UNIVERSITY OF ZAGREB
FACULTY OF VETERINARY MEDICINE
Heinzelova 55
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Division: Basic and Pre-clinical Sciences Division
Organizational unit: Anatomy, Histology and Embryology
E-mail of the course leader: ialic@vef.hr
Register No of the organisational unit: 61-05-2025/48
Zagreb, 10/02/2025

COURSE SYLLABUS

Course name: Anatomy with Organogenesis of Domestic Animals II

Academic year 2024/2025

Course leader: Assist. Prof. Ivan Alić
Deputy course leader: Full Prof. Martina Đuras

Teachers: Full Prof. Martina Đuras; Full Prof. Srebrenka Nejedli; Assist. Prof. Ivan Alić; Assist. Prof. Mirela Pavić Vulinović; teaching assistant Magdalena Kolenc, DVM, PhD; teaching assistant Kim Korpes, DVM, PhD; teaching assistant Ante Plećaš, DVM

First day of classes: 03/03/2025
Last day of classes: 10/06/2025

Activities - Anatomy with organogenesis of domestic animals II (1/5)

Start Date	Start T	End Ti	Subject	Group	Note	Length	Instructor	Room
03/03/2025	15:00	15:45	p01 Structure and development of the Trunk skeleton	2E-1, 2E-2, 2E-3, P_amfiteatar		0:45	Alic I.	P_amfiteatar
04/03/2025	15:00	16:30	v01 Thoracic vertebrae	2E-1, 2E-2, 2E-3, S_anatomija I kat		1:30		S_anatomija I kat
05/03/2025	11:00	11:45	p02 Structure and development of the Trachea and lungs	2E-1, 2E-2, 2E-3, P_amfiteatar		0:45	Alic I.	P_amfiteatar
05/03/2025	12:00	13:30	v02 Lumbar and sacral vertebrae	2E-1, 2E-2, 2E-3, S_anatomija I kat		1:30		S_anatomija I kat
06/03/2025	14:00	15:30	v03 Ribs and sternum	2E-1, 2E-2, 2E-3, S_anatomija I kat		1:30		S_anatomija I kat
07/03/2025	8:00	9:30	v04 Thorax, body cavities	2E-1, 2E-2, 2E-3, S_anatomija I kat		1:30		S_anatomija I kat
10/03/2025	9:00	10:30	v05 Trachea and lungs	2E-1, 2E-2, 2E-3		1:30		S_anatomija I kat
10/03/2025	11:00	12:30	p03 Structure and development of the heart	2E-1, 2E-2, 2E-3, P_amfiteatar		1:30	Korpes K., Trbojevic-Vukicevic T.	P_amfiteatar
13/03/2025	8:15	9:45	v06 Pulmonary root and hilus	2E-1, 2E-2, 2E-3, S_anatomija I kat		1:30		S_anatomija I kat
14/03/2025	13:30	15:00	v07 Bronchal tree	2E-1, 2E-2, 2E-3		1:30		S_anatomija I kat
17/03/2025	13:30	15:00	v08 Pericardium and external heart	2E-1, 2E-2, 2E-3		1:30		S_anatomija I kat
18/03/2025	13:30	15:00	v09 Atria and ventricles	2E-1, 2E-2, 2E-3		1:30		S_anatomija I kat
19/03/2025	10:15	11:45	v10 Functional and nutritive circulation	2E-1, 2E-2, 2E-3		1:30	Nastavnici na predmetu	S_anatomija I kat

Activities - Anatomy with organogenesis of domestic animals II (2/5)

