

UNIVERSITY OF ZAGREB  
 FACULTY OF VETERINARY MEDICINE  
 Heinzlova 55  
 Tel. +385 1 23 90 320  
 Division: Clinicals  
 Unit: Obstetrics and Reproduction  
 E-mail of the course leader: jgrizelj@vef.hr  
 Register no. of the organisational unit:

Zagreb, 08/09/2023

170429		REPUBLIKA HRVATSKA	
Veterinarski fakultet u Zagrebu			
Primljeno:	08.09.2023		
Klasifikacijska oznaka	Org. jed.		
605-03/23-04/28	251-61-32;		
Uredžbeni broj	Prilozi	Vrijednost	
251-61-22/323-23-15	0	-	

## COURSE SYLLABUS

Course name: Obstetrics and Reproduction 2

Academic year 2023/2024

Course leader: Full Prof. Juraj Grizelj  
Deputy course leader: Assoc. Prof. Branimira Špoljarić

Teachers: Full Prof Juraj Grizelj, Full Prof. Martina Lojkić, Full Prof Nikica Prvanović Babić, Full Prof. Marko Samardžija, Full Prof. Silvijo Vince, Assoc. Prof. Ivan Folnožić, Assoc. Prof. Iva Getz, Assoc. Prof. Branimira Špoljarić, postdoctoral assistant Ivan Butković, Juraj Šavorić, DMV

First day of classes: 02/10/2023

Last day of classes: 25/01/2024

*J. S. K.*

Activities - Obstetrics and Reproduction II (1/7)							
Start Dat	Start Tim	End Time	Subject	Group	Instructor	Room	Length
02/10/2023	12:00	13:30	p01 Pathological labour and delivery 1	9E-1, 9E-2	Folnožic I.	V_porodništvo	1:30
03/10/2023	10:00	11:30	p02 Pathological labour and delivery 2	9E-1, 9E-2	Vince S.	V_porodništvo	1:30
11/10/2023	10:00	11:30	p03 Infertility in the mare 1	9E-1, 9E-2	Prvanovic Babic N.	P_kemija	1:30
17/10/2023	10:15	11:45	p04 Infertility in the mare 2	9E-1, 9E-2	Getz I.	P_fizika	1:30
23/10/2023	7:30	9:00	p05 Infertility in cattle 1	9E-1, 9E-2	Grizelj J.	P_kemija	1:30
25/10/2023	8:15	9:45	p06 Infertility in cattle 2	9E-1, 9E-2	Folnožic I.	P_klinike	1:30
30/10/2023	8:15	9:45	p07 Infertility in cattle 3	9E-1, 9E-2	Vince S.	P_kemija	1:30
31/10/2023	8:15	9:45	v01 Dystocia: the approach to an obstetric case	9E-1	Nastavnici na predmetu	V_porodništvo	1:30

J. Grizelj

Activities - Obstetrics and Reproduction II (2/7)							
Start Dat	Start Tim	End Time	Subject	Group	Instructor	Room	Length
07/11/2023	13:15	14:45	v01 Dystocia: the approach to an obstetric case	9E-2	Nastavnici na predmetu	V_porodništvo	1:30
07/11/2023	15:00	16:30	p08 Infertility in small ruminants	9E-1, 9E-2	Grizelj J.	P_klinike	1:30
15/11/2023	13:30	15:00	v02 Dystocia: aetiology, causes and treatment	9E-1	Nastavnici na predmetu	V_porodništvo	1:30
16/11/2023	12:45	14:15	v02 Dystocia: aetiology, causes and treatment	9E-2	Nastavnici na predmetu	V_porodništvo	1:30
21/11/2023	8:15	9:45	v03 Fetotomy and caesarean section	9E-1	Nastavnici na predmetu	V_porodništvo	1:30
21/11/2023	10:00	11:30	v03 Fetotomy and caesarean section	9E-2	Nastavnici na predmetu	V_porodništvo	1:30
22/11/2023	14:15	15:45	v04 Approach to Infertility - case study 1	9E-2	Nastavnici na predmetu	V_porodništvo	1:30
23/11/2023	10:00	11:30	p09 Infertility in swine	9E-1, 9E-2	Grizelj J.	P_klinike	1:30

