



Course title: Cytology, Histology and Embryology / **LECTURES 1 and PRACTICA**

Study program: Dentistry, 1st year

Place and time: Small practical room of the Institute of HaE, Wednesday 11:30 a.m. – 19:20 p.m.

1.	16. 9. 2026	Lecture 1 and PC: Light microscope, histological technique, basics of microscopy. <i>There will be neither a lecture 1 nor a practicum in full-time form, online only/Free day</i>
2.	23. 9. 2026	Lecture 1 (L1): Cytomorphology. Morphology of the eukaryotic cell and its organelles. Description of selected specialized cells at the level of light and electron microscopy. Practica (PC): Demonstration of 6 permanent preparations: • nuclei of epithelial cells of various shapes - <i>vagina</i> (IH) • various types of spinal cord cells, ribosomes, rER, nucleolus - <i>spinal cord</i> (Nissl staining) • pyramidal neurons and astrocytes – <i>great brain</i> (Golgi impregnation) • Purkinje neurons – <i>little brain</i> (HE) • sperm smear (Papanicolaou method) • pigment granules in pigment epithelium – <i>eyeball/retina</i> (without staining)
3.	30.9. 2026	L1: Introduction to the study of human tissues. Characteristics and origin of epithelial tissue. Classification of epithelial tissue. Covering and lining epithelia. PC: <u>Demonstration of 5 permanent preparations:</u> • simple columnar epithelium - <i>small intestine</i>, rat (HE) • pseudostratified columnar epithelium with kinocilia and goblet cells - <i>trachea</i> (HE) • transitional (pseudostratified) epithelium, urothelium - <i>urinary bladder</i> (HE) • non-keratinized stratified squamous epithelium - <i>esophagus</i> (HE) • keratinized stratified squamous epithelium - <i>skin</i> (HE)
4.	7.10. 2026	L1: Glandular epithelia PC: <u>Demonstration of 6 permanent preparations:</u> • unicellular glands, goblet cells – <i>small intestine</i> (PAS-H) • simple tubular gland – <i>large intestine</i> (HE) • simple branched alveolar gland, holocrine secretion – <i>skin</i> (HE) • compound acinar gland, merocrine secretion – <i>parotid gland</i> (HE) • stratified type of endocrine gland epithelium – <i>adrenal gland</i> (HE) • follicular type of endocrine gland epithelium – <i>thyroid gland</i> (HE)
5.	14.10.2026	L1: Supportive and connective tissue 1. Connective tissue proper. Functional histology of connective tissue cells and their clinical significance. Classification of connective tissue types. Monocyte-macrophage system. PC: <u>Demonstration of 7 permanent preparations:</u> • collagen fibers - <i>loose connective tissue</i> (aniline blue)



		• elastic fibers and membranes - <i>aorta</i> (orcein) • loose collagenous connective tissue - <i>mucosal and submucosal connective tissue, small intestine</i> (HE) • dense irregular connective tissue – <i>skin</i> (trichrome) • dense regular connective tissue - <i>tendon</i> (HE) • reticular connective tissue - <i>adrenal gland</i> (impregnation with silver salts - reticulin) • adipose/fatty tissue (HE)
6.	21.10.2026	L1: Supporting and connective tissue 2. Cartilage. Types and localization of cartilage. Bone and ossification. Microscopic structure of the joint, synovial membrane and articular cartilage. PC: <u>Demonstration of 7 permanent preparations:</u> • hyaline cartilage – <i>trachea</i> (HE) • elastic cartilage – <i>epiglottis</i> (orcein) • fibrocartilage (trichrome) • compact bone, transversal ground section (without staining) • trabecular bone – <i>hard palate</i> (HE) • intramembranous ossification – <i>skull bone of an embryo</i> (trichrome) • endochondral ossification – <i>long bone of an embryo</i> (trichrome)
7.	28.10.2026	L1: Blood and hematopoiesis. Morphology of formed blood elements. Structure of bone marrow. Muscle tissue. Functional histology of skeletal, smooth and cardiac muscle. PC: <u>Demonstration of 5 permanent preparations:</u> • smooth muscle – <i>uterus</i> (HE) • smooth and striated muscle – <i>esophagus</i> (trichrome) • striated muscle – <i>tongue</i> (IH-E) • cardiac muscle (IH) • muscular artery (HE)
8.	4.11.2026	L1: Nervous tissue. Morphology of neurons and neuroglial cells. Structure of gray and white matter of the central nervous system. Structures of the peripheral nervous system. PC: <u>Demonstration of 4 permanent preparations:</u> • gray and white matter of the spinal cord and their cells – <i>spinal cord</i> (luxol blue and nuclear red) • gray and white matter of great brain and their cells – <i>great brain</i> (HE) • gray and white matter of little brain and their cells – <i>little brain</i> (luxol blue and cresyl violet) • peripheral nerve, transverse section (luxol blue and nuclear red)
9.	11.11.2026	L1: Oral cavity. Lips. Oral mucosa. Gum/gingiva and its topography. Tongue, hard and soft palate. PC: <u>Demonstration of 5 permanent preparations:</u> • lip (HE) • tongue, dorsum (HE) • tongue, papillae vallatae (HE) • gum/gingiva (HE) • hard and soft palate, glands, nasal septum (HE)
10.	18.11.2026	<i>Consultations to the topics of 2nd – 9th weeks</i>



