Faculty of Medicine in Rijeka

**Curriculum**
**2026/2027**

For course

# Histology and Embryology

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|---|---|
| Study program: | **Medical Studies in English (R)**<br>University integrated undergraduate and graduate study |
| Department: | **Department of Histology and Embryology** |
| Course coordinator: | **izv. prof. dr. sc. Wensveen Felix, dipl. biolog** |
| Year of study: | **2** |
| ECTS: | **10** |
| Incentive ECTS: | **0 (0.00%)** |
| Foreign language: | **Possibility of teaching in a foreign language** |

## Course information:

*Histology and Embryology* is a mandatory course at the second year of the Integrated Undergraduate and Graduate University Study of Medicine in English. It consists of 32 hours of lectures, 44 hours of seminars, and 44 hours of practical laboratory classes; overall 120 hours (10 ECTS). Lectures are held in lecture halls of the Faculty of Medicine according to the course schedule. Seminars and practical laboratory classes are held at the Department of Histology and Embryology.

*Course objectives*

Histology, a fundamental field of medicine, focuses on the microscopic structure of the human body. It examines cell morphology (cytology) and the fine details of organs (microscopic anatomy). Histology encompasses the entire sub-microscopic structure of organisms. In parallel, embryology explores embryo development, emphasizing morphogenesis during organogenesis and the molecular basis of differentiation. Understanding these complexities is essential for clinicians to grasp micro-anatomical pathophysiology and anomalies in organ development. This course holds significant practical value. Lastly, it delves into the relationship between congenital malformations and embryological errors.

*Expected course learning outcomes*

At the end of this course, students will be able to demonstrate a working knowledge of human histology and development and will be able to correlate structure and function of the human body. Students should be able to comprehend the molecular, biochemical, and cellular events that regulate the development of specialized cells, tissues and organs during embryonic development. Students should be able to comprehend tissue interactions and pattern formation. Moreover, students should understand the experimental strategies and techniques that are used to identify the molecular and cellular mechanisms of development.
Students should be thoroughly acquainted with structures and development of the human body by means of classical and contemporary methods of microscopic investigations; they should master the skills of microscopy of the most characteristic cells, tissues, and organs presented in histological slides. By utilizing their knowledge in physics, chemistry, biochemistry, biology, and anatomy, students should gain insight into the normal structure of the human body by means of light and electron microscopy.

*Course content*

The primary role of **histology** in the medical curriculum is to provide a basic understanding of the function of the human body based on its microscopical structure. Emphasis is placed on the normal structure as a basis for proper functioning and for understanding pathophysiological processes. The following topics and subtopics will be considered: epithelial tissues (cellular membrane, basal lamina, cell-cell interactions); connective tissue (general characteristics, cells and intercellular substance, fibers, and ground substance); types of connective tissue (proper - dense, regular and irregular, adipose tissue); cartilage (hyaline elastic, fibrocartilage); bone (microscopic structure of bones, bone cells, histogenesis of bone, synovial membrane), blood, lymphocytes and their immune role; muscular tissue (smooth, skeletal, cardiac muscle), nervous tissue (structure of neuron, nerve fiber, synapse and the relationship of neurons, neuroglia, choroid plexus); blood vascular system, lymphatic system, endocrine system, respiratory system, gastrointestinal tract, kidney and urinary tract, reproductive system and the organs of special senses.

The purpose of **embryology** is to provide students with a general outline of human development and to help them understand the complex relationships between the structures of the human body. Its practical medical implications are also of great importance since embryology can explain developmental anomalies and their molecular origins. The following topics and subtopics will be covered: fertilization, cleavage, gastrulation and formation of primary germ layers; differentiation of primary germ layers and organogenesis; cellular and molecular mechanisms that control tissue morphogenesis and differentiation; mechanisms that control differential gene expression leading to cell and tissue differentiation; extraembryonic coelom, connecting stalk, amnion, corium, placenta; neural plate, groove and tube; sex cycles, male and female sex organs; embryonic and fetal development; relationships between congenital malformations and errors in embryological development; environmental factors as causes of birth defects; development and anomalies of body systems; prenatal diagnostics.

## List of assigned reading:


1. A.L. Mescher.: Junqueira's Basic Histology, XIV edition, The McGraw –Hill Education, New York 2016.
2. T.W.Sadler: Langman's Medical Embryology, XIII edition, Wolters Kluwer Health, Philadelphia,2015.
3. http://medsci.indiana.edu/junqueira/virtual/junqueira.htm
4. https://accessmedicine.mhmedical.com/book.aspx?bookid=2430

**List of optional reading:**

http://www.histologyguide.com/

https://transmedri.hr/slidebox

## Curriculum:

### Lectures list (with titles and explanation):

**L1 Importance of Histology in Understanding Human Tissue Formation and Function1**

To understanding the aim of the course. To recognize the role of Histology as a foundation for subsequent studies in pathology and physiology

**L2 Epithelial Tissue**

> To define the microscopic structure and function of epithelial cells. To describe characteristic features of various types of epithelia.

**L3 Connective Tissue**

> To explain the types, characteristics, and functions of connective tissue. To describe and to define cells and ground substance (fibers and basic substances) of connective tissue proper, and connective tissues with special properties.

**L4 Blood**

To define the specifics of microscopic and sub-microscopic blood cells (erythrocytes, leukocytes, and platelets) and blood plasma. To adopt criteria for classification of blood cells based on their morphology

**L5-6 Cartilage, Joints, Bone, Osteogenesis**

> To explain the classification, characteristics, and functions of supporting connective tissue. To define the ECM of different types of cartilage tissue. To explain the growth and healing processes of cartilage tissue damage. To explain the histological characteristics of joints. To explain the classification, characteristics, and functions of supporting connective tissue. To define the specifics of cells and bone matrix. To explain the characteristics of primary and secondary bone tissue with respect to their histological properties. To explain the processes of intramembranous and endochondral ossification. To describe features of fracture bone remodeling and repair.

**L7-8 Muscle Tissue, Circulatory System**

> To explain the classification, characteristics, and functions of three types of muscle tissue. To define cellular and ECM properties of smooth, skeletal, and cardiac muscle. To explain the ultrastructure of muscle fibers and morphological conditions for the possibility of contraction. To describe the histological structure of heart and vasculature.

**L9-10 Nerve Tissue, Nervous System**

> To explain the classification, characteristics, and functions of nerve cells (neurons and glial cells). To explain the processes of central and peripheral myelination. To define the cells and interstitial substances of certain parts of the central and peripheral nervous system (big and small brain, spinal cord, ganglia, peripheral nerves). To explain the ultrastructure of nerve cells, the ability to transmit signals and the structure of the synapse. To describe the histological structure of the meninges and the blood-brain barrier.

**L11-12 Female Reproductive System and sex cycles**

To define the specifics of histological characteristics of the female reproductive system during different periods of a woman's life. To learn and adopt knowledge about sex cycles in males and females. To understand and explain changes during the generative period of life.

**L13 Embryology - First Week (preimplantation)**

To become familiar with developmental processes, fertilization, embryonic and fetal development of human embryos. To understand the underlying developmental processes: proliferation, migration, induction, differentiation and programmed morphogenic cell death. To understand the requirements of gametes prior to fertilization. To understand the specific changes during the first week of development of the fertilized ovary (zygote).

**L14 Embryology – Extra-embryonic Membranes**

To adopt knowledge about the development and function of fetal membranes: trophoblast, amnion, chorion, yolk sack. To understand the development, texture, and function of the placenta and umbilical cord in the different periods of pregnancy. To understand the utero-placental bloodstream.

**L15-16 Second Week and Third Week of development, body cavities, Embryo, Fetus**

To outline the general changes during the second week (implantation, two-layered germ disc) and the third week (gastrulation) of development. To understand the main changes during the embryonic and fetal periods of intrauterine development. To understand how the folding of the trilaminar disc leads to the formation of the embryonic body cavities and gastrointestinal tube.

**L17 Embryology – Head and neck development**

To define the processes that lead to the development of individual structures in the head and neck area. To adopt knowledge on the origin of the pharyngeal arches and their derivatives, the appearance of stomodeum and its differentiation during the embryonic and fetal developmental periods. To describe the development of the temporomandibular joint.

**L18 Embryology – Development of the muscular system, axial skeleton and limbs**

To define the processes leading to differentiation of mesoderm and the formation of certain groups of skeletal and smooth muscles and the muscular wall of the heart. To explain the emergence of certain parts of the skeletal system - skull, spine, ribs, pelvis and limbs.

**L19 Development of the Central Nervous System and endocrine glands**

To explain and describe the processes of the formation and differentiation of nerve and glial cells and the formation of nerve tissue during early neurogenesis. To understand the development of individual parts of the central and peripheral nervous system. To explain development of the main endocrine glands (pituitary, pineal, thyroid, parathyroid, adrenal).

**L20 Male Reproductive System, structure and gametogenesis**

To define the specifics of the histological structure of testes, epididymis and accessory glands. To understand and explain the processes of gametogenesis and spermatogenesis. To understand the basics of meiosis.

**L21 Skin and Derivates – Structure and Development**

To describe the structure and function of thin and thick skin layers. To understand and explain the structure of the skin glands and sensory receptors. To describe the main features of hair and nails. To explain the functional stages of the female mammary glands. To explain the developmental processes that allow the formation of individual skin layers and skin derivatives.

