

SYLLABUS OF
CERTIFICATE OF HIGHER SPECIALIZATION IN
MEDICINE (CHSM) IN NEUROSURGERY

Plan No. 1/09/92/ش

First : General Regulations

- a) This plan conforms to the valid regulation of program of graduate studies.
- b) The Bachelor degree in Medicine & general surgery is the prerequisite for this program.

Second: Special Regulations:

None

Third: The syllabus consists of:

- a) Six obligatory programmed years of the following sequence :

<u>Year</u>	<u>Subject</u>
First	General Surgery
Second	Clinical Neurosurgery and Basic Neuroscience
Third	Clinical Neurosurgery and Basic Neuroscience
Fourth	Clinical Neurosurgery and Basic Neuroscience
Fifth	Clinical Neurosurgery and Basic Neuroscience
Sixth	Clinical Neurosurgery

- b) Full comprehensive examination at the end of the fourth year.
- c) The enclosed training details & duration in each department for each training year are a fully intergrated program.
- d) **The rotaion of students could be changed between the years depending on the number of students and the availability of training slots in other departments providing that the number of rotations and their length remains as stated in the program.**

Fourth : The Program:

Year	Summary
1st Year	<ul style="list-style-type: none"> 1- Emergency Patients Care (1) 2- Evening Case Review 3- Bed Side Patients Care (1) 4- Introduction to Surgical 5- Basic Principles Seminar 6- Surgical Case Seminar
2nd Year	<ul style="list-style-type: none"> 1- Neurosurgical Emergency Care (1) 2- Bed – Side Patients Care (2) 3- Neurosurgical Operative skills (1) 4- Neurosurgical case seminar 5- Neurotraumatology sminar 6- Neurology in adults
3rd Year	<ul style="list-style-type: none"> 1- Neurosurgical Emergency care (2) 2- Bed-Side Patients Care (3) 3- Neurosurgical Operative skills (2) 4- Neurosurgical case seminar 5- Pediatric Neurology 6- Neuroradiology
4th Year	<ul style="list-style-type: none"> 1- Neruosurgical Emergency care (3) 2- Bed-Side Patients care (4) 3- Neurosurgical Operative Skills (3) 4- Neurosurgical case seminars 5- Mortality Morbidity 6- Neuro-Intensive care 7- Neuropathology
5th Year	<ul style="list-style-type: none"> 1- Neurosurgical Emergency care (4) 2- Bed-Side Patients care (5) 3- Neurosurgical Operative Skills (4) 4- Special Topic Seminar 5- Journal Club 6- Neuro-Ophthalmolgy
6th Year	<ul style="list-style-type: none"> 1- Neurosurgical Emergency Patients care (5) 2- Bed-Side Patients Care (6) 3- Neurosurgical Operations Skills (5) 4- Special Topics 5- Research Topic

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APPENDIX (1)

Number of operations to be performed by the student at all levels of training :

1-	Craniotomy, Craniectomy (all causes)	25
2-	Laminectomy & related procedures (all causes)	20
3-	Shunting procedures	25
4-	Posterior fossa procedures	5
5-	Peripheral procedures	10
6-	Microscopic assisted surgery	10

CERTIFICATE OF HIGHER SPECIALIZATION IN MEDICINE (CHSM) NEUROSURGERY

INTRODUCTION :

The duration of (CHSM) curriculum in Neurosurgery is six Years Students are required to be in full residence in the hospital of the University of Jordan . Part of the courses may be taken in other hospitals approved by the Council of Deans on the recommendation of the Council of the Faculty

of Graduate Studies and the Department of Neurosurgery/ Special . The curriculum is given in one year units , at the end of each, the students are evaluated.

Courses are given in semester credits calculated on 16 weeks semester but are implemented on a whole year basis .

CONDITIONS FOR FULLFILLMENT OF TRAINING :

1. The student must perform the operations specified in the attached appendix (1)
2. The student must have a log book as specified in appendix (2)
3. The student must complete the research project specified in the sixth year before graduation.