11.	25.11.2026	L1: Tooth and adjacent tissues. Developmental stages of the tooth. Development and microscopic structure of enamel, dentin, cementum, dental pulp. Development and microscopic structure of the periodontium and bone alveolus. PC: <u>Demonstration of 4 permanent preparations:</u> • tooth with surrounding structures – alveolar bone, periodontium, gingiva (HE) • tooth, section (without staining) • developing tooth, cup stage (HE) • developing tooth, bell stage (HE)
12.	2.12.2026	L1: Minor and major salivary glands. Saliva. Tonsils. PC: <u>Demonstration of 6 permanent preparations:</u> • parotid gland (Azan) • submandibular and sublingual glands (HE) • sublingual gland (trichrome) • minor salivary glands – palatine glands (HE) • palatine tonsil (HE) • lingual tonsil, lingual root (HE)
13.	9.12. 2026	L1: Skin. PC: <u>Demonstration of 4 permanent preparations:</u> • skin, thin type (HE) • skin, elastic fibers (orcein) • skin, thick type (HE) • skin with hair (HE)
14.	16.12.2026	Substitution of missing practica. Credit test.
	17.12.2026	Consultations on lecture and practica topics.

2. 9. 2026



Course title: Cytology, Histology and Embryology / **LECTURES 2**

Study program: Dentistry, 1st year

Place and time: Video recordings of online lectures / Friday 9:30 – 11:20 a.m.

1.	18. 9. 2026	Introduction to the study of Histology . History and current position of histology in the curriculum of dentistry students. The importance of light and electron microscopy for dental practice. <i>Lecturer: Renáta Mikušová, MD, PhD.</i>
2.	25.9. 2026	Introduction to the study of Embryology . Fertilization . Zygote cleavage and blastocyst development. Blastocyst implantation and decidual reaction of the uterine mucosa. Development of the extraembryonic structures. <i>Lecturer: Prof. RNDr. Ivan Varga, PhD. et PhD.</i>
3.	2.10. 2026	Embryogenesis (2nd to 4th week of development) and formation of the embryo's body. Primitive segments (somites). Development of the notochord and neural tube. Overview of germ layer derivatives. <i>Lecturer: Prof. RNDr. Ivan Varga, PhD. et PhD.</i>
4.	9.10.2026	The pharyngeal region of the embryo and its derivatives. <i>Lecturer: prof. RNDr. Ivan Varga, PhD. et PhD.</i>
5.	16.10.2026	1st Partial test (topics of lectures and practica from weeks 2 – 5), PC room, Sasinkova street (above the Institute of Immunology, courtyard), consultation option
6.	23.10.2026	Development of the face and anterior part of the neck , anomalies. <i>Lecturer: Assoc. Prof. RNDr. Marianna Danková, PhD.</i>
7.	30.10.2026	Microscopic structure of nervous system – overview. <i>Lecturer: Assoc. Prof. RNDr. Marianna Danková, PhD.</i>
8.	6.11.2026	Microscopic structure of the heart and blood vessels – overview. <i>Lecturer: Assoc. Prof. RNDr. Marianna Danková, PhD.</i>
9.	13.11.2026	2nd Partial test (topics of lectures and practica from weeks 6 – 9), PC room, Sasinkova street (above the Institute of Immunology, courtyard), consultation option
10.	20.11.2026	Microscopic structure of the alimentary system – overview. <i>Lecturer: Paulína Gálfiová, MD, PhD.</i>
11.	27.11.2026	Microscopic structure of the respiratory and lymphatic systems – overview. <i>Lecturer: Ján Liška, DVM, CSc.</i>
12.	4.12. 2026	Microscopic structure of the urinary and reproductive systems – overview. <i>Lecturer: Simona Polakovičová, MD, PhD.</i>
13.	11.12.2026	3rd Partial test (topics of lectures and practica from weeks 10 – 13), PC room, Sasinkova street (above the Institute of Immunology, courtyard), consultation option
	16.12.2026	<i>Credit test</i>
14.	18.12.2026	Consultations on lecture and practica topics.

2. 9. 2026