

UNIVERSITY OF ZAGREB
FACULTY OF VETERINARY MEDICINE

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Division: Clinical

Organizational unit: **Surgery, orthopaedics and ophthalmology**

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Register no.:

File no.: 21-64/2024.

Zagreb, 5/9/2024.



190472	REPUBLIKA HRVATSKA		
Veterinarski fakultet u Zagrebu			
Primljeno:	03.09.2024		
Klasifikacijska oznaka	Org. jed.		
602-04/24-22/38	251-61-41; 251-61-32;		
Urudžbeni broj	Prilozi	Vrijednos	
251-61-21-24-12	0	-	

COURSE SYLLABUS

Course name: **Surgery, orthopaedics and ophthalmology I**

Academic year 2024/2025

Course leader: Assist. prof. Marija Lipar, PhD

Deputy course leader: Full Prof. Dražen Vnuk, PhD

Teachers: Prof. Dražen Matičić PhD FCA, PhD; Prof. Boris Pirkić; PhD; Prof. Mario Kreszinger, PhD; Prof. Dražen Vnuk; PhD; Assoc. Prof. Ozren Smolec, PhD, Assoc. Prof. Nika Brkljača Bottegaro, PhD; Assoc. Prof. Marko Pećin, PhD; Assist. Prof. Andrija Musulin, PhD; Assist. Prof. Marija Lipar PhD, Petar Kostešić, PhD; Valentina Plichta, PhD; Marija Mamić, DVM; Ana Smajlović, DVM; Mirta Vučković DVM; Petra Dmitrović, DVM; Niko Ivkić, DVM; Katarina Miljak DVM

First day of classes: 1.10.24.

Last day of classes: 13.01.25.

Activities - Surgery, orthopaedics and ophthalmology I (1/3)								
Start Date	Start T	End Ti	Subject	Group	Note	Length	Instructor	Room
01/10/2024	13:30	15:00	p01 Introduction in veterinary surgery	7E-1, 7E-2, 7E-3		1:30	Matičić D.	P_kemija
02/10/2024	8:15	9:45	p02 Principles of surgical asepsis and antisepsis	7E-1, 7E-2, 7E-3		1:30	Matičić D.	P_amfiteatar
02/10/2024	11:45	13:15	p03 Premedication and sedation	7E-1, 7E-2, 7E-3		1:30	Musulin A.	P_amfiteatar
03/10/2024	8:15	9:45	p04 Knotting Suturing techniques and materials	7E-1, 7E-2, 7E-3		1:30	Kreszinger M.	P_amfiteatar
03/10/2024	11:45	13:15	p05 Bandages, dressings and drains	7E-1, 7E-2, 7E-3		1:30	Kreszinger M.	P_fizika
07/10/2024	8:00	15:30	v01 Practicals 1	7E-2		7:30	Nastavnici na predmetu	V_kirurgija
08/10/2024	8:00	15:30	v02 Practicals 2	7E-2		7:30	Nastavnici na predmetu	V_kirurgija
09/10/2024	8:00	15:30	v03 Practicals 3	7E-2		7:30	Nastavnici na predmetu	V_kirurgija
10/10/2024	8:00	15:30	v04 Practicals 4	7E-2		7:30	Nastavnici na predmetu	V_kirurgija
11/10/2024	8:00	15:30	v05 Practicals 5	7E-2		7:30	Nastavnici na predmetu	V_kirurgija
15/10/2024	10:00	11:30	p06 Injuries and wounds	7E-1, 7E-2, 7E-3		1:30	Musulin A.	P_fizika
15/10/2024	13:30	15:00	p07 Inhalation anaesthesia	7E-1, 7E-2, 7E-3		1:30	Vnuk D.	P_fiziologija
16/10/2024	8:15	9:45	p08 Local and regional analgesia	7E-1, 7E-2, 7E-3		1:30	Pećin M.	P_klinike
16/10/2024	11:30	13:00	p09 Wound healing	7E-1, 7E-2, 7E-3		1:30	Lipar M.	P_klinike