**L22 Endocrine System**

To describe the classification, characteristics, and functions of the endocrine system. To define the specificity of the histological structure of certain endocrine glands, including the pituitary gland, epiphysis, thyroid, parathyroid glands and adrenal glands.

**L23 Eye – Structure and Development**

To define the peculiarities of the histological structure of the individual structures of the eye. To understand and explain the texture and function of the lens, cilia muscle, and individual parts of the retina. To explain the processes of optic cup development and formation of various parts of eye layers.

**L24 Ear – Structure and Development**

To define the histological structure of various parts of the external, middle, and internal ear. To understand the function of individual parts of the internal ear. To describe the developmental processes that enable the emergence of the outer, middle, and inner ear.

**L25 Immune system – Structure and Development**

To explain the characteristics and functions of the immune system. To define the histological structure of the thymus, lymph nodes, spleen, and tonsils. To describe the developmental processes that lead to the formation of the lymph system organs.

**L26 Digestive tract – Oral Cavity**

To describe the specifics of organs in the oral cavity (lip, tongue, palate, salivary glands). To explain the structure of primary and permanent teeth. To explain the processes of denture formation in primary and secondary dentition. To define the processes that lead to tooth eruptions.

**L27 Digestive Tract – Structure**

To describe the specifics of the digestive tract. To understand the general structure of the digestive tract and its layers (epithelium, lamina propria, muscularis mucosa, submucosa, muscularis externa, Adventitia or serosa), esophagus, stomach and intestine.

**L28 Organs associate with the digestive tract – structure & development**

To describe the specifics of the organs associated with the digestive tract (Salivary glands, Pancreas, Liver, gallbladder). To understand the hepatic blood flow and structure of the liver lobules. To understand how the pancreas, liver and gallbladder are formed from the hepatic diverticulum. To define how these organs are formed from the endoderm and oral ectoderm.

**L29 Respiratory system – Structure & Development**

To define histological characteristics of parts forming the respiratory system (respiratory and olfactory region of the nose, paranasal sinuses, lungs, bronchi, bronchioles, alveoli). To understand and explain the structure and function of the blood-air barrier. To understand how the internal folding and development of segregations leads to the separate body cavities. To understand how the lungs are formed from the primitive foregut.

**L30 Urinary system – Structure**

To explain the basic characteristics of the structure and function of the urinary system. To define the peculiarities of the kidney structure - especially the cortex, the ureter, the bladder, the male and female urethra. To describe parts of the nephron

**L31-32 Development of the Cardiovascular and Respiratory Systems**

To understand the patterning of primary heart field, cardiac, and vascular development. To describe the developmental processes that lead to the formation of lymphatic capillaries and vessels. To describe the developmental processes of forming the respiratory system.

**Practicals list (with titles and explanation):**

**LP1 Histology and its Methods of Study**

Preparation of tissue materials for cryo-sectioning and paraffin-sectioning, immunohistochemical

**LP2 Epithelial Tissue**

dental pulp - endothelium, small intestine – simple columnar epithelium, goblet cells, simple tubular glands, esophagus – squamous moist, mucous glands, skin – squamous dry, merocrine, holocrine, apocrine glands

**LP3 Connective Tissue**

mesenchyme, skin – intravital staining, tendon, epicardium.

**LP4 Blood, Cartilage**

trachea, ear auricle – HE, orcein staining, meniscus, blood smear.

**LP5 - Bone, Osteogenesis**

ground bone, decalcified bone, fetal skull and finger, bone marrow

**LP6 - Muscle Tissue, Cardiovascular System**

skeletal, cardiac, smooth muscle, endocardium, small artery and vein – HE, orcein staining.

**LP7 - Nervous Tissue, Nervous System**

spinal cord and cerebellum – HE, silver staining, nerve, sensory, autonomic ganglia

**LP8 - Female Reproductive**

ovary, uterine tube, uterus (2 phases), vagina

**LP9 – Embryology**

chorionic villi, umbilical cord, embryo

**LP10 - Male Reproductive System**

testes, epididymis, vas deferens, prostate gland

**LP11 - Skin – Structure**

thin skin with glands – axilla, hair, thick skin, mammary gland – 2 stages

**LP12 - Endocrine System**

pituitary gland, adrenal gland, thyroid gland, pineal gland

**LP13 - Eye – Structure and Development**

cornea, iris, ciliary body, lens, retina, development of eye – early, late stage

**LP14 – Ear**

auricle, inner ear

**LP15 - Immune System**

thymus, lymph node, spleen, tonsil

**LP16 Oral Cavity, Teeth – Structure and Development**

lip, tongue, filiform and vallate papillae, dentin, cementum, enamel, enamel organ – early, late stage

**LP17 Digestive Tract**

esophagus, stomach, small intestine, large intestine, vermiform appendix

**LP18 Digestive Glands**

liver, pancreas, gallbladder, salivary glands

**LP19 Respiratory System**

nasal cavity, trachea, lungs

**LP20 Urinary system**

kidney, ureters, blader

**LP21 Tissue section repetition**

Repetition of all slides under supervision. This LP should also be used to make up all the practical courses that were missed by the student

**LP22 Tissue section recognition**

Repetition of all slides under supervision. This LP should also be used to make up all the practical courses that were missed by the student

**Seminars list (with titles and explanation):**

**S1 Histology and its Methods of Study**

To explain the basic facts of the development of histological techniques and microscopy. To get acquainted with and acquire knowledge about the way of preparing classic histological slides, as well as various histological, histochemical, and immunohistochemical techniques. To explain the principles of the methods used in histology laboratories and microscopy.

**S2 Epithelial Tissue**

To classify and describe the microscopic and submicroscopic structure of epithelial cells. To define the specifics of certain types of glandular epithelia.

**S3 Connective Tissue**

To explain the characteristics and functions of connective tissue. To define cells and ECM (fibers and ground substance), connective tissue, and connective tissues with special properties. To compare the similarities and differences between these two types of tissues.

**S4 Bone marrow, hematopoiesis**

To describe histological characteristics of bone marrow. To understand the emergence of individual blood cells during intrauterine development, as well as hematopoiesis later in life.

**S5 Blood, Cartilage**

To define the specifics of microscopic and submicroscopic structures of blood cells. To identify blood cells based on their morphology. To define cellular and interstitial parts of different types of cartilage tissue. To explain the growth and healing processes of cartilage tissue damage. To explain the characteristics of the histological structure of joints.

**S6 Bone, osteogenesis**

To define the specifics of cells and ECM of bone tissue. To explain the characteristics of primary and secondary bones with respect to their histological properties. To explain the processes of osteogenesis, the process of fracture healing and bone remodeling.

**S8 Muscle Tissue, Circulatory System**

To clearly define cellular and interstitial properties of smooth, skeletal, and cardiac muscle tissue. To explain the ultrastructure of muscle cells and morphological conditions required for contraction in all types of muscle tissue. To describe the histological structure of the heart, artery, and vein. To adopt the classification of blood capillaries based on their microscopic structure.

**S9 Nerve Tissue, Nervous System**

To explain the classification, characteristics, and functions of nerve cells (neurons and glial cells). To explain the processes of central and peripheral myelination. To define the cells and interstitial substances of certain parts of the central and peripheral nervous system (big and small brain, spinal cord, ganglia, peripheral nerves). To explain the ultrastructure of the nerve cells, the ability to transmit the signal, and the structure of the synapse. To describe the histological structure of meninges and the blood-brain barrier.

**S10 Female Reproductive System**

To learn about sex cycles in males and females. To understand and explain changes in histological structure in the ovaries and uterus that precede the emergence of mature sex cells.

**S11 Embryology I**

To understand the specific changes during the first week of development - zygote, cleaving, second week – implantation, formation of a double layered disc. To understand the specifics of changes during the third week of development - embryonic, fetal development (neurulation, somitogenesis, germinal derivatives).

**S12 Embryology II**

To explain the development of placental blood flow and function of embryonic envelopes – amnion, chorion, allantois, yolk sack. To understand the development, texture, and function of the placenta in different periods of pregnancy.

**S7 Stem cells**

To define the specifics of stem cells and their cellular locations. To define the role of self-renewal and multipotency in stem cell biology. To explain the role of stem cells in the regeneration of tissues. To explain how differentiated tissues develop from stem cells.

**S14 Head and Neck Development**

To explain and describe the processes that lead to the development of individual structures in the head and neck area. To adopt knowledge on the origin of the pharyngeal arches and their derivatives, the appearance of stomodeum and its differentiation during the embryonic and fetal developmental periods. To describe the development of the temporomandibular joint.

**S15 Muscular System, Limbs, Axial Skeleton – Development**

To understand and explain the processes leading to differentiation of mesoderm and the formation of certain groups of skeletal and smooth muscles and the muscular wall of the heart. To explain the emergence of certain parts of the skeletal system - skull, spine, ribs, pelvis and limbs.

**S16 Male Reproductive System – Structure**

To define the specifics of the histological structure of testes, epididymis and accessory glands

**S17 Skin – Structure and Development**

To clearly define the specifics of the histological structure of the skin. To understand and explain the properties of the skin glands. To describe hair and nails. To explain developmental processes that allow the formation of individual skin layers and skin derivatives. To adopt knowledge about differences in appearance and function of the breast and breastfeeding between pregnant women, breastfeeding women and women that are not pregnant.