Start Date	Start T	End Ti	Subject	Group	Note	Length	Instructor	Room
20/03/2025	8:00	9:30	v11 Foetal circulation	2E-1, 2E-2, 2E-3		1:30	Nastavnici na predmetu	S_anatomija I kat
21/03/2025	10:00	11:30	p04 Digestive system - Part I	2E-1, 2E-2, 2E-3, P_amfiteatar		1:30	Nejedli S.	P_amfiteatar
24/03/2025	14:15	15:45	v12 1st oral activity for max 2 points	2E-1, 2E-2, 2E-3		1:30	Nastavnici na predmetu	S_anatomija I kat
25/03/2025	10:00	11:30	p05 Digestive system - Part II	2E-1, 2E-2, 2E-3		1:30	Nejedli S.	P_kemija
26/03/2025	15:15	16:45	v13 Esophagus and simple stomach	2E-1, 2E-2, 2E-3		1:30	Nastavnici na predmetu	S_anatomija I kat
28/03/2025	9:00	10:30	v14 Composed stomach	2E-1, 2E-2, 2E-3		1:30	Nastavnici na predmetu	S_anatomija I kat
31/03/2025	8:15	9:45	v15 Intestine of the Carnivores	2E-1, 2E-2, 2E-3		1:30	Nastavnici na predmetu	S_anatomija I kat
01/04/2025	13:30	15:00	v16 Intestine of the Pigs	2E-1, 2E-2, 2E-3		1:30	Nastavnici na predmetu	S_anatomija I kat
02/04/2025	8:15	9:45	v17 Intestine of the Ruminants	2E-1, 2E-2, 2E-3		1:30	Nastavnici na predmetu	S_anatomija I kat
03/04/2025	12:00	13:30	v18 Intestine of the Horses	2E-1, 2E-2, 2E-3		1:30	Nastavnici na predmetu	S_anatomija I kat
07/04/2025	8:30	10:00	v19 Liver	2E-1, 2E-2, 2E-3		1:30	Nastavnici na predmetu	S_anatomija I kat
08/04/2025	8:15	9:45	v20 Functional and nutritive circulation of the Liver	2E-1, 2E-2, 2E-3		1:30	Nastavnici na predmetu	S_anatomija I kat
09/04/2025	8:15	9:45	v21 Pancreas and spleen	2E-1, 2E-2, 2E-3		1:30	Nastavnici na predmetu	S_anatomija I kat

Activities - Anatomy with organogenesis of domestic animals II (3/5)

Start Date	Start T	End Ti	Subject	Group	Note	Length	Instructor	Room
10/04/2025	8:00	9:30	p06 Urinary system	2E-1, 2E-2, 2E-3		1:30	Pavic Vulinovic M.	P_amfiteatar
11/04/2025	15:15	16:45	v22 2nd oral activity (Digestive system) for max 2 points	2E-1, 2E-2, 2E-3		1:30	Nastavnici na predmetu	S_anatomija I kat
14/04/2025	14:00	15:30	v23 Kidney and ureter	2E-1, 2E-2, 2E-3		1:30	Nastavnici na predmetu	S_anatomija I kat
15/04/2025	14:30	16:00	p07 Female genital organs	2E-1, 2E-2, 2E-3		1:30	Alic I.	P_amfiteatar
16/04/2025	8:45	10:15	v24 Urinary bladder and urethra	2E-1, 2E-2, 2E-3		1:30	Nastavnici na predmetu	S_anatomija I kat
23/04/2025	8:15	9:45	v25 Ovarium and Tuba uterina	2E-1, 2E-2, 2E-3		1:30	Nastavnici na predmetu	S_anatomija I kat
23/04/2025	10:00	11:30	p08 Male genital organs	2E-1, 2E-2, 2E-3		1:30	Pavic Vulinovic M.	P_amfiteatar
24/04/2025	10:20	11:50	v26 Uterus, vagina, vestibulum vaginae, vulva, clitoris and urethra feminina	2E-1, 2E-2, 2E-3		1:30	Nastavnici na predmetu	S_anatomija I kat
25/04/2025	8:15	9:45	v27 Scrotum, testis and epididymis	2E-1, 2E-2, 2E-3		1:30	Nastavnici na predmetu	S_anatomija I kat
05/05/2025	8:15	9:45	v28 Deferens duct, male accessory glands and penis	2E-1, 2E-2, 2E-3		1:30	Nastavnici na predmetu	S_anatomija I kat
05/05/2025	10:00	10:45	p09 Mammary gland	2E-1, 2E-2, 2E-3		0:45	Đuras M.	P_amfiteatar
06/05/2025	9:00	10:30	v29 3rd oral activity (urogenital system) for max 2 points	2E-1, 2E-2, 2E-3		1:30	Nastavnici na predmetu	S_anatomija I kat
06/05/2025	11:00	12:30	p10 Body wall, body cavitiea and their serous lining	2E-1, 2E-2, 2E-3		1:30	Đuras M.	P_amfiteatar

Activities - Anatomy with organogenesis of domestic animals II (4/5)

