Microscopic Anatomy and Embryology Exams

The Microscopic Anatomy I. and II. exams are held in person at the histology labs during the exam period. The parts of the exams are listed below.

Microscopic Anatomy and Embryology I. CV semi final exam

On the day of the exam, leave your belonging in a locker (first floor dissection room) and gather in front of the Histology labs at least 10 minutes before the exam starts.

Please, remember to have your

- ID
- pens

Furthermore

NO mobile phones, smart watches and any electronic devices

Students using illegal devices will be suspended and an official investigation together with a university disciplinary procedure will follow.

Due to the limited space, some of the students will have to wait in front of the Histology laboratory.

Oral exam: description of **one slide and related theoretical questions** and **one embryology topic**, no written test. The average of the two parts gives the final grade. If you fail one part of the exam, the entire exam will be failed and you have to retake it completely.

Topics:

Slides of the Microscopic Anatomy and Embryology I. semester

Epithelia (Slide No.: 3, 40, 57, 8, 5, 6, 7, 99, 52, 148, 11)
Connective tissue, blood and bone marrow (Slide No.: 12, 40, 6, 57, 73, 21, 18, 99, 84, 37, 2)
Connective tissue, cartilage and bone tissue. Ossifications. (Slide No.: 57, 24, 98, 35, 27, 26, 28, 31)
Muscle tissue and vessels (Slide No.: 99, 33, 41, 91, 38, 109)

Gastrointestinal tract: Lip, tongue, lingual papillae.
Tooth bud, salivary glands. (No.: 92, 34, 49, 54b, 55, 52, 52a, 9, 51)
Respiratory system: Larynx, trachea, lung (No.: 56, 17, 57, 58, 60, 61)
Gastrointestinal tract: Esophagus, stomach,
Duodenum, jejunum, ileum, colon (No.: 5, 62, 63, 65, 64, 99, 68, 69)
Gastrointestinal tract:
Liver, gallbladder, pancreas (No.: 71, 73, 3, 70)
Urinary system:

Kidney, ureter, urinary bladder (No.: 74, 76, 77, 8)
Male genital system: Testis, epididymis, spermatic cord. Seminal vesicle, prostate, penis, glans penis (No.: 78, 115a, 90, 81, 89, 7)
Female genital organs: Ovary, Fallopian tube, corpus luteum, uterus (secretory and proliferative phases), vagina, placenta (No.: 82, 97, 94, 95, 86, 84, 85, 87)

Embryology

General Embryology

Spermatogenesis, spermiogenesis
Oogenesis
Fertilization, cleavage of the zygote
Blastocyst formation; the bilaminar embryonic disc
Implantation
Formation of body axes
Formation of the intraembryonic mesoderm; the notochord
Neurulation (neural tube and neural crest)
Derivatives of ectoderm
Derivatives endoderm
Differentiation of the intraembryonic mesoderm; formation and derivatives of the somites
Derivatives of the intermediate mesoderm
Lateral plate mesoderm and its derivatives
Folding of the embryo
Development of the primitive cardiovascular system, the fetal circulation
The structure and function of the placenta
Development of the fetal membranes (chorion and amnion) and the umbilical cord
Periods of embryonic / fetal life
Twin formation

Development of internal organs

Development of the heart, looping of the heart tube
Formation of atria, development of the interatrial septum
Formation of ventricles, development of the aorticopulmonary septum
Development of arteries
Development of the inferior vena cava
Development of the portal vein
Development of the superior vena cava, azygos and hemiazygos veins
Fetal circulation
Face development
Development and differentiation of the foregut
Derivatives of pharyngeal pouches and grooves
Derivatives of pharyngeal arches
Development of the tongue
Tooth development
Development and differentiation of the midgut
Development and differentiation of the hindgut

Formation of the liver and pancreas
Formation of the nasal cavity and paranasal sinuses
Development of the lower airways including the lungs
Kidney development
Development of the urinary passages
Gonadal development
Development of the male genital tract
Development of the female genital tract
Development of the male/female external genitals
Development of the body cavities
Development of the peritoneum

Microscopic Anatomy and Embryology II. final exam

The exams start at 13.30

On the day of the exam, leave your belonging in a locker (first floor dissection room) and gather in front of the Histology labs at least 10 minutes before the exam starts.