**S18 Endocrine System**

To describe the classification, characteristics, and functions of the endocrine system. To define the specificity of the histological structure of certain endocrine glands; pituitary gland, epiphysis, thyroid, parathyroid glands and adrenal glands.

**S19 Eye – Structure and Development**

To define the specifics of the histological structure of the individual structures of the eye. To understand and explain the texture and function of the lens, cilia muscle, and individual parts of the retina. To explain the processes of optic cup development and formation of various parts of eye layers.

**S13 Birth Defects, Teratology**

To define critical periods of development and to identify teratogenic factors. To understand and explain the possibility of the emergence of anomalies and clinically important disorders that arise during development.

**S20 Ear – Structure and Development**

To define the histological structure of various parts of the external, middle, and internal ear. To understand the function of individual parts of the internal ear. To describe the developmental processes that enable the emergence of the outer, middle, and inner ear.

**S21 Immune system – Structure and Development**

To explain the characteristics and general functions of the immune system. To define the histological structure of the thymus, lymph nodes, spleen, and tonsils. To describe the developmental processes that lead to the formation of the organs associated with the lymphatic system.

**S22 Oral Cavity – Structure and Development**

To define the properties of the individual parts of the oral cavity - lip, tongue, palate and teeth. To describe the development of the palate, the tongue, and the upper and the lower jaw. To explain the processes of denture formation in primary and secondary dentition.

**S23 Digestive Tract – Structure**

To define the histological structure of the digestive tract (esophagus, stomach, small intestine, and colon). To understand and explain the structure and function of the individual layers in the structure of various segments.

**S24 Digestive Tract – Development**

To understand the developmental processes of various organs of digestive tract formation. To understand the formation of the foregut, midgut and hindgut. To understand the rotation of the stomach and formation of primary and secondary retroperitoneal organs and intraperitoneal organs. To understand formation and folding of the intestines. To understand the formation of the mesenteries and omentum.

**S25 Digestive Glands – Structure and development**

To understand and explain the structure and function of intestinal glands - salivary glands, liver, pancreas. To understand and explain the flow of blood and bile inside the liver. To understand the embryonic development of these organs.

**S26 Respiratory System – Structure and development**

To define the basics of development and the specifics of the histological structure of the individual parts of the respiratory system (respiratory and nerve region, nose, paranasal sinuses, lungs, bronchi, bronchioles, alveoli). To understand and explain the structure and function of the blood-air barrier. To understand the phases in the development of the respiratory system.

**S27 Urinary system – Structure**

To explain the basic characteristics of the structure and function of the urinary system. To define the specifics of the kidney structure - especially the cortex, the ureter, the bladder, the male and female urethra. To describe parts of the nephron. To define the characteristics of the transitional epithelium.

**S28 Urogenital system – Development**

To understand and describe the processes that lead to the development of three generations of kidney systems, the formation of the urethra, ureter, and urinary bladder. To understand the developmental process that leads to the normal male and female reproductive system - sexual glands and sex organs of the male and female sex.

## Student obligations:

Class attendance, including test attendance, is mandatory. Students may be absent from 30% of each form of teaching provided they have a justifiable cause. If a student is absent for more than 30% of the classes, they will have to re-enroll the course. Students are expected to actively participate in all aspects of the course, complete laboratory reports on time, and attend the examinations. Moreover, preparation of the course content, which is going to be discussed during seminars and laboratory practicals, is mandatory.

## Exam (exam taking, description of the written/oral/practical part of the exam, point distribution, grading criteria):

Student grading will be conducted according to the current Ordinance on Studies of the University of Rijeka (approved by the Senate) and the Ordinance on Student Grading at the Faculty of Medicine in Rijeka (approved by the Faculty Council).

**Assessment of student work**

Student work will be assessed and graded during the course and on the final exam. During the course, students may obtain a total of 100 grade points (credits). Students can achieve up to 70% of the final grade during the classes, and a maximum of 30% of the final grade at the final exam. Evaluation of students' progress during classes, midterms, and the final exam in the academic year 2024/2025 is shown in Table 1.

**Table 1. Distribution of grade points in the course "Histology and Embryology"**

| | Evaluation | Grade points | |
|---|---|---|---|
| **Midterm exams** | Midterm exam I | 24 | |
| | Midterm exam II | 20 | |
| | **Total** | **44** | |
| **Seminars, Laboratory practicals** | Active participation<br>(max. 8 points)<br>Completed LPs and an accepted written report<br>(max. 3 points) | 11 | |
| **Tissue section recognition** | Recognition of Slides exam | 15 | |
| **TOTAL** | | **70** | |
| | Oral exam | 30 | |
| | **Total** | **30** | |
| **TOTAL** | | **100** | |

**Written midterm exams**

During the semester, two written midterm exams are planned that will include the content of lectures, seminars, and practical laboratory classes. MT I – general histology and basic embryology. MT II – histology and development of various organs. The maximum of grade points that a student can obtain is 24 (MT I) and 20 (MT II). The midterm exams consist of 60 multiple-choice questions and are evaluated according to the criteria

**Table 2. Evaluation of written midterm exams**

| | MT I | MT II |
|---|---|---|

| No. of correctly answered questions | Grade points/credits | Grade points/credits |
|---|---|---|
| 55 - 60 | 24 | 20 |
| 50 - 54 | 22 | 18 |
| 46 - 49 | 20 | 16 |
| 42 - 45 | 18 | 14 |
| 38 - 41 | 16 | 12 |
| 34 - 37 | 14 | 10 |
| 30 - 33 | 12 | 8 |
| 26 - 29 | 6 | 4 |
| 0 – 24 | 0 | 0 |

**Correction of the midterm exams**

A student can retake each of the two midterm exams if they are not satisfied with the obtained credits or were absent at the midterm exam. If a student retakes the midterm exam because they are not satisfied with the obtained grade points, only the credits gained from the retaken midterms will be considered. Evaluation of the midterm corrections will be performed according to the criteria shown in Table 2. Students can retake each midterm exam only once. Correction of the midterm exams will be done before the final exams in February on a date that will be communicated by the course coordinator via Merlin.

**Seminar evaluation**

A student can obtain a maximum of 8 credits (Table 3) throughout seminars and practical laboratory classes. Evaluation of LPs implies a completed and accepted written report with drawings of all slides. During LPs and seminars, the oral examination can be performed by the teacher or through short written exams. During each seminar, a student can get a score of 2 (good), 1 (sufficient) or 0 (insufficient).

**INSUFFICENT KNOWLEDGE AT SEMINARS**: If the theoretical knowledge of a student during a seminar is considered insufficient, the teacher has the right to give a grade of 0 for that seminar. The student is subsequently not allowed to participate in the next midterm exam. However, before the midterm exam is held, the student is allowed to request a brief oral exam on the topic for which he/she received a 0 by one of the staff members of the dept. of histology and embryology. If his/her knowledge is considered sufficient, a student is allowed to participate in the midterm exam. An oral examination for a seminar can only be requested if a grade of 0 (F) is given.

**ABSENCE AT SEMINARS**: If a student is absent at a seminar, he/she needs to demonstrate sufficient knowledge on this topic by performing an oral exam with the teacher of the seminar. At this oral exam, the student will not receive a grade, but a 'pass' for the topic if the examinator considers the student sufficiently knowledgeable. Without a 'pass' for a missed topic, students are not allowed to participate in the next midterm exam. An oral exam should be requested by first registering with the secretary of the dept. of histology & embryology, by sending an email to Lidija.karinja@medri.uniri.hr or to the course coordinator. Subsequently, the student and teacher will agree on a date and time for the oral examination.
Points for class participation (Max. 8) will be based on the average grade obtained during the seminars. If a student did not get at least 8 grades during the seminars and LPs, participation is considered insufficient and no grade points will be awarded.

| Average grade/seminar | Grade points/credits |
|---|---|
| <1 | 0 |

| | |
|---|---|
| 1-1.125 | 1 |
| 1.125 - 1.25 | 2 |
| 1.25 – 1.375 | 3 |
| 1,375 – 1.5 | 4 |
| 1.5 – 1,625 | 5 |
| 1,625 – 1,75 | 6 |
| 1,75 – 1,875 | 7 |
| 1,875 – 2,00 | 8 |

**Practical course evaluation**

**Points for the completed written report (Lab book) of the LPs (max. 3 points) will be based on the proper graphical representation of the various tissues and marking of the key features of each tissue. During the practical course, students can be questioned by the teaching staff to demonstrate their knowledge.**

**Recognition of Slides (ROS) exam**

Is a mandatory oral exam and is required for students to be qualified for the final exam. Before going to this colloquium, the student must have completed all the LPs. If he/she was absent from one or more LPs, these need to be done in the time provided for making up the exercises (i.e. LP21 and LP22). A student must identify at least 8 of the 10 microscopic slides, as well as the structures that are described (and drawn) during the practical laboratory classes. For this ROS-examination a student can receive a maximum of 15 points. At least 8 points are required to pass the exam. Each slide is evaluated with ½, 1, or 1 ½ points depending on the student's knowledge. Recognition of the slides awards ½ point and answering additional questions adds up to 1 point for each slide. This ROS-exam will be held in the weeks before each final exam. Per exam period, a student can apply twice for an ROS-exam, with at least three days between each examination. Precise dates and hours will be communicated digitally.

**Final exam**

The final oral exam is mandatory and covers the entire course content. During the final exam, students can obtain a maximum of 30 credits.

