



# **The Hashemite University**

## **Course Syllabus**

**Course Name: Clinical Neurosurgery**

1. <b>Course title:</b>	Clinical Neurosurgery
2. <b>Course number</b>	111502402
3. <b>Credit hours (theory, practical):</b>	2.25 (theory, practical)
4. <b>Prerequisites/corequisites:</b>	This module is available only to 4 <sup>th</sup> year medical students.
5. <b>Program title:</b>	Doctor of Medicine
6. <b>Program code:</b>	N/A
7. <b>Awarding institution:</b>	The Hashemite University
8. <b>Faculty:</b>	Medicine
9. <b>Department:</b>	General and Special Surgery
10. <b>Level of course:</b>	Bachelor MD
11. <b>Year of study and semester (s):</b>	4th year
12. <b>Final Qualification:</b>	MD
13. <b>Language of Instruction:</b>	English
14. <b>Date of production/revision:</b>	14 <sup>th</sup> -Sep.-2020/ 13 <sup>th</sup> -Sep.-2021
15. <b>Course Coordinator:</b>	Dr. Abdalhaleem Ibdah Office: 3rd floor -Men's wing- Price Hamzah Hospital Contact number: 0799952063 Email: newhaleem@gmail.com
16. <b>Other instructors:</b>	A-Prince Hamzah Hospital: Dr. Salem Al-Dwari Dr. Alaa` Almousa Dr. Luay Abu Aliah

	B- Zarqa National Hospital Dr. Abdalhaleem Ibdah
<b>17. Course Description:</b>	Neurosurgery is a broad field covering a wide range of diagnostic and therapeutic interventions that target pathological processes affecting the brain, spine and peripheral nerves. The course consists of a comprehensive seminar, bed side teaching, outpatient clinic attendance and operating theatre attendance (if appropriate).

#### 18.Course aims and outcomes:

- To equip fourth year medical students with the necessary clinical knowledge and skills relevant to neurosurgery practice in the settings of A&E, GP consultations and perioperative care.
- Introduce students to the wider specialties of neurosurgery and research possibilities in neurosurgery.

##### 18-A Aims:

##### 18-B Outcomes:

##### 1. knowledge:

- Knowledge of the basic clinical skills, diagnostic investigations and principles of treating emergency neurosurgical conditions.
- Knowledge of differentiating neurosurgical condition in outpatient clinics and ordering the appropriate investigations in a timely manner.
- Knowledge of the perioperative care principles of surgical patients particularly in neurosurgery wards.

	Topic	Intended Learning Outcomes
Introduction	History taking	1. General review of neurosurgical anatomy. 2. General review of radiological neuroanatomy. 3. Understand the principle of neuro-investigations: a- MR, CT, XRAY b- CSF ANALYSIS c- NCS and EMG
	Anatomy review	
	Neuro-investigation	
Theme	Topic	Intended Learning Outcomes

Trauma	ICP, CPP AND CBF	1.Understand the concept of ICP, CPP and CBF. 2.Initiate management of elevated intracranial pressure in head trauma. 3- define and understand the different types of brain oedema. 4.Distinguish anatomically and radiographically acute subdural and epidural hematoma and describe the surgical management of each indications for each. 5.understand the different types of skull fractures and their management.
	Types of brain oedema	
	ACUTE SUBDURAL HEMATOMA	
	ACUTE EPIDURAL HEMATOMA	
	SKULL FRACTURES	
Theme	Topic	Intended Learning Outcomes
Tumours (Brain and spine)	INTRODUCTION TO BRAIN TUMOURS	1. Describe the general clinical presentations of brain tumours in the following locations: cerebral hemisphere, cerebellum, brainstem, pituitary, and cerebellopontine angle. analysis of the relevant history and pathophysiology. 2. List the advantages and limitations of the following diagnostic tools used in the evaluation of brain tumours: CT, MRI. 3. List the most common brain tumours according to histopathology and its general characteristics. 4. Understand the clinical presentation and relevant history of spinal tumours. 5. List the most common spinal tumours, its classification and general management.
Spine	LOW BACK PAIN	1. Define types of low back pain, causes and management. 2. Define radiculopathy, myelopathy, and cauda equina syndrome and its aetiology. 3. Describe the general management of cervical disc herniation, lumbar disc herniation, lumbar instability, and low back pain.
	MYELOPATHY	
	NEUROGENIC CLAUDICATION	
	CERVICAL AND LUMBAR RADICULOPATHY	
Hydrocephalus and spinal dysraphism	Hydrocephalus	1. List common symptoms and signs of acute hydrocephalus in children. 2. Define communicating and noncommunicating hydrocephalus. 3. Describe the most common CSF diversion procedures. 4. Define and understand the different types of spinal dysraphism. 5. Describe Primary prevention principles in Spinal dysraphism.
	spinal dysraphism	

Miscellaneous	CNS infection. Chronic subdural hematoma Idiopathic intracranial hypertension Subarachnoid haemorrhage Peripheral nerves entrapment	1- Identify the symptoms and signs of CNS infection 2- know the most common causative M.O. 3- understand the pathophysiology and treatment of CSDH 4- diagnosis of ITH 5- Describe the common aetiologies of SAH 6- describe common peripheral nerves entrapments and its treatment.

## 2. Understanding:

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- Understands the importance of basic clinical skills (history and physical examination) in the diagnosis of neurological conditions.
  - Understands the importance of early diagnosis and management of neurosurgical conditions
  - Understands the burden of neurological diseases socially and economically.

## 3. SUBJECT-SPECIFIC SKILLS:

- Communicate with patients, colleagues, and staff verbally and in writing.
- Manipulate data in form of data collection, analysis and interpretation.
- Apply the problem-solving approach in the practice of medicine.
- Work with others in team.
- Develop the capacity of life-long self-learning.

## 4. TRANSFERABLE KEY SKILLS:

**19. References:**

Essential Neurosurgery for Medical Students  
([https://academic.oup.com/ons/pages/med\\_students\\_suppl](https://academic.oup.com/ons/pages/med_students_suppl))

**20. Teaching Methods and Assignments:**

- 21.A Morning reports and group discussions
- 21.B Case presentation and bedside teaching
- 21.C Simulated case discussions
- 21.D Seminars

**21. Evaluation Methods and Course Requirements:**

End of rotation OSCE exam 35%  
Evaluation of attendance, attitude and presentations 10%  
Course assignment 10%  
Written MCQ exam 55%