2023

Activities - Obstetrics and Reproduction II (3/7)							
Start Dat	Start Tim	End Time	Subject	Group	Instructor	Room	Length
24/11/2023	9:15	10:45	v04 Approach to Infertility - case study 1	9E-1	Nastavnici na predmetu	V_porodništvo	1:30
27/11/2023	8:15	9:45	p10 Infertility in cats and dogs	9E-1, 9E-2	Folnožic I.	P_kemija	1:30
27/11/2023	10:15	11:45	v04 Approach to Infertility - case study 2	9E-1	Nastavnici na predmetu	V_porodništvo	1:30
28/11/2023	12:15	13:45	v04 Approach to Infertility - case study 2	9E-2	Nastavnici na predmetu	V_porodništvo	1:30
29/11/2023	12:00	13:30	p11 Mammary gland tumours 1	9E-1, 9E-2	Špoljaric B.	P_fiziologija	1:30
29/11/2023	14:15	15:45	v06 Gynaecologic surgical operations 1	9E-2	Nastavnici na predmetu	V_porodništvo	1:30
01/12/2023	8:15	9:45	v06 Gynaecologic surgical operations 1	9E-1	Nastavnici na predmetu	V_porodništvo	1:30
01/12/2023	10:00	11:30	p12 Mammary gland tumours 2	9E-1, 9E-2	Špoljaric B.	P_fiziologija	1:30

*J. G. G. G.*

Activities - Obstetrics and Reproduction II (4/7)								
Start Dat	Start Tim	End Time	Subject	Group	Instructor	Room	Length	
04/12/2023	12:00	12:45	p13 Canine pregnancy termination	9E-1, 9E-2	Špoljaric B.	P_fiziologija	0:45	
04/12/2023	12:45	13:30	p14 Neonatal disorders 1	9E-1, 9E-2	Prvanovic Babic N.	P_fiziologija	0:45	
05/12/2023	13:30	15:00	v07 Parturition related disorders	9E-1	Nastavnici na predmetu	V_porodništvo	1:30	
06/12/2023	11:15	12:45	v07 Parturition related disorders	9E-2	Nastavnici na predmetu	V_porodništvo	1:30	
12/12/2023	8:30	10:00	p15 Neonatal disorders 2	9E-1, 9E-2	Prvanovic Babic N.	P_klinike	1:30	
13/12/2023	14:00	15:30	p16 Assisted reproduction	9E-1, 9E-2	Lojkic M.	P_klinike	1:30	
14/12/2023	9:15	10:45	v08 Infertility in male animals	9E-1	Nastavnici na predmetu	V_porodništvo	1:30	
15/12/2023	9:15	10:45	v08 Infertility in male animals	9E-2	Nastavnici na predmetu	V_porodništvo	1:30	
18/12/2023	9:45	12:00	v09 Neonatology and emergency in neonatology	9E-1	Nastavnici na predmetu	V_porodništvo	2:15	

J. G. G. G.

Activities - Obstetrics and Reproduction II (5/7)								
Start Dat	Start Tim	End Time	Subject	Group	Instructor	Room	Length	
19/12/2023	9:45	12:00	v09 Neonatology and emergency in neonatology	9E-2	Nastavnici na predmetu	V_porodništvo	2:15	
20/12/2023	9:00	12:00	v10 Caslic's suture-case study	9E-1	Nastavnici na predmetu	V_porodništvo	3:00	
21/12/2023	9:00	12:00	v10 Caslic's suture-case study	9E-2	Nastavnici na predmetu	V_porodništvo	3:00	
08/01/2024	10:00	11:30	v11 The treatment of infertility in cattle	9E-1	Nastavnici na predmetu	V_porodništvo	1:30	
08/01/2024	12:00	13:30	v11 The treatment of infertility in cattle	9E-2	Nastavnici na predmetu	V_porodništvo	1:30	
10/01/2024	10:00	11:30	v12 gynaecologic surgical operations 2	9E-1	Nastavnici na predmetu	V_porodništvo	1:30	
10/01/2024	12:00	13:30	v12 gynaecologic surgical operations 2	9E-2	Nastavnici na predmetu	V_porodništvo	1:30	
12/01/2024	9:55	11:25	v12 gynaecologic surgical operations 3	9E-1	Nastavnici na predmetu	V_porodništvo	1:30	
12/01/2024	12:00	13:30	v12 gynaecologic surgical operations 3	9E-2	Nastavnici na predmetu	V_porodništvo	1:30	