Assessment of the oral part of the final exam:

up to 15 credits: minimum criteria satisfied

16 – 20 credits: average criteria satisfied with noticeable errors

21 – 25 credits: answers with a few errors

26 – 30 credits: outstanding answers.

A student must pass the oral exam (i.e. receive at least 1 point) to pass the course, independent of the number of points that the student has collected before taking the final exam. If a student is not satisfied with the final grade, they may refuse the grade, but this will count as a failed attempt. In case a student does not accept the grade, he/she must re-enter the final exam.

**Conditions for admission to the**

A student who has accomplished at least 35 grade points during all course classes and has passed the ROS exam and has attended at least 70% of lectures, seminars and LPs (70% of each) can enter the final exam.

**Final grade**

The final grade represents a sum of all grade points obtained during all course classes and the final exam. Students are evaluated according to the ECTS (A-F) and numerical (5-1) system.

The ECTS and the numerical grading system are defined by the following criteria:

| Number of points | Final Grade |
|---|---|
| 90 – 100 | 5 (A) |
| 75 – 89.9 | 4 (B) |
| 60 – 74.9 | 3 (C) |
| 50 – 59.9 | 2 (D) |
| 0 – 49.9 | 1 (E) |

**Exempt of lectures**

A student who fulfilled all requirements for admission to the final exam but did not successfully complete the final exam may request that he/she does not need to attend lectures/seminars/LPs in the following year, while retaining the right to apply for the final exam. This request needs to be sent by email before the start of the next academic year to the course coordinator. Should the student instead decide to follow lectures anew, he/she loses all points of the previous year.

Exam dates

- 10.02.2027.
- 23.02.2027
- 07.07.2027.
- 01.09.2027.
- 15.09.2027.

## Other notes (related to the course) important for students:

Class attendance, including test attendance, is mandatory. Students may be absent from 30% of each form of teaching provided they have a justifiable cause. If a student is absent for more than 30% of the classes, they will have to re-enroll the course. Students are expected to actively participate in all aspects of the course, complete laboratory reports on time, and attend the examinations. Moreover, preparation of the course content, which is going to be discussed during seminars and laboratory practicals, is obligatory.

Academic Honesty

It is expected that all students and teachers follow the Code of Academic Honesty in accordance with the Code of Ethics for the students of the Faculty of Medicine at the University of Rijeka. Please read the policy regarding academic honesty at: http://medical-studies-in-english.com/wp-content/uploads/2016/12/CODE-OF-ETHICS.pdf

Contact information

For questions and concerns, please feel free to contact us by e-mail or via the Department’s website. If you want to speak with a teacher during office hours (each working day between 11:00 am and 13:00 am), please let us know by e-mail or in class.

Expected competencies at course enrollment:

Students are expected to have basic knowledge of biology and anatomy.

## COURSE HOURS 2026/2027

Histology and Embryology

| **Lectures**<br>(Place and time or group) | **Practicals**<br>(Place and time or group) | **Seminars**<br>(Place and time or group) |
|---|---|---|
| **01.10.2026** | | |
| L1 Importance of Histology in Understanding Human Tissue Formation and Function1:<br>• P15 - TOWN HALL (10:15 - 11:00) [145]<br>  ○ HAE<br><br>L2 Epithelial Tissue:<br>• P15 - TOWN HALL (11:15 - 12:00) [145]<br>  ○ HAE<br><br>L3 Connective Tissue:<br>• P15 - TOWN HALL (12:15 - 13:00) [145]<br>  ○ HAE | | |
| prof. dr. sc. Polić Bojan, dr. med. [145] | | |
| **05.10.2026** | | |
| L4 Blood:<br>• P15 - TOWN HALL (08:15 - 09:00) [145]<br>  ○ HAE<br><br>L5-6 Cartilage, Joints, Bone, Osteogenesis:<br>• P15 - TOWN HALL (09:15 - 10:00) [179]<br>  ○ HAE<br>• P15 - TOWN HALL (10:15 - 11:00) [179]<br>  ○ HAE | | |
| prof. dr. sc. Krmpotić Astrid, dr. med. [179] · prof. dr. sc. Polić Bojan, dr. med. [145] | | |
| **06.10.2026** | | |
| | LP1 Histology and its Methods of Study:<br>• Department of Histology and Embryology - Exercise room (09:30 - 11:00) [180] [1333]<br>  ○ HAE-P2<br>• Department of Histology and Embryology - Exercise room (12:45 - 14:15) [180] [1333]<br>  ○ HAE-P1 | S1 Histology and its Methods of Study:<br>• Department of Histology and Embryology - Exercise room (08:00 - 09:30) [180]<br>  ○ HAE-S2<br>• Department of Histology and Embryology - Exercise room (11:15 - 12:45) [180]<br>  ○ HAE-S1 |
| prof. dr. sc. Lenac Roviš Tihana [180] · Ražić Edvard [1333] | | |
| **07.10.2026** | | |
| | LP1 Histology and its Methods of Study:<br>• Department of Histology and Embryology - Exercise room (09:30 - 11:00) [180] [1333]<br>  ○ HAE-P3 | S1 Histology and its Methods of Study:<br>• Department of Histology and Embryology - Exercise room (08:00 - 09:30) [180]<br>  ○ HAE-S3 |
| prof. dr. sc. Lenac Roviš Tihana [180] · Ražić Edvard [1333] | | |
| **09.10.2026** | | |

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| L7-8 Muscle Tissue, Circulatory System:<br>• P15 - TOWN HALL (08:15 - 09:00) [1464]<br>  ○ HAE<br>• P15 - TOWN HALL (09:15 - 10:00) [1464]<br>  ○ HAE | | |
| doc. dr. sc. Babić Čač Marina, dipl. ing. biol. [1464] | | |
| **12.10.2026** | | |
| | LP2 Epithelial Tissue:<br>• Department of Histology and Embryology - Exercise room (09:30 - 11:00) [950]<br>  ○ HAE-P3<br>• Department of Histology and Embryology - Exercise room (14:45 - 16:15) [950]<br>  ○ HAE-P1 | S2 Epithelial Tissue:<br>• Department of Histology and Embryology - Exercise room (08:00 - 09:30) [193]<br>  ○ HAE-S3<br>• Department of Histology and Embryology - Exercise room (13:15 - 14:45) [193]<br>  ○ HAE-S1 |
| Glavan Tomislav, dr.med. [950] · Mladenić Karlo, mag. biotech. in med. [193] | | |
| **13.10.2026** | | |
| | LP2 Epithelial Tissue:<br>• Department of Histology and Embryology - Exercise room (09:30 - 11:00) [950]<br>  ○ HAE-P2<br><br>LP3 Connective Tissue:<br>• Department of Histology and Embryology - Exercise room (12:15 - 13:45) [3326]<br>  ○ HAE-P1 | S2 Epithelial Tissue:<br>• Department of Histology and Embryology - Exercise room (08:00 - 09:30) [193]<br>  ○ HAE-S2<br><br>S3 Connective Tissue:<br>• Department of Histology and Embryology - Exercise room (11:15 - 12:00) [189]<br>  ○ HAE-S1 |
| Glavan Tomislav, dr.med. [950] · doc.dr. sc. Jelenčić Vedrana, mag. ing. mol. bioteh. [189] · Majstorović Ozren, mag.biol.exp. [3326] · Mladenić Karlo, mag. biotech. in med. [193] | | |
| **14.10.2026** | | |
| | LP3 Connective Tissue:<br>• Department of Histology and Embryology - Exercise room (09:15 - 10:45) [3326]<br>  ○ HAE-P3 | S3 Connective Tissue:<br>• Department of Histology and Embryology - Exercise room (08:15 - 09:00) [189]<br>  ○ HAE-S3<br><br>S4 Bone marrow, hematopoiesis:<br>• P01 (11:15 - 12:00) [195]<br>  ○ HAE |
| doc.dr. sc. Jelenčić Vedrana, mag. ing. mol. bioteh. [189] · Majstorović Ozren, mag.biol.exp. [3326] · izv. prof. dr. sc. Wensveen Felix, dipl. biolog [195] | | |
| **15.10.2026** | | |
| | LP3 Connective Tissue:<br>• Department of Histology and Embryology - Exercise room (09:15 - 10:45) [3326]<br>  ○ HAE-P2 | S3 Connective Tissue:<br>• Department of Histology and Embryology - Exercise room (08:15 - 09:00) [189]<br>  ○ HAE-S2 |
| doc.dr. sc. Jelenčić Vedrana, mag. ing. mol. bioteh. [189] · Majstorović Ozren, mag.biol.exp. [3326] | | |
| **16.10.2026** | | |