Start Date	Start T	End Ti	Subject	Group	Note	Length	Instructor	Room
06/05/2025	14:30	16:00	v30 Mammary gland	2E-1, 2E-2, 2E-3		1:30	Nastavnici na predmetu	S_anatomija I kat
07/05/2025	10:00	11:30	v31 Regions of the trunk. External fascia of the trunk. Cutaneus muscles.	2E-1, 2E-2, 2E-3		1:30	Nastavnici na predmetu	S_anatomija I kat
08/05/2025	13:30	15:00	v32 Muscles of the pectoral wall I	2E-1, 2E-2, 2E-3		1:30	Nastavnici na predmetu	S_anatomija I kat
09/05/2025	11:45	13:15	v33 Muscles of the pectoral wall II	2E-1, 2E-2, 2E-3		1:30	Nastavnici na predmetu	S_anatomija I kat
12/05/2025	10:00	11:30	v34 Muscles of the abdominal wall and inguinal canal	2E-1, 2E-2, 2E-3		1:30	Nastavnici na predmetu	S_anatomija I kat
12/05/2025	12:00	13:30	p11 Nervous, lymphatic and endocrine system	2E-1, 2E-2, 2E-3		1:30	Đuras M.	P_patologija
13/05/2025	13:30	15:00	v35 4th oral activity (regions, fascia and muscles of the trunk) for max 2 points	2E-1, 2E-2, 2E-3		1:30	Nastavnici na predmetu	S_anatomija I kat
14/05/2025	12:15	13:00	p12 Blood vessels of the trunk	2E-1, 2E-2, 2E-3		0:45	Pavic Vulinovic M.	P_amfiteatar
14/05/2025	13:30	15:00	v36 Internal fascia, pleura, pleural cavities	2E-1, 2E-2, 2E-3		1:30	Nastavnici na predmetu	S_anatomija I kat
15/05/2025	11:45	13:15	v37 Mediastinum	2E-1, 2E-2, 2E-3		1:30	Nastavnici na predmetu	S_anatomija I kat
21/05/2025	9:00	10:30	v38 Diaphargm	2E-1, 2E-2, 2E-3		1:30	Nastavnici na predmetu	S_anatomija I kat
22/05/2025	13:30	15:00	v39 Autonomic nerves	2E-1, 2E-2, 2E-3		1:30	Nastavnici na predmetu	S_anatomija I kat

Activities - Anatomy with organogenesis of domestic animals II (5/5)

Start Date	Start T	End Ti	Subject	Group	Note	Length	Instructor	Room
26/05/2025	9:15	10:45	v40 Aorta	2E-1, 2E-2, 2E-3		1:30	Nastavnici na predmetu	S_anatomija I kat
27/05/2025	14:15	15:45	v41 A. subclavia	2E-1, 2E-2, 2E-3		1:30	Nastavnici na predmetu	S_anatomija prizemlje
28/05/2025	10:15	11:45	v42 5th oral activity for max 1 point	2E-1, 2E-2, 2E-3		1:30	Nastavnici na predmetu	S_anatomija I kat, S_anatomija prizemlje
29/05/2025	8:15	9:45	v43 Cavum abdominis, peritoneum and omentum	2E-1, 2E-2, 2E-3		1:30	Nastavnici na predmetu	S_anatomija I kat, S_anatomija prizemlje
02/06/2025	8:45	10:15	v44 Aorta abdominals - visceral arteries	2E-1, 2E-2, 2E-3		1:30	Nastavnici na predmetu	S_anatomija I kat, S_anatomija prizemlje
03/06/2025	8:45	10:15	v45 Aorta abdominals - parietal arteries	2E-1, 2E-2, 2E-3		1:30	Nastavnici na predmetu	S_anatomija I kat, S_anatomija prizemlje
04/06/2025	8:30	10:00	v46 Vena cava caudalis	2E-1, 2E-2, 2E-3		1:30	Nastavnici na predmetu	S_anatomija I kat, S_anatomija prizemlje
05/06/2025	8:15	9:45	v47 Pelvic blood vessels and nerves	2E-1, 2E-2, 2E-3		1:30	Nastavnici na predmetu	S_anatomija I kat, S_anatomija prizemlje
06/06/2025	13:30	15:00	v48 Muscles of the back	2E-1, 2E-2, 2E-3		1:30	Nastavnici na predmetu	S_anatomija I kat, S_anatomija prizemlje
09/06/2025	13:30	15:00	v49 Spine and spinal cord	2E-1, 2E-2, 2E-3		1:30	Nastavnici na predmetu	S_anatomija I kat, S_anatomija prizemlje
10/06/2025	12:30	14:00	v50 6th oral activity for max 1 point	2E-1, 2E-2, 2E-3		1:30	Nastavnici na predmetu	S_anatomija I kat, S_anatomija prizemlje
Total: 62						**90:00**		

STUDENT OBLIGATIONS

Lecture attendance	The course has 20 hours of lectures. One hour of lecture (45 minutes) is equal to 0.3 points. Lecture attendance is graded with 6 points in total. The student has to attend at least 10 hours of lectures (3 points).
Practicals attendance	The course has 100 hours of practicals. One hour of practicals (45 minutes) is equal to 0.12 points. Practical session attendance is graded with 12 points in total. The student has to attend at least 70 hours of practicals (8 points).
Active participation in seminars and practicals	Active participation in the practical session is evaluated through short oral testing during practicals and is graded with 10 points in total. The student has to achieve at least 5 points.
Final exam	Oral exam is graded with 40 points in total. The student has to achieve at least 24 points at the oral exam.
Examination requirements	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 and 30% of the practicals.

