

Histology with General Embryology

UNIVERSITY OF ZAGREB
FACULTY OF VETERINARY MEDICINE
Heinzelova 55
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Division: Basic and Pre-clinical Sciences
Organizational unit: Anatomy, Histology and Embryology
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Register No of the organisational unit: 61-05-2026/44
Zagreb, 29/1/2026

COURSE SYLLABUS

Course name: Histology with General Embryology
Academic year 2025/2026

Course leader: Full Prof. Snježana Kužir

Deputy course leader: postdoctoral assistant Nikolina Škvorc

Teachers: Full Prof. Snježana Kužir, postdoctoral assistant Nikolina Škvorc, teaching assistant Ante Plećaš

First day of classes: 25/2/2026

Last day of classes: 12/6/2026

Activities - Histology with general embryology (1/6)

Start Date	Start T	End Ti	Course	Group	Note	Length	Instructor	Room
25/02/2026	13:30	15:00	p01 Introduction, Embryology	4E-1, 4E-2, 4E-3		1:30	Kužir S.	V_histologija
27/02/2026	8:15	9:45	p02 Epithelial Tissue	4E-1, 4E-2, 4E-3		1:30	Kužir S.	V_histologija
02/03/2026	13:30	15:00	v01 Cell;Hostological methods	4E-3		1:30	Nastavnici na predmetu	V_histologija
03/03/2026	13:30	15:00	v01 Cell;Hostological methods	4E-1, 4E-2		1:30	Nastavnici na predmetu	V_histologija
05/03/2026	13:30	15:00	v02 Epithelial 1	4E-1, 4E-2		1:30	Nastavnici na predmetu	V_histologija
06/03/2026	13:45	15:15	v02 Epithelial 1	4E-3		1:30	Nastavnici na predmetu	V_histologija
09/03/2026	9:45	11:15	v03 Epithelial 2	4E-3		1:30	Nastavnici na predmetu	V_histologija
10/03/2026	12:15	13:45	v03 Epithelial 2	4E-1, 4E-2		1:30	Nastavnici na predmetu	V_histologija
12/03/2026	9:45	11:15	v04 Epithelial 3	4E-3		1:30	Nastavnici na predmetu	V_histologija
12/03/2026	11:45	13:15	v04 Epithelial 3	4E-1, 4E-2		1:30	Nastavnici na predmetu	V_histologija
13/03/2026	10:00	11:30	p03 Connective tissue	4E-1, 4E-2, 4E-3		1:30	Kužir S.	V_histologija
16/03/2026	13:30	15:00	v05 Connective tissue 1	4E-3		1:30	Nastavnici na predmetu	V_histologija
18/03/2026	11:45	13:15	v05 Connective tissue 1	4E-1, 4E-2		1:30	Nastavnici na predmetu	V_histologija
24/03/2026	11:45	13:15	v06 Connective tissue 2	4E-3		1:30	Nastavnici na predmetu	V_histologija

Activities - Histology with general embryology (2/6)

