Neurology and Psychiatry
Department
Faculty of Medicine

Medical Doctorate (M.D.) Degree Program and Courses Specifications for Neurology

(According to currently applied Credit point bylaws)

Neurology and Psychiatry department
Faculty of Medicine
Assiut University
2021-2022/2022-2023

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Assiut University
Faculty of Medicine
Quality Assurance Unit (QAU)

M. D. degree of Neurology

A. Basic Information

- **Program Title:** M. D. degree of Neurology
- **Nature of the program: Single.**
- **Responsible Department:** Department of Neurology and Psychiatry Department- Faculty of Medicine- Assiut University.
- **Program Academic Director (Head of the Department):**
  Prof. Dr. Alaa Darweesh .
- **Coordinator (s):**
  -Principle coordinator: Prof. Dr. Mohamad Abdel Rahman
  - Assistant coordinator (s): Prof. Dr. Hamdy Nageeb, Prof Dr. Essam Saad Darweish, Prof. Dr. Wafaa Mohamad Farghaly, Prof. Dr. Gydaa Sheata.
- **Internal evaluators: Prof DR. Mahmoud Raafat**
- **Prof Dr Nageh Foly**

External evaluator Professor Dr Amal Tawfeek (El Menia University**).**
Professor Dr. Mohammad Mountasser (Cairo University)

- **Date of Approval by the Faculty of Medicine Council of Assiut University: 23-**9-2014.
- **Date of most recent approval of program specification by the Faculty of Medicine Council of Assiut University:**27-11-2022.
- **Total number of courses: Obligatory 7 courses**
  First part: 6 courses.
  Second part: 1course
  Two elective courses.

B. Professional Information

1- Program aims

1/1 To enable candidates to keep with international update standards of patients care of all Neurological disorders by mastering high level of clinical skills, bedside patient care skills, in addition to update medical knowledge as well as clinical experience and competence in the area of common, infrequent, and rare neurological disorders, common and infrequent neurological emergencies, diagnostic tools of neuroelectrophysiology studies and neuroimaging studies and interventional neurology, and enabling the candidates of making appropriate referrals to a sub-specialist for consultation or intervention.

1/2 Provide candidate with fundamental updated details knowledge of neurological emergencies and stroke unit care medicine as regards; mastering dealing with critically ill stroke patients associated with multiple medical conditions or complicated cases and acute respiratory affection or disturbed conscious level related to neurological disorders whatever their frequency in clinical practice , ICU equipments, techniques, indications, contraindications and training skills of different intensive care techniques and interventions .

I/3- To enable candidates to select methodology and perform high standard scientific medical research with ethical issues and how to proceed with publication in indexed medical journals.

I/4- To enabling them to have professional careers as a consultant in Egypt.

- Making them recognized as a consultant abroad.
- Enabling them to continue self learning in subspecialties.
- Enabling them to master different research methodology and do their own.

2-Intended learning outcomes (ILOs)
for the whole program:

2/1Knowledge and understanding:

A. Demonstrate in-depth knowledge and understanding of theories, basics and updated biomedical, clinical epidemiological and socio – behavioral science relevant to his Neurology as well as the evidence – based application of this knowledge to patient care.

B. Explain basics, methodology, tools and ethics of scientific medical, clinical research.

C. Mention ethical, medico logical principles and bylaws relevant to his practice in the field of Neurology

D. Mention principles and measurements of quality assurance and quality improvement in medical education and in clinical practice of the concerned Neurology .

E. Mention health care system, public health and health policy, issues relevant to this speciality and principles and methods of system – based improvement of patient care in common health problems of the field of Neurology.

2/2 Intellectual outcomes

A. Apply the basic and clinically supportive sciences which are appropriate to Neurology related conditions / problem / topics.

B. Demonstrate an investigatory and analytic thinking "problem – solving "approaches to clinical situation related to Neurology.

C. Plan research projects.

D. Write scientific papers.

E. Participate in clinical risk management as a part of clinical governance.

F. Plan for quality improvement in the field of medical education and clinical practice in Neurology.

G. Create / innovate plans, systems, and other issues for improvement of performance in his practice in Neurology.

H. Present and defend his / her data in front of a panel of experts.

I. Formulate management plans and alternative decisions in different situations in the field of the Neurology.

2/3 Skills

2/3/1 Practical skills (Patient Care)

A. Provide extensive level of patient care that is compassionate, appropriate, and effective for the treatment of Neurology health problems and the promotion of health. ***p.s.*** Extensive level means in-depth understanding from basic science to evidence – based clinical application and possession of skills to manage independently all problems in field of Neurology in practice.

B. provides extensive level of patient care for patients with all common diagnoses and for uncomplicated procedures related to Neurology.

C. provides extensive level of patient care for non-routine, complicated Neurology patients and under increasingly difficult circumstances, while demonstrating compassionate, appropriate and effective care.

D. Perform diagnostic and therapeutic procedures considered essential in the field of Neurology

E. Handles unexpected complications, while demonstrating compassion and sensitivity to patient needs and concerns.

F. Communicate effectively and demonstrate caring and respectful behaviors when interacting with patients and their families in Neurology related situations**.**

G, Gather essential and accurate information about patients of Neurology related conditions.

H. Make informed decisions about diagnostic and therapeutic interventions based on patient information and preferences, up-to-date scientific evidence and clinical judgment for Neurology related conditions.

I. Develop and carry out patient management plans for Neurology related conditions.

J. Counsel and educate patients and their families about Neurology related conditions.

K. Use information technology to support patient care decisions and patient education in all Neurology related clinical situations.

L. Perform competently all medical and invasive procedures considered essential for Neurology related conditions / area of practices.

M. Provide health care services aimed at preventing the Neurology related health problems.

N. Lead health care professionals, including those from other disciplines, to provide patient-focused care in Neurology related conditions.

O. Write competently all forms of Neurology patient charts and sheets including reports evaluating these charts and sheets. (Write and evaluate a consultation note, Inform patients of a diagnosis and therapeutic plan, completing and evaluating comprehensive, timely and legible medical records)

2/3/2 General skills

Including:

- Practice-based Learning and Improvement
- Interpersonal and Communication Skills
- Professionalism
- Systems-based Practice

Practice-Based Learning and Improvement

A. Demonstrate the competency of continuous evaluation of different types of Neurology care provision to patients in the different area of his field

B. Appraise scientific evidence.

C. Continuously improve patient care based on constant self-evaluation and life-long learning in Neurology.

D. Participate in clinical audit and research projects.

E. Practice skills of evidence-based Medicine (EBM).

F. Educate and evaluate students, residents and other health professionals.

G. Design logbooks.

H. Design clinical guidelines and standard protocols of management in Neurology.

I. Appraise evidence from scientific studies related to the Neurology patients' health problems.

J. Apply knowledge of study designs and statistical methods to the appraisal of clinical studies in Neurology.

K. Use information technology to manage information, access on-line medical information; for the important topics in Neurology.

Interpersonal and Communication Skills

L. Master interpersonal and communication skills that result in the effective exchange of information and collaboration with Neurology patients, their families, and health professionals, including:-

- Present a case.
- Write a consultation note.
- Inform patients of a diagnosis and therapeutic plan completing and maintaining comprehensive.
- Timely and legible medical records.
- Teamwork skills.

M. Create and sustain a therapeutic and ethically sound relationship with patients.

N. Elicit and provide information using effective nonverbal, explanatory, questioning, and writing skills.

O. Work effectively with others as a member or leader of a health care team or other professional group.

Professionalism

P. Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society.

Q. Demonstrate a commitment to ethical principles including provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices.

R. Demonstrate sensitivity and responsiveness to patients' culture, age, gender, and disabilities.

Systems-Based Practice

S. Work effectively in health care delivery settings and systems related to Neurology including good administrative and time management.

T. Practice cost-effective health care and resource allocation that does not compromise quality of care in Neurology.

U. Advocate for quality patient care and assist Neurology patients in dealing with system complexities.

V. Design, monitor and evaluate specification of under and post graduate Neurology course and programs.

W. Act as a chair man for scientific meetings including time management.

3- Program Academic Reference Standards (ARS) (Annex 2)

Academic standards for Medical Doctorate (MD) degree in Neurology

Assiut Faculty of Medicine developed MD degree programs' academic standards for different clinical specialties.

In preparing these standards, the General Academic Reference Standards for post graduate programs (GARS) were adopted. These standards set out the graduate attributes and academic characteristics that are expected to be achieved by the end of the program.

These standards were approved by the faculty council on 20/3/2010. These standards were revised and approved without changes by the Faculty Council on 23-9-2014.These standards were recently revised and reapproved without changes by the Faculty Council on 27-11-2022.

4- Program External References(Benchmarks)

1.ACGME (Accreditation Council for Graduate Medical Education).
http://www.acgme.org/acWebsite/navPages/nav_Public.asp
2. American Board of NEUROLOGY

(Post residency education programs .

www.apm.org/subspeciality.ABPN2005.

Comparison between program and external reference		
Item	Assiut University, Faculty of Medicine MEDICAL doctorate degree Neurology	Post Residence Education Program American Board of Neurology
Goals	Matched	Matched
ILOS	Matched	Matched
Duration	4-6 years	3 years
Requirement	Different	Different
Program structure	Different(no subspeciality)	Different(should select subspeciality)
Out patient skills	Gained as part of neurological disorders Module), not as a separate course.	Gained as a separate course

5- Program Structure

A. Duration of program: 4-6 years

B. Structure of the program:

Total number of credit points: = 420 CP

Master degree: 180 credit point

Didactic #: 37 (23.1%), practical 123 (76.9%), total 160 CP

Thesis and researches: 80 CP (33.3%)

First part

Didactic 10 (100%), practical 0 (0 %), total 10 CP

Second part

Didactic 24, (16.3 %), practical 123 (83.7 %), total 147 CP

Elective courses: 3 credit points

#Didactic (lectures, seminars, tutorial)

According the currently applied bylaws:

Total courses: 160 credit point

Compulsory courses: 157 credit point (98.1%)

Elective courses: 3 credit point (1.9%)

	Credit point	% from total
Basic science courses	10	4.1%
Humanity and social courses	3	1.2%
Speciality courses	147	61.3%
Others (Computer, …)	-	0
Field training	123	51.3%
Thesis	40	16.7%
2 published researches	40	16.7%
Master degree	180	

C- Program Time Table

Duration of program 4 years divided into

- Part 1

Program-related basic science courses

Program-related essential courses

- Medical statistic
- Research methodology
- Medicolegal Aspects and Ethics in Medical Practice and Scientific Research

Students are allowed to sit the exams of these courses after 6 months from applying to the M D degree.

Students are allowed to sit the exams of the remaining basic science courses after 12 months from applying to the MD degree.

Thesis and 2 published researches

For the M D thesis;

MD thesis subject should be officially registered within 1 year from application to the MD degree,

Discussion and acceptance of the thesis should not be set before 24 months from registering the M D subject;

It could be discussed and accepted either before or after passing the second part of examination

- Part 2

Program –related speciality courses and ILOs
Students are not allowed to sit the exams of these courses before 4 years from applying to the MD degree.

Two elective courses can be set during either the 1st or 2nd parts.

The students pass if they get 50% from the written exams and 60% from oral exams, 60% from clinical/practical exams of each course and 60% of summation of the written exams, oral and clinical /practical exams of each course
Total degrees 1700 marks.
500 marks for first part
1200 for second part
Written exam 40% - 70%.
Clinical/practical and oral exams 30% - 60%.

D- Curriculum Structure: (Courses):

Levels and courses of the program:

Courses and student work load list	Course Code	Core Credit points		
		Lectures	training	total
First Part				
Basic science courses (10 CP) Course 1: Medical Statistics Course 2: Research Methodology Course 3: Medicolegal Aspects & Ethics in Medical Practice and Course 4: Neurophysiology Course 5: Neuropathology of Neurological disorders. Genetics of Neurological & disorders. Course 6: Neuropharmacology	 FAC309A FAC309B FAC310C NEU303 NEU320A# NEU306	 1 1 1 2 3 2		 1 1 1 2 3 2
Elective courses*	3 CP			
- Elective course 1 - Elective course 2				
Thesis	40 CP			
Published researches**	40 CP			
Second Part	Speciality courses 24 CP Speciality Clinical Work (log Book) 123 CP			
Speciality Courses Course 7 **Neurology**	**NEU320B**	24		**24**
Speciality Clinical Work (123 CP)	**NEU320B**		123	**123**
Total of second part		**24**	**123**	**147**

#Didactic (lectures, seminars, tutorial)

* Elective courses can be taken during either the 1st or 2nd parts.

Student work load calculation:

Work load hours are scheduled depending on the type of activities and targeted competences and skills in different courses

Elective Courses#:

- Advanced medical statistics.
- Evidence based medicine.
- Advanced infection control.
- Quality assurance of medical education.
- Quality assurance of clinical practice.
- -Hospital management

Two of the above mentioned courses are prerequisites for fulfillment of the degree.

3. Thesis / Researches:

40 CP are appointed to the completion and acceptance of the thesis.

**Another 40 points are appointed to acceptance or publication of one research from the thesis in international indexed medical journals or publication of 2 researches from the thesis in local specialized medical journals.

Course 7 Neurology

Module/ Units' Titles' list	% from total Marks	Level (Year)	Core Credit points		
			Didactic	training	Total
-Module 1 Neurological disorders	50%	1,2,3,4	12	64	76
-Module 2 Neurological emergencies	14.6%	1,2,3,4	3.5	18.5	22
-Module 3 Neuroelectrophysiology and Neuroimaging	20.8%	1.2,3,4	5	22	27
–Module 4 Interventional Neurology	14.6%	2,3,4	3.5	18.5	22
Total (4 modules)	100%	1,2,3,4	24	123	147

6. Courses Contents (Annex 1)

The competency based objectives for each course/module/rotation are specified in conjunction with teaching/training methods, requirements for achieving these objectives and assessment methods.