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| L9-10 Nerve Tissue, Nervous System:<br>• P08 (08:15 - 09:00) [1480]<br>  ◦ HAE<br>• P08 (09:15 - 10:00) [1480]<br>  ◦ HAE | | |
| dr. sc. Šestan Marko, dr. med. vet. [1480] | | |
| **19.10.2026** | | |
| | LP4 Blood, Cartilage:<br>• Department of Histology and Embryology - Exercise room (09:15 - 10:45) [3325]<br>  ◦ HAE-P3<br>• Department of Histology and Embryology - Exercise room (14:15 - 15:45) [3325]<br>  ◦ HAE-P1 | S5 Blood, Cartilage:<br>• Department of Histology and Embryology - Exercise room (08:15 - 09:00) [201]<br>  ◦ HAE-S3<br>• Department of Histology and Embryology - Exercise room (13:15 - 14:00) [182]<br>  ◦ HAE-S1 |
| dr.sc. Kavazović Inga, mag. pharm. inv. [201] · Doc. dr. sc. Lenartić Maja, dipl. ing. [182] · Mušak Lucija, mag.ing.bioproc. [3325] | | |
| **20.10.2026** | | |
| | LP4 Blood, Cartilage:<br>• Department of Histology and Embryology - Exercise room (09:15 - 10:45) [3325]<br>  ◦ HAE-P2<br><br>LP5 - Bone, Osteogenesis:<br>• Department of Histology and Embryology - Exercise room (12:45 - 14:15) [201]<br>  ◦ HAE-P1 | S5 Blood, Cartilage:<br>• Department of Histology and Embryology - Exercise room (08:15 - 09:00) [182]<br>  ◦ HAE-S2<br><br>S6 Bone, osteogenesis:<br>• Department of Histology and Embryology - Exercise room (11:15 - 12:45) [201]<br>  ◦ HAE-S1 |
| dr.sc. Kavazović Inga, mag. pharm. inv. [201] · Doc. dr. sc. Lenartić Maja, dipl. ing. [182] · Mušak Lucija, mag.ing.bioproc. [3325] | | |
| **21.10.2026** | | |
| | LP5 - Bone, Osteogenesis:<br>• Department of Histology and Embryology - Exercise room (09:30 - 11:00) [201]<br>  ◦ HAE-P3 | S6 Bone, osteogenesis:<br>• Department of Histology and Embryology - Exercise room (08:00 - 09:30) [201]<br>  ◦ HAE-S3 |
| dr.sc. Kavazović Inga, mag. pharm. inv. [201] | | |
| **22.10.2026** | | |
| | LP5 - Bone, Osteogenesis:<br>• Department of Histology and Embryology - Exercise room (09:30 - 11:00) [201]<br>  ◦ HAE-S2 | S6 Bone, osteogenesis:<br>• Department of Histology and Embryology - Exercise room (08:00 - 09:30) [201]<br>  ◦ HAE-S2 |
| dr.sc. Kavazović Inga, mag. pharm. inv. [201] | | |
| **23.10.2026** | | |

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|---|---|---|
| L11-12 Female Reproductive System and sex cycles:<br>• P01 (08:15 - 09:00) [179]<br>  ○ HAE<br>• P01 (09:15 - 10:00) [179]<br>  ○ HAE | | |
| prof. dr. sc. Krmpotić Astrid, dr. med. [179] | | |
| **26.10.2026** | | |
| L13 Embryology - First Week (preimplantation):<br>• P01 (11:15 - 12:00) [195]<br>  ○ HAE | LP6 - Muscle Tissue, Cardiovascular System:<br>• Department of Histology and Embryology - Exercise room (09:30 - 11:00) [3647]<br>  ○ HAE-P3<br>• Department of Histology and Embryology - Exercise room (14:45 - 16:15) [3647]<br>  ○ HAE-P1 | S8 Muscle Tissue, Circulatory System:<br>• Department of Histology and Embryology - Exercise room (08:00 - 09:30) [191]<br>  ○ HAE-S3<br>• Department of Histology and Embryology - Exercise room (13:15 - 14:45) [191]<br>  ○ HAE-S1 |
| Melvan Lara [3647] · dr.sc. Mikašinović Sanja, mag. biotech. in med [191] · izv. prof. dr. sc. Wensveen Felix, dipl. biolog [195] | | |
| **27.10.2026** | | |
| | LP6 - Muscle Tissue, Cardiovascular System:<br>• Department of Histology and Embryology - Exercise room (09:30 - 11:00) [3647]<br>  ○ HAE-P2<br><br>LP7 - Nervous Tissue, Nervous System:<br>• Department of Histology and Embryology - Exercise room (12:45 - 14:15) [3643]<br>  ○ HAE-P1 | S8 Muscle Tissue, Circulatory System:<br>• Department of Histology and Embryology - Exercise room (08:00 - 09:30) [191]<br>  ○ HAE-S2<br><br>S9 Nerve Tissue, Nervous System:<br>• Department of Histology and Embryology - Exercise room (11:15 - 12:45) [201]<br>  ○ HAE-S1 |
| dr.sc. Kavazović Inga, mag. pharm. inv. [201] · Melvan Lara [3647] · dr.sc. Mikašinović Sanja, mag. biotech. in med [191] · Skok Sanja [3643] | | |
| **28.10.2026** | | |
| L14 Embryology – Extra-embryonic Membranes:<br>• P15 - TOWN HALL (11:15 - 12:00) [195]<br>  ○ HAE | LP7 - Nervous Tissue, Nervous System:<br>• Department of Histology and Embryology - Exercise room (09:30 - 11:00) [3643]<br>  ○ HAE-P3 | S9 Nerve Tissue, Nervous System:<br>• Department of Histology and Embryology - Exercise room (08:00 - 09:30) [201]<br>  ○ HAE-S3 |
| dr.sc. Kavazović Inga, mag. pharm. inv. [201] · Skok Sanja [3643] · izv. prof. dr. sc. Wensveen Felix, dipl. biolog [195] | | |
| **29.10.2026** | | |
| | LP7 - Nervous Tissue, Nervous System:<br>• Department of Histology and Embryology - Exercise room (09:30 - 11:00) [3643]<br>  ○ HAE-P2 | S9 Nerve Tissue, Nervous System:<br>• Department of Histology and Embryology - Exercise room (08:00 - 09:30) [201]<br>  ○ HAE-S2 |
| dr.sc. Kavazović Inga, mag. pharm. inv. [201] · Skok Sanja [3643] | | |
| **30.10.2026** | | |

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| L15-16 Second Week and Third Week of development, body cavities, Embryo, Fetus:<br>• P01 (08:15 - 09:00) [189]<br>  ○ HAE<br>• P01 (09:15 - 10:00) [189]<br>  ○ HAE | | |
| doc.dr. sc. Jelenčić Vedrana, mag. ing. mol. bioteh. [189] | | |
| **02.11.2026** | | |
| | LP8 - Female Reproductive:<br>• Department of Histology and Embryology - Exercise room (09:30 - 11:00) [3645]<br>  ○ HAE-P3<br>• Department of Histology and Embryology - Exercise room (14:45 - 16:15) [3645]<br>  ○ HAE-P1 | S10 Female Reproductive System:<br>• Department of Histology and Embryology - Exercise room (08:00 - 09:30) [1480]<br>  ○ HAE-S3<br>• Department of Histology and Embryology - Exercise room (13:15 - 14:45) [1480]<br>  ○ HAE-S1 |
| Koren Rajna [3645] · dr. sc. Šestan Marko, dr. med. vet. [1480] | | |
| **03.11.2026** | | |
| | LP8 - Female Reproductive:<br>• Department of Histology and Embryology - Exercise room (09:30 - 11:00) [3645]<br>  ○ HAE-P2 | S10 Female Reproductive System:<br>• Department of Histology and Embryology - Exercise room (08:00 - 09:30) [1480]<br>  ○ HAE-S2<br><br>S11 Embryology I:<br>• Department of Histology and Embryology - Exercise room (11:15 - 13:30) [201]<br>  ○ HAE-S1 |
| dr.sc. Kavazović Inga, mag. pharm. inv. [201] · Koren Rajna [3645] · dr. sc. Šestan Marko, dr. med. vet. [1480] | | |
| **04.11.2026** | | |
| | | S11 Embryology I:<br>• Department of Histology and Embryology - Exercise room (08:15 - 10:30) [201]<br>  ○ HAE-S3<br><br>S13 Birth Defects, Teratology:<br>• P15 - TOWN HALL (11:15 - 12:00) [1480]<br>  ○ HAE |
| dr.sc. Kavazović Inga, mag. pharm. inv. [201] · dr. sc. Šestan Marko, dr. med. vet. [1480] | | |
| **05.11.2026** | | |
| | | S11 Embryology I:<br>• Department of Histology and Embryology - Exercise room (08:15 - 10:30) [201]<br>  ○ HAE-S2 |
| dr.sc. Kavazović Inga, mag. pharm. inv. [201] | | |
| **06.11.2026** | | |