Please, remember to have your

- ID
- pens

Furthermore

NO mobile phones, smart watches and any electronic devices

Students using illegal devices will be suspended and an official investigation together with a university disciplinary procedure will follow.

Due to the limited space, some of the students will have to wait in front of the Histology laboratory.

Oral exam: description of **two slides and related theoretical questions** (one from the first semester and one from the second semester) and **one embryology** topic and **one neuroanatomy** topic), no written test. The average of the four parts gives the final grade. If you fail one part of the exam, the entire exam will be failed and you have to retake it completely.

For those students who achieved exemption in the semester (the average of the midterm tests' grades is at least 4), the neuroanatomy part is counted as grade 5.

Topics:

Slides of the Microscopic Anatomy and Embryology I and II semesters

Epithelia (Slide No.: 3, 40, 57, 8, 5, 6, 7, 99, 52, 148, 11)
Connective tissue, blood and bone marrow (Slide No.: 12, 40, 6, 57, 73, 21, 18, 99, 84, 37, 2)
Connective tissue, cartilage and bone tissue. Ossifications. (Slide No.: 57, 24, 98, 35, 27, 26, 28, 31)
Muscle tissue and vessels (Slide No.: 99, 33, 41, 91, 38, 109)

Gastrointestinal tract: Lip, tongue, lingual papillae.
Tooth bud, salivary glands. (No.: 92, 34, 49, 54b, 55, 52, 52a, 9, 51)
Respiratory system: Larynx, trachea, lung (No.: 56, 17, 57, 58, 60, 61)
Gastrointestinal tract: Esophagus, stomach,
Duodenum, jejunum, ileum, colon (No.: 5, 62, 63, 65, 64, 99, 68, 69)
Gastrointestinal tract:
Liver, gallbladder, pancreas (No.: 71, 73, 3, 70)
Urinary system:
Kidney, ureter, urinary bladder (No.: 74, 76, 77, 8)
Male genital system: Testis, epididymis, spermatic cord. Seminal vesicle, prostate, penis, glans penis (No.: 78, 115a, 90, 81, 89, 7)
Female genital organs: Ovary, Fallopian tube, corpus luteum, uterus (secretory and proliferative phases), vagina, placenta (No.: 82, 97, 94, 95, 86, 84, 85, 87)

Thymus, tonsils: 43a, 43c, 47, 42a, 42b, 46, 48
Lymph node, spleen: 40, 45, 1a, 1b
Histology of the peripheral nervous system: 88, 67, 53, 79, 75, 6, 151b, 33b
Histology of the central nervous system: 101, 22, 111, 80, 96, 16, 20
Endocrine system: Hypothalamus, pituitary gland 14, 105a
Thyroid, parathyroid and adrenal glands, pineal body, endocrine cells
102, 104, 32, 70, 44, 97
Histology of palm skin, scalp skin. Mammary gland
59, 153, 11, 107, 93
Palpebra 39
Histology of the organ of vision: eye bulb, retina, lacrimal gland 29, 30, 113
Histology of the organ of hearing: cochlea, macula
36, 4

Embryology

General Embryology

Spermatogenesis, spermiogenesis
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Development and differentiation of the foregut
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Derivatives of pharyngeal arches
Development of the tongue
Tooth development
Development and differentiation of the midgut
Development and differentiation of the hindgut
Formation of the liver and pancreas
Formation of the nasal cavity and paranasal sinuses
Development of the lower airways including the lungs
Kidney development
Development of the urinary passages
Gonadal development

Development of the male genital tract
Development of the female genital tract
Development of the male/female external genitals
Development of the body cavities
Development of the peritoneum
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
Development of the locomotor system
Membranous and cartilaginous neurocranium and viscerocranium
Development of the limbs and vertebral column
Development of the muscular system

Neuroanatomy

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)
Corticospinal tract (pyramidal tract)
Extrapyramidal system
Limbic system (nuclei and tracts)
Microscopy of the autonomic nervous system, tracts

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Course Director