See Annex 1 for detailed specifications for each course/ module
Annex 6 II: Program Matrix

7-Admission requirements

- **Admission Requirements (prerequisites) if any :**
  - **I. General Requirements:**
    - **Master degree in the speciality.**
  - **II. Specific Requirements:**
    - **Fluent in English (study language)**
    -

VACATIONS AND STUDY LEAVE

The current departmental policy is to give working residents 3 week leave prior to first/ second part exams.

FEES:

As regulated by the postgraduate studies rules and approved by the faculty vice dean of post graduate studies and the faculty and university councils.

8-Progression and completion requirements

- Examinations of the first part (Medical statistic, Research methodology and Medicolegal Aspects and Ethics in Medical Practice and Scientific Research) could be set at 6 months from registering to the MD degree.
- Students are allowed to sit the exams of the remaining essential courses of the first part after 12 months from applying to the MD degree.
- Examination of the second part cannot be set before 4 years from registering to the degree.
- Discussion of the MD thesis could be set after 2 years from officially registering the MD subject, either before or after setting the second part exams.
- The minimum duration of the program is 4 years.

The students are offered the degree when:

1. Passing the exams of all basic science, elective and speciality courses of this program as regulated by the post graduates approved rules by the faculty council.
2. Completing all scheduled CP and log book (minimum 80%).
3. Discussion and acceptance of the MD thesis.
4. Acceptance or publication of one research from the thesis in international indexed medical journals or publication of 2 researches from the thesis in local specialized medical journals.

9-Program assessment methods and rules (Annex IV)

Method	ILOs measured
Written examinations: Structured essay questions Objective questions: MCQ Problem solving	K & I
Clinical: Long/short cases OSCE	K ,I, P &G skills
Structured oral	K ,I &G skills
Logbook assessment	All
Research assignment	I &G skills

Weighting of assessments:

Courses		Degrees			
Courses	**Course code**	**Written Exam**	**Oral ***	**Practical / Clinical Exam**	**Total**
First Part					
Basic science courses:					
Medical Statistics	FAC309A	35	15		50
Research Methodology	FAC309B	35	15		50
Medicolegal Aspects & Ethics in Medical Practice and Scientific Research	FAC310C	35	15		50
Course 4: Neurophysiology	NEU303	50	50		100
Course 5: Neuropathology of Neurological disorders. Genetics of & Neurological disorders.	NEU320A#	75	75		150
Course 6: Neuropharmacology	NEU306	50	50		100
Total					500
Second Part					
	Course code	written	oral	clinical	total
Speciality Courses Course 7 Neurology Unit 1-4 Paper 1 Paper 2 Paper 3 Paper 4	**NEU320B**	480 120 for each paper	240	480	1200
Total of the second		480	240	480	1200

part					
Elective course 1		50	50		100
Elective course 2		50	50		100

* 25% of the oral exam for assessment of logbook

500 marks for first part

1200 for second part

Written exam 40% (480 marks)

Clinical/practical and oral exams 60% (720 marks)

Elective courses 200

Examination system:

First part:

- Written exam 2 hours in Medical Statistics and Research Methodology + oral examination
- Written exam 1 hours in Medicolegal Aspects and Ethics in Medical Practice and Scientific Research + oral examination.
- Written exam 2 hours in neurophysiology+ oral exam.
- Written exam 3 hours in Neuropathology of Neurological disorders& Genetics of Neurological disorders+ oral exam.
- Written exam 2 hours in neuropharmacology+ oral exam.

- **Second part:** Written exam four papers 3 hours in Neurology for each 120 marks + Oral exam (120 for investigations + 2 oral settings 60 marks for each)+ Clinical/Practical exam(240 marks for long case+2 short cases 120 marks for each).

Elective courses

- Written exam one paper 1 hour in Elective course 1 + Oral & Practical exam
- Written exam one paper 1 hour in Elective course 2 + Oral & Practical exam

10-Program evaluation

By whom	method	sample
Quality Assurance Unit	Reports Field visits	#
External Evaluator (s):According to department council External Examiner (s): According to department council	Reports Field visits	#
Stakeholders	Reports Field visits Questionnaires	#
Senior students	Questionnaires	#
Alumni	Questionnaires	#

#Annex 5 contains evaluation templates and reports (Joined in the departmental folder).

11-Declaration

We certify that all of the information required to deliver this program is contained in the above specification and will be implemented.
All course specifications for this program are in place.

Contributor	Name	Signature	Date
A. Program Principle Coordinator:	**Prof. Dr. Mohamad Abdel Rahman**		
B. Head of the Responsible Department (Program Academic Director):	**Prof. Dr. Alaa Darweesh**		

Annex 1, Specifications for Courses / Modules

Annex 1: specifications for courses/ modules

First Part

1) **Course 1: Medical Statistics**
2) **Course 2: Research Methodology**
3) **Course 3: Medicolegal Aspects and Ethics in Medical Practice and Scientific Research**

Course 4: Neurophysiology.

Course 5: Neuropathology of Neurological disorde&Genetics of Neurological disorders.

Course 6:Neuropharmacology

Course 1: Medical statistics

Name of department: Public Health and Community Medicine

Faculty of medicine

Assiut University

2022-2023

1. Course data

- **Course Title: Medical statistics**
- **Course code: FAC309A**
- **Specialty: offered to all clinical and academic specialties**
- **Number of credit points: 1 credit point**
- **Department (s) delivering the course:** Pubic Health and Community Medicine
- **Coordinator (s):**
  - Course coordinator: Prof. Farag Mohammed Moftah
  - Assistant coordinator (s): Prof. Medhat Araby Khalil Saleh
- Date last reviewed: January -2022
- **Requirements (pre-requisites) if any:**
  - Completed Master degree in any of the academic or clinical departments of Medicine.

2. Course Aims

Enable gradute students to use statistical principles to improve their professional work and develop the concept of critical interpretation of data

3. Intended learning outcomes (ILOs):To be able to use statistical principals to manage data

A knowledge and understanding

ILOS	Methods of teaching/ learning	Methods of Evaluation
A. List the types of variables	Lecture and discussion	Written examination
B. Identify the methods of data collection	Lecture and discussion	Written examination
C. Describe the different sampling strategies	Lecture and discussion	Written examination
D. Identify types of tabular and graphic presentation of data	Lecture and discussion	Written examination
E. Identify measures of central tendency and dispersion	Lecture and discussion	Written examination
F. Identify the characters of normal distribution curve.	Lecture and discussion	Written examination
G. Detect the difference between parametric and non-parametric tests	Lecture and discussion	Written examination
H. Identify the concepts of correlation and regression	Lecture and discussion	Written examination

B. intellectual

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Describe the normal curves.	Lecture& Discussions	Written examination
B. Describe and summarize data	Lecture& Discussions	Written examination
C. Select the proper test of significance	Lecture& Discussions	Written examination
D. Interpret the proper test of significance	Lecture& Discussions	Written examination
E. Describe the difference between parametric and non-parametric tests	Lecture& Discussions	Written examination

C. Practical skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Design data entry files.	Tutorial on SPSS	Assignments SPSS exam
B. Validate data entry.	Tutorial on SPSS	Assignments SPSS exam
C. Manage data files.	Tutorial on SPSS	Assignments SPSS exam
D. Construct tables and graphs.	Tutorial on SPSS	Assignments SPSS exam
E. Calculate measures of central	Tutorial on	Assignments

tendency and dispersion.	SPSS	SPSS exam
F. Select, apply and interpret the proper test of significance.	Tutorial on SPSS	Assignments SPSS exam

D general skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Appraise scientific evidence	Discussions	Research assignment
B. Use information technology to manage information, access on-line medical information; for the important topics.	tutorial	Research and audits' assignment

4. Course contents (topic s/modules/rotation
Course Matrix

Time Schedule: First Part

Topic	Covered ILOs			
	Knowledge A	Intellectual B	Practical skills C	General Skills D
Introduction	A-F	A-D	-	A&B
Tables and graphics	D	A-D	-	A&B
Sampling	C	-	-	A&B
Methodology of data collection	B	-	-	A&B
Type of variables	A	-	-	A&B
Proportion test& Chi-square test	E,F	C&D	-	A&B
Student T test& Paired T test	E,F	C&D	F	A&B
ANOVA test	E,F	C&D	F	A&B
Non parametric tests	E,F	C&D	F	A&B
Discrimination analysis factor analysis	E,F	C&D	-	A&B
SPSS Introduction	A-F	A-D	-	A&B
Data entry and cleaning of data	A	A-D	A-C	A&B
Transforming of variables	A	A&B	A-C	A&B
Descriptive statistics	D	A-D	D&E	A&B
Graphic presentation	D	A&B	D	A&B
Chi square and interpretation of results	E,F	C&D	F	A&B
Correlation Regression	E,F	C&D	F	A&B
Multiple and logistic Regression	E,F	C&D	F	A&B

5. Course Methods of teaching/learning

1. Lectures
2. Assignments
3. Discussions
4. Exercises
5. Tutorial on SPSS v.16

6. Course assessment methods:

i. Assessment tools:

1. Practical examination
2. Attendance and active participation
3. Assignments
4. SPSS examination
5. written exam

ii. Time schedule: After 6 months from applying to the M D degree.

iii. Marks: 50 (35 for written exam and 15 for oral exam).

7. List of references

i. Lectures notes

Department lecture notes

ii. Essential books

- Janet Peacock and Philip Peacock. Oxford Handbook of Medical Statistics (second edition.) Publisher: Oxford University Press, Print Publication Date: Nov 2010 Print ISBN-13: 9780199551286, Published online: Jun 2011. DOI: 10.1093/med/9780199551286.001.0001
- Leslie E. Daly MSc, PhD, Hon MFPHM,, Geoffrey J. Bourke MA, MD, FRCPI, FFPHM, FFPHMI, Interpretation and Uses of Medical Statistics, Fifth Edition, First published:1 January 2000, Print ISBN:9780632047635 |Online ISBN:9780470696750 |DOI:10.1002/9780470696750
- Marcello Pagano, Kimberlee Gauvreau: Principles of Biostatistics second edition published in 2000 by Brooks/Cole and then Cengage Learning. CRC Press, Feb 19, 2018 - Mathematics - 584 pages

iii. Recommended books

- Ji-Qian Fang (Sun Yat-Sen University, China) Handbook of Medical Statistics: https://doi.org/10.1142/10259 | September 2017.Pages: 852

- Robert H. Riffenburgh: Statistics in Medicine 4th Edition (2020). Evidence
- Discovering statistics using SPSS

iv. Periodicals, Web sites, etc

8. Signatures

Course Coordinator: Farag Mohammed Moftah	**Head of the Department:** Prof. Eman Morsey
Associated Coordinator: Prof. Medhat Araby Khalil Saleh	
Date: 10-1-2022	**Date**: 10-1-2022

Course 2: Research Methodology

Name of department: Public Health and Community Medicine
Faculty of medicine
Assiut University
2021-2022

1. Course data

- **Course Title: Research methodology**
- **Course code: FAC309B**
- **Specialty: Offered to all clinical and academic specialties**
- **Number of credit points: 1 credit point**
- **Department (s) delivering the course: Department of public health**
- **Coordinator (s):**
  - **Course coordinator: Prof. Mahmoud Attia**
  - **Assistant coordinator (s):** Prof. Medhat Araby Khalil
- **Date last reviewed:** January 2022
- **Requirements (prerequisites) if any :**
  - **Completed Master degree in any of the academic or clinical departments of Medicine.**

2. Course Aims

To provide graduate students with the skills of the following:

- Research proposal,
- Writing planning and implementing sound research,
- Writing and publishing scientific papers.

3. Intended learning outcomes (ILOs):To be able to write a rigorous research proposal

A knowledge and understanding

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Explain differences between different study designs	Lecture and discussion	Written examination
B. Identify sources and types of bias in research		
C. Describe the different sampling strategies, and compute sample size		
D. Select and design valid measurement tools for research		
E. Explain ethical issues in conducting research on human subjects		
F. describe the rules of authorship in scientific writing		
G. List the steps involved in proposal writing		

H. Identify a research problem within a conceptual framework	Lecture on Criteria to Consider to identify a research problem	discussion
I. Use the web sources to do a literature search	Practical tutorial on web	assignment
J. Select the appropriate study design for the research question	Lecture on various study designs	Written examination
K. Minimize bias in designing research	Lecture on the different types of bias	Written examination
L. Screening & theoretical background	Lectures on criteria for successful screening program& criteria for evaluation a screening test.	Written examination

B. intellectual

Competency and Skills	Methods of teaching/ learning	Methods of Evaluation
A. Apply basic science & knowledge for appraising scientific literature	Discussions &seminars	Written examination

C. Practical skills

Competency and Skills	Methods of teaching/ learning	Methods of Evaluation
A. Develop a budget and time line for the research	Tutorial	Assignments
B. Design a data entry file	Tutorial on Epi-info or Excel	Assignments Written exam
C. Identify steps required in fielding the study	Lecture	Assignments Written exam
D. Identify steps required for calculation Sensitivity, Specificity, positive predictive value, negative predictive value, Accuracy of a screening test	Lecture	Assignments Written exam

D general skills

Practice based learning improvement & professionalism

(Scientific Paper writing skills)

Competency and Skills	Methods of teaching/ learning	Methods of Evaluation
A. To be able to write an abstract	Tutorial	Written examination case study for critque
B. Write the introduction	Tutorial	Written examination
C. Write the methodology section	Tutorial	Written examination
D. Present the results	Tutorial	Written examination
E. Perform Discussion section	Tutorial	Written examination
F. Learn Authorship ethical rules	Tutorial	Written examination

4. Course contents (topic s/modules/rotation
Course Matrix

Time Schedule: First Part

Topic	Covered ILOs			
	Knowledge A	Intellectual B	Practical skills C	General Skills D
Introduction & proposal writing	G	A	A	A-F
Epidemiological Study designs	A,J	A	B,C	-
Screening & theoretical background	L	A	-	-
Screening practical	L	A	D	-
Sample size calculation	B	A	B,C	-
Research bias	H	A	C	F
Ethics in research	E,F	A	C	F

5. Course Methods of teaching/learning:

1. Lectures
2. Assignments
3. Discussion
4. Exercises

6. Course assessment methods:

i. Assessment tools:

1. Written examination
2. Attendance and active participation
3. Class
4. Assignments

ii. Time schedule: After 6 months from applying to the M D degree.

iii. Marks: 50 (35 for written exam and 15 for oral exam).

