



## AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Spermatology							
Course Code		VST650		Couese 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 information about spermatogenesis, stages of spermatogenesis, hormonal mechanism of spermatogenesis							
Course Content		Spermatogenesis, stages of spermatogenesis, hormonal mechanism of spermatogenesis, transport of sperm in genital tract							
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	Bearden H.J., Fuquay J.W., Willard S.T. (2004) Applied Animal Reproduction. Pearson Prentice Hall, New Jersey
2	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
3	Evans G., Maxwell WMC. (1987) Salamon's Artificial Insemination of Sheep and Goats. Butterworths, Sydney

Week	Weekly Detailed Course Contents	
1	Theoretical	Spermatogenesis
	Practice	Examination of sperm
2	Theoretical	Hormonal mechanism of spermatogenesis
	Practice	Macroscopic examination of sperm
3	Theoretical	Histological structure of testis
	Practice	Examination of sperm motility
4	Theoretical	Spermatocitogenesis
	Practice	Determination of sperm concentration
5	Theoretical	Spermiogenesis
	Practice	Examination of sperm morphology
6	Theoretical	spermiation
	Practice	Sperm staining procedures
7	Theoretical	Sperm transport
	Practice	Examination of Live-dead sperm
8	Practice	Agglutination and examination of foreign cells
	Intermediate Exam	Midterm exam
9	Theoretical	Blood-testis barrier
	Practice	Physical-chemical examination of sperm
10	Theoretical	Sex chromosomes
	Practice	Biochemical examination of sperm
11	Theoretical	Secretion of testicular fluid
	Practice	Microbiological examination of sperm
12	Theoretical	Epididymal transport, maturation of sperm and storage
	Practice	Spermatological nomenclature
13	Theoretical	Seminal plasma
	Practice	Sperm parameters of different species
14	Theoretical	Male accessory glands



14	Practice	Examination of frozen thawed sperm
15	Theoretical	Sperm parameters
	Practice	Examination of frozen thawed sperm
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
Reading	14	0	1	14
Midterm Examination	1	9	1	10
Final Examination	1	18	2	20
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 spermatogenesis
2	Hormonal mechanism of spermatogenesis
3	Transport of sperm
4	Maturation of sperm , epididymal transport and storage of sperm
5	Sperm parameters

**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	L4	L5
P2	4	5	5	4	3
P3	5	4	5	5	3
P7	3	3	3	3	3
P8	3	3	3	3	3

