AYDIN ADNAN MENDERES UNIVERSITY
COURSE INFORMATION FORM

Course Title	Capasitation and Fertilization								
Course Code	VST549		Couse Level	Second Cycle (Master's Degree)					
ECTS Credit	5	Workload	125 *(Hours)*	Theory	2	Practice	2	Laboratory	0
Objectives of the Course	Capacitation and stages of semen in domestic animals, importance of capacitation and differences between animals, fertilization and stages are evaluated.								
Course Content	Capacitation and stages of semen in domestic animals, acrosome reaction, the importance of capacitation in fertilisation and differences between animals, fertilization and the topics such as covers.								
Work Placement	N/A								
Planned Learning Activities and Teaching Methods	Explanation (Presentation), Demonstration, Discussion, Individual Study								
Name of Lecturer(s)	Prof. Ahmet CEYLAN								

Assessment Methods and Criteria		
Method	Quantity	Percentage (%)
Final Examination	1	100

Recommended or Required Reading	
1	Ball P.J.H., Peters A.R. (2004) Reproduction in Cattle. Blackwell Publishing, Oxford
2	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	Pineda M. H., Dooley M. P. (2003) McDonald's Veterinary Endocrinology and Reproduction, Iowa State Press, New York
6	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.
7	Evans G., Maxwell WMC. (1987) Salamon's Artificial Insemination of Sheep and Goats. Butterworths, Sydney.

Week	Weekly Detailed Course Contents	
1	Theoretical	Morphology of sperm
	Practice	Microscope exercise
2	Theoretical	Mechanism of capasitation
	Practice	Induction of capacitation via capacitating agents
3	Theoretical	Capasitation
	Practice	Detection of hyperactivite
4	Theoretical	Acrosome reaction
	Practice	Techniques for detection of acrosome reaction
5	Theoretical	Morphology of oocyte
	Practice	Microscope exercise
6	Theoretical	Maturation of oocyte
	Practice	Preparation of mediums
7	Theoretical	ovulation
	Practice	Ultrasound exercise
8	Intermediate Exam	Midterm exam
9	Theoretical	Description of fertilization
	Practice	Microscope exercise
10	Theoretical	In vitro fertilization
	Practice	Laboratory practise
11	Theoretical	In vitro fertilization
	Practice	Laboratory practise
12	Theoretical	Factors effecting capacitation and acrosome reaction
	Practice	Laboratory practise
13	Theoretical	Induction of in vitro capacitation and acrosome reaction

13	Practice	Staining procedures
14	Theoretical	Determination of in vitro capacitation and acrosome reaction
	Practice	Staining procedures
15	Theoretical	Premature acrosome reaction
	Practice	The application of painting techniques
16	Final Exam	Final term exam

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	0	2	28
Lecture - Practice	14	0	2	28
Term Project	3	0	6	18
Individual Work	14	0	1	14
Midterm Examination	1	15	1	16
Final Examination	1	20	1	21
			Total Workload (Hours)	125
			[Total Workload (Hours) / 25*] = **ECTS**	5

**25 hour workload is accepted as 1 ECTS*

Learning Outcomes

1	1. Get information about capasitation
2	Acrosom reaction
3	Having information about fertilization
4	Having information about in vitro capacitation and fertilization
5	Stages of fertilization

Programme Outcomes *(Reproduction and Artificial Insemination (Veterinary Medicine) Master)*

1	To get knowledge about Reproduction and Artificial Insemination with theoretical lessons and practise
2	To get knowledge about reproductive systems of animals, reproductive organs and functions of these organs
3	To get knowledge about reproductive physiology of male and female animals, reproductive endocrinology, synchronisations and reproductive health
4	To get experience about diagnosis of oestrus, proper insemination time and method
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	To get experience about cryopreservation and short term storage of sperm, examination of sperm
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

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

	L1	L2	L3	L4
P1	4	4	5	5
P3	5	5	5	5
P5	4	5	4	4
P6	3	3	3	3
P7	4	4	4	4
P8	4	5	5	5
P9	4	5	4	4