

School of dentistry
Format of course plan for the second semester of 98-99

Course title: Anatomical science 3

The audiences: International medical students, and Iranian students, 3rd semester

Total credit: 2

The time to answer of questions: Saturday 10.15-12.15

The time of the lesson: Saturday 13.15-15.15

Comprehender: Dr. Ali Ghanbari

Prerequisite: Anatomical science 1 & Anatomical science 2

General goals:

To comprehend neuroanatomical structures, their relations, their blood supplies in the human body in accompany with the study of disorders caused by diseases, including motor and sensory disorders.

General goals of sessions:

- 1- To describe the Nero anatomy as a whole.
- 2- To describe white and gray matters of spinal cord.
- 3- To describe tracts in spinal cord and related disorders.
- 4- To describe white and gray matters of medulla oblongata and its tracts and disorders.
- 5- To describe white and gray matters of pons and its tracts and disorders.
- 6- To describe white and gray matters of midbrain and its tracts and disorders.
- 7- To describe white and gray matters of cerebellum and its tracts and disorders.
- 8- To describe white and gray matters of thalamus and its tracts and disorders.
- 9- To describe white and gray matters of hypothalamus, sub-thalamus, Epi-thalamus and its tracts and disorders.
- 10- To describe white and gray matter of cerebrum.
- 11- To describe limbic system.

12- To describe blood supply of central nervous system.

13- To describe the meninges

14- To describe the cerebrospinal fluid (C. S. F)

Specific Goals By the general purpose of each session

General goals of first lesson :

To describe the Neuro anatomy as a whole.

Special goals of first lesson :

To brief describe the neuroanatomical terms such as neurons, axon, dendrites, white and gray matter and their specified forms. To describe the synapse and neurotransmitters. To describe the division of human nervous system physiologically and anatomically. To explain the sub- divisions of C.N.S and P.N.S.

General goals of second lesson :

To describe white and gray matters of spinal cord.

Special goals of second lesson :

To comprehend external features of spinal cords such as its length, shape, and fissures. To determine the fasciculus and funiculus of spinal cord with emphasis on their works, and related paralysis outcomes, respectively. To make details to describe nuclei components of each gray matter horn of spinal cord with emphasis on their works, and related paralysis outcomes, respectively.

General goals of third lesson:

To describe tracts in spinal cord and related disorders.

Special goals of third lesson:

To comprehend tracts, regarding their origination and termination, involving in each fasciculus, respectively with emphasis on their works, and related paralysis outcomes.

General goals of fourth lesson :

To describe white and gray matters of medulla oblongata with addressing its related tracts and disorders.

Special goals of fourth lesson:

To comprehend external features of medulla oblongata such as its length, shape, and fissures. To determine the white and gray matters of medulla oblongata with emphasis on their works, and related paralysis outcomes, respectively. Make detail To describe nuclei, descending, and ascending tracts in medulla oblongata.

General goals of fifth lesson:

To describe white and gray matters of pons with addressing its related tracts and disorders.

Special goals of fifth lesson:

To comprehend external features of pons such as its length, shape, and fissures. To determine the white and gray matters of pons with emphasis on their works, and related paralysis outcomes, respectively. To make detail to describe nuclei, descending, and ascending tracts in pons.

General goals of sixth lesson:

To describe white and gray matters of midbrain with addressing its related tracts and disorders.

Special goals of sixth lesson:

To comprehend external features of midbrain such as its length, shape, and fissures. To determine the white and gray matters of midbrain with emphasis on their works, and related paralysis outcomes, respectively. To make detail to describe nuclei, descending, and ascending tracts in midbrain.

General goals of seventh lesson:

To describe white and gray matters of cerebellum with addressing its related tracts and disorders.

Special goals of seventh lesson:

To comprehend external features of cerebellum such as its length, shape, fissures, lobules, and peduncles. To determine the white and gray matters of cerebellum with emphasis on their works, and related paralysis outcomes, respectively. To make detail to describe nuclei, descending, and ascending tracts in cerebellum. To explain the regions related to Arceocerebellum, Paleocerebellum, and Neocerebellum anatomically and functionally.

General goals of eighth lesson :

To describe white and gray matters of thalamus with addressing its related tracts and disorders.

Special goals of eighth lesson:

To describe the white matter and gray matter of thalamus and to explain its nuclei, the connections, locations and works of them, respectively. To explain the disorders related to thalamus like thalamic hand syndrome.

General goals of ninth lesson :

To describe white and gray matters of hypothalamus, sub-thalamus, epi-thalamus with addressing its related tracts and disorders.

