

ED II. Microscopic Anatomy and Embryology II. (*new curriculum*)

ANNOUNCEMENTS CONCERNING THE REGULAR AND FM FINAL EXAMINATIONS

Final examinations are generally held on differing days starting at 13.00 - please, see in NEPTUN.
The exams start in the Histology Unit (placed now in the **CITY CORNER OFFICE**, Üllői út 25.) with a written test then continue with the oral part.

REGISTRATION ISSUES

Only students whose semester is accepted may sit for the final examination.

The topics of the examination cover the subject matter of the two semesters.

Registration has to be done in NEPTUN according to the Study and Examination Policy. Registration closes 24 hours prior to the beginning of the examination (see in NEPTUNE).

Absences – no-show at the semifinal examination reduces the remaining examination possibilities and Students will have to pay a missed examination fee via neptun. In case of a health problem, students will have to present a **doctor's note within 3 working days** to be evaluated by the Head of Department. If accepted, the number of the student's examination possibilities will not be reduced.

On the day of the examination

Please gather in front of the Histology unit (City Corner Offices, Üllői út 25.) 10 minutes before starting time (**as seen in Neptun**).

Please make sure you have the following items on you:

- ID card/student card with a photograph (you may not start the examination without it)
- SeKA login details* (memorize or write them down on a small piece of paper)
- *Students who cannot login /forgot their password will be considered as „absent” (see above) and have to sit for the examination on a different day
- In case of a retake exam – proof of payment (except for the 1st retake)
- **DRESS CODE – formal (and according to weather)**
- Phones and smart watches have to be stored elsewhere during examinations
- Neither pens nor papers may be with you during the written part
- You cannot take notes or talk to your peers during the examination
- For safety reasons you may keep your valuables (money, cards, IDs, etc) on you, however „large” items, such as phones (switched off), tablets (switched off) and pencil cases will be collected upon entering the examination room.
- No chewing gum, no food, no drinks are allowed while on the premises

PARTS OF THE FINAL EXAMINATION

WRITTEN PART (unless exempted due to the result of the exam competition) – Students may not leave the room during the test

The test is composed of 40 simple / multiple choice questions including Embryology questions

Writing time: 40 minutes

Following the completion of the test Students may **briefly** view their results, however, neither questions may be asked, nor notes may be taken during this time. Students may not leave the room before the inspection time expires.

Passing rate: 50% (below 50% =fail, 50% =satisfactory, 65% =average, 75% =good, 85% =excellent)

- Students not reaching 50% (25.00 points) in the written part fail the examination but may continue with the oral examination part.
- Students failing the examination in a subsequent practical/oral part may be exempted from the written test during the retake examination **ONLY** if they gained a good (4), or excellent (5), result from the written test. These students should present themselves at the **Histology laboratory** at the **beginning of the practical examination** on the day of the retake examination.

CHEATING

If students are found to use illegal devices or talk to each other during any part of the examination, the examination will be suspended and a disciplinary procedure will follow. The result of the examination is a fail (1) in such a case.

ORAL / PRACTICAL PART

This part is also held in the Histology unit. The oral examination consists of

- 1 digitized tissue slides (description)
- 1 theoretical question from Neuroanatomy

During the oral exam it is possible that further questions, other than the identification of the presented specimens, may arise, e.g. discussing the theoretical or developmental relevances. Students may be asked to produce schematic drawings as part of the examination (e.g. reflexes, cross sections of the brain stem or schematic drawings of histological images).

MARKING SYSTEM

The examination finishes in the Histology Room, where Students are given a mark calculated from all exam marks.

- If one part of the practical/oral examination results in fail (1), the entire examination is terminated with a fail (1).
- **Students failing the examination, may repeat the exam once „free”, every further attempt will be charged for.** The total number of examination seats is set (200% of the number of students in a given course), therefore the number of examination seats will not be increased.
- **Retake of a successful examination** - students unhappy with the result of the examination may apply in writing with the Course Director, to retry the examination. They will be registered by the Course Director in neptun.
Please note, that such a retake examination does not necessarily result in a better mark.
- **Technical problems** concerning registration or deregistration via the neptun system are beyond the scope of the Department, Students should seek help from the neptun group of the Secretariat.
- The Registrar of the English Secretariat is not entitled to register or deregister students with the only exception of using the 4th chance upon getting the Dean's permission.