7. List of references

i. Lectures notes

- Department lecture notes

ii. Essential books

- Research methodology: A step – by – step Guide for Beginners. Ranjit Kumar, 2020. Second edition https://books.google.com.eg/books?
- Medical Research Essentials Rania Esteitie, McGraw Hill Professional, third edition, Feb 5, 2014 - Medical - 104 pages
- Research Methodology in the Medical and Biological Sciences Petter Laake, Haakon Breien Benestad, Bjorn R. Reino Olsen, 4th edition , Academic Press, Nov 5, 2007 - Science - 512 pages

iii. Recommended books

- Research Methodology: A Practical and Scientific Approach Vinayak Bairagi, Mousami V. Munot · 2019, Research Methodology: A Practical and Scientific Approach - Google Books
- Based Medicine How to practice and teach EBM. David Sachett, Sharon E. Straus, W. Scott Richardson , William Rosenberg R.Brain Haynes
- Dissertation workshop open courseware JHSPH

8. Signatures

Course Coordinator: - Prof. .Mahmoud Attia	**Head of the Department:** Prof. Eman Morsy
Date: 10-1-2022	**Date**: 10-1-2022

Course 3: Medicolegal Aspects and Ethics in Medical Practice and Scientific Research

Name of department:
Forensic medicine and clinical toxicology
Faculty of medicine
Assiut University
2021-2022

1. Course data

- **Course Title: Medicolegal Aspects and Ethics in Medical Practice and Scientific Research**
- **Course code: FAC310C**
- **Speciality: General medicine, Special medicine, Pediatrics, Public health, Oncology and Rheumatology, Emergency critical Medicine (1st part).**
- **Number of credit points: 1 credit point .**
- **Department (s) delivering the course: Forensic Medicine and Clinical Toxicology**

- **Coordinator (s):**
  - **Course coordinator:**
    Prof. Ghada omran
  - **Assistant coordinator (s) Assist.**
    Prof. Zaghloul Thabet

- **Date last reviewed:** March -2022
- **Requirements (prerequisites) if any :**
  - **Completed Master degree.**

2. Course Aims

To describe the basic ethical and medicolegal principles and bylaws relevant to practice in the field of General medicine, Special medicine, Pediatrics, Public health, Oncology and Rheumatology

3. Intended learning outcomes (ILOs):

A knowledge and understanding

Competency and Skills	Methods of teaching/ learning	Methods of Evaluation
A. Mention principals of Taking consent.	Lecture and discussion	Oral &Written exam
B. Mention principals of Writing a death certificate	Lecture and discussion	Oral &Written exam
C. Mention principals of diagnosing death.	Lecture and discussion	Oral &Written exam
D. Mention principals of writing toxicological reports.	Lecture and discussion	Oral &Written exam
E. Explain principals of medical reports.	Lecture and discussion	Oral &Written exam
F. List indications and principals of induced emesis, gastric lavage and samples collection.	Lecture and discussion	Oral &Written exam

B. intellectual

Competency and Skills	Methods of teaching/ learning	Methods of Evaluation
A. Present case , seminars in death certificate	Lecture and discussion	Oral &Written exam
B. Present case, seminars in toxicological cases	Lecture and discussion	Oral &Written exam

C. Practical skills

Competency and Skills	Methods of teaching/ learning	Methods of Evaluation
A. Identify medical ethics and ethics in research.	Lecture and discussion	Reading Discussion
B. Prepare and write consent.	Lecture and discussion	Reading Discussion
C. Identify medical responsibilities.	Lecture and discussion	Reading Discussion
D. Write death certificate.	Lecture and discussion	Reading Discussion and active participation
E. Deal with a case of Suspicious death	Lecture and discussion	Reading Discussion and active participation
F. Perform gastric lavage, induce emesis, and obtain samples.		
G. Write medical and toxicological reports	Lecture and discussion	Reading Discussion and active participation

H. Develop and carry out patient management plans for Euthanaesia, and Organ Transplantation		
I. Counsel patients and their families about speciality related conditions including Permanent infirmities, Euthanasia, and Organ Transplantation		

D general skills

Competency and Skills	Methods of teaching/ learning	Methods of Evaluation
A. Present a case.	Lecture and discussion	Global rating logbook
B. Write a consultation note	Lecture and discussion	Global rating logbook
C. Inform patients and maintaining comprehensive.	Lecture and discussion	Global rating logbook
D. Make timely and legible medical records	Lecture and discussion	Global rating logbook
E. Acquire the teamwork skills	Lecture and discussion	Global rating logbook

4. Course contents (topic s/modules/rotation
Course Matrix

Time Schedule: First Part

Topic	Covered ILOs			
	Knowledge A	Intellectual B	Practical skills C	General Skills D
1. Death and death certificate.	B,C	A	D,E	A
2. Medical Reports	A	-	G	A,D,E
3. Toxicological reports	D,F	B	G,F	A,E
4. Ethics in research.	A	-	A	
5. Medical ethics.	E	-	A,B,C,H,I	B,C,E

5. Course Methods of teaching/learning:

1. Lectures.
2. Discussions.
3. Exercises.

6. Course assessment methods:

i. Assessment tools:

1. Written examination.
2. Attendance and active participation.
3. Oral examination.

ii. Time schedule: After 6 months from applying to the M D degree.

iii. Marks: 50 (35 for written exam and 15 for oral exam).

7. List of references

i. Lectures notes

- Course notes.
- Staff members print out of lectures and/or CD copies.

ii. Essential books

- Bernard Knight and Pekka Saukko (2015: Knight Forensic Pathology. Hodder Arnold press

- Goldfrank, Lewis R.; Howland, Mary Ann; Hoffman, Robert S.; Nelson, Ewis S.; Lewin, Neal A (2019): Goldfrank's Toxicologic Emergencies, 11th ed. McGraw Hill / Medical.

- Medical Ethics Manual. World medical association. Third edition 2015.
- Medical ethics and law. Dominic Wilkinson, 3rdedition 2019.

iii. Recommended books

- Biswas Gautam (2021): Review of Forensic Medicine & Toxicology. 5th ed. Jaypee Brothers Medical Pub.

iv. Journal and web site

- Journals of all Egyptian Universities of Forensic Medicine and Clinical Toxicology.
- All International Journals of Forensic Medicine and Clinical Toxicology which available in the university network at www.sciencedirect.com. As :
  Forensic Science International Journal.
  Toxicology Letter.

8. Signatures

- Course Coordinator: **Prof. Ghada Omran**	**- Head of the Department:** **Prof. Randa Hussein Abdel hady**
Date: 3-2022	**Date**: 3-2022

Course 4, Neurophysiology

I. Course data

- **Course Title: Neurophysiology**
- **Course** code: **[NEU303]**
- **Speciality is Neurology .**
- **Number of credit points: 2credit point, didactic 2 credit point (100%) and 0 practical .**
- **Department (s) delivering the course: Physiology in conjunction with Neurology and Psychiatry department.**
- **Coordinator (s): Staff members of Physiology Department in conjunction with Neurology and Psychiatry Department as annually approved by both departments' councils.**
- **Principle coordinator: Prof Dr. Essam Darweish .**
- **Assistant coordinator: Dr. Wafaa Farghaly.**
- **Date last reviewed:** 4-2022
- **Requirements (prerequisites) if any :**
- **None.**

2- Course Aims

2.1The candidates acquire the neurophysiologic facts in details which are appropriate to neurological disorders for clinical reasoning, diagnosis and management.

3. Course intended learning outcomes (ILOs):

A- Knowledge and understanding

ILOs	Methods of teaching/ learning	*Methods of Evaluation*
A. Illustrate detailed and updated physiologic principles of the following: - Circulation: * Heart rate. *Blood pressure. - Neuroendocrinology: - Thyroid. - Parathyroid - Adrenal gland. - Pituitary. - Water and electrolyte imbalance.	-Lectures	-Written and oral examination - Log book
B. Describe in depth Physiologic details of the following : - CNS and special senses - Autonomic nervous system - Nerve and muscle. * Blood pressure * CSF * Blood brain barrier (BBB)	-Lectures -Tutorial - Didactics	-Written and oral examination - Log book

*Intracranial pressure *Cerebral circulation. - Physiology of pain and pain theory. - Physiology of cognition and memory. - Physiology of limbic system. - Sleep. - speech . - Channelopathies. - Receptors and transmitters.		

B- Intellectual outcomes

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Correlates the facts of Physiology with clinical reasoning, diagnosis and management of common diseases related to Neurological disorders**.**	-Didactic (lectures, seminars, tutorial)	-Written and oral examination -Log book
B. Demonstrate an investigatory and analytic thinking (problem solving) approaches to common clinical situations related to Neurological disorders.		

C- Practical skills

Practical: 0 CP

D-General Skills

Practice-Based Learning and Improvement

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Use information technology to manage information, access on-line medical information; and support their own education	-Observation and supervision -Written and oral communication	Log book

Interpersonal and Communication Skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
B. Write a report in common condition mentioned in A.A, A.B	-Clinical round -Seminars -Lectures	-Global rating -Log book and Portfolios -Chick list

Professionalism

ILOs	Methods of teaching/ Learning	Methods of Evaluation
C. Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society that supersedes self-interest.	- Observation and supervision Written & oral communication	- Objective structured clinical examination - Patient survey

Systems-Based Practice

ILOs	Methods of teaching/ learning	Methods of Evaluation
D. Work effectively in different health care delivery settings and systems.	-Observation -Senior staff experience	-360o global rating
E. Partner with health care managers and health care providers to assess, coordinate, and improve health care and predict how these activities can affect system performance		

4- Course contents (topic s/modules/rotation)

Time Schedule: First Part

Topic	Covered ILOs			
	Knowledge	Intellectual	Practical skill	General Skills
CNS and special senses	**B**	**A**	**-**	**A-E**
Autonomic nervous system	**B**	**A**	**-**	**A-E**
Nerve and muscle.	**B**	**A**	**-**	**A-E**
- **Circulation**: Heart rate. * Blood pressure. * CSF. * Blood brain barrier (BBB). *Intracranial pressure. *Cerebral circulation.	**A,B**	**A**	**-**	**A-D**
Neuroendocrinology - Thyroid. - Parathyroid. - Adrenal gland. - Pituitary.	**A,B**	**A**	**-**	**A-D**
- Water and electrolyte imbalance.	**A**	**A**	**-**	**A-D**
- Physiology of pain and pain theory.	**A,B**	**A**	**-**	**A-E**
Physiology of cognition and memory.	**A ,B**	**A**	**-**	**A-E**
Physiology of limbic system.	**A ,B**	**A**	**-**	**A-E**
Physiology of the following:	**B**	**A**	**-**	**A-E**

-Sleep. - speech . - Channelopathies. - Receptors and transmitters.				

5. Methods of teaching/learning:

1. Didactic (lectures, seminars, tutorial)
2. Observation
3. Written & oral communication
4. Senior staff experience

6. Methods of teaching/learning: for students with poor achievements

1. Extra Didactic (lectures, seminars, tutorial) according to their needs.

7- Assessment methods:

i. Assessment tools:

1- Written and oral examination

2- Log book

ii. Time schedule: At the end of the first part

iii. Marks: 100marks= (50 for written+50 for oral) .

8. List of references

i. Lectures notes

- Course notes
- Staff members print out of lectures and/or CD copies

ii. Essential books

- Integrated nervous system.The Nervous System: Basic science and clinical conditions:Adina Michael-Titus,Peter Shortl and,Patricia Revest,Edinburgh London,London New York Oxford Philadelphia ,ST Louis Sydney Toronto, 2010,second edition.
- **N**euroscience Secrets: 1st Edition by Margaret T. Wong-Riley PhD (Author),Hanley & Belfus, 2000.
- Guyton AC, Hall JE: Textbook of Medical Physiology, 14th ed. Saunders, 2021.
- Erik Roberson, David G. Standaert, Franklin Amthor, W. Anne Burton Theibert - Essentials of Modern Neuroscience (LANGE)-McGraw-Hill Professional (2020)

iii. Recommended books

- Gillian Pocock, Christopher D. Richards: Human Physiology the Basis of Medicine. Oxfordcore texts, 2010-2013.
- Neuroscience, Fifth Edition by Dale Purves, George J. Augustine, David Fitzpatrick, William 5th (fifth) Edition [Hardcover(2011)] Textbook Binding.
- Principles of Neural Science, Sixth Edition 6th Edition by Eric Kandel (Author), John D. Koester (Author), Sarah H. Mack (Author), Steven Siegelbaum.

iv. Periodicals, Web sites, … etc

- American journal of physiology.
- Journal of applied physiology.

v. others

None.

