

GENERAL INFORMATION		
Course	Neuroanatomy	
Course coordinator	Assoc. Prof. Antonio Kokot, MD, PhD	
Assistant/Associate	Prof. Robert Selthofer, MD, PhD Prof. Mislav Gjurić, MD, PhD Asst. Prof. Darija Šnajder Mujkić, MD, PhD Asst. Prof. Tanja Kovač, MD, PhD Asst. Prof. Damir Hudetz, MD, PhD Antun Šumanovac, MD, PhD Zvonimir Popović, MD Marko Sablić, MD	
Study Programme	Integrated undergraduate and graduate university study of Medicine in German language	
Status of the course	Mandatory	
Year of study, semester	2nd year, 3rd semester	
Grading scale and workload	ECTS	8
	Hours (L+S+E)	85 (30+25+30)
COURSE DESCRIPTION		
Course objectives		
Through lectures, seminars and exercises students will master topics related to the topographical anatomical study of the head and neck regions. Special emphasis will be placed on the practical study of the head and neck regions in exercises with the integration of theoretical knowledge applicable in modern medical praxis. Furthermore, students will be acquiring the ability to integrate knowledge from head and neck anatomy with neuroanatomy and judge its application in medical fields for understanding clinically relevant entities.		
Enrolment requirements and entry competencies		
No preconditions are required.		
Learning outcomes at the Programme level		
1.1., 1.2., 2.1., 2.2., 2.3., 3.4., 3.5., 4.2.		
Learning outcomes (5-10)		
Knowledge <ol style="list-style-type: none"> 1. Determine the logic and meaning behind the anatomical nomenclature and define the basic principles of the head, neck and central nervous system structure. 2. Interpret the parts and mutual relationships of individual anatomical structures of each studied organ 3. Assess the irrigation and innervation of each region and conclude on the physiological importance of the same in the context of the organism as a whole 4. Analyze the structures of the head, neck and central nervous system and explain their function 5. Theoretically and practically review the content and function of individual anatomical 		

regions and explain topographical relationships within and between individual anatomical structures

6. Compare anatomical differences and use basic anatomical knowledge to connect and explain clinically significant entities with their consequences on the organism

7. Connect the knowledge of anatomy and the principles of physical examination of the patient, as well as the presentation of anatomical structures with different imaging diagnostic procedures

Skills

1. Recognize the boundaries of individual regions and their entire anatomical content on the cadavers and isolated organs

2. Determine and explain the topographic relationships in each studied region

3. Independently explain and analyze the structures and functional parts of the individual tissues studied in different sections

Course content

Structure, morphological and functional organisation of the central nervous system, cerebrospinal fluid spaces and meninges as well as the spinal cord. Blood supply of the central nervous system. Ascending and descending pathways of the brainstem and the spinal cord. Structure, nuclei and neural projections of the diencephalon. Cytoarchitectonic and functional organization of the cerebral and cerebellar cortex. Structure and function of the cerebellum. Structure and function of the basal ganglia. The limbic system. Structure and function of the organs of vision, eye movements and sensorimotoric integration. Structure and function of the inner and outer ear, cochlear and vestibular systems. Olfactory and gustatory senses and their corresponding pathways. Location and topography of cranial nerve nuclei, the pathway and function of cranial nerves. Paranasal sinuses, morphology of the oral cavity and tongue, temporomandibular joint and the function of chewing and swallowing. The sympathetic and parasympathetic system in the head and neck area. Mimic musculature. pharynx, thyroid gland, parathyroid glands, structure and function of the larynx, the mechanism of speech. Blood supply, innervation and lymphatic drainage of the anatomical structures located in the head and neck area.

