



AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Estrus Synchronisation in Cows							
Course Code		VST630		Coure Level		Third Cycle (Doctorate Degree)			
ECTS Credit	4	Workload	100 (<i>Hours</i>)	Theory	2	Practice	0	Laboratory	0
Objectives of the Course		To give basic information about oestrus in cows, induction of oestrus and ovulation by hormones, oestrus synchronisation methods in cows							
Course Content		Basic information about oestrus in cows, administration of reproductive hormones, inductions of oestrus and ovulation, oestrus synchronisation methods in cows							
Work Placement		N/A							
Planned Learning Activities and Teaching Methods				Explanation (Presentation), Demonstration, Discussion					
Name of Lecturer(s)									

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	Hafez E.S.E., Hafez B. (2000) Reproduction in Farm Animals. Lippincott Williams & Wilkins, Philadelphia
4	Pineda M. H., Dooley M. P. (2003) McDonald's Veterinary Endocrinology and Reproduction, Iowa State Press, New York
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	Oestrus in cows
2	Theoretical	Importance of oestrus detection at artificial insemination
3	Theoretical	Sexual cycle in cows
4	Theoretical	Detection of oestrus in cows
5	Theoretical	Hormonal mechanism of sexual cycle in cows
6	Theoretical	Importance of hormones in sexual cycle
7	Theoretical	Clinical administration of reproductive hormones in cows
8	Intermediate Exam	Midterm exam
9	Theoretical	Benefits of oestrus synchronization in cows
10	Theoretical	Benefits of oestrus synchronization in cows
11	Theoretical	Oestrus synchronization methods in cows
12	Theoretical	Oestrus synchronization methods in cows
13	Theoretical	The most proper insemination time in cows
14	Theoretical	Applications to increase pregnancy rate after insemination
15	Theoretical	Applications increasing pregnancy rate after insemination
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	15	1	16



Final Examination	1	20	2	22
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 physiology of reproduction and reproductive hormones in cows
2	Administration of reproductive hormones
3	Oestrus synchronisation methods in cows
4	Oestrus synchronisation benefits in cows
5	Hormonal synchronization methods

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 epididymidis, 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 polyspermy 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
P1	4		
P2	5		
P3	4		
P4		5	5
P8			4
P10			3