9. Signatures

Course Coordinator:	**Head of the Department:**
Date	**Date:**

Course 5, Neuropathology of Neurological disorders. & Genetics of Neurological disorders

- Course title: Neuropathology of Neurological disorders &Genetics of Neurological disorders.

- **It is divided into units**

Unit 1 : Neuropathology of Neurological disorders.
Unit 2: Genetics of Neurological disorders.
Course code : NEU320A#

Course5: module 1; Neuropathology

1. Module data

- **Module title :** Neuropathology of Neurological disorders.
- **Code:[NEU320A#]**
- **Speciality : Neurology.**
- **Number of credit points: 2credit point, didactic 2 credit point (100%) and 0 practical.**
- **Department (s) delivering the course: Pathology Department in conjunction with Neurology and Psychiatry department**
- **Coordinator (s): Staff members of Neurology and Psychiatry department in conjunction with Pathology Department as annually approved by both departments councils.**
- **Principle coordinator: Professor Dr. Hassan Farweez**
- **Assisstant coordinator: Dr. Eman M Khedr.**
- **Date last reviewed:** 4-2022**.**
- **Requirements (prerequisites) if any: None**
- **Fulfilling logbook requirements.**

2-Module (unit) Aim

1. The candidate should acquire the detailed neuropathological facts which are appropriate to Neurological diseases and Psychiatric disorders in clinical reasoning, diagnosis and management of Neurological diseases and Psychiatric disorders.

3. Intended learning outcomes (ILOs)

A-Knowledge and understanding

ILOs	**Methods of teaching/ learning**	***Methods of Evaluation***
A. Illustrate principles of General Pathology of the following : cell degeneration - inflammation - Tuberculosis- Pott's disease. - Disturbance of growth - Pathology of tumors - Diagnostic cytology	-Lectures Tutorial - Didactics	-Written and oral examination - Log book
B. Describe pathological details of the following: - Ischemic infarction -Hemorrhagic stroke - Aneurysm. - Dementia. -Neuropathies. -↑ICT and brain edema. -Tumors of CNS. -Atherosclerosis. Multiple sclerosis, demylinating diseases -Infection of CNS. -Muscle diseases.		

B-Intellectual outcomes

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Correlates the facts of Pathology with clinical reasoning, diagnosis and management of common diseases related to Neurology**.**	-Didactic (lectures, seminars, tutorial)	-Written and oral examination -Log book
B. Demonstrate an investigatory and analytic thinking (problem solving) approaches to common clinical situations related to Neurology.		

C-Practical skills

Practical: 0 CP

D-General Skills

Practice-Based Learning and Improvement

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Use information technology to manage information, access on-line medical information; and support their own education	-Observation and supervision -Written and oral communication	Log book

Interpersonal and Communication Skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
B. Write a report in common condition mentioned in A.A, A.B	-Clinical round -Seminars -Lectures	-Global rating -Log book and Portfolios -Chick list

Professionalism

ILOs	Methods of teaching/ Learning	Methods of Evaluation
C. Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society that supersedes self-interest.	- Observation and supervision Written & oral communication	- Objective structured clinical examination - Patient survey

Systems-Based Practice

ILOs	Methods of teaching/ learning	Methods of Evaluation
D. Work effectively in different health care delivery settings and systems.	-Observation -Senior staff experience	-360o global rating
E. Partner with health care managers and health care providers to assess, coordinate, and improve health care and predict how these activities can affect system performance		

4. Contents (topic s/modules/rotation) Matrix

Time Schedule: First Part

Module 1 Neuropathology of Neurological disorders.

Topic	Covered ILOs			
	Knowledge	Intellectual	Practical skill	General Skills
General Pathology of				
cell degeneration	B	A.B	-	A-D
Inflammation	B	A	-	A-D
Tuberculosis- Pott's disease.	A,B	A	-	A-D
Disturbance of growth	A	A	-	A-D
Pathology of tumors	A	A	-	A-D
Diagnostic cytology	A	A	-	A-D
Neuropathology				
Ischemic infarction	B	A,B	-	A-E
Hemorrhagic stroke	B	A,B	-	A-E
- Aneurysm.	B	A	-	A-E
- Dementia.	B	A	-	A-E
Neuropathies.	B	A	-	A-E
-↑ICT and brain edema.	B	A	-	A-E
-Tumors of CNS.	B	A	-	A-E
-Atherosclerosis.	B	A	-	A-E
-Infection of CNS.	B	A	-	A-E
-Muscle diseases.	B	A	-	A-E

5. Methods of teaching/learning

1. Didactic (lectures, seminars, tutorial)
2. Laboratory work.

6. Methods of teaching/learning: for students with poor achievements

1. Extra Didactic (lectures, seminars, tutorial) according to their needs
2. Extra Laboratory work to their needs

7. Assessment methods:

i. Assessment tools: Written and oral examination (including assessment of practical skills)
-Log book
ii. Time schedule: At the end of first part
iii. Marks: 100 marks = **(5 0marks for written+ 50 marks for oral)**

8. List of references

i. Lectures notes

- Course notes
- Staff members print out of lectures and/or CD copies

ii. Essential books

- Merritt's Neurology,Elan D. Louis, Stephan A. Mayer, James M. Noble - 14th edition -LWW. Wolters Kluwer (2021).
- Robbins Basic Pathology: with STUDENT CONSULT Online Access (Robbins Pathology) 9th Edition by Vinay Kumar MBBS MD FRCPath (Editor), Abul K. Abbas MBBS (Editor), Jon C. Aster MD PhD (Editor). https://www.amazon.com/Robbins-Basic-Pathology-STUDENT-CONSULT/dp/1437717810?asin=1437717810&revisionId=&format=4&depth=1.
- Erik Roberson, David G. Standaert, Franklin Amthor, W. Anne Burton Theibert - Essentials of Modern Neuroscience (LANGE)-McGraw-Hill Professional (2020)
- Pasko Rakic, John Rubenstein, Bin Chen, Kenneth Y. Kwan - Synapse Development and Maturation_ Comprehensive Developmental Neuroscience-Academic Press (2020)

iii. Recommended books

- Rosai and Ackerman's surgical pathology, 9th edition author: Juan Rosai Mosby, Edinburgh, 2004. Panna S. Mahadevia M.D.
- Sternberg's Diagnostic surgical Pathology 4th edition, Lippincott Williams and Wilkins.
- Comprehensive Textbook of Pathology for Nursing: Pathology, Clinical Pathology, Genetics}. Author, A. K Mandal. Publisher, Avichal Publishing, 2016.

iv. Periodicals, Web sites, … etc

- Human pathology
- Histopathology

v. others

- None

Course 5 Unit (Module) 2 Genetics of Neurological disorders

I. Module data

- Unit Title: Genetics of Neurological disorders
- **Course code: NEU320A#**
- **Speciality is *Neurology and Psychiatry***
- **Number of Credit points(CP): total: 1CP, didactic 1 CP(100%), 0 practical .**
- **Department (s) delivering the course: *Neurology and Psychiatry* Department**
- **Coordinator (s): Staff members of *Neurology and Psychiatry* Department as annually approved by both departments councils**
- **Date last reviewed:** 4-2022
- **Requirements (prerequisites) none.**

2. Unit Aims

1. The candidate should acquire the genetic facts of nervous system which are appropriate to Neurological diseases and disorders in clinical reasoning, diagnosis and management of Neurological diseases and disorders.

3. Unit intended learning outcomes (ILOs):

A- Knowledge and understanding

ILOs	Methods of teaching/ learning	*Methods of Evaluation*
A-Illustrate *genetic* principles of: Basic of cell structures and Molecular genetics: Nucleus,Mitochondria…etc. Nucleic acids (DNA& RNA). * Patterns of inheritance: - Autosomal dominant inheritance. - Autosomal recessive inheritance. - X Linked recessive inheritance. - X Linked dominant inheritance. - Multifactorial inheritance. * Chromosomes and Genes. * Mitochondria and genes. * DNA Analysis. * Gene and Mapping. *Mechanisms of Mutations. *Defections of Mutations. *Ethical aspects. *Neurogenetic information of the following neurological disorders: • Muscle disorders. • Peripheral neuropathy. • Mitochondrial disorders. • Neurometabolic disorders, stroke, epilepsy, migraine, Channelopathy, movement disorders, dementia, demylinating disease, CNS tumors.	-Didactic (lectures, seminars, tutorial)	- Written and oral examination - Log book
B-Describe genetic details of the following;		

-Ethical aspects in neurogenetic for investigation and counseling. - Neurogenetic information of Neurological disorders • Muscle disorders. • Peripheral neuropathy. • Mitochonderial disorder, • Neurometabolic disorders, stroke, epilepsy, migraine, Channelopathy, movement disorders, dementia, demylinating disease, CNS tumors.		

B- Intellectual outcomes

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Apply the basic (genetics) supportive sciences which are appropriate to neurological disorders related problems.	-Didactic (lectures, seminars, tutorial)	-Written and oral examination - Log book
B. Demonstrate an investigatory and analytic thinking (problem solving) approaches to common clinical situations related to neurological disorders related problems		

C- Practical skills

Practical: 0 credit point

D-General Skills

Practice-Based Learning and Improvement

ILOs	Methods of teaching/ learning	Methods of Evaluation
A.Use information technology to manage information, access on-line medical information; and support their own education	-Observation and supervision -Written and oral communication	Oral exam Logbook

Interpersonal and Communication Skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
B.Write a report in common condition mentioned in A.A, A.B	-Clinical round -Seminars -Lectures	-Log book -Chick list Oral exam

Professionalism

ILOs	Methods of teaching/ Learning	Methods of Evaluation
C.Demonstrate a commitment to ethical principles	- Observation and supervision Written & oral communication	Logbook Oral Exam

Systems-Based Practice

ILOs	Methods of teaching/ learning	Methods of Evaluation
D. Work effectively in different health care delivery settings and systems.	-Observation -Senior staff experience	-360o global rating

4. Unit contents (topic s/modules/rotation
Course (Unit) Matrix

Time Schedule: First Part

Units Topic	Covered ILOs			
	Knowledge A	**Intellectual** B	**Practical skills C**	**General Skills** D
Cardiovascular system:				
Basic of cell structures and Molecular genetics: Nucleus,Mitochondria…etc. Nucleic acids (DNA& RNA). * Patterns of inheritance: - Autosomal dominant inheritance. - Autosomal recessive inheritance. - X Linked recessive inheritance. - X Linked dominant inheritance. - Multifactorial inheritance. * Chromosomes and Genes. * Mitochondria and genes. * DNA Analysis. * Gene and Mapping. *Mechanisms of Mutations. *Detections of Mutations	A	A&B	-	A-D
-Ethical aspects in neurogenetic for investigation and counseling. - Neurogenetic information of Neurological disorders • Muscle disorders. • Peripheral neuropathy. • Mitochonderial disorder, • Neurometabolic disorders, stroke, epilepsy, migraine, Channelopathy, movement disorders, dementia, demylinating disease, CNS tumors.	A,B	A&B	-	A-D

5. Unit methods of teaching/learning:

1. Didactic (lectures, seminars, tutorial)
2. Observation and supervision
3. Written & oral communication
4. Senior staff experience

6. Methods of teaching/learning: for students of limited abilities:

1. Extra Didactic (lectures, seminars, tutorial) Observation and supervision.
2. Written & oral communication according to their needs.

7- Assessment methods:

1- Assessment tools:

a. Written and oral examination (including assessment of practical skills)
b. Log book

2- Time schedule: At the end of the first part

3- Marks: 50marks(25for written+ 25 for oral).

8. List of references

1- Lectures notes

- Course notes
- Staff members print out of lectures and/or CD copies

2- Essential books:

- Departmental notes.

- Merritt's Neurology,Elan D. Louis, Stephan A. Mayer, James M. Noble -14th edition -LWW. Wolters Kluwer (2021).

3- Recommended books;

-Revolution in Neuroscience-Yves Agid, Pierre Magistretti - Glial Man_ A Oxford University Press (2020).

4- Periodcal website.

www.pubmed.com.

www. Science direct.com

www.google.com.

5- Others: none.

9. Signatures

Course Coordinator	
Unit 2 Coordinator:	**Head of the Department:**
Date:	**Date:**
Unit 2 Coordinator:	**Head of the Department:**
Date:	**Date:**

Course 6 : (NeuroPharmacology)

1. Course data

- course Title: neuropharmacology
- COURSE code: NEU306
- Speciality is Neurology.
- Number of credit points: 2 credit point, Didactic 2 credit point (100%) and 0 practical.
- Department (s) delivering the unit: Pharmacology in conjunction with Neurology and Psychiatry.
- Coordinator (s): Staff members of Neurology and Psychiatry Department in conjunction with Pharmacology Department as annually approved by both departments councils
  - Date last reviewed: 4-2022.
- Requirements (prerequisites) if any :
  None
- Requirements from the students to achieve unit ILOs are clarified in the joining log book.