Special goals of ninth lesson:

To describe the white matter and gray matter of these anatomical structures. During explanation of their nuclei, the connections, locations and works of them would be presented, respectively. To discuss the efferent and afferent fibers. To explain the disorders related to these structures like hemiballismus.

General goals of tenth lesson :

To describe white and gray matter of cerebrum.

Special goals of tenth lesson:

To explain the white matter and gray matter of cerebrum and give some details regarding the location and composition of capsules of white matter in accompany with prescription of the main brodmann areas. To discuss the white matter and gray matter of cerebrum, the disorders related to these structures like sensory and motor paralysis.

General goals of eleventh lesson :

To describe limbic system.

Special goals of tenth lesson:

To describe the internal and external circles of limbic system and related regions such as sub-calosal area, hippocampus, anterior thalamic nucleus, cingulate gyrus, fornix, and mammillary body. To discuss the function and the structure of Pepez circuit.

General goals of twelfth lesson :

To describe the blood supply of central nervous system.

Special goals of twelfth lesson:

To describe the arteries supplying spinal cord and cerebrum, respectively. Make some details about the Ave-cina (Vilis) arterial circle, its arising branches and their supplied related regions.

General goals of thirteen lesson :

To explain the meninges

Special goals of thirteen lesson:

To comprehend three layers of meninges; piamater, arachnoid, and duramater. To describe the appendices of duramater. To explain the vascular and nerve supply of each region of meninges.

General goals of fourteen lesson :

To explain the cerebrospinal fluid(C.S.F)

Special goals of fourteen lesson:

To comprehend the manner of secretion, and circulation of C.C.F. To explain meningeal sinuses and the formation of jugular vein.

At the end of the class, the student's abilities would be:

- 1- Able to describe the Nero anatomy as a whole.
- 2- Able to describe white and gray matters of spinal cord.
- 3- Able to describe tracts in spinal cord and related disorders.
- 4- Able to describe white and gray matters of medulla oblongata with addressing its related tracts and disorders.
- 5- Able to describe white and gray matters of pons with addressing its related tracts and disorders.
- 6- Able to describe white and gray matters of midbrain with addressing its related tracts and disorders.
- 7- Able to describe white and gray matters of cerebellum with addressing its related tracts and disorders.
- 8- Able to describe white and gray matters of thalamus with addressing its related tracts and disorders.
- 9- Able to describe white and gray matters of hypothalamus, sub-thalamus, epithalamus with addressing its related tracts and disorders.
- 10- Able to describe white and gray matter of cerebrum.
- 11- Able to describe limbic system.
- 12- Able to describe blood supply of central nervous system.

References:

- 1- Nero anatomy. Mohammad akbari, Tehran University of Medical Sciences
- 2- Snell neuroanatomy for medical students
- 3- Sobotta's atlas of anatomy, Volume III
- 4-

To comprehend method:

Lecture, Mind map, answer and question, problem solved, group To comprehend (in practical class)

Educational tools:

Models, fixed brains, Video Projector and Whiteboard

Assessment and evaluation of the test

Considered time For answering	Date	Share of total (score (in percent	Method	Test
15 min for each quiz	End of each session	2	Short explanation and Multi-choice	Quiz
20 min	Midterm	4	Multi-choice	Mid term exam
40 min	Final	12	Multi-choice	Final Exam
5 min for each	Each lesson	2	Answer and question (orally)	Active attendan ce at the class

Classroom roles and student expectations:

The presence of all students in all sessions is mandatory and students must attend the each session.

Schedule Anatomy Course of Nero anatomy

Lecturer	Topic	Sessions
Dr. Ali Ghanbari	Characterization of neuroanatomical terms and presentation of human nervous system as a whole	۱
Dr. Ali Ghanbari	External anatomical features of the spinal cord	۲
Dr. Ali Ghanbari	Internal structure of the spinal cord	۳
Dr. Ali Ghanbari	External and Internal structures of the medulla oblongata	۴
Dr. Ali Ghanbari	External and Internal structures of the pons	۵
Dr. Ali Ghanbari	External and Internal structures of the midbrain	۶
Dr. Ali Ghanbari	Gray and white matter of cerebellum	۷
Dr. Ali Ghanbari	External and Internal structure of thalamus	۸
Dr. Ali Ghanbari	External and Internal structure of hypothalamus, epithalamus, sub-thalamus	۹
Dr. Ali Ghanbari	Gray and white matter of cerebrum	۱۰
Dr. Ali Ghanbari	Limbic system	۱۱
Dr. Ali Ghanbari	Arterial supply of central nervous system	۱۲
Dr. Ali Ghanbari	The meninges	۱۳
Dr. Ali Ghanbari	C.S.F	۱۴