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| L17 Embryology – Head and neck development:<br>• P15 - TOWN HALL (08:15 - 09:00) [195]<br>  ◦ HAE<br><br>L18 Embryology – Development of the muscular system, axial skeleton and limbs:<br>• P15 - TOWN HALL (09:15 - 10:00) [182]<br>  ◦ HAE | | |
| Doc. dr. sc. Lenartić Maja, dipl. ing. [182] · izv. prof. dr. sc. Wensveen Felix, dipl. biolog [195] | | |
| **09.11.2026** | | |
| | LP9 – Embryology:<br>• Department of Histology and Embryology - Exercise room (09:30 - 11:00) [193]<br>  ◦ HAE-P3<br>• Department of Histology and Embryology - Exercise room (14:30 - 16:00) [193]<br>  ◦ HAE-P1 | S12 Embryology II:<br>• Department of Histology and Embryology - Exercise room (08:00 - 09:30) [193]<br>  ◦ HAE-S3<br>• Department of Histology and Embryology - Exercise room (13:00 - 14:30) [193]<br>  ◦ HAE-S1 |
| Mladenić Karlo, mag. biotech. in med. [193] | | |
| **10.11.2026** | | |
| | LP9 – Embryology:<br>• Department of Histology and Embryology - Exercise room (09:30 - 11:00) [193]<br>  ◦ HAE-P2 | S12 Embryology II:<br>• Department of Histology and Embryology - Exercise room (08:00 - 09:30) [193]<br>  ◦ HAE-S2<br><br>S14 Head and Neck Development:<br>• Department of Histology and Embryology - Exercise room (11:15 - 12:00) [195]<br>  ◦ HAE-S1<br><br>S15 Muscular System, Limbs, Axial Skeleton – Development:<br>• Department of Histology and Embryology - Exercise room (12:00 - 13:30) [182]<br>  ◦ HAE-S1 |
| Doc. dr. sc. Lenartić Maja, dipl. ing. [182] · Mladenić Karlo, mag. biotech. in med. [193] · izv. prof. dr. sc. Wensveen Felix, dipl. biolog [195] | | |
| **11.11.2026** | | |
| | | S14 Head and Neck Development:<br>• Department of Histology and Embryology - Exercise room (08:15 - 09:00) [195]<br>  ◦ HAE-S3<br><br>S15 Muscular System, Limbs, Axial Skeleton – Development:<br>• Department of Histology and Embryology - Exercise room (09:00 - 10:30) [182]<br>  ◦ HAE-S3 |
| Doc. dr. sc. Lenartić Maja, dipl. ing. [182] · izv. prof. dr. sc. Wensveen Felix, dipl. biolog [195] | | |

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| **12.11.2026** | | |
| | | S14 Head and Neck Development:<br>• Department of Histology and Embryology - Exercise room (08:15 - 09:00) [195]<br>  ○ HAE-S2<br><br>S15 Muscular System, Limbs, Axial Skeleton – Development:<br>• Department of Histology and Embryology - Exercise room (09:00 - 10:30) [182]<br>  ○ HAE-S2 |
| Doc. dr. sc. Lenartić Maja, dipl. ing. [182] · izv. prof. dr. sc. Wensveen Felix, dipl. biolog [195] | | |
| **13.11.2026** | | |
| L19 Development of the Central Nervous System and endocrine glands:<br>• P01 (08:15 - 09:00) [195]<br>  ○ HAE | | |
| izv. prof. dr. sc. Wensveen Felix, dipl. biolog [195] | | |
| **20.11.2026** | | |
| L20 Male Reproductive System, structure and gametogenesis:<br>• P01 (08:15 - 09:00) [1480]<br>  ○ HAE<br><br>L21 Skin and Derivates – Structure and Development:<br>• P01 (09:15 - 10:00) [201]<br>  ○ HAE | | |
| dr.sc. Kavazović Inga, mag. pharm. inv. [201] · dr. sc. Šestan Marko, dr. med. vet. [1480] | | |
| **23.11.2026** | | |
| | LP10 - Male Reproductive System:<br>• Department of Histology and Embryology - Exercise room (09:15 - 10:45) [191]<br>  ○ HAE-P3<br>• Department of Histology and Embryology - Exercise room (14:15 - 15:45) [191]<br>  ○ HAE-P1 | S16 Male Reproductive System – Structure:<br>• Department of Histology and Embryology - Exercise room (08:15 - 09:00) [191]<br>  ○ HAE-S3<br>• Department of Histology and Embryology - Exercise room (13:15 - 14:00) [191]<br>  ○ HAE-S1 |
| dr.sc. Mikašinović Sanja, mag. biotech. in med [191] | | |
| **24.11.2026** | | |

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|---|---|---|
| | LP10 - Male Reproductive System:<br>• Department of Histology and Embryology - Exercise room (09:15 - 10:45) [191]<br>  ○ HAE-P2<br><br>LP11 - Skin – Structure:<br>• Department of Histology and Embryology - Exercise room (13:45 - 15:15) [3645]<br>  ○ HAE-P1 | S16 Male Reproductive System – Structure:<br>• Department of Histology and Embryology - Exercise room (08:15 - 09:00) [191]<br>  ○ HAE-S2<br><br>S17 Skin – Structure and Development:<br>• Department of Histology and Embryology - Exercise room (12:15 - 13:45) [189]<br>  ○ HAE-S1 |
| doc.dr. sc. Jelenčić Vedrana, mag. ing. mol. bioteh. [189] · Koren Rajna [3645] · dr.sc. Mikašinović Sanja, mag. biotech. in med [191] | | |
| **25.11.2026** | | |
| L22 Endocrine System:<br>• P15 - TOWN HALL (11:15 - 12:00) [1480]<br>  ○ HAE | LP11 - Skin – Structure:<br>• Department of Histology and Embryology - Exercise room (09:30 - 11:00) [3645]<br>  ○ HAE-P2 | S17 Skin – Structure and Development:<br>• Department of Histology and Embryology - Exercise room (08:00 - 09:30) [189]<br>  ○ HAE-S2 |
| doc.dr. sc. Jelenčić Vedrana, mag. ing. mol. bioteh. [189] · Koren Rajna [3645] · dr. sc. Šestan Marko, dr. med. vet. [1480] | | |
| **26.11.2026** | | |
| | LP11 - Skin – Structure:<br>• Department of Histology and Embryology - Exercise room (09:30 - 11:00) [3645]<br>  ○ HAE-P3 | S17 Skin – Structure and Development:<br>• Department of Histology and Embryology - Exercise room (08:00 - 09:30) [189]<br>  ○ HAE-S3 |
| doc.dr. sc. Jelenčić Vedrana, mag. ing. mol. bioteh. [189] · Koren Rajna [3645] | | |
| **27.11.2026** | | |
| L23 Eye – Structure and Development:<br>• P08 (08:15 - 09:00) [145]<br>  ○ HAE<br><br>L24 Ear – Structure and Development:<br>• P08 (09:15 - 10:00) [145]<br>  ○ HAE | | |
| prof. dr. sc. Polić Bojan, dr. med. [145] | | |
| **30.11.2026** | | |
| | LP12 - Endocrine System:<br>• Department of Histology and Embryology - Exercise room (09:15 - 10:45) [3325]<br>  ○ HAE-P3<br>• Department of Histology and Embryology - Exercise room (14:15 - 15:45) [3325]<br>  ○ HAE-P1 | S18 Endocrine System:<br>• Department of Histology and Embryology - Exercise room (08:15 - 09:00) [1480]<br>  ○ HAE-S3<br>• Department of Histology and Embryology - Exercise room (13:15 - 14:00) [1480]<br>  ○ HAE-S1 |
| Mušak Lucija, mag.ing.bioproc. [3325] · dr. sc. Šestan Marko, dr. med. vet. [1480] | | |
| **01.12.2026** | | |

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| | LP12 - Endocrine System:<br>• Department of Histology and Embryology - Exercise room (09:15 - 10:45) [3325]<br>○ HAE-P2<br><br>LP13 - Eye – Structure and Development:<br>• Department of Histology and Embryology - Exercise room (13:45 - 15:15) [3326]<br>○ HAE-P1 | S18 Endocrine System:<br>• Department of Histology and Embryology - Exercise room (08:15 - 09:00) [1480]<br>○ HAE-S2<br><br>S19 Eye – Structure and Development:<br>• Department of Histology and Embryology - Exercise room (12:15 - 13:45) [195]<br>○ HAE-S1 |
| Majstorović Ozren, mag.biol.exp. [3326] · Mušak Lucija, mag.ing.bioproc. [3325] · izv. prof. dr. sc. Wensveen Felix, dipl. biolog [195] · dr. sc. Šestan Marko, dr. med. vet. [1480] | | |
| **02.12.2026** | | |
| L25 Immune system – Structure and Development:<br>• P15 - TOWN HALL (11:15 - 12:00) [145]<br>○ HAE | LP13 - Eye – Structure and Development:<br>• Department of Histology and Embryology - Exercise room (09:30 - 11:00) [3326]<br>○ HAE-P2 | S19 Eye – Structure and Development:<br>• Department of Histology and Embryology - Exercise room (08:00 - 09:30) [195]<br>○ HAE-S2 |
| Majstorović Ozren, mag.biol.exp. [3326] · prof. dr. sc. Polić Bojan, dr. med. [145] · izv. prof. dr. sc. Wensveen Felix, dipl. biolog [195] | | |
| **03.12.2026** | | |
| | LP13 - Eye – Structure and Development:<br>• Department of Histology and Embryology - Exercise room (09:30 - 11:00) [3326]<br>○ HAE-P3 | S19 Eye – Structure and Development:<br>• Department of Histology and Embryology - Exercise room (08:00 - 09:30) [195]<br>○ HAE-S3 |
| Majstorović Ozren, mag.biol.exp. [3326] · izv. prof. dr. sc. Wensveen Felix, dipl. biolog [195] | | |
| **04.12.2026** | | |
| L26 Digestive tract – Oral Cavity:<br>• P15 - TOWN HALL (08:15 - 09:00) [189]<br>○ HAE<br><br>L27 Digestive Tract – Structure:<br>• P15 - TOWN HALL (09:15 - 10:00) [145]<br>○ HAE | | |
| doc.dr. sc. Jelenčić Vedrana, mag. ing. mol. bioteh. [189] · prof. dr. sc. Polić Bojan, dr. med. [145] | | |
| **07.12.2026** | | |
| | LP14 – Ear:<br>• Department of Histology and Embryology - Exercise room (09:15 - 10:45) [3644]<br>○ HAE-P3<br>• Department of Histology and Embryology - Exercise room (14:15 - 15:45) [3644]<br>○ HAE-P1 | S20 Ear – Structure and Development:<br>• Department of Histology and Embryology - Exercise room (08:15 - 09:00) [193]<br>○ HAE-S3<br>• Department of Histology and Embryology - Exercise room (13:15 - 14:00) [193]<br>○ HAE-S1 |
| Mladenić Karlo, mag. biotech. in med. [193] · Pavičić Ana-Zorica [3644] | | |
| **08.12.2026** | | |