2. Course aims

2.1The student should acquire the professional knowledge and facts of pharmacology in details necessary for **Neurology diseases and disorders.**

3. Course intended learning outcomes (ILOs):

A- Knowledge and understanding

ILOs	**Methods of teaching/ learning**	***Methods of Evaluation***
A-Illustrate the pharmacology principles of : General pharmacology - Antiepileptic drugs. Psychotropic drugs. -Antipsychotic drugs. -Antidepressants. -Mood stabilizers. -Anaxiolytic drug. Antiplatelates. - Thrombolytic drugs. - Anticoagulants -Antiparkinsonian drugs. Anticholinergic drugs. Anticholine esterase inhibitors. Parasympathomemitic drugs Muscle relaxants. Drug dependence& habituation & drug abuse. -Addiction. -Tranquilizers. -Brain stimulants. Drug-drug interaction. Antibiotic, antimicrobial, antiviral -Hypoglycemic agents. -Antihypertensive drugs. - anti arrhythmic drugs. - Inotropics - Coronary dilators.	-Didactic (lectures, seminars, tutorial)	- Written and oral examination - Log book

- Bronchodilators. Steroids& ACTH -Non steroidal anti-inflammatory drugs. - Analgesic and pain killers. - Dehydrating measures. - Immunosuppressant drugs. - Chemotherapy CNS Side effect. - immunoglobulin. - Hormones In treatment of (thyroid, bone,contraceptives) -Disease modifying agents or therapy DMT		
B. Describe *pharmacology details of;* • Drugs mentioned in AA .		

B- Intellectual outcomes

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Apply the basic (Pharmacology) supportive sciences which are appropriate to Neurology related problems.	-Didactic (lectures, seminars, tutorial)	-Written and oral examination - Log book
B. Demonstrate an investigatory and analytic thinking (problem solving) approaches to common clinical situations related to Neurology		

C- Practical skills

Practical: 0 credit point .

D-General Skills

Practice-Based Learning and Improvement

ILOs	Methods of teaching/ learning	Methods of Evaluation
A.Use information technology to manage information, access on-line medical information; and support their own education	-Observation and supervision -Written and oral communication	Log book

Interpersonal and Communication Skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
B.Write a report in common condition mentioned in A.A, A.B	-Clinical round -Seminars -Lectures	-Global rating -Log book and Portfolios -Chick list

Professionalism

ILOs	Methods of teaching/ Learning	Methods of Evaluation
C.Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society that supersedes self-interest.	- Observation and supervision Written & oral communication	- Objective structured clinical examination - Patient survey

Systems-Based Practice

ILOs	Methods of teaching/ learning	Methods of Evaluation
D.Work effectively in different health care delivery settings and systems.	-Observation -Senior staff experience	-360o global rating

4. Course contents (topic s/modules/rotation
Course Matrix

Time Schedule: First Part

Topic	Covered ILOs			
	Knowledge A	Intellectual B	Practical skills C	General Skills D
• General pharmacology.	A	A	-	A-D
• Antiepileptic drugs.	A,B	A	-	A-D
Psychotropic drugs.	A,B	A	-	A-D
-Antipsychotic drugs.	A,B	A	-	A-D
-Antidepressants.	A,B	A	-	A-D
-Mood stabilizers.	A,B	A	-	A-D
• -Anaxiolytic drugs	A,B	A	-	A-D
• Antiplatelates.	A,B	A	-	A-D
• Thrombolytic drugs.	A,B	A	-	A-D
• Anticoagulants.	A,B	A	-	A-D
• Antiparkinsonian drugs.	A,B	A	-	A-D
• Anticholinergic drugs.	A,B	A	-	A-D
• Anticholine esterase inhibitors.	A,B	A	-	A-D
• Drug dependence& habituation & drug abuse. Addiction. • -Tranquilizers. • -Brain stimulants	A,B	A	-	A-D
Disease modifying agents or therapy DMT	A,B	A	-	A-D
• Antibiotic, antimicrobial, antiviral. • -Hypoglycemic agents. • -Antihypertensive drugs. • anti arrhythmic drugs. • In tropics • Coronary dilators. • - Bronchodilators • Non steroidal anti-inflammatory drugs.	A,B	A	-	A-D

• -Steroids. • Analgesic and pain killers. • Dehydrating measures. • Immunosuppressant drugs - Chemotherapy and CNS side effect				

5. Course methods of teaching/learning:

1. Didactic (lectures, seminars, tutorial)
2. Observation and supervision
3. Written & oral communication
4. Senior staff experience

6. Course methods of teaching/learning: for students with poor achievements

1. Extra didactic (lectures, seminars, tutorial)

7. Course assessment methods:

i. Assessment tools:

1. Written and oral examination
2. Log book

ii. Time schedule: At the end of the first part

iii. Marks: 100(50marks written+ 50 oral).

8. List of references

i. Lectures notes

- Course notes
- Staff members print out of lectures and/or CD copies

ii. Essential books

-Merritt's Neurology,Elan D. Louis, Stephan A. Mayer, James M. Noble -14th edition -LWW. Wolters Kluwer (2021).

-Basic & Clinical Pharmacology, 15thEdition(2021), Bertram Katzung, Anthony Trevor, Susan Masters. Publisher: McGraw-Hill

i. Recommended books

- Godman Gilmans. The Pharmacological Basis of Therapeutics, Twelfth Edition. 12th ed.(2017).by: Laurence Brunton , Bruce A. Chabner , Bjorn Knollman-publisher McGraw-Hill Education - Europe.

iv. Periodicals, Web sites, … etc

- **Periodicals,**
  - British journal f pharmacology
  - Pharmacological review
- **Web sites:** http://mic.sgmjournals.org/

v. others : None

9. Signatures

Course Coordinator	
Course Coordinator:	**Head of the Department:**
Date:	**Date:**

Second Part

Course 7: Neurology

Name of department: of Neurology and Psychiatry
Faculty of medicine
Assiut University
2021-2022/2022-2024.

Course 7 Neurology

It is divided into 4 modules:

- **Module 1 Neurological disorders.**
- **Module 2 Neurological emergencies.**
- **Module 3 Neuroelectrophysiology and neuroimaging.**
- **Module 4 Interventional Neurology.**

1. Course data

- **Course Title: Neurology**
- **Course code: NEU320B**
- **Department (s) delivering the course: Department of Neurology and Psychiatry – Faculty of Medicine- Assiut University-Egypt.**
- **Number of credit points:** 147 credit point - didactic 24 credit point (16.3%) - practical 123 credit point (83.7%)
- **Coordinator (s):**

- **Principle coordinator:**

Prof Dr.Mohammad Abdel Rahman

- **Assistant coordinator (s):**

Prof Dr. Hamdy Nageeb,
Prof Dr.Gydaa Sheata,
Prof Dr. Wafaa Mohamad Farghaly.

-Last date reviewed: 4-2022.

- **Requirements (prerequisites) if any :**
  - None

- **Requirements from the students to achieve course ILOs are clarified in the joining log book**

Module Coordinators

Module	Principle coordinator	Assistant coordinators.
Module 1 Neurological disorders.	Prof. Dr.Hamdy N El Tellawy. Prof. Dr Mohammad Abdel Rahman.	Prof. Hassan Farweez, Eman M Khedr Essam S Darwish Wafaa Farghaly.Sherifa A Hamed,Khaled Osama, Reda Badry, Anwar Ali, Mohamed Abd Elhamiud, Tarek Rageh, Gydaa Sheata, Noha AboElfetoh, Aml Tohamy, Mohamed Mostafa, Ahmed Nasser,Shady Safwat,Asmaa Mohammad,Nour Elhoda Ahmad,Doaa Mokhtar.
Module 2 Neurological emergencies.	Prof.Dr.Hassan Farweez, Nageh Foly	Prof. Dr. Mohamed Abdel Rahman, Sherifa A Hamad,Mohammad Abdel Hamuid,Aml Tohamy, Khald Osama,Doaa Mokhatar,
Module 3 Neuroelectrophysiology and neuroimaging.	Prof. Dr. Eman Khedr,Noha Abo Elfetoh .	Prof. Dr. Wafaa Farghaly, Dr.Mohamed Abdel Rahman, Asmaa Mohammad,Nour Elhoda Ahmad,Shady

		Mohammad
Module 4 Interventional neurology	Prof. Dr. Mohamad Abdel Rahman, Abdel Nassar	Prof. Hassan Farweeze Wafaa Farghaly, Nageh foly,Anwar M Ali, Mohammad Mostafa, Khald Osama,

2. Course Aims

2/1.To enable MD students to keep with international standards of neurology patients care by mastering high level of clinical skills, in addition to update medical knowledge as well as clinical experience and competence in the area of neurology medicine and emergencies, diagnostic neuroelectrophysiology and enabling the MD student of making appropriate referrals to a sub-specialist

2/2.Know and critically evaluate and use correct medical information and scientific evidence for patient care and demonstrate the ability to provide patient-centered care that is appropriate, compassionate, and effective for treatment of neurology health problems and the promotion of health.

2/3.To investigates and evaluates the patient care practices, appraise and assimilate scientific evidence, and use these processes to improve patient care.

2/4.Provide assistant lecturers with fundamental knowledge of emergency and stroke intensive care medicine as regards; mastering dealing with critically ill patients, ICU equipments, techniques, indications, contraindications and training skills of different intensive care techniques.

2/5.Identify the indications, complications and likelihood of successful outcome in performing interventional diagnostic and therapeutic tools in neurology.

3. Course intended learning outcomes (ILOs):

Course7:Module (Unit) 1 Neurological Disorders.

A-Knowledge and understanding

ILOs	Methods of teaching/ learning	*Methods of Evaluation*
A. Explain update and evidence based etiology, clinical picture, diagnosis and management of the following common diseases and clinical conditions: -Cerebrovascular disorders and other vascular disorders. -Central nervous system infection -Paroxysmal disorders (epilepsy- migraine-trigeminal neuroalagia) -Movement disorders. -Tumors in nervous system. -Neuromuscular disorders. -Muscle diseases, -Peripheral neuropathies. -Motor neuron diseases. -Edema and hydrocephalous. -Trauma. -spinal cord diseases -Neuroimmunology -Child Neurology and developmental disorders.	- Didactic; Lectures Clinical rounds Seminars Clinical rotations (service teaching)	-OSCE at the end of each year -log book & portfolio - One MCQ examination -Written and oral examination

-Genetics diseases of the nervous system. -Demylinating disorders (MS,NMOSD,other demylinating disorders). -Geriatric disorders -Headache /pain -Neuro-Oncology -Sleep disorders -Neuroradiology. -Critical care neurology -Neuroepidemiology of neurological disorders . Neurology of systemic diseases. -Neurometabolic disorders. -. Systemic diseases and General Medicine. -. Autonomic diseases. -. Environmental neurology. -. Neurotoxicity. - Neurological disorders and pregnancy. .-Teratogenicity and neurological diseases. - Cerebellar disorders. - Channelopathies and Neurological disorders. -Neurological disorders in COVID 19 - Neurological sequlea of COVID 19. -Neurological manifestations of COVID19.		
B. Describe the principles of updated knowledge of neuroepidemiology and therapeutic trials of these conditions mentioned above in A.A. - Clinical Approach to the Patient presented with different neurological symptoms and signs. - History case taking (symptoms & signs).	-Didactic (lectures, seminars, tutorial) -Clinical rounds -Seminars	-OSCE at the end of each year -log book & portfolio - One MCQ examination

- Management of Neurological disorders in different ages and in pregnancy. - pathogenesis, neuromodulation, neuroplasticity.	-Clinical rotations -Service teaching	-Written and oral examination
C. Illustrate basics of the following rare diseases and conditions including the following: - Neurometabolic disorders, - Neurogenetic disorders. - Other types of dementias. - Neurotoxicity - Autoimmune diseases of Nervous system. - Complicated cases of conditions mentioned in A.A. or among high risk group.	-Didactic (lectures, seminars, tutorial) -Clinical rounds -Seminars -Clinical rotations -Service teaching	-OSCE at the end of each year -log book & portfolio - One MCQ examination -Written and oral examination
D. Explain the facts and principles of the relevant basic supportive sciences related to Neurological Disorders.		
E. Explain the facts and principles of the relevant clinically supportive sciences related to Neurological Disorders.		
F. Describe the basic ethical and medicolegal principles revenant to Neurological Disorders.		
G. Describe the basics of quality assurance to ensure good clinical care in Neurological Disorders.		
H. Explain the ethical and scientific principles of medical research.		
I. Explain the impact of common health problems in the field of Neurological Disorders on the society.		

B-Intellectual outcomes

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Design and present case in common problem related to Neurological Disorders.	-Clinical rounds -Senior staff experience	-Procedure and case presentation -Log book & Portfolio
B. Apply the basic and clinically supportive sciences which are appropriate to Neurological Disorders.		
C. Demonstrate an investigatory and analytic thinking "problem – solving "approaches to clinical situation related to Neurological Disorders.		
D. Plan research projects.		
E. Write scientific papers.		
F. Lead risk management activities as a part of clinical governs. a. Rehabilitation of related conditions mentioned in A.A. b. Co morbidities in neurological disorders mentioned in A.A. c. Mortality in the wards.		
G. Plain quality improvement activities in the field of medical education and clinical practice in to Neurological Disorders.		
H. Create and innovate plans, systems, and other issues for improvement of performance in to Neurological Disorders.		
I. Present and defend his / her data in front of a panel of experts		
J. Formulate management plans and alternative decisions in different situations in the field of Neurological Disorders.		

