8617000000 35235 Comparative and Systematic Anatomy (C.I)
Modulo integrato 50169: Comparative and Systematic Anatomy II
(4 CFU)

Comparative and Systematic Anatomy II
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44 hours: 34 hrs of frontal lessons and 10 hrs of practical lessons

Learning goal of the course: at the end of the course the student will know the macroscopic and microscopic organization of the structures belonging to the nervous system, digestive system, urogenital system, and endocrine system of domestic mammals.

Lectures

Topics and skills	Subjects	Specific contents	Hours
	Generality of the Course	Description of the Course programm. Didactic material (power point files) provided by the teacher. Suggested books. The conduct of the final examination.	0.5
1. NERVOUS SYSTEM (TOT. 9 ORE)	**Central Nervous system**	Meninges, spinal cord and spinal nerves.	2
		Rhombencephalon: medulla, pons, cerebellum.	2
		Midbrain, forebrain, cerebrospinal fluid, ventricles and coroid plexuses.	2
	Autonomic nervous system	Sympathetic nervous system, parasympathetic nervous system, enteric nervous system.	3
2. SENSE ORGANS (TOT. 4 ORE)	**The eye, orbit and adnexa**	Fibrous coat (cornea and sclera), vascular tunic, nervous tunic. Chambers of the eye, lens. Extraocular muscles, intraocular muscles, eyelids and nictitans. Optic pathways (myosis and mydriasis).	2,5
	Ear	External, middle and inner ear.	1,5
3. DIGESTIVE SYSTEM FROM THE MOUTH TO THE CARDIAS (TOT. 5 ORE)	**Mouth**	Mouth, lips, cheek, tongue, taste buds, muscles, tongue efferent and afferent innervation, soft and hard palate. Teeth.	2
		Salivary glands: parotid gland, mandibular gland, sublingual gland, zygomatic gland.	1
		Palatine tonsils. Other tonsils of the Weldeyer ring. Innervation of the tonsils.	0,5
	Pharinx	Pharynx, auditory tube, equine guttural pouch.	1,5
	oesophagus	Esophagus, lower esophageal sphincter, cardias.	0,5
3. DIGESTIVE SYSTEM	**Peritoneum**	Parietal and visceral peritoneum, greater and lesser omentum, peritoneal ligaments.	0,5

FROM THE STOMACH TO THE ANUS (TOT. 6 ORE)	**Monogastric mammals**	Stomach of domestic mammals.	1
	Poligastric mammals	Ruminant forestomach (rumen, reticulum and reticular groove, omasum). Ruminant stomach (abomasum).	2
	Small intestine	Duodenum, jejunum, ileum. Ileociecal and ileocolic junction..	1.5
	Large intestine	Cecum, ascending colon, transverse colon and descending colon, rectum, anus. Innervation of the intestine.	1.5
4. GLANDS OF DIGESTIVE SYSTEM GHIANDOLE (TOT. 2.5 ORE)	**Liver and pancreas**	Liver and gall bladder	2
		Pancreas.	0.5
5. URO-GENITAL SYSTEM (TOT. 5 ORE)	**Urinary organs**	Kidneys, ureters, urinary bladder, urethra. innervation of the urinary bladder. innervation of the urinary bladder.	2
	Male genital organs	Testes,epididymes, ductus deferentes, penis and genital glands.	1
	Female genital organs	Ovaries, oviducts, uterus, vagina, vestibule and vulva.	2
6. ENDOCRINE SYSTEM (TOT. 2 ORE)	**Endocrine system**	Hypophysis and its blood supply, epiphysis, thyroid gland, parathyroid glands, adrenal glands, endocrine function of the pancreas.	2

Practical lessons

Topics and skills	Subjects	Specific contents	Hours
7. ABILITY TO RECOGNIZE MENINGES, SPINAL AND CRANIAL NERVES AND THE CONTENT OF THE SKULL AND VERTEBRAL COLUMN. (TOT. 2 ORE)	Macroscopic anatomy of the central nervous system and sense organs.	Dissection room – craniotomy and laminectomy in dog and cat cadavers. Identification of the meninges, spinal and cranial nerves. Enucleation of the eyeball.	2

8. ABILITY TO RECOGNIZE, WITH THE MICROSCOPE, STRUCTURES OF THE NERVOUS SYSTEM AND SENSE ORGANS **(TOT. 2 ORE)**	Microscopic anatomy of the central nervous system and sense organs.	Microscopic room (40 microscopes)- recognition of microscopic preparations of the central, peripheral and autonomic nervous system and sense organs (eye and ear).	2
9. A) ABILITY TO RECOGNIZE, DURING ENDOSCOPY OF THE HORSE UPPER RESPIRATORY PATHWAYS, THE NASAL CAVITIES DETAILS, THE GUTTURAL POUCH AND ESOPHAGUS AND STOMACH.	a) Macroscopic anatomy of the nasal cavities, guttural pouch, esophagus and stomach in the horse.	a) Surgical room – endoscopy of the horse nasal cavity, auditory tube and guttural pouch, larynx, esophagus and stomach (0,5 hour).	2
B) ABILITY TO RECOGNIZE, MACROSCOPICALLY, THE COMPONENTS OF THE DIGESTIVE SYSTEM. **(TOT. 2 ORE)**	b) Macroscopic anatomy of the digestive system.	b) Dissection room - identification and dissection of components of the digestive system in cadavers of domestic mammals. Identification of digestive organs (plus liver) collected at the slaughterhouse (1,5 hour).	
10. ABILITY TO RECOGNIZE, WITH THE MICROSCOPE, STRUCTURES OF THE DIGESTIVE AND UROGENITAL SYSTEMS **(TOT. 2 ORE)**	Microscopic anatomy of the digestive and urogenital systems.	Microscopic room (40 microscopes)- recognition of microscopic preparations of the organs belonging to the digestive system and urogenital system.	2
11. ABILITY TO RECOGNIZE, MACROSCOPICALLY, THE COMPONENTS OF THE UROGENITAL SYSTEM. **(2 ORE)**	Macroscopic anatomy of the urogenital system.	Dissection room - identification and dissection of components of the urogenital system in cadavers of domestic mammals. Identification of kidney and reproductive organs of domestic mammals collected at the slaughterhouse.	2