 722 Principles of Pathogenesis in Veterinary Sciences		2(2-0-4)
	714 731 Laboratory Techniques in Veterinary Parasitology		2(1-3-3)
	714 732 Advanced Veterinary Parasitology		2(2-0-4)
	714 741 Diagnostic Technique in Veterinary Microbiology		3(1-6-4)

#### Surgery and Theriogenology

715 700	Advanced Endocrinology of Animal Reproduction	3(3-0-3)
715 730	Advanced Reproduction in Cattle and Buffalo	3(3-0-6)
715 731	Advanced Reproduction in Swine	3(3-0-6)
715 732	Advanced Reproduction in Goat and Sheep	2(2-0-4)
715 733	Advanced Reproduction in Horse	3(3-0-6)
715 734	Advanced Reproduction in Companion Animals	3(3-0-6)
715 740	Advanced Techniques in Theriogenology	2(1-3- 3)
715 741	Biotechnology in Animal Reproduction	3(3-0-6)
715 750	Dairy Cattle Herd Health Management	3(3-0-6)
715 751	Swine Herd Health Management	3(3-0-6)
715 752	Reproductive System Diseases in Livestock	3(3-0-6)

#### Public Health

716 711	Tropical Zoonotic Disease	2(2-0-4)
716 712	Advanced Veterinary Epidemiology	3(3-0-6)
716 713	Risk Analysis for Veterinary Public Health	2(2-0-4)
716 715	Analysis of Residue in Foods of Animal Origin	2(1-3-3)
716 717	Microbial Control in Food of Animal Origin	3(2-3-5)
716 718	Toxicology of Food, Feed and Law in Veterinary Public Health	2(2-0-4)
716 719	Biostatistics for Veterinary Science	3(3-0-6)
716 721	Analysis of Microbial in the Food Chain	2(1-3-3)
716 761	Environmental and Livestock Waste Management	2(2-0-4)
716 764	Economics and Administration of Veterinary Public Health	3(3-0-6)

#### Medicine

717 720	Advanced Veterinary Clinical Medicine	3(3-0-6)
717 721	Advanced Veterinary Medicine	3(3-0-6)
717 723	Swine Diseases and Farm Management	3(2-3-5)
717 724	Advanced Small Animal Medicine	3(2-3-5)
717 725	Advanced Equine Medicine	3(2-3-5)
717 726	Advanced Ruminant Medicine	3(2-3-5)
717 727	Aquatic Medicineand Farm Management	3(2-3-5)
717 728	Equine Stud Farm Health Management	3(2-3-5)
717 729	Equine Sports Medicine and Exercise Physiology	3(2-3-5)

5.3.3 Dissertation	48	credits
710 998 Dissertation	48	credits

#### 6. Class schedule

Year 1	Semester 1	credit		
		Type 1.1	Type 2.1	Type 2.2
Code	Subject			
710 701	Statistics for Veterinary Research	-	-	3(2-3-5)
710 991	Seminar in Interdisciplinary Veterinary Articles I	1(1-0-2)	1(1-0-2)	1(1-0-2)
		(audit)		
71x xxx	Elective	-	8	6
710 997	Dissertation	9	-	-
	Number of credits this semester	9	9	10
	Cumulative number of credits	9	9	10

Year 1	Semester 2	credit		
		Type 1.1	Type 2.1	Type 2.2
Code	Subject			
710 721	Experimental design in Veterinary Medicine	-	-	2(2-0-4)
710 992	Seminar in Interdisciplinary Veterinary Articles II	1(1-0-2)	1(1-0-2)	1(1-0-2)
		(audit)		
71x xxx	Elective	-		9
710 896	Writing and Presenting Scientific Papers	-	1(1-0-2)	1(1-0-2)
710 997	Dissertation	9	-	-
710 998	Dissertation	-	7	-
	Number of credits this semester	9	9	13
	Cumulative number of credits	18	18	23

Year 2	Semester 1	credit		
		Type 1.1	Type 2.1	Type 2.2
Code	Subject			
710 993	Seminar in Interdisciplinary Veterinary Articles III	1(1-0-2)	1(1-0-2)	1(1-0-2)
		(audit)		
710 997	Dissertation	8	-	-
710 998	Dissertation	-	-	8
710 999	Dissertation	-	8	-

Number of credits this semester	9	9	9
Cumulative number of credits	27	27	32

Year 2	Semester 2	credit		
Code	Subject	Type 1.1	Type 2.1	Type 2.2
710 997	Dissertation	9	-	-
710 998	Dissertation	-	-	9
710 999	Dissertation	-	9	-
Number of credits this semester		9	9	9
Cumulative number of credits		36	36	41

Year 3	Semester 1	credit		
Code	Subject	Type 1.1	Type 2.1	Type 2.2
710 997	Dissertation	9	-	-
710 998	Dissertation	-	-	9
710 999	Dissertation	-	9	-
Number of credits this semester		9	9	9
Cumulative number of credits		45	45	50

Year 3	Semester 2	credit		
Code	Subject	Type 1.1	Type 2.1	Type 2.2
710 997	Dissertation	3	-	-
710 998	Dissertation	-	-	9
710 999	Dissertation	-	3	-
Number of credits this semester		3	3	9
Cumulative number of credits		48	48	59

Year 4	Semester 1	credit		
Code	Subject	Type 1.1	Type 2.1	Type 2.2
710 997	Dissertation	-	-	-
710 998	Dissertation	-	-	10
710 999	Dissertation	-	-	-

Number of credits this semester	-	-	10
Cumulative number of credits	-	-	69

Year 4 Code	Semester 2 Subject	credit		
		Type 1.1	Type 2.1	Type 2.2
710 997	Dissertation	-	-	-
710 998	Dissertation	-	-	3
710 999	Dissertation	-	-	-
Number of credits this semester		-	-	3
Cumulative number of credits		-	-	72