



AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Reproductive Ultrasonography in the Companion Animals							
Course Code		VDJ646		Course Level		Third Cycle (Doctorate Degree)			
ECTS Credit	4	Workload	100 (<i>Hours</i>)	Theory	1	Practice	0	Laboratory	0
Objectives of the Course		Informed about physics of ultrasound, working principle, pregnancy diagnosis with ultrasonography in queens and bitches, physiology and pathology of ovary and uterus							
Course Content		Usage and application areas of ultrasonography in pet animals, examination of genital organs							
Work Placement		N/A							
Planned Learning Activities and Teaching Methods				Explanation (Presentation), Discussion, Individual Study, Problem Solving					
Name of Lecturer(s)									

Assessment Methods and Criteria

Method	Quantity	Percentage (%)
Midterm Examination	1	20
Final Examination	1	60
Assignment	4	20

Recommended or Required Reading

1	Alaçam, E. (2002) Doğum ve İnfertilite, Medisan Yayınları, Ankara.
2	Johnston, S.D., Kustritz, M.V.R., Olson, P.N.S. (2001) Canine and Feline Theriogenology, W.B. Saunders Comp., Philadelphia.
3	Noakes, D.E., Parkinson, T.J., England, G.C.W. (2001) Artur's Veterinary Reproduction and Obstetrics, W.B. Saunders Comp., Philadelphia.
4	Hafez, E.S.E. (1993) Reproduction in Farm Animals, Lea & Febiger, Philadelphia.
5	Dinç, D.A. (2008) Ultrason fiziği ve ineklerde reproduktif ultrasonografi, Pozitif Matbaacılık Ltd. Şti, Ankara.
6	J. Kevin KEALY, H. Mc ALLISTER (2005) Diagnostic Radiology and Ultrasonography of the Dog and Cat

Week	Weekly Detailed Course Contents	
1	Theoretical	Introduction ultrasonography: physics of ultrasound, workink principles, different techniques, characteristic equipments
2	Theoretical	Introduction ultrasonography: types of probe and traits, auxiliary equipments, evaluation of imaging and terminology
3	Theoretical	Artifacts (bathos, edge shadow, amplification, multiplication, refracting)
4	Theoretical	Artifacts (mirror view, walloping star, beam widths, speed artifact, removal of artifacts)
5	Theoretical	Ultrasound technique in queens and bitches
6	Theoretical	Ovary structure in queens and bitches
7	Theoretical	Ovary structure in queens and bitches
8	Theoretical	Uterus structure in queens and bitches
9	Intermediate Exam	Ara sınav
10	Theoretical	Pregnancy on 20-30, 30-40, 40-50, 50-65 days in queens and bitches
11	Theoretical	Pregnancy on 20-30, 30-40, 40-50, 50-65 days in queens and bitches
12	Theoretical	Pregnancy pathology in queens and bitches
13	Theoretical	Ovary and uterus pathology
14	Theoretical	Pyometra, endometritis
15	Theoretical	General repetition
16	Final Exam	Final exam

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	0	1	14
Assignment	4	0	5	20
Reading	14	0	3	42
Midterm Examination	1	10	2	12



Final Examination	1	10	2	12
Total Workload (Hours)				100
[Total Workload (Hours) / 25*] = ECTS				4
*25 hour workload is accepted as 1 ECTS				

Learning Outcomes

1	To learn general knowledge about ultrasound using
2	To inform the pet animals about the ultrasonographic examination of the genital organs
3	To diagnose pregnancy periods in pet animals
4	Ability to diagnosis of reproductive pathologies in pet animals
5	To make diagnose and treatment with ultrasound

Programme Outcomes (Obstetrics and Gynecology (Veterinary Medicine) Doctorate)

1	Acquiring basic principles and establishing crucial links in the theory and practical aspects in the field of Obstetrics and Gynecology. Getting grip on the animal's reproductive systems, organs, structures and their functional features.
2	Reproductive anatomy of the female animals, embryonic development of the gonads, maturation, cellular and hormonal mechanisms of oogenesis and mechanisms of ovulation and transport of ovum. Sexual cycles of the female animals and their species related differences.
3	Being informed about the fertilisation, early embryonic development, implantation and pregnancy. Fetal development, intrauterine life and detection of risk pregnancies. Learning to deal with the the issues of abortion. Knowing the hormonal and obstetrical aspects of normal parturition. Recognizing dystocia cases and being aware of predisposing and effective etiology of dystocia. Learning the initial approach to dystocia cases and learning to choose the appropriate intervention. Learning to apply the obstetrical methods.
4	Being informed about the puerperium and postpartum periods, learning the physiology and diagnosis and treatment of pathological conditions (metabolic, infectious and traumatic) during the transition period. Learn the ability to perform intrauterine applications. Acquiring right approaches on handling mother and the offspring in the puerperal period. Learning about the care and diseases of the newborn.
5	Gaining experience about the fertility parameters in the farm animals. Being informed about the diagnosis and therapy of infertility cases and management of them in the herd scale. Learning necessary precautions and management practices for establishing the reproductivity as a branch of herd health. Being informed about the effects of nutrition and management on reproduction.
6	Acquiring the knowledge of the hormones and their clinical applications, affecting reproduction directly or indirectly. Learning methods of sexual synchronisation and appropriate timing of insemination or mating. Being able to administer medical and operative contraceptive methods to female animals. Being informed about assisted reproductive techniques.
7	Administering specialized systematic examination of female animals, performing morphologic and functional examination of the female genitalia and mammary glands thus learning the diagnosis of hormonal, infectious, traumatic and tumoral diseases. Gaining skills in surgical therapy or/and elective gynaecological-oncological, udder and teat operations of the related diseases.
8	Having knowledge of the etiology, diagnosis and therapy of mastitis. Learning necessary precautions and management practices to control mastitis incidence in farm animals particularly in dairy enterprises. Having knowledge of etiology, diagnosis and therapy of circulatory disorders and infectious and non-infectious skin diseases.
9	Being informed about frequently used anesthetic methods and anesthetic agents, analgesics, antibiotics, liquid therapy and other medical agents. Gaining skills in solving problems due to reproductive emergency cases, being able to make definitive diagnosis by clinical symptomatic data and administer appropriate therapy in various animal species.
10	Learning methods and principles of scientific research, learn and acquire scientific ethics concept. Being aware of current developments by surveying and analyzing scientific literature. Gaining skills in interpreting classical knowledge of the scientific area to the students and the community.
11	Being able to plan, conduct and accomplish an original scientific study that can deliver novelty, develop a new scientific method or adopt a known method to a new area and present the results as a scientific article, in the area of obstetrics and gynaecology.

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

	L1	L2	L3	L4	L5
P1	5	5	5	5	4
P2		3	3	3	
P3	4	3	3	3	4
P7	3			3	
P9	4		4		5