Activities - Surgery, orthopaedics and ophthalmology I (2/3)								
Start Date	Start T	End Ti	Subject	Group	Note	Length	Instructor	Room
17/10/2024	10:00	11:30	p10 Wound infection Burns	7E-1, 7E-2, 7E-3		1:30	Vnuk D.	P_klinike
18/10/2024	8:15	9:45	p11 Anaesthesia of large animals	7E-1, 7E-2, 7E-3		1:30	Brkljača Bottegaro N.	P_klinike
18/10/2024	18:00	22:00	v06 Practicals, night 6	7E-2		4:00	Nastavnici na predmetu	V_kirurgija
22/10/2024	10:00	11:30	p12 The basics of reconstructive surgery	7E-1, 7E-2, 7E-3		1:30	Pirkić B.	P_klinike
23/10/2024	8:15	9:45	p13 Shock Fluid therapy	7E-1, 7E-2, 7E-3		1:30	Vnuk D.	P_klinike
24/10/2024	8:15	9:45	p14 Dentistry - small animal	7E-1, 7E-2, 7E-3		1:30	Matičić D.	P_klinike
25/10/2024	11:15	12:45	p15 Dentistry- large animal	7E-1, 7E-2, 7E-3		1:30	Brkljača Bottegaro N.	P_klinike
20/11/2024	8:00	15:30	v01 Practicals 1	7E-1		7:30	Nastavnici na predmetu	V_kirurgija
21/11/2024	8:00	15:30	v02 Practicals 2	7E-1		7:30	Nastavnici na predmetu	V_kirurgija
22/11/2024	8:00	15:30	v03 Practicals 3	7E-1		7:30	Nastavnici na predmetu	V_kirurgija
25/11/2024	8:00	15:30	v04 Practicals 4	7E-1		7:30	Nastavnici na predmetu	V_kirurgija
26/11/2024	8:00	15:30	v05 Practicals 5	7E-1		7:30	Nastavnici na predmetu	V_kirurgija
13/12/2024	18:00	22:00	v06 Practicals, night 6	7E-1		4:00	Nastavnici na predmetu	V_kirurgija
07/01/2025	8:00	15:30	v01 Practicals 1	7E-3		7:30	Nastavnici na predmetu	V_kirurgija

Activities - Surgery, orthopaedics and ophthalmology I (3/3)								
Start Date	Start T	End Ti	Subject	Group	Note	Length	Instructor	Room
08/01/2025	8:00	15:30	v02 Practicals 2	7E-3		7:30	Nastavnici na predmetu	V_kirurgija
09/01/2025	8:00	15:30	v03 Practicals 3	7E-3		7:30	Nastavnici na predmetu	V_kirurgija
10/01/2025	8:00	15:30	v04 Practicals 4	7E-3		7:30	Nastavnici na predmetu	V_kirurgija
13/01/2025	8:00	15:30	v05 Practicals 5	7E-3		7:30	Nastavnici na predmetu	V_kirurgija
13/01/2025	18:00	22:00	v06 Practicals, night 6	7E-3		4:00	Nastavnici na predmetu	V_kirurgija
Total: 33						147:00		

STUDENT OBLIGATIONS

Lecture attendance	During the semester student must be present on 15 hours of lectures (from the amount of 30 hours) to obtain a minimum 3 final points during the semester. Maximum obtained number of final points from this element is 6.
Seminars attendance	
Practicals attendance	<p>During the semester student must be present on 48 hours of exercises (from amount of 60 hours) to obtain minimum 9.6 points during the semester. Maximum obtained number of points from this element is 12. Sixty hours of exercise are divided in 8 days:</p> <ol style="list-style-type: none"> 1. 6 hours - surgical instruments, surgical asepsis and antisepsis, 2. 6 hours- suture materials, suturing, knotting 3. 8 hours- clinical rotation, practical work with patient 4. 8 hours- clinical rotation, practical work with patient 5. 8 hours- clinical rotation, practical work with patient 6. 8 hours- clinical rotation, practical work with patient 7. 8 hours- clinical rotation, practical work with patient 8. 8 hours- practical work with patients during night duty and /or weekend duty
Active participation in seminars and practicals	<p>Participating actively at the practicals students can gain 75 points max., what brings them 10 final points. Points for performing the following tasks:</p> <ol style="list-style-type: none"> a) 25 points (first exercises – thematic – participation is not evaluated, second exercises –thematic – participation is not evaluated, third exercises – practical clinical work during clinical rotation - 5 points max.; fourth exercises - practical clinical work during clinical rotation - 5 points max., fifth exercises – practical clinical work during clinical rotation - 5 points max., sixth exercises – practical clinical work during clinical rotation - 5 points max., seventh exercises - practical clinical work during clinical rotation - 5 points max., eighth exercises – practical clinical work during clinical rotation will not be evaluated, but could be replaced