C-Practical skills (Patient Care)

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Take history, examine and clinically diagnose different conditions related to Neurological Disorders mentioned in A.A.	-Didactic (lectures, seminars, tutorial) -Clinical rounds Clinical rotations (service teaching)	-OSCE -log book & portfolio - One MCQ examination -Clinical exam
B. Order the following non invasive and invasive diagnostic procedures -Routine appropriate Lab investigations related to Neurological disorders. - Basic appropriate Lab investigations related to conditions mentioned in A.A. - X ray skull, skull base and vertebrae. - CT and MRI of the brain and spinal cord. - EEG, - Evoked potentials. - EMG, NCV, F wave and H reflex. - CSF examination - Sleep analysis. - Transcranial magnetic stimulation (rTMS). - Intrathecal injection. - video monitoring EEG. - Transcranial dopplar. - CSF Pressure monitoring. - Drug monitoring. -Diagnostic investigations for COVID 19.	-Clinical round with senior staff -Observation -Post graduate teaching -Hand on workshops -Perform under supervision of senior staff	presentation - Log book - Chick list
C. Interpret the following non invasive and invasive diagnostic procedures - Basic appropriate Lab investigations related to conditions mentioned in A.A. - X ray skull, skull base and vertebrae. - CT and MRI of the brain and spinal cord.	-Clinical round with senior staff -Observation -Post graduate teaching -Hand on	- Procedure presentation - Log book - Chick list

- EEG, - Evoked potentials. - EMG, NCV, F wave and H reflex. - CSF examination - Sleep analysis. - Transcranial magnetic stimulation (rTMS). - Intrathecal injection. - video monitoring EEG. - Transcranial dopplar. - CSF Pressure monitoring. - Drug monitoring. -Diagnostic investigations for COVID 19.	workshops -Perform under supervision of senior staff	
D. Perform the following non invasive and invasive diagnostic procedures; - Basic appropriate Lab investigations related to conditions mentioned in A.A. - X ray skull, skull base and vertebrae. - CT and MRI of the brain and spinal cord. - EEG, - Evoked potentials. - EMG, NCV, F wave and H reflex. - CSF examination - Sleep analysis. - Transcranial magnetic stimulation (rTMS). - Intrathecal injection. - video monitoring EEG. - Transcranial dopplar. - CSF Pressure monitoring. - Drug monitoring.	-Clinical round with senior staff -Observation -Post graduate teaching -Hand on workshops -Perform under supervision of senior staff	- Procedure presentation - Log book - Chick list
E. Prescribe the following non invasive and invasive therapeutic procedures. - Transcranial magnetic stimulation (rTMS) - Intrathecal injection. - transcranial dopplar. - CSF Pressure monitoring		
F. Perform the following non invasive and invasive therapeutic procedures - Transcranial magnetic stimulation (rTMS)		

- Intrathecal injection.		
G. Develop patient management plans for the problems related to neurological disorders mentioned in A.A.		
H. Develop and carry out patient management plans for related to neurological disorders mentioned in A.A&C		
I. Counsel and educate patients and their family about conditions related to neurological disorders mentioned in A.A.& C (Prognosis, rehabilitation, treatment plan)		
J. Use information technology to support patient care decisions and patient education for the related to neurological disorders mentioned in A.A.		
K. Provide health care services aimed at preventing the following conditions • Delayed diagnosis, complication, recurrence of neurological disorders and drug interaction in conditions mentioned in A.A.		
L. Work with health care professionals, including those from other disciplines, to provide patient-focused care for the mentioned in A.A and A.C		
M-Write competently all forms of patient charts and sheets including reports evaluating these charts and sheets.(Write and evaluate a consultation note, Inform patients of a diagnosis and therapeutic plan, completing and evaluating comprehensive, timely and legible medical records)		

D-General Skills

Practice-Based Learning and Improvement

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Perform practice-based improvement activities using a systematic methodology in the common problems (plain and conduct audit cycles) in conditions mentioned in A.A and A.C	-Simulations -Clinical round -Seminars -Lectures -Case presentation -Hand on workshops	- Global rating -Procedure & case presentation -Log book & Portfolios - Chick list
B. Locate, appraises, and assimilates evidence from scientific studies related to patients' health problems.	-Simulations -Clinical round -Seminars -Lectures -Case presentation -Hand on workshops	- Global rating -Procedure & case presentation -Log book & Portfolios - Chick list
C. Apply knowledge of study designs and statistical methods to the appraisal of clinical studies and other information on diagnostic and therapeutic effectiveness		
D. Use information technology to manage information, access on-line medical information; and support their own education		
E. Lead the learning of students and other health care professionals.		

Interpersonal and Communication Skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
F. Create and sustain a therapeutic and ethically sound relationship with patients	-Simulations -Clinical round -Seminars -Lectures -Case presentation -Hand on workshops	- Global rating -Procedure & case presentation -Log book & Portfolios - Chick list
G. Perform the following oral communications: a. Interpretation of the results of different investigations related to Neurological disorders and discussion of different therapeutic options		
H. Fill the following reports: • Patients' medical reports • Death report.		
I. Work effectively with others as a member or leader of a health care team as regard diagnosis and treatment of conditions mentioned in A.A and A.C		

Professionalism

ILOs	Methods of teaching/ Learning	Methods of Evaluation
J. Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society that supersedes self-interest.	- Observation - Senior staff experience - Case taking	-Objective structured clinical examination - Patient survey - 360o global rating
K. Demonstrate a commitment to ethical principles pertaining to provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices.		
L. Demonstrate sensitivity and responsiveness to patients' culture, age, gender, and disabilities		

Systems-Based Practice

ILOs	Methods of teaching/ learning	Methods of Evaluation
M. Work effectively in different health care delivery settings and systems.	- Observation - Senior staff experience	- 360o global rating
N. Practice cost-effective health care and resource allocation that does not compromise quality of care		- Check list evaluation of live or recorded performance
O. Advocate for quality patient care and assist patients in dealing with system complexities		- 360o global rating - Patient survey
P. Partner with health care managers and health care providers to assess, coordinate, and improve health care and predict how these activities can affect system performance		

Course 7:Module (Unit 2) Neurological Emergencies

A-Knowledge and understanding

ILOs	Methods of teaching/ learning	*Methods of Evaluation*
A- Explain update and evidence based etiology, clinical picture, diagnosis and management of the of critically ill patients in neurology emergency units including supportive life state, hemodynamic state monitoring, drug monitoring, disability assessment scales, and follow up and therapeutic lines of intervention in the following neurogenic conditions of central and peripheral repiratory distress. i.e. - Stroke (Haemorrhagic and ischemic) - Central and peripheral respiratory distress related to neurogenic condition: - Myathenia gravis -Guillain Barre Syndrome -. Myositis. -. Periodic muscle paralysis - Status epilepticus & migraineosus.. - Coma due to different neurological disorders. -Neuroleptic malignant syndrome. - organic brain syndrome. - Critical ill patients. -Plasma pharesis in neurological emergencies. -Disease modifying therapy in Neurological emergencies. -Conditions with prescription of thrombolytic therapy.	-Didactic (lectures, seminars, tutorial) -Outpatient -Inpatient -Case presentation -Direct observation	- log book -Objective structure clinical examination (OSCE) One MCQ examination -Written and oral exam

-Neurological emergencies with COVID 19.		
B. **Illustrate updated principles of :** -indication of equipment and techniques, used for monitoring of critically ill patients, - Admission & discharge or referral to other centers , in emergency or stroke units - Infection control in ICU. - Ethics followed in critical ill patients' management in emergency units.	-Didactic (lectures, seminars, tutorial) -outpatient -inpatient -case presentation -Direct observation	- log book -Objective structure clinical examination (OSCE) One MCQ examination -Written and oral exam
C. Outline basics care of the following rare diseases and complicated conditions - Status epileptic us. - Status migraineousus. - Mentioned conditions above in high risk group. - Autonomic failure. - Comorbid multisysten involvement.		
D. Explain the facts and principles of the relevant basic supportive sciences related to Neurological emergencies.		
E. Explain the facts and principles of the relevant clinically supportive sciences related to Neurological emergencies.		
F. Describe the basic ethical and medicolegal principles revenant to the Neurological emergencies.		
G. Describe the basics of quality assurance to ensure good clinical care in Neurological emergencies.		
H. Explain the ethical and scientific principles of medical research.		
I. Explain the impact of common health problems in the field of Neurological emergencies.		

B-Intellectual outcomes

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Design and present case in common problem related to Neurological emergencies	-Clinical rounds -Senior staff experience	-Procedure and case presentation -Log book & Portfolio
B. Apply the basic and clinically supportive sciences which are appropriate to the Neurological emergencies related problems.		
C. Demonstrate an investigatory and analytic thinking "problem – solving "approaches to clinical situation related to Neurological emergencies.		
D. Plan research projects.		
E. Write scientific papers.		
F. Lead risk management activities as a part of clinical govern– -Treactostomy. -Peumothorax • Ventilator associated pneumonia • Cardio respiratory arrest • Pulmonary embolism • Mortality • Intubation • Self extubation		
G. Plain quality improvement activities in the field of medical education and clinical practice in Neurological emergencies		
H. Create and innovate plans, systems, and other issues for improvement of performance in Neurological emergencies.		
I. Present and defend his / her data in front of a panel of experts		
J. Formulate management plans and alternative decisions in different situations in the field of Neurological emergencies		

C-Practical skills (Patient Care)

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Take history, examine and clinically diagnose different conditions related to Neurological emergencies	Lecture - Seminar - Outpatient -Inpatient -Case presentation -Direct observation	-OSCE -log book & portfolio - One MCQ -Clinical exam
B. Order the following non invasive and invasive diagnostic procedures; - Blood gases and its disturbances – -Disability evaluation :GCS, NIHSS,SSS, etc - Haemodynamic Monitoring. - Respiratory monitoring. - Venous cannula . - Syring pump adjustment. - CVP . - Intubations. - ventilator adjustment. - CSF Pressure monitoring. -Preparatory investigations of the following conditions: *Plasma pharesis in neurological emergencies. *Disease modifying therapy in Neurological emergencies. *Conditions with prescription of thrombolytic therapy. -Neurological emergencies with COVID 19.	-Clinical round with senior staff -Observation -Post graduate teaching -Hand on workshops -Perform under supervision of senior staff	- Procedure presentation - Log book - Chick list

C. Interpret the following non invasive and invasive diagnostic procedures mentioned above including the following; • ABG sampling. • Haemodynamic Monitoring. • CSF Pressure monitoring.	-Clinical round with senior staff -Observation -Post graduate teaching -Hand on workshops -Perform under supervision of senior staff	- Procedure presentation - Log book - Chick list
D. Perform the following non invasive/invasive diagnostic procedures • The procedures mentioned in C.B	-Clinical round with senior staff -Observation -Post graduate teaching -Hand on workshops -Perform under supervision of senior staff	- Procedure presentation - Log book - Chick list
E. Prescribe the following non invasive and invasive therapeutic procedures. -Blood gases and its disturbances – -Disability evaluation :GCS, NIHSS,SSS, etc - Haemodynamic Monitoring. - Respiratory monitoring. - Venous cannula . - Syring pump adjustment.	-Clinical round with senior staff -Observation -Post graduate teaching -Hand on workshops	- Procedure presentation - Log book - Chick list

- CVP . - Intubations. - ventilator adjustment. - CSF Pressure monitoring. -Plasma pharesis in neurological emergencies. -Disease modifying therapy in Neurological emergencies.	-Perform under supervision of senior staff	
F. Perform the following non invasive and invasive therapeutic procedures - Syring pump adjustment. - CVP . - Intubations. - ventilator adjustmentWeaning from mechanical ventilation • Resuscitation	-Clinical round with senior staff -Observation -Post graduate teaching -Hand on workshops -Perform under supervision of senior staff	- Procedure presentation - Log book - Chick list
G. Develop patient management plans for the following problems • Diseases mentioned in A.A and A.C in module 2	-Clinical round with senior staff	
H. Develop and carry out patient management plans for the following problems. • Conditions mentioned in A.A&C • Discharged patients from ICU • Previously intubated	-Clinical round with senior staff	
I. Counsel and educate patients and their family about; • Symptoms of critical illness • Methods of management	-Clinical round with senior staff	

• Complications & prognosis of critically ill patients.		
J. Use information technology to support patient care decisions and patient education for the neurological emergencies related conditions.	-Clinical round with senior staff	
K. Provide health care services aimed at preventing the following conditions • Hospital acquired pneumonia • Ventilator associated respiratory tract infection • Healthcare associated pneumonia • Septicemia. • Bed sores. • Deformities. • Deep venous thrombosis.	-Clinical round with senior staff	
L. Work with health care professionals, including those from other disciplines, to provide patient-focused care for the following • Suctioning • Tracheotomy tube care • Disinfection • Caring wounds. • Bed sore. • Respiratory exercise	-Clinical round with senior staff	
M. Write competently all forms of patient charts and sheets including reports evaluating these charts and sheets.(Write and evaluate a consultation note, Inform patients of a diagnosis and therapeutic plan, completing and evaluating comprehensive, timely and legible medical records)		

D-General Skills
Practice-Based Learning and Improvement

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Perform practice-based improvement activities using a systematic methodology in the common problems (plain and conduct audit cycles) in the following problems: - patient care for mentioned conditions in A.A&C	-Simulations -Clinical round -Seminars -Lectures -Case presentation -Hand on workshops	- Global rating -Procedure & case presentation -Log book & Portfolios - Chick list
B. Locate, appraises, and assimilates evidence from scientific studies related to patients' health problems. • Endotracheal tube obstruction • Life threatening bronchospasm • Barotrauma • Arrhythmias. • Drug interactions. • Autonomic disturbance. • Cardiac insult. • Drug reaction in any condition mentioned above.	-Simulations -Clinical round -Seminars -Lectures -Case presentation -Hand on workshops	- Global rating -Procedure & case presentation -Log book & Portfolios - Chick list
C. Apply knowledge of study designs and statistical methods to the appraisal of clinical studies and other information on diagnostic and therapeutic effectiveness		
D. Use information technology to manage information, access on-line medical information; and support their own education		
E. Lead the learning of students and other health care professionals. Different maneuvers in stroke unit Settings of ventilator		