Start Date	Start T	End Ti	Course	Group	Note	Length	Instructor	Room
25/03/2026	9:45	11:15	v06 Connective tissue 2	4E-1, 4E-2		1:30	Nastavnici na predmetu	V_histologija
26/03/2026	8:00	9:30	p04 Supportive tissue	4E-1, 4E-2, 4E-3		1:30	Kužir S.	V_histologija
27/03/2026	8:20	9:50	v07 Supportive tissue, cartilage	4E-1, 4E-2		1:30	Nastavnici na predmetu	V_histologija
30/03/2026	9:45	11:15	v07 Supportive tissue, cartilage	4E-3		1:30	Nastavnici na predmetu	V_histologija
31/03/2026	9:15	10:45	v08 Supportive tissue, bone	4E-1, 4E-2		1:30	Nastavnici na predmetu	V_histologija
01/04/2026	11:45	13:15	v08 Supportive tissue, bone	4E-3		1:30	Nastavnici na predmetu	V_histologija
07/04/2026	13:00	13:45	p05 Blood	4E-1, 4E-2, 4E-3		0:45	Kužir S.	V_histologija
08/04/2026	8:15	9:45	v09 Blood	4E-1, 4E-2		1:30	Nastavnici na predmetu	V_histologija
09/04/2026	8:15	9:45	v09 Blood	4E-3		1:30	Nastavnici na predmetu	V_histologija
10/04/2026	9:00	9:45	p06 Muscle tissue	4E-1, 4E-2, 4E-3		0:45	Kužir S.	V_histologija
10/04/2026	10:00	11:30	v10 Muscle tissue	4E-3		1:30	Nastavnici na predmetu	V_histologija
13/04/2026	8:15	9:45	v10 Muscle tissue	4E-1, 4E-2		1:30	Nastavnici na predmetu	V_histologija
13/04/2026	12:30	13:15	p07 Nerve tissue	4E-1, 4E-2, 4E-3		0:45	Kužir S.	V_histologija
13/04/2026	13:30	15:00	v11 Nerve tissue	4E-3		1:30	Nastavnici na predmetu	V_histologija

Activities - Histology with general embryology (3/6)

Start Date	Start T	End Ti	Course	Group	Note	Length	Instructor	Room
14/04/2026	14:30	16:00	v11 Nerve tissue	4E-1, 4E-2		1:30	Nastavnici na predmetu	V_histologija
15/04/2026	8:15	9:45	v12 Recapitulation	4E-1, 4E-2		1:30	Nastavnici na predmetu	V_histologija
16/04/2026	14:30	16:00	v12 Recapitulation	4E-3		1:30	Nastavnici na predmetu	V_histologija
17/04/2026	8:45	9:30	p08 Circulatora system	4E-1, 4E-2, 4E-3		0:45	Kužir S.	V_histologija
20/04/2026	9:00	10:00	Histology with general embryology		Colloqium 1	1:00	Kužir S.	V_histologija
20/04/2026	10:15	11:45	v13 Circulatory system	4E-1, 4E-2		1:30	Nastavnici na predmetu	V_histologija
21/04/2026	8:15	9:45	v13 Circulatory system	4E-3		1:30	Nastavnici na predmetu	V_histologija
22/04/2026	12:00	12:45	p09 Central nervous system	4E-1, 4E-2, 4E-3		0:45	Kužir S.	V_histologija
23/04/2026	13:30	15:00	v14 Central nervous system	4E-1, 4E-2		1:30	Nastavnici na predmetu	V_histologija
27/04/2026	11:45	13:15	v14 Central nervous system	4E-3		1:30	Nastavnici na predmetu	V_histologija
28/04/2026	8:15	9:00	p10 Sensory organs	4E-1, 4E-2, 4E-3		0:45	Kužir S.	V_histologija
28/04/2026	13:30	15:00	v15 Eye	4E-1, 4E-2		1:30	Nastavnici na predmetu	V_histologija
29/04/2026	12:30	14:00	v15 Eye	4E-3		1:30	Nastavnici na predmetu	V_histologija
04/05/2026	8:00	9:30	p11 Skin and skin derivatives	4E-1, 4E-2, 4E-3		1:30	Kužir S.	V_histologija

Activities - Histology with general embryology (4/6)

