CONTROL OF OVULATION AND EMBRYO TRANSFER

1	Course Title:	CONTROL OF OVULATION AND EMBRYO TRANSFER
2	Course Code:	VDT 6007
3	Type of Course:	Compulsory
4	Level of Course:	Third Cycle
5	Year of Study:	1
6	Semester:	1
7	ECTS Credits Allocated:	5.00
8	Theoretical (hour/week):	2.00
9	Practice (hour/week):	2.00
10	Laboratory (hour/week):	0
11	Prerequisites:	-
12	Language:	Turkish
13	Mode of Delivery:	Face to face
14	Course Coordinator:	Prof. Dr. İBRAHİM DOĞAN
15	Course Lecturers:	-
16	Contact information of the Course Coordinator:	idogan@uludag.edu.tr, 0224 2941342 Uludağ Ünv. Veteriner Fak. Dölerme ve Suni Toh. ABD. 16059 Görükle/BURSA
17	Website:	http://saglikbilimleri.uludag.edu.tr/
18	Objective of the Course:	To give basic information in the field of control of ovulation and embryo transfer in farm animals to the students theoretically and practically.
19	Contribution of the Course to Professional Development:	
20	Learning Outcomes:	

	1	Artificial control of oestrus and ovulation in farm animals
	2	Control by progesterone and progestagens
	3	Control by Prostaglandins and their analogues
	4	Superovulation techniques and embryo transfer
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21 Course Content:

Course Content:

Week	Theoretical	Practice
1	Artificial control of oestrus and ovulation in farm animals (Advantages of oestrus control-Uptake of oestrus control measures-Evaluating oestrus control measures-Factors influencing oestrus synchrony in farm animals-Hormones used for induction estrus and ovulation)	Artificial control of oestrus and ovulation in farm animals

2	Control by progesterone and progestagens (Injectable progesterone-Oral progestins-Intravaginal sponge pessaries-PRID-CIDR-Implants)	Control by progesterone and progestagens
3	Control by prostaglandins and their analogues (Advantage of prostaglandin analogues-Dose and route of prostaglandin administration)	Control by Prostaglandins and their analogues
4	Combined treatments in oestrus control (Progestagen in combination with prostaglandin-Progestagen GnRH prostaglandin combination-GnRH prostaglandin combinations-Oestradiol progestagen combinations)	Artificial insemination
5	Breeding by fixed-time artificial insemination (Nutritional effects-Adjustments in AI routines-Use of GnRH around the time of artificial insemination)	Superovulation techniques
6	Embryo transfer and associated techniques in farm animals (Historical background to ET technology-Factors limiting ET effectiveness-Current methods of collection and transfer of embryos in farm animals)	Superovulation techniques
7	Superovulation-timing of superovulation in the oestrous cycle-variations of the FSH system-oocytes after superovulation Repeated superovulation treatments-Predicting embryo	Superovulation techniques
8	Factors affecting superovulatory response (Surgical and non-surgical procedures-Fertility after superovulation-Evaluating breed- Nutritional and seasonal effects-body condition effects)	Embryo Transfer
9	Breeding the donor animals	Embryo Transfer
11	Preparing embryo for transfer (Media employed-Handling and-Protecting the embryo-Number of embryos transferred-Surgical and non-surgical transfers-Enhancing pregnancy rates in recipients)	Embryo Transfer
12	Storage of embryo	Embryo Transfer
13	Donor-recipient synchrony (Importance of synchronization-Hormones and embryo-recipient synchrony)	Embryo Transfer

Activites	Number	Duration (hour)	Total Work Load (hour)
Theoretical	14	1.00	14.00
Practicals/Labs	14	2.00	28.00
Self study and preperation	14	3.00	42.00
Homeworks	6	8.00	48.00
Projects	0	0.00	0.00
Field Studies	0	0.00	0.00
Midterm exams	1	6.00	6.00
Others	0	0.00	0.00
Final Exams	1	8.00	8.00
Total Work Load			146.00
Total work load/ 30 hr			4.87
ECTS Credit of the Course			5.00

14	Selection and management of recipients (Factors affecting recipient selection-Recipient hormone levels-Using recipients on second and third occasions-Minimizing stress in recipients)	Embryo Transfer

22	Textbooks, References and/or Other Materials:	1-Gordon I. (1996): Controlled Reproduction in Cattle & Buffaloes, CABI Publishing, New York,USA. 2-Wenzel J.G.W. (1997): Estrous cycle synchronization. In: Youngquist R.S. (ed): Current Therapy in Large Animal Theriogenology. W.B. Saunders Company, Philadelphia, USA. 290-294. 3-Morel D.M.C.G. (1999): Equine Artificial Insemination, CABI Publishing, New York, USA. 4- Gordon I. (1999): Controlled Reproduction in Sheep & Goats, CABI Publishing, New York,USA 5- Jainudeen M.R., Wahid H., Hafez E.S.E. (2000): Ovulation induction, embryo production and transfer. In: Hafez E.S.E., Hafez B. (eds): Reproduction in Farm Animals. Lippincott Williams & Wilkins, New York, USA. 405-430. 6- Blanchard T.L., Varner D.D., Schumacher J., Love C.C., Brinsko S.P., Rigby S.L. (2003): Manual of Equine Reproduction, 2nd Ed., Mosby, St. Louis, USA. 7-Ball P.J.H., Peters A.R. (2004) Reproduction in Cattle, 3rd Ed., Blackwell Publishing, Oxford, UK. 8- Bearden H.J., Fuquay J.W., Willard S.T. (2004): Applied Animal Reproduction,6th Ed., Pearson Prentice Hall, New Jersey, USA. 9- Ley W.B. (2004): Broodmare Reproduction for the Equine Practitiner, 1st Ed., Teton NewMedia, Wyoming, USA.

23 Assesment

TERM LEARNING ACTIVITIES	**NUMBER**	**WEIGHT**
Midterm Exam	0	0.00
Quiz	0	0.00
Home work-project	0	0.00
Final Exam	1	100.00
Total	1	100.00
Contribution of Term (Year) Learning Activities to Success Grade		0.00
Contribution of Final Exam to Success Grade		100.00
Total		100.00
Measurement and Evaluation Techniques Used in the Course		

24 ECTS / WORK LOAD TABLE

25 CONTRIBUTION OF LEARNING OUTCOMES TO PROGRAMME QUALIFICATIONS

	PQ1	**PQ2**	**PQ3**	**PQ4**	**PQ5**	**PQ6**	**PQ7**	**PQ8**	**PQ9**	**PQ10**	**PQ11**	**PQ12**	**PQ13**	**PQ14**	**PQ15**	**PQ16**
ÖK1	5	5	5	5	4	2	1	3	5	4	5	2	0	0	0	0
ÖK2	5	5	5	5	2	5	1	2	3	5	4	2	0	0	0	0
ÖK3	5	5	5	5	2	5	1	2	3	5	4	2	0	0	0	0

ÖK4	5	5	5	5	2	5	1	3	5	5	5	3	0	0	0	0

LO: Learning Objectives PQ: Program Qualifications					
Contribution Level:	**1 very low**	**2 low**	**3 Medium**	**4 High**	**5 Very High**