FIRST YEAR COURSES
General Surgery

Emergency Patient Care (Morning Case Review)(1) :

The Chairman of the department meets with the students on call the night before to discuss emergency admission. The student is expected to present the case and put forward a diagnosis and a plan of management . He is expected to defend his diagnosis and rationalize his planned management and to have reviewed relevant literature about the presented case.

Duration :

(1) hour twice weekly for (40) weeks.

Evening Case Review " Evening Closing Rounds " :

Students are required to report on problematic cases in the ward , when on call, and to discuss them with the senior graduate student & teaching staff member on call.

Duration :

(1) hour/ call for two calls/week for (40) weeks.

Bed Side Patient Care (1) " Ward Rounds" :

The student makes round on the patients assigned to him. During the round,the patient history, physical examination, general assessment, diagnosis and plan of management are discussed by the teaching staff member who is caring for the patient. The students are expected to consult relevant literature before the rounds.

Duration :

(2) hours/round for (3) times/week for (40) weeks.

Introduction to Surgical Operative Skills :

Student are introduced to the operation, room in which live cases are being handled. The student assists to surgeon in carrying out the operation .

Basic Principles of Surgery Semir :

The student is required to prepare and presents at least four presentations per semester for a total of eight presentation per year on problem or issues dealing with basic principles of surgery. Topics are assigned by the department and presentations are attended by all graduates students and discussion is directed by the assigned teaching staff member.

(One meeting per week)

Surgical Case Presentation Seminar :

The student is required to present in a meeting, at least four surgical cases per semester for two semesters (total of 8 presentation/year). The meeting is attended by all graduate students in the department of general surgery and the discussion is directed by the assigned teaching staff member and is directed to preoperative diagnosis, investigations, applied therapeutic measures and prognosis.

Duration :

(One meeting (seminar hour)/week)

COURSE NAME

DURATION

Emergency Patient Care (1)
Evening Case Review

(1)hour twice weekly for (40)weeks.
(1)hour/call for two calls/week for
(40) weeks.

Bed Side Patient Care (1)

(2)hours/round for (3) times/week for
(40) weeks.

Introduction to Surgical
Basic Principals Seminar
Surgical Case Seminar

One meeting per week .
One meeting (seminar hour)/week

SECOND YEAR COURSES

Neurosurgical Emergency Patient Care (Morning Case Review (2) :

Same as first year. Input and preparation students is less intensive the first year.

Bed - Side Patient Care (2) :

Same as first year.

Neurosurgical and General Intensive Care :

The student is attached to the section of anesthesia with sole responsibility in the intensive care unit. He should be taught principals of intensive care, ventilation, management of chest problems in the unconscious, water and electrolyte management , principal of management of multiple trauma, neurotrauma and post operative care of neurosurgical patients.

Duration :

1 month .

Neuro - radiological Techniques :

Student are attached to the Radiology Section for 3 months. He should be exposed to the different types of techniques used in investigations of neurological patients . He should be taught and perform himself all types of neuro - radiological techniques like x-rays of the skull and spine, myelography CT scanning & angiography. He should learn how to report on these and detect normal from abnormal results.

Duration :

2 months .

Neurological Diagnosis and Management :

The student is attached to the section of Neurology/Dept of Internal Medicine for a period of 4 months, and 2 months in Pediatric neurology.

He is expected to see and examine neurological patients and participate in their management. He should attend all neurology clinics in association with a teaching staff member. He should participate in all activities in the dep. of internal medicine related to neurology.

Duration :

6 month .

Neuro - Pathology :

The student is attached to the Dept. of Pathology for a period of one month . He should be taught the techniques of staining neurological specimens, how to read neuro-pathological slides , the features gross & microscopic of neural specimens. He should attend all post mortem examination, of the brain and spinal cord .

Duration :

1 month .

Neuro- ophthalmology :

The student is attached to the dept. of Ophthalmology for a period of one month, he should be taught about the examination of the acuity of vision, fundus and eye movement . He should learn how to examine and chart visual fields. Emphasis should be given to affections of the optic nerve and visual cortex and pathways. He should know all ophthalmological manifestations of neurological disease.

Duration :

1 month .