Interpersonal and Communication Skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
F. Create and sustain a therapeutic and ethically sound relationship with patients	-Simulations -Clinical round -Seminars -Lectures -Case presentation -Hand on workshops	- Global rating -Procedure & case presentation -Log book & Portfolios - Chick list
G. Perform the following oral communications: a. Advise patient for synchrony b. Deal with patient relatives c. Ordering residents d. Ordering nurses		
H. Fill the following reports: • Patients' medical reports • Patient chart. • Death report.		
I. Work effectively with others as a member or leader of a health care team • A member of a health care team in Neurological Emergencies. • A leader of a health care team in night shift		

Professionalism

ILOs	Methods of teaching/ Learning	Methods of Evaluation
J. Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society that supersedes self-interest.	- Observation - Senior staff experience - Case taking	-Objective structured clinical examination - Patient survey - 360o global rating
K. Demonstrate a commitment to ethical principles pertaining to provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices.		
L. Demonstrate sensitivity and responsiveness to patients' culture, age, gender, and disabilities		

Systems-Based Practice

ILOs	Methods of teaching/ learning	Methods of Evaluation
M. Work effectively in different health care delivery settings and systems.	- Observation - Senior staff experience	- 360o global rating - Check list evaluation of live or recorded performance - 360o global rating - Patient survey
N. Practice cost-effective health care and resource allocation that does not compromise quality of care		
O. Advocate for quality patient care and assist patients in dealing with system complexities		
P. Partner with health care managers and health care providers to assess, coordinate, and improve health care and predict how these activities can affect system performance		

Course7 ,Module 3 :Neuroelectrophysiology and Neuroimaging

A-Knowledge and understanding

ILOs	Methods of teaching/ learning	*Methods of Evaluation*
A.Explain update and evidence based etiology, clinical picture, diagnosis and management of the following common diseases and clinical conditions related to neuroelectrophysiology and neuroimaging studies either for diagnosis or follow up including the following aspects(techniques, method of study, circumstances that give significant measurable effects on reported findings(age, drugs),of the following: - Peripheral neuropathy. - Muscle diseases. - Neuromuscular disorders. - Dementia, delirium, - Encephalopathy. - Brain tumors. -Disseminated sclerosis . - Focal brain lesion. - Spinal cord diseases. - Radiculopathy& Motor neuron disease. - Demylinating diseases including NMOSD.	- Didactic (lectures, seminars, tutorial) -Outpatient -Inpatient - Case presentation -Direct observation	- Log book - Objective structure clinical examination (OSCE) - MCQ examination -Written and oral exam
B. **Describe the principles of** -Normal and abnormal findings of neuroelctrophysiology and neuroimaging studies. - Indications and prognostic values and diagnostic tools sensitivity of EEG, MCV,SCV,EMG,VEP, ABR, SSEP,MEP, Videomonitoring EEG, Sleep lab.	-Didactic (lectures, seminars, tutorial) -outpatient -inpatient	- Log book -Objective structure clinical examination (OSCE)

and cortical excitability, Transcallosal inhibition, silent period. - Indications of neuroimaging studies; • X ray spine& skull. • CT brain & spine. • MRI brain& spine. • Trancranial dopplar, • CT angiography. • MRA, MRV, SPECT, fMRI ,SPECT. • Diagnostic digital subs traction CT angiography.	-case presentation -Direct observation	One MCQ examination -Written and oral exam
C. <u>Outline basics of the following rare diseases and conditions</u> • Mentioned conditions above combined with other insults (trauma, metabolic disturbance , toxicity)		
D. Explain the facts and principles of the relevant basic supportive sciences related to neuroelctrophysiology and neuroimaging studies.		
E. Explain the facts and principles of the relevant clinically supportive sciences related to neuroelctrophysiology and neuroimaging studies.		
F. Describe the basic ethical and medicolegal principles revenant to the neuroelctrophysiology and neuroimaging studies.		
G. Describe the basics of quality assurance to ensure good clinical care in neuroelctrophysiology and neuroimaging studies.		
H. Explain the ethical and scientific principles of medical research.		
I. Explain the impact of common health problems in the field of neuroelctrophysiology and neuroimaging studies on the society.		

B-Intellectual outcomes

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Design and present case in common problem related to neuroelectrophysiology and neuroimaging studies.	-Clinical rounds -Senior staff experience	-Procedure and case presentation -Log book & Portfolio.
B. Apply the basic and clinically supportive sciences which are appropriate to the neuroelectrophysiology and neuroimaging studies related problems.		
C. Demonstrate an investigatory and analytic thinking "problem – solving "approaches to clinical situation related to neuroelectrophysiology and neuroimaging studies..		
D. Plan research projects.		
E. Write scientific papers.		
F. Lead risk management activities as a part of clinical governs. • Vasovagal attack. • transmission of infection. • Neurosis.		
G. Plain quality improvement activities in the field of medical education and clinical practice in neuroelectrophysiology and neuroimaging studies.		
H. Create and innovate plans, systems, and other issues for improvement of performance in neuroelectrophysiology and neuroimaging studies.		
I. Present and defend his / her data in front of a panel of experts		
J. Formulate management plans and alternative decisions in different situations in the field of neuroelectrophysiology and neuroimaging studies		

C-Practical skills (Patient Care)

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Take history, examine and clinically diagnose different conditions related to neuroelectrophysiology and neuroimaging studies.	-Didactic (lectures, seminars, tutorial) - Outpatient -Inpatient -Case presentation -Direct observation	-OSCE -log book & portfolio - MCQ -Clinical exam
B. Order the following non invasive and invasive diagnostic procedures • EEG, • Video monitoring EEG, • MCV,SCV,F wave , H Reflex, EMG, • MEP,VEP,ABR.SSEP,SEP, • Cortical Excitability, • TCI, CSP • Transcranial dopplar, • Sleep lab. • Neuroimaging modalities (x ray, CT, MRI, MRA, MRV, Multislice CT) • SPECT • Diagnostic digital subs traction CT angiography.	-Clinical round with senior staff -Observation -Post graduate teaching -Hand on workshops -Perform under supervision of senior staff	- Procedure presentation - Log book - Chick list - Objective structure clinical examination (OSCE) - OSCE -log book & portfolio - MCQ -Clinical exam
C. Interpret the following non invasive and invasive diagnostic procedures • The procedures mentioned in C.B.	-Clinical round with senior staff -Observation -Post graduate teaching -Hand on workshops -Perform under supervision of	- Procedure presentation - Log book - Chick list - Objective structure clinical examination (OSCE) -

	senior staff	
D. Perform the following non invasive and invasive diagnostic procedures • EEG, • Video monitoring EEG, • MCV,SCV,F wave , H Reflex, EMG, • MEP,VEP,ABR.SSEP,SEP, • Cortical Excitability, • TCI, CSP • Transcranial dopplar,	-Clinical round with senior staff -Observation -Post graduate teaching -Hand on workshops -Perform under supervision of senior staff	- Procedure presentation - Log book - Chick list - Objective structure clinical examination (OSCE) - MCQ
E. Prescribe the following non invasive and invasive therapeutic procedures. • rTMS.	-Clinical round with senior staff -Observation -Post graduate teaching -Hand on workshops -Perform under supervision of senior staff	
F. Perform the following non invasive and invasive therapeutic procedures • rTMS		
G. Develop and carry out patient management plans for the following problems; • Related to neuroelectrophysiology and neuroimaging studies.	-Clinical round with senior staff	
H. Counsel and educate patients and their family about; • Prognosis of diagnosed condition related to neuroelectrophysiology and neuroimaging studies.	- Clinical round with senior staff -Perform under supervision of senior staff	
I. Use information technology to support patient care decisions and patient education for the	-Clinical round with senior staff	

neuroelectrophysiology and neuroimaging studies related conditions.		
J. Provide health care services aimed at preventing the following conditions the delayed diagnosis and subsequent complications of related conditions mentioned in AA	-Clinical round with senior staff	
K. Work with health care professionals, including those from other disciplines, to provide patient-focused care for the following • Cardiac diseases • Medicolegal assessments. • Rehabilitation	-Clinical round with senior staff	
L. Write competently all forms of patient charts and sheets including reports evaluating these charts and sheets.(Write and evaluate a consultation note, Inform patients of a diagnosis and therapeutic plan, completing and evaluating comprehensive, timely and legible medical records)		

D-General Skills

Practice-Based Learning and Improvement

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Perform practice-based improvement activities using a systematic methodology in the common problems (plain and conduct audit cycles) • Guidelines for procedures • Interpretation of findings	-Simulations -Clinical round -Seminars -Lectures -Case presentation -Hand on workshops	- Global rating -Procedure & case presentation -Log book & Portfolios - Chick list
B. Locate, appraises, and assimilates evidence from scientific studies related to patients' health problems. • Articles about topics mentioned in A.A	-Simulations -Clinical round -Seminars -Lectures -Case presentation -Hand on workshops	- Global rating -Procedure & case presentation -Log book & Portfolios - Chick list
C. Apply knowledge of study designs and statistical methods to the appraisal of clinical studies and other information on diagnostic and therapeutic effectiveness		
D. Use information technology to manage information, access on-line medical information; and support their own education		
E. Lead the learning of students and other health care professionals in Neuroelectrophysiology		

Interpersonal and Communication Skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
F. Create and sustain a therapeutic and ethically sound relationship with patients	-Simulations -Clinical round -Seminars -Lectures -Case presentation -Hand on workshops	- Global rating -Procedure & case presentation -Log book & Portfolios - Chick list
G. Perform the following oral communications: Interpretation of result of the neuroelectrophysiology and neuroimaging studies.		
H. Fill the following reports: • NEUROELECTROPGYSIOLOGY REPORT. • Transcranial Dopplar • Video monitoring EEG • Final comment on the results of the neuroelectrophysiology studies.		
I. Work effectively with others as a member or leader of a health care team • A member of a health care team in Neuroelectrophysiology studies • A leader of a health care team in ➢ Transcranial dopplar.		

Professionalism

ILOs	Methods of teaching/ Learning	Methods of Evaluation
J. Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society that supersedes self-interest.	- Observation - Senior staff experience - Case taking	-Objective structured clinical examination - Patient survey - 360o global rating
K. Demonstrate a commitment to ethical principles pertaining to provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices.		
L. Demonstrate sensitivity and responsiveness to patients' culture, age, gender, and disabilities		

Systems-Based Practice

ILOs	Methods of teaching/ learning	Methods of Evaluation
M. Work effectively in different health care delivery settings and systems.	- Observation - Senior staff experience	- 360o global rating - Check list evaluation of live or recorded performance
N. Practice cost-effective health care and resource allocation that does not compromise quality of care		
O. Advocate for quality patient care and assist patients in dealing with system complexities		- 360o global rating - Patient survey
P. Partner with health care managers and health care providers to assess, coordinate, and improve health care and predict how these activities can affect system performance		

Course 7; Module 4: Interventional Neurology

A-Knowledge and understanding

ILOs	Methods of teaching/ learning	*Methods of Evaluation*
A-Explain update and evidence based etiology, clinical picture, diagnosis and management of the following common diseases and clinical conditions related to interventional neurology either for diagnosis, treatment or follow up including the following aspects(techniques, method of study, circumstances that give significant measurable effects on reported findings(age, drugs),of the following conditions: - stroke for intervention. - Peripheral neuropathy. - Muscle diseases. - Neuromuscular disorders. - Dementia, delirium, - Encephalopathy. - Brain tumors. -Dissiminated sclerosis. - Focal brain lesion. -Spinal cord diseases. - Radiculopathy. - Demylinating diseases including NMOSD. - Conditions for Plasma Pharesis -Conditions for intravenous injection of disease	-Didactic (lectures, seminars, tutorial) -Outpatient -Inpatient -Case presentation -Direct observation	- Log book - Objective structure clinical examination (OSCE) - One MCQ examination at the second half of the second year -Written and oral exam

modifying therapy.		
B. **Mention the principles of Indications of Diagnostic Indications and prognostic values and diagnostic tools and therapeutic intervention of :** - rTMS - Deep brain stimulation. - Intrathecal injections - Neuroplasticity &neurorepair, - Indications of interventional neuroimaging studies; - Muscle & nerve biopsy. • In epilepsy , stroke, cognitive function, brain tumors, degenerative diseases. • Thrombolytic therapy. • Mechanical thrombectomy • Diagnostic and therapeutic cerebral catheter.	-Didactic (lectures, seminars, tutorial) -Outpatient -Inpatient -Case presentation -Direct observation	- Log book -Objective structure clinical examination (OSCE) - MCQ examination -Written and oral exam
C. Mention basics of the following rare or degenerative diseases and conditions related to interventional Neurology (Neurorepair and stem cells, Nerve , muscle, brain) - Other tools for stroke rather than thrombolytic therapy.	-Didactic (lectures, seminars, tutorial) -Outpatient -Inpatient -Case presentation -Direct observation	- Log book -Objective structure clinical examination (OSCE) - MCQ examination -Written and oral exam
D. Explain the facts and principles of the relevant basic supportive sciences related to Diagnostic & Interventional Neurology.	-Didactic (lectures, seminars, tutorial) -Outpatient -Inpatient -Case presentation	- Log book -Objective structure clinical examination (OSCE) - MCQ examination

	-Direct observation	-Written and oral exam
E. Explain the facts and principles of the relevant clinically supportive sciences related to Diagnostic & Interventional Neurology	-Didactic (lectures, seminars, tutorial) -Outpatient -Inpatient -Case presentation -Direct observation	- Log book -Objective structure clinical examination (OSCE) - MCQ examination -Written and oral exam
F. Describe the basic ethical and medico legal principles revenant to the Diagnostic & Interventional Neurology.	-Didactic (lectures, seminars, tutorial) -Outpatient -Inpatient -Case presentation -Direct observation	- Log book -Objective structure clinical examination (OSCE) - MCQ examination -Written and oral exam
G. Describe the basics of quality assurance to ensure good clinical care in Diagnostic & therapeutic Interventional Neurology.	-Didactic (lectures, seminars, tutorial) -Outpatient -Inpatient -Case presentation -Direct observation	- Log book -Objective structure clinical examination (OSCE) - MCQ examination -Written and oral exam
H. Explain the ethical and scientific principles of medical research.		
I. Explain the impact of common health problems in the field of Diagnostic & therapeutic Interventional Neurology on the society.		