*Y. Stanić*

Activities - Obstetrics and Reproduction II (6/7)							
Start Dat	Start Tim	End Time	Subject	Group	Instructor	Room	Length
15/01/2024	10:00	11:30	v12 gynaecologic surgical operations 4	9E-1	Nastavnici na predmetu	V_porodništvo	1:30
15/01/2024	12:00	13:30	v12 gynaecologic surgical operations 4	9E-2	Nastavnici na predmetu	V_porodništvo	1:30
16/01/2024	8:30	10:00	v15 abortion case study	9E-1	Nastavnici na predmetu	V_porodništvo	1:30
17/01/2024	8:30	10:00	v15 abortion case study	9E-2	Nastavnici na predmetu	V_porodništvo	1:30
18/01/2024	8:30	10:00	v16 mastectomy in bitch-case study	9E-1	Nastavnici na predmetu	V_porodništvo	1:30
18/01/2024	10:30	12:00	v16 mastectomy in bitch-case study	9E-2	Nastavnici na predmetu	V_porodništvo	1:30
22/01/2024	8:30	10:00	v17 the treatment of infertility in mare	9E-1	Nastavnici na predmetu	V_porodništvo	1:30
22/01/2024	10:30	12:00	v17 the treatment of infertility in mare	9E-2	Nastavnici na predmetu	V_porodništvo	1:30
23/01/2024	9:00	12:00	v18 Gynaecologic surgical operations 5; field course bjelovar	9E-1, 9E-2	Nastavnici na predmetu	V_porodništvo	3:00

*J. G. G. G.*

Activities - Obstetrics and Reproduction II (7/7)							
Start Dat	Start Tim	End Time	Subject	Group	Instructor	Room	Length
24/01/2024	8:30	10:00	v19 Clinical approach to infertility 1	9E-1	Nastavnici na predmetu	V_porodništvo	1:30
24/01/2024	10:30	12:00	v19 Clinical approach to infertility 1	9E-2	Nastavnici na predmetu	V_porodništvo	1:30
25/01/2024	8:30	10:00	v20 Clinical approach to infertility 2	9E-1	Nastavnici na predmetu	V_porodništvo	1:30
25/01/2024	10:30	12:00	v20 Clinical approach to infertility 2	9E-2	Nastavnici na predmetu	V_porodništvo	1:30
<b>Total: 55</b>							<b>87:00</b>



**STUDENT OBLIGATIONS**

Lecture attendance	By attending lectures the student gains 3-6 points (30 lecture hours; each lecture hour equals 0.2 coefficient). Students must attend at least 15 lecture hours.
Seminars attendance	-
Practicals attendance	By attending practicals the student gains 8-12 points (45 hours of practicals; each practicals hour equals 0.27 coefficient). Students must attend at least 32 hours of practicals.
Active participation in seminars and Practical	<p>A minimum of 5 (max. 10) points must be gained during practicals.</p> <p>A student can obtain a maximum of 10 points and a minimum of 5 points from the activity. Students collect points by actively participating in the exercises, and can collect a maximum of 100 points, which are multiplied by a coefficient of 0.1, resulting in a maximum final score of 10 points, by completing the following tasks:</p> <ol style="list-style-type: none"> <li>1. Practical work in the skills' lab is evaluated - obstetrical procedures for correcting irregular positions of the fetus, fetotomy and caesarean section. The student can earn a maximum of 40 points (a maximum of 8 points for correction of incorrect positions of the head, legs, situs and positions, placing incisions for fetotomy, suturing in caesarean section).</li> <li>2. The properly assessed anesthesia protocols is evaluated, whereby the student can collect a maximum of 10 points.</li> <li>3. Active participation in working with patients is evaluated, whereby the student can collect a maximum of 20 points (taking a history, the patient approach, setting differential diagnoses, treatment options).</li> <li>4. The approach and treatment of the neonatological patient is evaluated, whereby the student can collect a maximum of 10 points.</li> <li>5. Treatment of cases of infertility in domestic animals is assessed, whereby the student can receive a maximum of 20 points (treatment of cases of pyometra, neoplasia of the mammary gland, abortion, vulvoplasty, and caesarean section in dogs and cats, infertility of mares, cows, pigs and small ruminants).</li> </ol> <p>During the course, students are required to hand in forms about work in the skills' lab, and reports on patients admitted (instructions available on the Clinic's website and on the Merlin course system). Each completed form is assessed, scored and signed.</p> <p>The final sum of points is multiplied by a coefficient of 0.1.</p>