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| | LP14 – Ear:<br>• Department of Histology and Embryology - Exercise room (09:15 - 10:45) [3644]<br>○ HAE-P2<br><br>LP15 - Immune System:<br>• Department of Histology and Embryology - Exercise room (13:15 - 14:45) [950]<br>○ HAE-P1 | S20 Ear – Structure and Development:<br>• Department of Histology and Embryology - Exercise room (08:15 - 09:00) [193]<br>○ HAE-S2<br><br>S21 Immune system – Structure and Development:<br>• Department of Histology and Embryology - Exercise room (12:15 - 13:00) [179]<br>○ HAE-S1 |
| Glavan Tomislav, dr.med. [950] · prof. dr. sc. Krmpotić Astrid, dr. med. [179] · Mladenić Karlo, mag. biotech. in med. [193] · Pavičić Ana-Zorica [3644] | | |
| **09.12.2026** | | |
| | LP15 - Immune System:<br>• Department of Histology and Embryology - Exercise room (09:15 - 10:45) [950]<br>○ HAE-P2 | S21 Immune system – Structure and Development:<br>• Department of Histology and Embryology - Exercise room (08:15 - 09:00) [179]<br>○ HAE-S2<br><br>S24 Digestive Tract – Development:<br>• P04 (11:15 - 12:00) [1464]<br>○ HAE |
| doc. dr. sc. Babić Čač Marina, dipl. ing. biol. [1464] · Glavan Tomislav, dr.med. [950] · prof. dr. sc. Krmpotić Astrid, dr. med. [179] | | |
| **10.12.2026** | | |
| | LP15 - Immune System:<br>• Department of Histology and Embryology - Exercise room (09:15 - 10:45) [950]<br>○ HAE-P3 | S21 Immune system – Structure and Development:<br>• Department of Histology and Embryology - Exercise room (08:15 - 09:00) [179]<br>○ HAE-S3 |
| Glavan Tomislav, dr.med. [950] · prof. dr. sc. Krmpotić Astrid, dr. med. [179] | | |
| **11.12.2026** | | |
| L28 Organs associate with the digestive tract – structure & development:<br>• P01 (08:15 - 09:00) [201]<br>○ HAE<br><br>L29 Respiratory system – Structure & Development:<br>• P01 (09:15 - 10:00) [179]<br>○ HAE | | |
| dr.sc. Kavazović Inga, mag. pharm. inv. [201] · prof. dr. sc. Krmpotić Astrid, dr. med. [179] | | |
| **14.12.2026** | | |

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| | LP16 Oral Cavity, Teeth – Structure and Development:<br>• Department of Histology and Embryology - Exercise room (09:30 - 11:00) [191]<br>  ○ HAE-P3<br>• Department of Histology and Embryology - Exercise room (14:45 - 16:15) [191]<br>  ○ HAE-P1 | S22 Oral Cavity – Structure and Development:<br>• Department of Histology and Embryology - Exercise room (08:00 - 09:30) [195]<br>  ○ HAE-S3<br>• Department of Histology and Embryology - Exercise room (13:15 - 14:45) [195]<br>  ○ HAE-S1 |
| dr.sc. Mikašinović Sanja, mag. biotech. in med [191] · izv. prof. dr. sc. Wensveen Felix, dipl. biolog [195] | | |
| **15.12.2026** | | |
| | LP16 Oral Cavity, Teeth – Structure and Development:<br>• Department of Histology and Embryology - Exercise room (09:30 - 11:00) [191]<br>  ○ HAE-P2<br><br>LP17 Digestive Tract:<br>• Department of Histology and Embryology - Exercise room (12:45 - 14:15) [3647]<br>  ○ HAE-P1 | S22 Oral Cavity – Structure and Development:<br>• Department of Histology and Embryology - Exercise room (08:00 - 09:30) [195]<br>  ○ HAE-S2<br><br>S23 Digestive Tract – Structure:<br>• Department of Histology and Embryology - Exercise room (11:15 - 12:45) [145]<br>  ○ HAE-S1 |
| Melvan Lara [3647] · dr.sc. Mikašinović Sanja, mag. biotech. in med [191] · prof. dr. sc. Polić Bojan, dr. med. [145] · izv. prof. dr. sc. Wensveen Felix, dipl. biolog [195] | | |
| **16.12.2026** | | |
| | LP17 Digestive Tract:<br>• Department of Histology and Embryology - Exercise room (09:30 - 11:00) [3647]<br>  ○ HAE-P3 | S23 Digestive Tract – Structure:<br>• Department of Histology and Embryology - Exercise room (08:00 - 09:30) [145]<br>  ○ HAE-S3<br><br>S7 Stem cells:<br>• P01 (11:15 - 12:00) [145]<br>  ○ HAE |
| Melvan Lara [3647] · prof. dr. sc. Polić Bojan, dr. med. [145] | | |
| **17.12.2026** | | |
| | LP17 Digestive Tract:<br>• Department of Histology and Embryology - Exercise room (09:30 - 11:00) [3647]<br>  ○ HAE-P2 | S23 Digestive Tract – Structure:<br>• Department of Histology and Embryology - Exercise room (08:00 - 09:30) [145]<br>  ○ HAE-S2 |
| Melvan Lara [3647] · prof. dr. sc. Polić Bojan, dr. med. [145] | | |
| **11.01.2027** | | |

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| | LP18 Digestive Glands:<br>• Department of Histology and Embryology - Exercise room (09:15 - 10:45) [3643]<br>  ◦ HAE-P3<br>• Department of Histology and Embryology - Exercise room (12:15 - 13:45) [3643]<br>  ◦ HAE-P1 | S25 Digestive Glands – Structure and development:<br>• Department of Histology and Embryology - Exercise room (08:15 - 09:00) [1464]<br>  ◦ HAE-S3<br>• Department of Histology and Embryology - Exercise room (11:15 - 12:00) [1464]<br>  ◦ HAE-S1 |
| doc. dr. sc. Babić Čač Marina, dipl. ing. biol. [1464] · Skok Sanja [3643] | | |
| **12.01.2027** | | |
| L30 Urinary system – Structure:<br>• P08 (11:15 - 12:00) [182]<br>  ◦ HAE | LP18 Digestive Glands:<br>• Department of Histology and Embryology - Exercise room (09:15 - 10:45) [3643]<br>  ◦ HAE-P2<br><br>LP19 Respiratory System:<br>• Department of Histology and Embryology - Exercise room (13:15 - 14:45) [950]<br>  ◦ HAE-P2 | S25 Digestive Glands – Structure and development:<br>• Department of Histology and Embryology - Exercise room (08:15 - 09:00) [1464]<br>  ◦ HAE-S2<br><br>S26 Respiratory System – Structure and development:<br>• Department of Histology and Embryology - Exercise room (12:15 - 13:00) [182]<br>  ◦ HAE-S2 |
| doc. dr. sc. Babić Čač Marina, dipl. ing. biol. [1464] · Glavan Tomislav, dr.med. [950] · Doc. dr. sc. Lenartić Maja, dipl. ing. [182] · Skok Sanja [3643] | | |
| **13.01.2027** | | |
| | LP19 Respiratory System:<br>• Department of Histology and Embryology - Exercise room (09:15 - 10:45) [950]<br>  ◦ HAE-P1 | S26 Respiratory System – Structure and development:<br>• Department of Histology and Embryology - Exercise room (08:15 - 09:00) [182]<br>  ◦ HAE-S1 |
| Glavan Tomislav, dr.med. [950] · Doc. dr. sc. Lenartić Maja, dipl. ing. [182] | | |
| **14.01.2027** | | |
| | LP19 Respiratory System:<br>• Department of Histology and Embryology - Exercise room (09:15 - 10:45) [950]<br>  ◦ HAE-P3 | S26 Respiratory System – Structure and development:<br>• Department of Histology and Embryology - Exercise room (08:15 - 09:00) [182]<br>  ◦ HAE-S3 |
| Glavan Tomislav, dr.med. [950] · Doc. dr. sc. Lenartić Maja, dipl. ing. [182] | | |
| **15.01.2027** | | |
| L31-32 Development of the Cardiovascular and Respiratory Systems:<br>• P01 (08:15 - 09:00) [195]<br>  ◦ HAE<br>• P01 (09:15 - 10:00) [195]<br>  ◦ HAE | | |
| izv. prof. dr. sc. Wensveen Felix, dipl. biolog [195] | | |