Start Date	Start T	End Ti	Course	Group	Note	Length	Instructor	Room
05/05/2026	9:00	10:30	v16 Skin and skin derivatives 1	4E-1, 4E-2		1:30	Nastavnici na predmetu	V_histologija
06/05/2026	8:15	9:45	v16 Skin and skin derivatives 1	4E-3		1:30	Nastavnici na predmetu	V_histologija
07/05/2026	13:45	15:15	v17 Skin and skin derivatives 2	4E-3		1:30	Nastavnici na predmetu	V_histologija
08/05/2026	13:30	15:00	v17 Skin and skin derivatives 2	4E-1, 4E-2		1:30	Nastavnici na predmetu	V_histologija
11/05/2026	13:30	14:15	p12 Respiratory system	4E-1, 4E-2, 4E-3		0:45	Kužir S.	V_histologija
12/05/2026	8:15	9:45	v18 Respiratori system	4E-1, 4E-2		1:30	Nastavnici na predmetu	V_histologija
12/05/2026	13:30	15:00	v18 Respiratori system	4E-3		1:30	Nastavnici na predmetu	V_histologija
13/05/2026	13:30	15:00	p13 Digestion 1	4E-1, 4E-2, 4E-3		1:30	Kužir S.	V_histologija
14/05/2026	13:15	14:45	v19 Digestion 1a	4E-1, 4E-2		1:30	Nastavnici na predmetu	V_histologija
15/05/2026	8:00	9:30	v19 Digestion 1a	4E-3		1:30	Nastavnici na predmetu	V_histologija
18/05/2026	8:15	9:45	v20 Digestion 1b	4E-1, 4E-2		1:30	Nastavnici na predmetu	V_histologija
19/05/2026	8:15	9:45	v20 Digestion 1b	4E-3		1:30	Nastavnici na predmetu	V_histologija
20/05/2026	8:15	9:45	p14 Digestion 2	4E-1, 4E-2, 4E-3		1:30	Kužir S.	V_histologija
20/05/2026	10:00	11:30	v21 Digestion 2a	4E-1, 4E-2		1:30	Nastavnici na predmetu	V_histologija

Activities - Histology with general embryology (5/6)

Start Date	Start T	End Ti	Course	Group	Note	Length	Instructor	Room
21/05/2026	8:15	9:45	v21 Digestion 2a	4E-3		1:30	Nastavnici na predmetu	V_histologija
22/05/2026	8:15	9:45	v22 Digestion 2b	4E-3		1:30	Nastavnici na predmetu	V_histologija
22/05/2026	13:30	15:00	v22 Digestion 2b	4E-1, 4E-2		1:30	Nastavnici na predmetu	V_histologija
25/05/2026	9:45	11:15	p15 Immune system and lymphatic organs	4E-1, 4E-2, 4E-3		1:30	Kužir S.	V_histologija
26/05/2026	13:30	15:00	v23 Immune system and lymphatic organs 1	4E-1, 4E-2		1:30	Nastavnici na predmetu	V_histologija
27/05/2026	8:15	9:45	v23 Immune system and lymphatic organs 1	4E-3		1:30	Nastavnici na predmetu	V_histologija
27/05/2026	11:45	13:15	v24 Immune system and lymphatic organs 2	4E-1, 4E-2		1:30	Nastavnici na predmetu	V_histologija
28/05/2026	8:15	9:45	v24 Immune system and lymphatic organs 2	4E-3		1:30	Nastavnici na predmetu	V_histologija
29/05/2026	8:15	9:00	p16 Endocrine glands	4E-1, 4E-2, 4E-3		0:45	Kužir S.	V_histologija
01/06/2026	9:15	10:45	v25 Endocrine glands	4E-3		1:30	Nastavnici na predmetu	V_histologija
01/06/2026	11:00	12:30	v25 Endocrine glands	4E-1, 4E-2		1:30	Nastavnici na predmetu	V_histologija
01/06/2026	13:45	15:15	p17 Urinary system	4E-1, 4E-2, 4E-3		1:30	Kužir S.	V_histologija
02/06/2026	14:00	15:30	v26 Urinary system	4E-1, 4E-2		1:30	Nastavnici na predmetu	V_histologija

Activities - Histology with general embryology (6/6)