COURSE NAME

DURATION

Emergency Patient Care (2)	
Bed - Side Patient Care (2)	
Neuro-surgical Intensive Care	1month .
Neuro-radiological Techniques	2months .
Neurological Diagnosis and Management	6months .
Neuro-pathology	1month .
Neuro-ophthalmology	1month .

THIRD YEAR COURSES

Neurosurgical Emergency Patient Care (Morning Case Review)(3) :

Same as first year .

Bed - Side Patient Care (3) :

Same as first year.

Out patient Care :

The student should see and examine with a member staff attending patients visiting the outpatient dept . He should suggest investigations and start management two hours twice weekly .

Neurosurgical Operative Skills (1) :

Students attended operative sessions of cases handled and are expected to perform minor surgeries under supervision of the surgeon in charge, in addition to assistance in other procedures being performed (medium and major operations).

Duration :

Two times per week , 8 hours per day for 40 weeks .

Basic Neuroscience seminar :

One hour per week for 40 weeks in the following topics :

Microbiology

Gross anatomy

Embryology

Physiology

Biochemistry

Advances in these topics as applies to Neurosurgery .

Neurosurgical Case Seminar :

Same as first year , but in topics related to Neurosurgery .

COURSE NAME

DURATION

Emergency Patient Care

(1)hour twice weekly for (40)weeks.

Bed - Side Patient Care

(2)hours/round for (3) times/week for 40 weeks.

Out Patient Care

(2) hours twice weekly.

Neurosurgical Operative Skills

Two times per week,8hours per day for 40 weeks.

Basic Neuro-science Seminar

One hour per week for 40 weeks.

Neurosurgical Case Seminar .

FORTH YEAR COURSES

Neurosurgical Emergency Patient

Same as 3rd year .

Bed-side Patient Care(4) :

Same as 3rd year .

Neurosurgical Operative Skills (2) :

Same as 3rd year .

Trauma Seminar :

Held every week, one hour per seminar for 40 weeks, Students are required to prepare and present at least four presentations per semester, a total of eight seminars per year . Presentation is made to all postgraduate students and one staff member in charge.

Mortality Morbidity Seminar :

Review of complication of operative cases and analysis of factors that are thought to have contributed to the death of the patient and the determination of the risk factors in each case (diagnosis of complication) and possible measures to minimise or to avoid risks, and management of such complication .

Duration :

One hour per week for 40 weeks .

COURSE NAME

DURATION

Neurosurgical Emergency Patient Care	1 hour/twice weekly for 40 weeks.
Bed-side Patient Care (4)	2 hours/round for 3 times/week for 40 weeks.
Neurosurgical Operative Skills (2)	Two times per week,8 hours per day for 40 weeks.
Trauma Seminars	One hour per seminar for 40 weeks.
Mortality Morbidity Seminars	One hour per week for 40 weeks.

FIFTH YEAR COURSES

Neurosurgical Emergency Patient Care (5) :

Same as 3rd year.

Neurosurgical Operative Skill (3) :

As in 3rd year, but students are expected to perform major operation .

Bed-side Patient Care(5) :

Same as 3rd year but less extensive .

Journal Club :

Special Topics in Neurosurgery (Seminar) :

One week for 40 weeks, each presentation for one hour .

COURSE NAME

DURATION

Neurosurgical Emergency Patient Care (5)

1 hour twice weekly for 40 weeks.

Neurosurgical Operative Skills (3)

Two hours twice weekly

Bed-side Patient Care (5)

Two hours/round for 3 times/week for 40 weeks.

Journal Club

Special Topic Seminar

One week for 40 weeks.

SIXTH YEAR COURSES

Neurosurgical Emergency Patient Care(6) :

Same as 3rd year .

Bed-side Patient Care (6) :

As in 4th year .

Neurosurgical Operative Skills (4) :

As in 4th year .

Reasearch Topic :

The student is expected to be allocated a research area by the dept. He should be able to produce a publishable pieceof research . No graduation is possible without these research

COURSE NAME

Neurosurgical Emergency Patient Care (6)

Bed-side Patient Care (6)

Neurosurgical Operations Skills (4)

Research Topic

DURATION

1 hour twice weekly for 40 weeks.

Two hours/round for 3 times/week

Two hours twice weekly for 40 weeks.