Dr. Gábor Gerber
Professor, Dean and Subject Director

Dr. Andrea D. Székely
Associate Professor, Course Director

ED II TOPICS OF THE FINAL EXAMINATION

(topics of the two semesters)

General Histology

Concept of basic tissues
Definition and classification of epithelial tissue
Simple epithelia
Stratified epithelia
Glandular epithelia
Pigment epithelium, sensory neuroepithelium
Cells of connective tissue
Ground substance and fibres of connective tissue
Types of connective tissue
Blood and the corpuscular elements of blood
Histology of the bone marrow, maturation of erythrocytes and platelets
Differentiation of granulocytes, lymphocytes and monocytes
Histology of cartilage and bone tissue
Intramembranous ossification.
Endochondral ossification. Growth and remodeling of bone
Smooth muscle and myoepithelial cells
Skeletal muscle tissue

Maxillofacial Histology and Embryology

Enamel
Amelogenesis
Dentin
Dentinogenesis
Structure of the dental papilla
Cementum (two types)
Parodontium
Gingiva – subdivisions and histology
Tooth development
Tooth eruption
Development of the mandible and maxilla
Development of the face. Formation of the nasal cavity and paranasal sinuses
Microscopic Anatomy and development of the primary and secondary palates
Microscopic Anatomy and development of the tongue
Microscopic Anatomy and development of salivary glands
Derivatives of pharyngeal pouches and grooves
Derivatives of pharyngeal arches

Lymphatic organs

Histological structure of lymph nodes

Cardiac muscle tissue
Histology of arteries and arterioles
Histology of veins and capillaries

Histology of organs

Wall structure of hollow organs
General composition of parenchymal (solid/compact) organs
Histology of the lip and tongue
Histology of the respiratory tract. Larynx.
Trachea. Lung
Histology of the esophagus and stomach
Histology of the small and large intestines.
Fine structure of the intestinal vili, enteroendocrine system
Histology of the liver. Gall bladder, biliary ducts
Histology of the pancreas
Histology of kidney. Ureter. Urinary bladder
Histology of the male and female gonads and genital organs/ducts
Histology of the uterus (proliferative, secretory phases) menstrual cycle, vagina

Spleen (fine structure and circulation)
Thymus

Tonsils, MALT

Development of the nervous system and organs of special senses

Development and primary differentiation of the neural tube

Development of brain vesicles

Development of the peripheral nervous system (neural crest, placodes)

Development of the organ of vision

Development of the organ of hearing&equilibrium

Histology of the nervous system

Histology of the neurons developing from the neural tube

Glial cells

Histology of the neurons and supporting cells developing from the neural crest

Fine structure of peripheral nerves

Receptors and effectors

Interneuronal synapses

Microscopy of the central nervous system

Fine structure (microscopy) of the spinal cord

Proprioceptive reflexes

Nociceptive reflexes

Autonomic reflexes

Fine structure of the medulla oblongata

Fine structure of the pons

Fine structure of the midbrain

Classification of cranial nerve nuclei

Tracts of the brain stem

Reticular formation, monoaminergic systems

Fine structure of the cerebellum

Cerebellar afferents and efferents

Fine structure of the thalamus

Hypothalamo-hypophyseal system

Fine structure of the basal ganglia

Fine structure of the cerebral cortex, cortical fields

Tracts of the protopathic sensibility (anterolateral system)

Tracts of the epicritic sensibility (posterior funiculus/medial lemniscus)

Pyramidal (tract) system

Extrapyrmidal system

Limbic system (nuclei and tracts)

Reflex arc of mastication

Anatomical bases for trigeminal pain

Autonomic innervation of salivary glands

Neuroanatomy of energy metabolism, food intake, hedonism and addiction

Neuroanatomy of emotions, motivation, aggression, empathy and behaviour. The reward system.

Neuroanatomy of stress, fear, anxiety and depression. Determination, alertness together with personality, consciousness and well-being.

Endocrine organs

Microscopical anatomy of the pituitary gland; development of the posterior lobe

Microscopical anatomy and development of the anterior and intermediate lobes of the pituitary gland Blood supply of the pituitary gland

Microscopical anatomy of the pineal gland

Microscopical anatomy and the development of the thyroid gland

Microscopical anatomy and the development of the parathyroid gland

Microscopical anatomy and the development of the suprarenal gland

Histology of the islands of Langerhans

Organs of special senses

Microscopical structure of the skin (scalp and palm)

Histology and development of skin appendages, mammary gland

Coats of the eyeball

Chambers of the eye, vitreous body

Lens, accommodation

Visual pathway, visual reflexes

External ocular muscles, eye movements

Accessory and protective apparatus of the eye (palpebrae, conjunctiva, fasciae, lacrimal apparatus)

External ear, tympanic membrane. Tympanic cavity, auditory tube. Hearing ossicles (joints, muscles)

Vestibulocochlear nerve.

Organ of Corti. Cochlea, cochlear duct

Auditory pathway.

Vestibular system

Bony and membranous labyrinth, vestibulum

Organ of olfaction, olfactory pathway, olfactory nerve

Organ of taste, central processing of taste (tracts)