AYDIN ADNAN MENDERES UNIVERSITY
COURSE INFORMATION FORM

Course Title	Reproductive Ultrasonography in Farm Animals								
Course Code	VST624		Couse Level	Third Cycle (Doctorate Degree)					
ECTS Credit	4	Workload	100 *(Hours)*	Theory	2	Practice	0	Laboratory	0
Objectives of the Course	To give information about reproductive ultrasonography in farm animals basically								
Course Content	Reproductive ultrasonography in farm animals, The use of ultrasound ultrasonography of genital tract, determination of pregnancy by ultrasound								
Work Placement	N/A								
Planned Learning Activities and Teaching Methods	Explanation (Presentation), Demonstration								
Name of Lecturer(s)	Lec. Uğur UÇAN								

Assessment Methods and Criteria		
Method	Quantity	Percentage (%)
Midterm Examination	1	40
Final Examination	1	60

Recommended or Required Reading	
1	Ball P.J.H., Peters A.R. (2004) Reproduction in Cattle. Blackwell Publishing, Oxford
2	Bearden H.J., Fuquay J.W., Willard S.T. (2004) Applied Animal Reproduction. Pearson Prentice Hall, New Jersey
3	Feldman E. C., Nelson R. W. (2004) Canine and Feline Endocrinology and Reproduction. Saunders, St. Louis
4	Hafez E.S E., Hafez B. (2000) Reproduction in Farm Animals. Lippincott Williams & Wilkins, Philadelphia
5	Mitchell J.R., Doak G. A. (2004) The Artificial Insemination and Embryo Transfer of Dairy and Beef Cattle (including information pertaining to goats, sheep, horses swine, and other animals). Pearson Prentice Hall, New Jersey

Week	Weekly Detailed Course Contents	
1	Theoretical	Basic information about ultrasound technology
2	Theoretical	Description of ultrasound technology
3	Theoretical	The use of ultrasound in domestic animals and choose of ultrasound probe according to species
4	Theoretical	Ultrasonography of ovaries
5	Theoretical	Ultrasonography of ovaries
6	Theoretical	Ultrasonography of uterine
7	Theoretical	Ultrasonography of uterine
8	Intermediate Exam	Midterm exam
9	Theoretical	Benefits of ultrasound to detect proper insemination time and oestrus
10	Theoretical	Benefits of ultrasound to detect proper insemination time and oestrus
11	Theoretical	Detection of pregnancy by ultrasound
12	Theoretical	Detection of pregnancy by ultrasound
13	Theoretical	Diagnosis of embryonic lost by ultrasound
14	Theoretical	Diagnosis of reproductive problems by ultrasound
15	Theoretical	Diagnosis of reproductive problems by ultrasound
16	Final Exam	Final term exam

Workload Calculation				
Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	0	2	28
Assignment	2	0	10	20
Reading	14	0	1	14
Midterm Examination	1	14	1	15

Final Examination	1	21	2	23
			Total Workload (Hours)	100
			[Total Workload (Hours) / 25*] = **ECTS**	4
**25 hour workload is accepted as 1 ECTS*				

Learning Outcomes	
1	To get information about ultrasound technology
2	Ultrasonograpy of genital tract
3	Ultrasonography of uterine and ovaries
4	Detection of pregnancy by ultrasound
5	Ultrasound examination to detect oestrus symptoms

Programme Outcomes *(Reproduction and Artificial Insemination (Veterinary Medicine) Doctorate)*	
1	To get knowledge about reproduction and artificial insemination with theoretical lessons and practise, also to get knowledge about reproductive systems of animals, reproductive organs and functions of these organs
2	Hormonal mechanisms of oogenesis and spermatogenesis, movements of oocyte and sperm cells in the genital tracts, factors affecting spermatogenesis and oogenesis, blood-testis barrier, functions of epidydymidis, capacitation and acrosome reaction of sperm cells, fertilization (fusion, activation, penetration)
3	To get knowledge about reproductive anatomy of male and female animals, reproductive endocrinology, , embryonic development of gonads, prenatal development, development-regression and luteolysis of corpus luteum, histological, anatomical and physiological structure of uterus, fertilization, early embryonic development, luteal mechanism, implantation, involution of uterus post partum, sperm migration in cervical mucus, oogenesis, acrosomal enzymes, fusion, activation, penetration, syngamy and polispermy and reproductive health
4	To get ample information about the structure and functions of hormones related to reproduction and diagnosis of oestrus, proper seeding time and gain experience in the selection of the technique in domestic animals
5	To get experience to join reproductive scientific research, to follow scientific advances own field. To transfer all these experiences and knowledge to students and society
6	To gain ability to reach scientific references, to plan an experiment, study this experiment, evaluation of experimental results and compare this result similar experimental result
7	Systematic of special examination, morphological and functional examination of genital organs, microbiological examination of sperm cells, ultra structure characteristics of sperm cells, factors affecting sperm quality, spermatological examination, Short term storage and cryopreservation of sperm cells, cryopreservation methods, factors affecting the success of thawing sperm cells, manipulations applied before or after thawing
8	To get knowledge about reproductive biotechnology (artificial insemination, in-vitro fertilisation, freezing of sperm and embryo, embryo transfer, laparoscopic insemination). To Contribute and advance to science
9	To get knowledge about infertility, diagnosis of infertility, treatment of infertility in domestic animals especially commercial farms
10	To make a research about reproduction and artificial insemination, this can contribute and advance to science
11	To get experience about to write a national or international article about reproduction and artificial insemination, this can contribute and advance to science

Contribution of Learning Outcomes to Programme Outcomes *1:Very Low, 2:Low, 3:Medium, 4:High, 5:Very High*

	L1	L2	L3	L4
P1	5	5	5	5
P8	4	3		
P9				4