	<p>with practical work in extracurricular time eg. afternoon round, night round or weekend round,) = keeping records of anaesthesiologic protocols in an orderly manner. please find instructions to fill in the Anaesthesiologic protocol at LMS.vuf.</p> <p>b) 25 points (first exercises – thematic – participation is not evaluated, second exercises –thematic – participation is not evaluated, third exercises – practical clinical work during clinical rotation - 5 points max.; fourth exercises - practical clinical work during clinical rotation - 5 points max., fifth exercises – practical clinical work during clinical rotation - 5 points max., sixth exercises – practical clinical work during clinical rotation - 5 points max., seventh exercises - practical clinical work during clinical rotation - 5 points max., eighth exercises – practical clinical work during clinical rotation will not be evaluated, but could be replaced with practical work in extracurricular time eg. afternoon round, night round or weekend round,) = keeping surgical record form in an orderly manner. Please find instructions to fill in the Patient protocol at LMS.vuf.</p> <p>c) 25 points (first exercises – thematic – participation is not evaluated, second exercises –thematic – participation is not evaluated, third exercises – practical clinical work during clinical rotation - 5 points max.; fourth exercises - practical clinical work during clinical rotation - 5 points max., fifth exercises – practical clinical work during clinical rotation - 5 points max., sixth exercises – practical clinical work during clinical rotation - 5 points max., seventh exercises - practical clinical work during clinical rotation - 5 points max., eighth exercises – practical clinical work during clinical rotation will not be evaluated, but could be replaced with practical work in extracurricular time eg. afternoon round, night round or weekend round) = active participation in the work with patients.</p> <p>Students must obtain minimally 5 final points (37.5 points x coefficient 0.1333). Active participation at exercise during surgical rotation will be continuously evaluated.</p>
Examination requirements	<p>Student requirements are defined in the Regulations on the Integrated Undergraduate and Graduate Study of Veterinary Medicine (2022). 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; 30 % of the exercises.</p>

GRADING AND EVALUATING STUDENT WORK

Continuous knowledge-checking	During the semester students will be checked by 3 mid term exams. Each mid term exams will contain 11 questions
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(mid-terms)	<p>from following topics.</p> <ul style="list-style-type: none"> - The surgical asepsis and surgical instruments (https://lms.vef.hr) - The suture materials and techniques of suturing (https://lms.vef.hr) - The bandages and drains and infection of surgical patients, containing antimicrobe prophylaxis (https://lms.vef.hr) <p>Within this element of valuation it is possible to obtain maximum 32 final points (33 answers x coefficient 0.9696).</p> <p>Student must achieve minimum of 7 points per mid term exam to obtain total of 21 points (21 x coefficient 0.9696= 20 final points).</p> <p>A student who does not gain minimal 21 points during the semester from mid term exam has a right to take 2 makeup mid term exams only those which failed. A student who passes the makeup mid term exam with minimally 7 correct answers from eleven (11) has a right to take the final exam.</p>
Final exams (dates)	8.11. 2024., 11. 12. 2024., 12.02. 2025., 21.02. 2025.
Form of final exam	Written and oral
Form of final exam	<p>Minimal conditions for passing the first, second, third and fourth (lecture attendance, practicals attendance, practicals and seminars activity, mid term exams) evaluation element are summed up and they are worth 37.6 points all together. Maximum points to gain from all 4 elements is 60.</p> <p>Questions in the final exam will be put in a way that a student can answer in written and oral form. In the written form there will be 20 questions divided in 5 groups (20 points), 12 of which must be answered correctly in order to take the oral exam. The maximum number of points that can be gained at the oral exam is 20 points (five questions), where maximally 4 points can be gained for 1 correct answer (0-4). The minimal number of points a student must gain at the final exam is 24 (12 points minimal at written and 12 as well at oral exam). The maximal number of points on written exam together with oral exam can be 40 points. If student does not gain minimum 12 points on written exam one can not take oral exam. If student does not gain minimum 12 points in oral exam, one fails.</p> <p>Minimal conditions for passing the first, second, third and fourth (lecture attendance, practicals attendance, practicals and seminars activity, mid term exams) evaluation element are summed up and they are worth 37.6 points all together. Maximum points to gain from all 4 elements is 60.</p> <p>Questions in the final exam will be put in a way that a student can answer in written and oral form. In the written form there will be 20 questions divided in 5 groups (20 points), 12 of which must be answered correctly in order to take the oral exam. The maximum number of points that can be gained at the oral exam is 20 points (five questions), where maximally 4 points can be gained for 1 correct answer (0-4). The minimal number of points a student must gain at the final exam is 24 (12 points minimal at written and 12 as well at oral exam). The maximal number of points on written exam together with oral exam can be 40 points. If student does not gain minimum 12 points on written exam one can not take oral exam. If student does not gain minimum 12 points in oral exam, one</p>