Mode of teaching	<input checked="" type="checkbox"/> lectures	<input checked="" type="checkbox"/> independent tasks
	<input checked="" type="checkbox"/> seminars and workshops	<input checked="" type="checkbox"/> multimedia and network
	<input checked="" type="checkbox"/> exercises	<input type="checkbox"/> laboratory
	<input type="checkbox"/> distance education	<input type="checkbox"/> mentoring work
	<input type="checkbox"/> field teaching	<input type="checkbox"/> other

Student obligations

Students are expected to attend all class sessions, as well as to take all the examinations. However, they are allowed for excused absences, totalling 30% of all classes. Active involvement of students in all forms of the teaching process will be encouraged. The student must pass all knowledge tests. Uncompleted exercises and seminars must be retaken and passed.

Monitoring student work

Attending classes	x	Class activity	x	Seminar work		Experimental work	
Written exam	x	Oral exam	x	Essay		Research	
Project		Continuous knowledge		Paper		Practical work	x

		verification				
Portfolio						

Grading and evaluation of student work during classes and of the final examination

Teaching activity	ECTS	Learning outcome	Student activity	Assessment methods	Grade points	
					Min.	Max.
Class attendance nastave (lectures)	2	Mastering the anatomical learning material, acquiring theoretical and practical knowledge provided by the course	Attendance at classes,	Attendance list	5	10
Seminars			Seminar work, active participation in discussions	Presentation		
Exercises			Entrance colloquium, preparation of exercises, writing the laboratory exercise diary	Diary, entrance colloquium		
Testing	2	Testing the theoretical knowledge	Learning for the written exam	Written exam	15	30
	2	Testing the practical knowledge	Preparations for the practical exam	Practical exam	10	15
	2	Testing the overall knowledge and its integration	Learning and preparations for the oral exam	Oral exam	20	50
Total	8				50	100

Calculation of final grade:

Based on the total sum of the points awarded during the course and the final exam, the final grade is determined according to the following distribution:

- A – excellent (5): 90-100 grade points;
- B – very good (4): 70-79,99 grade points;
- C – good (3): 60-69,99 grade points;
- D – sufficient (2): 50-59,99 grade points.

Required reading

- 1) Aumüller G. et al. Duale Reihe Anatomie, 2020, Thieme.
- 2) Sobotta. Atlas der Anatomie - 3 Bände und Tabellenheft im Schubert, 2017, Elsevier

Additional reading

- 1) Waldeyer A. Anatomie des Menschen (Lehrbuch und Atlas in einem Band), 2012, De Gruyter.
- 2) Schünke M. et al. PROMETHEUS Allgemeine Anatomie und Bewegungssystem (LernAtlas der Anatomie), 2014, Thieme
- 3) Platzer W. Taschenatlas Anatomie, Band 1: Bewegungsapparat, 2013, Thieme
- 4) Fritsch H, Kühnel W. Taschenatlas der Anatomie, Band 2: Innere Organe, 2013. Thieme.
- 5) Frotscher M, Kahle W. Taschenatlas Anatomie, Band 3: Nervensystem und Sinnesorgane, 2013, Thieme.

Number of copies of required literature in relation to the number of students currently attending classes in the course

Title	Number of copies	Number of students
<ol style="list-style-type: none"> 1) Aumüller G. et al. Duale Reihe Anatomie, 2020, Thieme. 2) Sobotta. Atlas der Anatomie - 3 Bände und Tabellenheft im Schubert, 2017, Elsevier 	<p>The purchased license for online textbooks will be used https://bfdproxy48.bfd-online.de/login.htm?back=http%3a%2f%2fpartner.bfd-online.info.bfdproxy48.bfd-online.de%2fameos%2fbfdAboGateway%3fabold%3d264117;</p> <p>All students enrolled in the study program will have access to the materials.</p>	

Course evaluation procedures

Anonymous, quantitative, standardized student survey providing feedback on the course as well as on the work of course coordinators and their assistants/associates is being conducted by the QA Office of the Faculty of medicine Osijek as well as the University survey conducted by the Quality Center of the Josip Juraj Strossmayer University in Osijek. The usefulness of the lectures from the students' perspective, the teaching content, the teacher's preparation, clarity of the presentation, the amount of new content and the quality of the presentation are all evaluated. Administratively, the curriculum and its execution are compared. Student participation in lectures and exercises and the reasons for absences are controlled and analyzed.