Start Date	Start T	End Ti	Course	Group	Note	Length	Instructor	Room
03/06/2026	10:00	11:30	v26 Urinary system	4E-3		1:30	Nastavnici na predmetu	V_histologija
03/06/2026	11:45	12:30	p18 Male reproductive system	4E-1, 4E-2, 4E-3		0:45	Kužir S.	V_histologija
08/06/2026	8:10	9:40	v27 Male reproductive system	4E-3		1:30	Nastavnici na predmetu	V_histologija
08/06/2026	10:00	11:30	v27 Male reproductive system	4E-1, 4E-2		1:30	Nastavnici na predmetu	V_histologija
08/06/2026	13:30	15:00	p19 Female reproductive system	4E-1, 4E-2, 4E-3		1:30	Kužir S.	V_histologija
08/06/2026	15:00	15:45	p20 Placentas	4E-1, 4E-2, 4E-3		0:45	Kužir S.	V_histologija
09/06/2026	8:15	9:45	v28 Female reproductive system	4E-3		1:30	Nastavnici na predmetu	V_histologija
09/06/2026	10:00	11:30	v28 Female reproductive system	4E-1, 4E-2		1:30	Nastavnici na predmetu	V_histologija
10/06/2026	11:45	13:15	v29 PLacenta	4E-1, 4E-2		1:30	Nastavnici na predmetu	V_histologija
11/06/2026	8:20	9:50	v29 PLacenta	4E-3		1:30	Nastavnici na predmetu	V_histologija
12/06/2026	8:15	9:45	v30 Repetition	4E-3		1:30	Nastavnici na predmetu	V_histologija
12/06/2026	10:00	11:30	v30 Repetition	4E-1, 4E-2		1:30	Nastavnici na predmetu	V_histologija
16/06/2026	8:00	9:00	Histology with general embryology		Colloquium 2	1:00	Kužir S.	V_histologija
Total: 82						114:30		

Histology with General Embryology

STUDENT OBLIGATIONS

Lecture attendance	Presence at lectures (min 15h).
Seminars attendance	-
Practicals attendance	Presence in practicals (min. 42h).
Active participation in seminars and practicals	Activity in training (a minimum of 5 points earned). Students are expected to actively participate in the practicals by asking questions, drawing microscope slides and actively learning from the literature. Each student's activity in the practicals will be assessed based on class participation and knowledge demonstrated during entrance tests/examinations. During the course, each student's preparation will be checked (test/oral) at least 5 times (maximum 2 points per check). The minimum number of points achieved from this assessment element is 5, and the maximum is 10 points.
Final exam	The final exam is oral, and knowledge of histological slides is tested. Each student will choose randomly a closed box with 5 slides. For each slide the student can gain 8 points. If the student does not recognize tissue or the organ, he/she shall lose the opportunity to be tested orally on this slide. The minimum number of points is 24 and the maximum number of points is 40. The final grade is formed based on the total sum of all five evaluation elements (attending lectures, attending the practicals, participation at practicals, preliminary exams and points from the final exam).
Examination requirements	Student requirements are defined in the Regulations on studying in the University Integrated Undergraduate and Graduate Study Programme <i>Veterinary Medicine</i> (2024). Given the above, the student must acquire a minimum number of points from all assessment elements in order to take the final exam. A student can justifiably be absent from up to 50% of the lectures; 30% of the seminars and 30% of the exercises.

GRADING AND EVALUATING STUDENT WORK

Continuous knowledge-checking (mid-terms)	Passed examination of two preliminary exams (min. 10 + 10 points earned). Two preliminary exams will be organized during the course. Both are worth minimum 10 and maximum 16 points. To take the oral exam students must have minimal 10 points from each. In case she/he does not earn enough points, the student has the right to repeat preliminary exam twice again . In this context it is possible to gain 32 points maximum 17/4/2026, 16/6/2026
Final exams (dates)	20/4/2026, 18/6/2026, 23/6/2026, 1/7/2026, 10/9/2026, 21/9/2026
Form of final exam	Oral exam