	fails.
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LITERATURE

Obligatory literature	FOSSUM, T.W. (2018): Small Animal Surgery. 5 th edition, Mosby AUER, J. A., J. A. STICK, J. M. KUMMERLE, T. PRANGE (2018): Equine Surgery. 5 th edition, Saunders AMES N.K. (2013): Noordsy's Food Animal Surgery. 5 th edition, Wiley-Blackwell GRIMM K.A. L. A. LAMONT, W. J. TRANQUILLI, S. A. GREENE, S. A. ROBERTSON (2015): Veterinary Anesthesia and Analgesia. 1 st edition, Wiley
Optional literature	

OBJECTIVES AND LEARNING OUTCOMES

Course objectives	<ol style="list-style-type: none"> 1 Introduction to surgery, organisation of work at the clinics. Premises and equipment of the surgical clinics 2 Surgical instruments 3 Procedure, approach, inhibition and refutation of surgical patients 4 History and surgical propedeutics 5 Principles of surgical asepsis and antisepsis. Sterilization and disinfection. 6 Introduction to anaesthesiology. Premedication and sedation. Anaesthesia classification. Local and regional anaesthesia. Intravenous anaesthesia. 7 Inhalatory anaesthesia. 8 Shock: Diagnostics and treatment 9 Therapy with liquids and acid-base equilibrium 10 Disorders of coagulative mechanism and haemostasis 11 Injuries and wounds; Definition, aetiology and classification. Healing and basic principles of treatment. 12 Surgical procedures of burns, congelations and injuries caused by electricity, radiation and chemicals 13 Surgical techniques of knotting 14 Materials for stitching 15 Bandages, compresses, drainage 16 Infections and the use of antibiotics in surgery 17 Essential reconstruction surgeries (stitches, lobes, grafts)
Learning outcomes	<ul style="list-style-type: none"> • Take history, perform restrain in the safe manner for personal and animal, perform basic clinical examination. • Implement additional diagnostic procedure in order to gain objective assesment of health status of

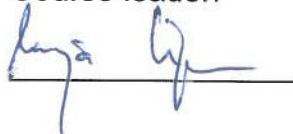
surgical patient.

- Create and argue the treatment option in post-surgical period. Suggest, implement and fulfill anaesthesiologic form, Explore possible surgical options and take record of surgical procedure.
- Create anesthesia protocol and apply sedatives, local and general anaesthetics. Align analgesia with surgical procedure.
- Classify and represent indications of euthanasia and provide it according to an ethical statement. Anticipate owners' reaction. Making judgement of owners' emotional status has to be with special attention.
- Select and apply selected options of first aid in case of bleeding, wound care, burns and frost, and bite injuries.
- Classify and implement bandaging, immobilization and hemostasis.
- Create aseptic procedure of surgical patient and operating team, and surgical equipment and facilities, also assisting during surgery. Provide sterile surgical instruments.

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:



Head of Department/Clinic:



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
TOTAL	60	100

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

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
TOTAL	60	100

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

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