	<p>The earned points are rounded to the nearest whole number which represents the final student's score from the activity.</p> <p>Students must collect a minimum of 5 final points (50 points x coefficient 0.1), and a maximum of 10 final points from the activity. Students' activity during the exercises will be continuously monitored.</p>
Final exam	<p>Students' attendance of lectures and practicals as well as their active participation will regularly be monitored over the course of the entire semester.</p> <p>There will also be continuous knowledge-checking (progress test). The total points earned will be presented to the examiner at the final exam.</p> <p>In order to take the final exam, a student must earn a minimum of 16 points by attending lectures and practicals and through activities during practicals, and at least 20 points from continuous knowledge assessment.</p> <p>The final exam consists of 10 oral questions and in total brings up to 40 points (minimal 24 points is approval).</p> <p>The total sum of points achieved from the above-mentioned elements is expressed in the final mark (1 – 5), 1 being a fail.</p>
Examination requirements	<p>Student requirements are defined in the Regulations on the Integrated Undergraduate and Graduate Study of Veterinary Medicine. Given the above, the student must acquire a minimum number of points from all assessment elements in order to take the final exam. Article 41: a student can justifiably be absent from up to 50% of the lectures and 30% of the practicals.</p>

### GRADING AND EVALUATING STUDENT WORK

Continuous knowledge-checking (mid-terms)	<p>There will be a written progress test performed during the semester consisting of 10 questions.</p> <p>The progress test brings 32 points (each question equals 3.2 points), 20 points being the minimum required to pass. Taking the progress test during the main term is compulsory (missing the main term needs to be justified).</p> <p>3 additional progress test terms will be announced for the progress test in agreement with students. All</p>
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	<p>four of the terms will be held in January and February.</p> <p>Progress test is required in order to register for the final exam. However, the progress test is not a requirement for a signature in the grade book. If the student fails the progress test 4 times, he/she needs to take the whole course over again. In case he/she doesn't take the progress test or fails it 4 times, an additional term is possible if the student representative writes an official request to the respective Vice Dean. The Course leader makes the final decision.</p>
Final exams (dates)	12/02/2024, 21/02/2024
Form of final exam	Oral exam

LITERATURE

Obligatory literature	<p>Lecture handouts by LMS</p> <p>Selected chapters from:</p> <p>Noakes, D. E., T. J. Parkinson and G. C. W. England (2009): Veterinary Reproduction &amp; Obstetrics, 9<sup>th</sup> edition. W. B. Saunders Company Ltd.</p> <p>Gordon, I. (1997): Controlled Reproduction in Pigs. CAB International.</p> <p>Blanchard, T. L. et al., (2003): Manual of Equine Reproduction. Mosby.</p> <p>Simpson, G. (2008): BSAVA Manual of Small Animal Reproduction and Neonatology. British Small Animal Association. Gloucester</p> <p>Johnston, S. D., M. V. Root Kustritz, P. S. Olson (2003): Canine and Feline Theriogenology. W. B. Saunders Company Ltd.</p> <p>Jackson, P. G. G. (2004): Handbook of Veterinary Obstetrics. W. B. Saunders Company Ltd.</p>
Optional literature	<p>Selected chapters from:</p> <p>BSAVA Manual of Canine and Feline Abdominal Surgery; Williams and Niles (eds.), BSAVA, 2005</p> <p>Gary Landsberg, Wayne L. Hunthausen, Lowell J. Ackerman (2003): 5. Handbook of Behavioural Problems of the Dog and Cat, W. B. Saunders Company.</p> <p>McKinnon A. O. (1993): Equine Reproduction, Lea and Febiger.</p> <p>Samper J. C. (2000): Equine Breeding Management and Artificial Insemination. W. B. Saunders Company.</p> <p>The Merck Veterinary Manual 10<sup>th</sup> edition (2010): Merck &amp; CO.</p> <p>Hafez (1993): Reproduction in Farm Animals. Lea and Febiger.</p> <p>Pugh (2002): Sheep and Goat Medicine. W. B. Saunders Company.</p> <p>Smith and Sherman (2009): Goat Medicine. Wiley Blackwell.</p> <p>Solaiman (2010): Goat Science and Production. Wiley Blackwell.</p> <p>Paterson, B. (2001): Colour Atlas of Clinical Anatomy of the Dog and Cat, Mosby.</p> <p>Baker, L. (2000): Colour Atlas of Cytology of the Dog and Cat, Mosby</p>