LITERATURE

Obligatory literature	AUGHEY, E., F. L. FRYE (2001): Comparative Veterinary Histology with Clinical Correlates. Manson Publishing/The Veterinary Press, London, UK. BACHA, W. J., L. M. BACHA (2012): Color Atlas of Veterinary Histology. 3rd ed. J. Willey-Blackwell, Chichester, UK
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Histology with General Embryology

	<p>BANKS, W. J. (1993): Applied Veterinary Histology. Mosby-Year Book, Inc. St. Louis.</p> <p>HYTTEL, P., F. SINOWATZ, M. VEJLSTED (2010): Essentials of Domestic Animal Embryology. Saunders Elsevier, Philadelphia.</p> <p>McGEADY, T. A., P. J. QUINN, E. S. FITZPATRICK, M. T. RYAN (2006): Veterinary Embryology. Blackwell Publishing, Dublin.</p> <p>SAMUELSON, D. A. (2006): Textbook of Veterinary Histology. Saunders (W. B.) Co Ltd, London, UK</p>
Optional literature	<p>PP of lectures and exercises</p> <p>DELLMAN, H.- D. (1993): Textbook of Veterinary Histology. Lea & Febiger, Philadelphia.</p> <p>KERR, J. B. (2000): Atlas of Functional Histology. Mosby, London, St. Louis, Philadelphia, Sydney, Tokyo.</p> <p>MESCHER, A. (2013): Junqueira's Basic Histology: Text and Atlas. 13th ed. Mc Graw Hill Companies, Inc</p> <p>NODEN, D. M., A. DE LAHUNTA (1985): The Embryology of Domestic Animals. Developmental Mechanisms and Malformations. Williams & Wilkins. Baltimore, Hong Kong, London, Sydney.</p> <p>SADLER, T. W. (2006): Langman's Medical Embryology, Lippincott Williams & Wilkins a Wolters Kluwer business. 10th ed. Philadelphia, Baltimore, New York, London, Buenos Aires, Hong Kong, Sydney, Tokyo.</p> <p>YOUNG, B., J. W. HEATH (2000): Wheater's Functional Histology, A Text and Colour Atlas. Churchill Livingstone, Edinburgh, London, New York, Oxford, Philadelphia, St. Louis, Sydney, Toronto.</p>

OBJECTIVES AND LEARNING OUTCOMES

Course objectives	<p>The objective of the course Histology and General Embryology is to enable students to understand and interpret the microstructure of tissues and organs in animals of various species. Students will develop the ability to differentiate and compare histological characteristics among species, as well as to identify specific structures within organs. The course aims to equip students with the skills required for selecting and applying appropriate histological techniques, including proper sample collection in accordance with professional standards. Special emphasis is placed on practical proficiency in the use of the light microscope for accurate histological analysis. Ultimately, the course seeks to integrate early embryonic development and histogenesis with the final structural features of tissues and organs, thereby deepening the understanding of their functional organization.</p>
Learning outcomes	<p>By the end of this course the student should be able to:</p> <ul style="list-style-type: none">- interpret the microstructure of tissues and organs of animal origin- compare the microstructure of tissues and organs of different animal species- recommend the histological technique of choice for displaying the basic microstructure of tissues and organs as well as specific structures within organs- collect a tissue or organ sample for the selected histological technique in accordance with the rules of the profession- master operating a light microscope for the purpose of histological analysis- analyze histological slides of animal origin- relate early embryonic development and histogenesis with structural features of animal tissues and organs

Histology with General Embryology

GRADING SCHEME

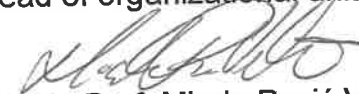
<i>Points</i>	<i>Grade</i>
Up to 59	1 (F)
60-76	2 (D,E)
77-84	3 (C)
85-92	4 (B)
93-100	5 (A)

Course leader



Full Prof. Snježana Kužir

Head of organizational unit:



Assoc. Prof. Mirela Pavić Vulinović

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