GRADING AND EVALUATING STUDENT WORK

Continuous knowledge-checking (mid-terms)	There are two written tests. A maximum of 16 points per test can be achieved. The student has to achieve at least 10 points per test in order to pass. The points of both passed tests are summarized. Both tests are graded together with a maximum of 32 points. Passing these two tests is a pre-condition for taking the oral exam. Written test I will be held on 22/4/2025, 14:00-15:00pm, in the Large and Small Computer Hall (1st repetition: 16/6/2024, 8:00-9:00am, Large Computer Hall; 2nd repetition: 20/6/2025, 8:00-9:00am, Large Computer Hall). Written test II will be held on 11/6/2025, 8:00-9:00am, in the Large and Small Computer Hall (1st repetition: 16/6/2024, 8:00-9:00am, Large Computer Hall; 2nd repetition: 20/6/2025, 8:00-9:00am, Large Computer Hall).
Final exams (dates)	25/6/2025, 09/7/2025, 10/9/2025, 19/9/2025
Form of final exam	Oral exam is graded with 40 points in total. The student has to achieve at least 24 points at the oral exam.

LITERATURE

Obligatory literature	KÖNIG, H. E., H.-G. LIEBICH (2007): Veterinary anatomy of domestic mammals, Textbook and color atlas. 3rd Ed. Schattauer, Stuttgart, New York DYCE, K. M., W. O. SACK, C. J. G. WENSING (2010): Textbook of veterinary anatomy. 4th Ed. Saunders Elsevier, Philadelphia. DONE, S. H., P. C. GOODY, S. A. EVANS, N. C. STICKLAND (2009): Color atlas of veterinary anatomy. Volume 3. The dog and cat. 2nd Ed. Mosby Elsevier, Edinburgh, London, New York. EVANS, H. E., A. de LAHUNTA (2010): Guide to the dissection of the dog. 7th Ed. Saunders Elsevier. Philadelphia. McGEADY, T. A., P. J. QUINN, E. S. FITZPATRICK, M. T. RYAN (2006): Veterinary embryology. Blackwell Publising, Dublin.
Optional literature	NICKEL, R., A. SCHUMMER, E. SEIFERLE (1986): The locomotor system of the domestic mammals. Volume I. Verlag Paul Parey, Berlin, Hamburg. NICKEL, R., A. SCHUMMER, E. SEIFERLE (1981): The circulatory system, the skin, and the cutaneous organs of the domestic mammals. Volume III. Verlag Paul Parey, Berlin, Hamburg. EVANS H. E., A. De LAHUNTA (2012): Miller's anatomy of the dog. 4th Ed. WB Saunders Company, Philadelphia, London. SCHALLER, O. (2007): Illustrated veterinary anatomical nomenclature. 2nd Ed. Ferdinand Enke Verlag, Stuttgart. HYTTEL, P., F. SINOWATZ, M. VEJLSTED (2010): Essentials of domestic animal embryology. Saunders Elsevier, Philadelphia. SADLER, T. W. (2006): Langman's medical embryology, Lippincott Williams & Wilkins a Wolters Kluwer business. 10th Ed. Philadelphia, Baltimore, New York.

OBJECTIVES AND LEARNING OUTCOMES

Course objectives	The course presents the gross anatomy of domestic animals with the embryonic development of organs and organic systems to veterinary medicine students in order to ensure basic knowledge for other disciplines such as physiology, pathology and clinical courses.
Learning outcomes	Following successful completion of the course, students will be able to:

	1. list and describe major anatomical structures of the trunk including the viscera of domestic mammals 2. explain the development of the viscera 3. apply anatomical nomenclature 4. skilled communicate anatomical information utilize dissection skills

GRADING SCHEME

Points	*Grade*
Up to 59	1 (F)
60-76	2 (D, E)
77-84	3 (C)
85-92	4 (B)
93-100	5 (A)

Course leader

Assist. Prof. Ivan Alić

Head of organizational unit:

Assist. Prof. Mirela Pavić Vulinović

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