**OBJECTIVES AND LEARNING OUTCOMES**

Course objectives	<p>Within the course framework, the students will get acquainted in detail with the pathology of pregnancy and parturition, with causes, clinical picture, diagnostics and therapeutic approach of infertility in domestic animals.</p> <p>Students will also be thoroughly familiarized with pathology of mammary gland in companion animals, principles of contraception, including pregnancy termination, causes, diagnosis and therapy of common diseases of the new-born animals and basic principles of assisted reproduction methods.</p>
Learning outcomes	<p>to explain the irregular ovarian function in domestic animals;</p> <p>to relate the impact of feeding and keeping animals on their reproduction;</p> <p>to use knowledge about inflammatory conditions of uterus and its diagnostics;</p> <p>to check parturient animal and define the pathology of parturition status, propose the proper obstetrical method and/or gynaecological surgery as a method of proper therapeutic approach.</p> <p>to diagnose congenital and acquired abnormalities of the reproductive organs that could cause infertility;</p> <p>to independently choose a method of assisting the difficult parturition;</p> <p>to understand the approach to pregnancy termination.</p>

**GRADING SCHEME**

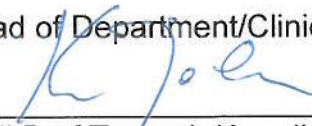
<i>Points</i>	<i>Grade</i>
Up to 59	1 (F)
60-68	2 (E)
69-76	2 (D)
77-84	3 (C)
85-92	4 (B)
93-100	5 (A)

Course leader:



Full Prof Juraj Grizelj

Head of Department/Clinic:



Full Prof Tugomir Karadjole

Note: The course leader is required to submit a Course Syllabus to all teachers and associates pertaining to the Course.

**GRADING AND EVALUATION OF STUDENT WORK ON COURSES WITH LECTURES,  
SEMINARS and PRACTICALS**

Type of activity	Minimum number of points	Maximum number of points
Lectures attendance	3	6
Seminar attendance	4	6
Practicals attendance	4	6
Active participation in seminars and practicals	5	10
Continuous knowledge checking (mid-terms)	20	32
Final exam	24	40
<b>TOTAL</b>	<b>60</b>	<b>100</b>

**GRADING AND EVALUATION OF STUDENT WORK ON COURSES WITH LECTURES and  
PRACTICALS**

Type of activity	Minimum number of points	Maximum number of points
Lecture attendance	3	6
Practicals attendance	8	12
Active participation in practicals	5	10
Continuous knowledge checking (mid-terms)	20	32
Final exam	24	40
<b>TOTAL</b>	<b>60</b>	<b>100</b>

**GRADING AND EVALUATION OF STUDENT WORK ON COURSES WITH SEMINARS and  
EXERCISES**

Type of activity	Minimum number of points	Maximum number of points
Seminar / Practical attendance	11	18
Active participation in seminars and practicals	5	10
Continuous knowledge checking (mid-terms)	20	32
Final exam	24	40
<b>TOTAL</b>	<b>60</b>	<b>100</b>