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| **18.01.2027** | | |
| | LP20 Urinary system:<br>• Department of Histology and Embryology - Exercise room (09:30 - 11:00) [195]<br>◦ HAE-P3<br>• Department of Histology and Embryology - Exercise room (14:45 - 16:15) [195]<br>◦ HAE-P1 | S27 Urinary system – Structure:<br>• Department of Histology and Embryology - Exercise room (08:00 - 09:30) [195]<br>◦ HAE-S3<br>• Department of Histology and Embryology - Exercise room (13:15 - 14:45) [195]<br>◦ HAE-S1 |
| izv. prof. dr. sc. Wensveen Felix, dipl. biolog [195] | | |
| **19.01.2027** | | |
| | LP21 Tissue section repetition:<br>• Department of Histology and Embryology - Exercise room (08:00 - 09:30) [201]<br>◦ HAE-P3<br><br>LP22 Tissue section recognition:<br>• Department of Histology and Embryology - Exercise room (09:30 - 11:00) [201]<br>◦ HAE-P3<br><br>LP20 Urinary system:<br>• Department of Histology and Embryology - Exercise room (13:45 - 15:15) [195]<br>◦ HAE-P2 | S27 Urinary system – Structure:<br>• Department of Histology and Embryology - Exercise room (12:15 - 13:45) [195]<br>◦ HAE-S2 |
| dr.sc. Kavazović Inga, mag. pharm. inv. [201] · izv. prof. dr. sc. Wensveen Felix, dipl. biolog [195] | | |
| **20.01.2027** | | |
| | LP21 Tissue section repetition:<br>• Department of Histology and Embryology - Exercise room (08:00 - 09:30) [1480]<br>◦ HAE-P2<br><br>LP22 Tissue section recognition:<br>• Department of Histology and Embryology - Exercise room (09:30 - 11:00) [1480]<br>◦ HAE-P2 | |
| dr. sc. Šestan Marko, dr. med. vet. [1480] | | |
| **21.01.2027** | | |
| | LP21 Tissue section repetition:<br>• Department of Histology and Embryology - Exercise room (08:00 - 09:30) [1464]<br>◦ HAE-P1<br><br>LP22 Tissue section recognition:<br>• Department of Histology and Embryology - Exercise room (09:30 - 11:00) [1464]<br>◦ HAE-P1 | |

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| doc. dr. sc. Babić Čač Marina, dipl. ing. biol. [1464] | | |
| **22.01.2027** | | |
| | | S28 Urogenital system – Development:<br>• P01 (08:15 - 10:00) [195]<br>○ HAE |
| izv. prof. dr. sc. Wensveen Felix, dipl. biolog [195] | | |

### List of lectures, seminars and practicals:

| LECTURES (TOPIC) | Number of hours | Location |
|---|---|---|
| L1 Importance of Histology in Understanding Human Tissue Formation and Function1 | 1 | P15 - TOWN HALL |
| L2 Epithelial Tissue | 1 | P15 - TOWN HALL |
| L3 Connective Tissue | 1 | P15 - TOWN HALL |
| L4 Blood | 1 | P15 - TOWN HALL |
| L5-6 Cartilage, Joints, Bone, Osteogenesis | 2 | P15 - TOWN HALL |
| L7-8 Muscle Tissue, Circulatory System | 2 | P15 - TOWN HALL |
| L9-10 Nerve Tissue, Nervous System | 2 | P08 |
| L11-12 Female Reproductive System and sex cycles | 2 | P01 |
| L13 Embryology - First Week (preimplantation) | 1 | P01 |
| L14 Embryology – Extra-embryonic Membranes | 1 | P15 - TOWN HALL |
| L15-16 Second Week and Third Week of development, body cavities, Embryo, Fetus | 2 | P01 |
| L17 Embryology – Head and neck development | 1 | P15 - TOWN HALL |
| L18 Embryology – Development of the muscular system, axial skeleton and limbs | 1 | P15 - TOWN HALL |
| L19 Development of the Central Nervous System and endocrine glands | 1 | P01 |
| L20 Male Reproductive System, structure and gametogenesis | 1 | P01 |
| L21 Skin and Derivates – Structure and Development | 1 | P01 |
| L22 Endocrine System | 1 | P15 - TOWN HALL |
| L23 Eye – Structure and Development | 1 | P08 |
| L24 Ear – Structure and Development | 1 | P08 |
| L25 Immune system – Structure and Development | 1 | P15 - TOWN HALL |
| L26 Digestive tract – Oral Cavity | 1 | P15 - TOWN HALL |
| L27 Digestive Tract – Structure | 1 | P15 - TOWN HALL |
| L28 Organs associate with the digestive tract – structure & development | 1 | P01 |
| L29 Respiratory system – Structure & Development | 1 | P01 |
| L30 Urinary system – Structure | 1 | P08 |
| L31-32 Development of the Cardiovascular and Respiratory Systems | 2 | P01 |

| PRACTICALS (TOPIC) | Number of hours | Location |
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|---|---|---|
| LP1 Histology and its Methods of Study | 2 | Department of Histology and Embryology - Exercise room |
| LP2 Epithelial Tissue | 2 | Department of Histology and Embryology - Exercise room |
| LP3 Connective Tissue | 2 | Department of Histology and Embryology - Exercise room |
| LP4 Blood, Cartilage | 2 | Department of Histology and Embryology - Exercise room |
| LP5 - Bone, Osteogenesis | 2 | Department of Histology and Embryology - Exercise room |
| LP6 - Muscle Tissue, Cardiovascular System | 2 | Department of Histology and Embryology - Exercise room |
| LP7 - Nervous Tissue, Nervous System | 2 | Department of Histology and Embryology - Exercise room |
| LP8 - Female Reproductive | 2 | Department of Histology and Embryology - Exercise room |
| LP9 – Embryology | 2 | Department of Histology and Embryology - Exercise room |
| LP10 - Male Reproductive System | 2 | Department of Histology and Embryology - Exercise room |
| LP11 - Skin – Structure | 2 | Department of Histology and Embryology - Exercise room |
| LP12 - Endocrine System | 2 | Department of Histology and Embryology - Exercise room |
| LP13 - Eye – Structure and Development | 2 | Department of Histology and Embryology - Exercise room |
| LP14 – Ear | 2 | Department of Histology and Embryology - Exercise room |
| LP15 - Immune System | 2 | Department of Histology and Embryology - Exercise room |
| LP16 Oral Cavity, Teeth – Structure and Development | 2 | Department of Histology and Embryology - Exercise room |
| LP17 Digestive Tract | 2 | Department of Histology and Embryology - Exercise room |
| LP18 Digestive Glands | 2 | Department of Histology and Embryology - Exercise room |
| LP19 Respiratory System | 2 | Department of Histology and Embryology - Exercise room |
| LP20 Urinary system | 2 | Department of Histology and Embryology - Exercise room |
| LP21 Tissue section repetition | 2 | Department of Histology and Embryology - Exercise room |
| LP22 Tissue section recognition | 2 | Department of Histology and Embryology - Exercise room |

| SEMINARS (TOPIC) | Number of hours | Location |
|---|---|---|
| S1 Histology and its Methods of Study | 2 | Department of Histology and Embryology - Exercise room |

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|---|---|---|
| S2 Epithelial Tissue | 2 | Department of Histology and Embryology - Exercise room |
| S3 Connective Tissue | 1 | Department of Histology and Embryology - Exercise room |
| S4 Bone marrow, hematopoiesis | 1 | P01 |
| S5 Blood, Cartilage | 1 | Department of Histology and Embryology - Exercise room |
| S6 Bone, osteogenesis | 2 | Department of Histology and Embryology - Exercise room |
| S8 Muscle Tissue, Circulatory System | 2 | Department of Histology and Embryology - Exercise room |
| S9 Nerve Tissue, Nervous System | 2 | Department of Histology and Embryology - Exercise room |
| S10 Female Reproductive System | 2 | Department of Histology and Embryology - Exercise room |
| S11 Embryology I | 3 | Department of Histology and Embryology - Exercise room |
| S12 Embryology II | 2 | Department of Histology and Embryology - Exercise room |
| S7 Stem cells | 1 | P01 |
| S14 Head and Neck Development | 1 | Department of Histology and Embryology - Exercise room |
| S15 Muscular System, Limbs, Axial Skeleton – Development | 1 | Department of Histology and Embryology - Exercise room |
| S16 Male Reproductive System – Structure | 1 | Department of Histology and Embryology - Exercise room |
| S17 Skin – Structure and Development | 2 | Department of Histology and Embryology - Exercise room |
| S18 Endocrine System | 1 | Department of Histology and Embryology - Exercise room |
| S19 Eye – Structure and Development | 2 | Department of Histology and Embryology - Exercise room |
| S13 Birth Defects, Teratology | 1 | P15 - TOWN HALL |
| S20 Ear – Structure and Development | 2 | Department of Histology and Embryology - Exercise room |
| S21 Immune system – Structure and Development | 1 | Department of Histology and Embryology - Exercise room |
| S22 Oral Cavity – Structure and Development | 2 | Department of Histology and Embryology - Exercise room |
| S23 Digestive Tract – Structure | 2 | Department of Histology and Embryology - Exercise room |
| S24 Digestive Tract – Development | 1 | P04 |
| S25 Digestive Glands – Structure and development | 1 | Department of Histology and Embryology - Exercise room |
| S26 Respiratory System – Structure and development | 1 | Department of Histology and Embryology - Exercise room |
| S27 Urinary system – Structure | 2 | Department of Histology and Embryology - Exercise room |

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|---|---|---|
| S28 Urogenital system – Development | 2 | P01 |

**EXAM DATES (final exam):**

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