

## Course Syllabus of Central Nervous system

Faculty : Medicine and health sciences

Department: Basic Sciences

Program : Bachelor of Medicine and Surgery

I. General information about the course instructor :							
Name	Group of teachers	Office Hours(3 Hours Weekly)					
Location & phone number		Sat	Sun	Mon	Tue	Wed	Thu
Email							

II. General information about the course :							
1	Course Title :	Central Nervous system					
2	Course Code and Number :	BMD24					
3	Credit Hours :	Lecture	Seminar/Tutorial	Practical	Clinical	Training	Total
		9	-	1	-	-	10
4	Study Level and Semester:	4th year/ 1st semester					
5	Pre-requisites:	Introductory blocks of the first and second year					
6	Co-requisites :	None					
7	Program in which the course is offered :	Bachelor of Medicine and Surgery					
8	Teaching Language:	English					
10	Instruction location:	University of Science and Technology, Sana'a					

### III. Course Description

This is an integrated module of the central nervous system. The goal of this integrated course is to provide the medical student with comprehensive knowledge about structure and function as well as abnormalities of central nervous system. It contains basic biomedical sciences of anatomy, physiology, histology, pathology, microbiology, pharmacology, and community medicine correlated with the clinical and practical disciplines of this system. The block is taught through various teaching and learning methods including lecture, problem based learning, student group discussion, seminars, practical and self-learning.

#### IV. Course Aims:

The aims of the course are to :

1. Provide the students with basic medical knowledge about the components of the central nervous system.
2. Learn the students the functions of each part of the central nervous system.
3. Get the students the ability to recognize the common disorders that affect the central nervous system.
4. Acquire the students the skills of taking the history and performing the clinical examination to reach the provisional diagnosis of the central nervous system. Pathology.

#### V. Course Intended Learning Outcomes (CILOs) :

- 1- Describe the principal structural and functional components of the human central nervous system.
- 2- Explain the etiologies and socioeconomic factors affecting the disorders of the nervous system components.
- 3- Identify the clinical and diagnostic features, complications, and principles of prevention and principles of the treatment of common disorders affecting the nervous system.
- 4- Correlate the pathophysiological, biochemical changes with the clinical findings and laboratory results of common disorders of nervous system to reach into a provisional diagnosis. .
- 5- Formulate a correct plan for the management of common nervous system problems.
- 6- Perform an accurate history and clinical examination of a patient with neurological disorders and request appropriate investigations to reach a diagnosis.
- 7- Construct an appropriate management plan for common central nervous system problems.
- 8- Perform under supervision (or observe) some routine diagnostic and therapeutic procedures in the daily practice of neurology.
- 9- Work effectively in a team through preparing collective assignments, presenting case studies and in the skill lab activities.
- 10- Use his/her various Information technology skills in accessing different learning resource

#### VI. Course Contents

##### First: Theoretical Aspects

No.	Course Topics/Units	Sub-topics	No. of lectures	Contact Hours
1	Anatomy	Skull, cervical vertebra,( general identification) Scalp and temple Face and Parotid Suboccipital, infratemporal region Cervical sympathetic trunk Parasympathetic supply of head and neck	24	48

		<p>Sphenopalatine fossa  Carotid and jugular system  Cranial nerves  Spinal cord &amp; its blood supply  Medulla oblongata &amp; its blood supply  Pons &amp; its blood supply  Midbrain &amp; its blood supply  Cerebellum &amp; its blood supply  Fourth ventricle  Cerebral cortex  Basal nuclei  Lateral ventricle  White matter  Corpus callosum  Fornix  Commissures  Internal capsule  Third ventricle  Thalamus  Hypothalamus  Tracts &amp; pathways of CNS  Autonomic nervous system  CSF &amp; its circulation  Blood supply of the brain  Meninges, sinuses of brain &amp; dural folds  Reticular formation  Limbic system  Development &amp; Congenital anomalies  Surface, radiological &amp; clinical anatomy  Special senses</p>		
2	Physiology	<p>Introduction to the CNS  Sensory receptors, pain pathway &amp; pain control system  Reflex arch &amp; reflexes  Ascending sensory &amp; descending motor pathways &amp; motor function.  Synaptic junction  Functions of hypothalamus  Thalamus, limbic system &amp; basal ganglia  Function of the cerebellum  Electrical activity of the brain, sleep and wakefulness  Brain areas  Special senses</p>	13	26
3	Histology	<p>Nervous &amp; glial tissue  Cerebrum, cerebellum &amp; spinal cord  Section through spinal cord &amp; brain stem</p>	2	4
4	Pathology	<p>Pathogenesis, pathological changes of  CNS infections: Meningitis &amp; Encephalitis</p>	4	8

		CNS tumours: Primary & metastatic Cerebrovascular diseases of brain Demyelinating & Degenerative diseases Neurocutaneous syndromes		
5	Microbiology	<b>Definition, cause, lab. Diagnosis of:</b> Bacteria causing Meningitis and viral meningitis: Neisseria meningitidis, Haemophilus influenza, Streptococcus pneumonia, E. coli, Listeria monocytogenes, Mycobacterium tuberculosis, Cryptococcus neoformans. Viral meningitis enteroviruses (echoviruses, coxsackie group A and B viruses and the three polioviruses) Botulism (Clostridium botulinum), Tetanus (Clostridium tetani). Encephalitis (Herpes simplex virus, mumps, arenavirus, togavirus) Rabies, Prion diseases CNS disease due to helminth parasites Toxoplasmosis, Cerebral malaria, Toxocara Hydatid disease, Cysticercosis	4	8
6	Pharmacology	Sedatives & Hypnotic drugs Antiepileptic drugs Antipsychotic drugs Antidepressant drugs Antiparkinsonian drugs General anesthetics Opioid analgesics CNS stimulants	7	14
7	Community Medicine	<b>Epidemiology of:</b> Tetanus Rabies Meningitis Hydatid cyst	3	5
8	Medicine	<b>Concept, Clinical picture, diagnosis, treatment &amp; prognosis of:</b> Epilepsy Cerebral Stroke Headache Movement disorders & Parkinsonism Common Muscle diseases	4	8
9	Pediatrics	<b>Concept, Clinical picture, diagnosis, treatment &amp; prognosis of:</b> Cerebral palsy	4	8

		Meningitis (Viral, Bacterial & tuberculous) Hydrocephalus Brain tumours in childhood		
10	Surgery	<b>Concept, Clinical picture, diagnosis, treatment &amp; prognosis of:</b> Brain abscess Head injuries Traumatic IC hematoma Spinal cord trauma	3	6
<b>Total</b>			<b>68</b>	<b>135=9 CH</b>

<b>Second: Practical/Tutorial/Clinical Aspects</b>			
No.	Practical/Tutorial/Clinical topics	No. of Labs	Contact Hours
1	Anatomy	7	14
2	Physiology	1	2
3	Histology	1	2
4	Pathology	2	4
5	Microbiology	1	2
6	<b>Skills lab:</b> History of neurological patient General examination of neurologic patient Neurological examination: motor system Neurological examination: sensory system Examination of cranial nerves Brain imaging	3	6
<b>Total</b>		<b>15</b>	<b>30~1 CH</b>