B-Intellectual outcomes

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Design and present case in common problem related to Diagnostic & Interventional therapeutic Interventional Neurology.	-Clinical rounds -Senior staff experience	-Procedure and case presentation -Log book & Portfolio
B. Apply the basic and clinically supportive sciences which are appropriate to Neurological Disorders related problems.		
C. Demonstrate an investigatory and analytic thinking "problem – solving "approaches to clinical situation related to Diagnostic & therapeutic Interventional Neurology.		
D. Plan research projects.		
E. Write scientific papers.		
F. Lead risk management activities as a part of clinical governs. • Iatrogenic bleeding or ischemia. • Carotid showering • Cardio respiratory arrest • Cross CNS infection.		
G. Plain quality improvement activities in the field of medical education and clinical practice in Diagnostic & therapeutic Interventional Neurology		
H. Create and innovate plans, systems, and other issues for improvement of performance in Diagnostic & therapeutic Interventional Neurology		
I. Present and defend his / her data in front of a panel of experts		
J. Formulate management plans and alternative decisions in different situations in the field of Diagnostic & therapeutic Interventional Neurology.		

C-Practical skills (Patient Care)

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Take history, examine and clinically diagnose different conditions related to Diagnostic & therapeutic Interventional Neurology	-Didactic (lectures, seminars, tutorial) - Outpatient -Inpatient Case presentation -Direct observation	-OSCE -log book & portfolio - MCQ examination -Clinical exam
B. Order the following non invasive and invasive diagnostic procedures *Diagnostic procedures* • rTMS as diagnostic and therapeutic tool. • . Sleep lab • CSF aspiration. • Intrathecal injection. • Different neuroimaging modalities. • Diagnostic cerebral catheter • Diagnostic Digital subtraction CT angiography	-Lecture - Seminar -Outpatient -Inpatient -Case presentation -Direct observation	- Procedure presentation - Log book - Chick list - Objective structure clinical examination (OSCE) - MCQ examination
C. Interpret the following non invasive and invasive diagnostic procedures • Mentioned in C.B.	-Didactic (lectures, seminars, tutorial) -outpatient -inpatient -case presentation -Direct	- Procedure presentation - Log book - Chick list - Objective structure clinical examination (OSCE)

	observation	- MCQ
D. Perform the following non invasive diagnostic procedures • rTMS • Transcranial dopplar and duplex • US and neurosonology. • Diagnostic cerebral catheter	-Clinical round with senior staff -Observation -Post graduate teaching -Hand on workshops -Perform under supervision of senior staff	- Procedure presentation - Log book - Chick list - Objective structure clinical examination (OSCE) - MCQ
E. **Prescribe the following non invasive and invasive therapeutic procedures**. • For all procedures mentioned above in CB	-Didactic (lectures, seminars, tutorial) -Outpatient -Inpatient -Case presentation -Direct observation	- Procedure presentation - Log book - Chick list
F. Perform the following non invasive therapeutic procedures • rTMS • Thrombolytic therapy • Intravenous injection of disease modifying therapy.		
G. Develop and carry out patient management plans for the mentioned problems related to interventional Neurology in AA& CB.	-Clinical round with senior staff	

H. Counsel and educate patients and their family about conditions mentioned in A.A.	- Clinical round with senior staff -Perform under supervision of senior staff	
I. Use information technology to support patient care decisions and patient education for the Interventional Neurology related conditions.	-Clinical round with senior staff	
J. Provide health care services aimed at preventing the complication of conditions Related to interventional Neurology.	-Clinical round with senior staff	
K. Work with health care professionals, including those from other disciplines, to provide patient-focused patient care for related conditions mentioned A.A.	-Clinical round with senior staff	
L. Write competently all forms of patient charts and sheets including reports evaluating these charts and sheets.(Write and evaluate a consultation note, Inform patients of a diagnosis and therapeutic plan, completing and evaluating comprehensive, timely and legible medical records).		

D-General Skills

Practice-Based Learning and Improvement

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Perform practice-based improvement activities using a systematic methodology in the common problems (plain and conduct audit cycles) • Multimodality approach for management of mentioned conditions A.A.	-Simulations -Clinical round -Seminars -Lectures -Case presentation -Hand on workshops	- Global rating -Procedure & case presentation -Log book & Portfolios - Chick list
B. Locate, appraises, and assimilates evidence from scientific studies related to patients' health problems. • Articles about diagnostic & interventional Neurology.	-Simulations -Clinical round -Seminars -Lectures -Case presentation -Hand on workshops	- Global rating -Procedure & case presentation -Log book & Portfolios - Chick list
C. Apply knowledge of study designs and statistical methods to the appraisal of clinical studies and other information on diagnostic and therapeutic effectiveness		
D. Use information technology to manage information, access on-line medical information; and support their own education		
E. Lead the learning of students and other health care professionals in interventional Neurology.		

Interpersonal and Communication Skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
F. Create and sustain a therapeutic and ethically sound relationship with patients	-Simulations -Clinical round -Seminars -Lectures -Case presentation -Hand on workshops	- Global rating -Procedure & case presentation -Log book & Portfolios - Chick list
G. Perform the following oral communications: e. Interpretation of rTMS mechanism for diagnosis and therapy.		
H. Fill the following reports: • Medical report.		
I. Work effectively with others as a member or leader of a health care team: ➢ A member of a health care team in diagnostic & therapeutic Interventional neurology		

Professionalism

ILOs	Methods of teaching/ Learning	Methods of Evaluation
J. Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society that supersedes self-interest.	- Observation - Senior staff experience - Case taking	-Objective structured clinical examination - Patient survey - 360o global rating
K. Demonstrate a commitment to ethical principles pertaining to provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices.		
L. Demonstrate sensitivity and responsiveness to patients' culture, age, gender, and disabilities		

Systems-Based Practice

ILOs	Methods of teaching/ learning	Methods of Evaluation
M. Work effectively in different health care delivery settings and systems.	- Observation - Senior staff experience	- 360o global rating
N. Practice cost-effective health care and resource allocation that does not compromise quality of care.	- Observation - Senior staff experience	- Check list evaluation of live or recorded performance - 360o global rating - Patient survey
O. Advocate for quality patient care and assist patients in dealing with system complexities.		
P. Partner with health care managers and health care providers to assess, coordinate, and improve health care and predict how these activities can affect system performance		

4. Course contents (topic s/modules/rotation Course Matrix

Time Schedule: Second Part

Topic	Covered ILOs			
	Knowledge A	Intellectual B	Practical skill C	General Skills D
Module 1 Neurological Disorders				
Cerebrovascular disorders and other vascular disorders.	A,C-I	A-J	A-M	A-K
-Central nervous system infection.	A,C-I	A-J	A-K	A-H
Paroxysmal disorders (epilepsy-migraine- trigeminal neuroalagia)	A,C-I	A-J	A-M	A-K
Movement disorders.	A,C-I	A-J	A-D	A-H
Tumors in nervous system.	A,C-I	A-J	A-C	A-H
Neuromuscular disorders.	A,C-I	A-J	A-F	A-J
Muscle diseases	A,C-I	A-J	A-C	A-J
Peripheral neuropathies.	A,C-I	A-J	A-C,F	A-J
Motor neuron diseases.	A,C-I	A-J	A-E	A-J
Edema and hydrocephalous.	A,C-I	A-J	A-C	A-F
Trauma.	A,C-I	A-J	A-C	A-E
Teratogencity &Neurological disorders	A,C-I	A-J	A,B	A-E
spinal cord diseases	A,C-I	A-J	A-F	A-E
Channelopathies and Neuroimmunology	A,C-I	A-J	A	A-E
-Child Neurology and developmental disorders.	A,C-I	A-J	A-F	A-H
Genetics diseases of the nervous	A,C-I	A-J	A-B	A-H

system.				
Cerebellar disorders.	A,C-I	A-J	A-C	A-E
Demylinating disorders including NMOSD	A,C-I	A-J	A-E	A-H
Geriatric disorders	A,C-I	A-J	A-D	A-I
Headache /pain	A,C-I	A-J	A-D	A-K
Neuro-Oncology	A,C-I	A-J	A,B	A-E
Sleep disorders	A	A,B	A,B	A-C
Neuroradiology.	A,C-I	A,B	A,B,C	A-C
-Critical care neurology	A,C-I	A-J	A-D	A-I
Neuroepidemiology of neurological disorders . Neurology of systemic diseases. -Neurometabolic disorders.	A,C-I A,C-I	A A,C	A,E,F A-C	A-C A-E
Systemic diseases and General Medicine.	A,D	A,D	A-C	A-E
- Autonomic diseases.	B	A	A,B	A-C
- Environmental neurology	A	A	A-C	A-C
Neurotoxicity	A	A	A-C	A-C
Neurological disorders and pregnancy.	B	A-D	A-C,F	A-C
Teratogenicity and Neurological disorders.	B	A	A,C	A-C
Clinical Approach to the Patient presented with different neurological symptoms and signs.	B	A,C	A	A-C
History case taking (symptoms & signs).	B	A,C	A	A-C
Management of Neurological disorders in different ages and in pregnancy.	B	A,C	A,C	A-H
Neuroimmunmodulation	C	A,C	A-C	A-E

Neurodegenerative disorders	C	A,C	A-C	A-J
Neurological disorders in COVID 19	A-C	A,C	A-C	A-J
- Neurological sequelea of COVID 19.	A-C	A,C	A-C	A-J
Neurological manifestations of COVID19.	A-C	A,C	A-C	A-J
Module 2 Neurological Emergencies				
Neurogenic conditions of central and peripheral repiratory distress. i.e. - Central and peripheral respiratory distress related to neurogenic condition: - Myathenia gravis -Guillain Barre Syndrome -. Myositis. -. Periodic muscle paralysis	A-I	A-J	A-M	A-P
Stroke (Hemorrhagic and ischemic)	A-I	A-J	A-M	A-P
Coma due to different neurological disorders.	A-I	A-J	A-M	A-P
Neuroleptic malignant syndrome.	A-I	A-J	A-C	A-P
- Organic brain syndrome.	A-C	A-J	A-E	A-P
Status migraineuses	A-E	A-J	A-E	A-P
Neurological emergencies in COVID 19	A-E	A-J	A-E	A-P
-Neurological conditions for Plasma pharesis . -Neurological conditions for Disease modifying therapy	A-E	A-J	A-E	A-P
Critical ill patients.	A-H	A-J	A-E	A-P
Module 3 Neuroelectrophysiology and Neuroimaging				
Neuroelectrophysiology and Neuroimaging Studies related to the following conditions: Peripheral neuropathy. - Muscle diseases.	A-I	A-J	A-L	A-P

- Neuromuscular disorders. - Dementia, delirium, - Encephalopathy. - Brain tumors. -Dissiminated sclerosis. - Focal brain lesion. - Spinal cord diseases. - Radiculopathy. - Demylinating diseases i.e.MS,NMOSPD.				
Principles of neuroelectrophysiology procedures	A-I	A-J	A-L	A-P
Principles of Neuroimaging studies	A-I	A-J	A-L	A-P
Module 4 Interventional Neurology				
Diagnostic and therapeutic Interventional Neurology in the following conditions: -stroke. - Peripheral neuropathy. - Muscle diseases. - Neuromuscular disorders. - Dementia, delirium, - Encephalopathy. - Brain tumors. -Dissiminated sclerosis. - Focal brain lesion. -Spinal cord diseases. - Radiculopathy. - Demylinating diseases.	A-I	A-J	A-L	A-P

-Epilepsy Neuroimaging modalities				
rTMS	A-I	A-J	A-L	A-B
Deep brain stimulation	A-C	A-J	A-L	A-P
Muscle & nerve biopsy.	A-D	A-D	A-L	A-C
Neurorepair	A	A	A-L	A-B
Stem cells	A	A	A-L	AB
Neurosonology	A	A	A-L	AB
Cerebral catheter	A	A	A-L	AB

5. Course Methods of teaching/learning:

1. Didactic (lectures, seminars, tutorial)
2. Outpatient
3. Inpatient
4. Clinical rounds
5. Clinical rotations
6. Service teaching
7. Direct observation
8. Post graduate teaching
9. Hand on workshops
10. Perform under supervision of senior staff
11. Simulations
12. Present a case (true or simulated) in a grand round
13. Case Taking
14. journal club,
15. Critically appraised topic,
16. Educational prescription
17. Observation & supervision
18. Written & oral communications

6. Course Methods of teaching/learning: for students with poor achievements

1. Extra Didactic (lectures, seminars, tutorial) according to their needs
2. Extra training according to their needs

7. Course assessment methods:

i. Assessment tools:

- Clinical examination
- Written
- Oral examination
- Chick list
- log book & portfolio
- Procedure/case presentation
- MCQ
- Objective structured clinical examination
- Check list evaluation of live or recorded performance
- Record review (report)
- Patient survey
- 360o global rating

ii. Time schedule: At the end of the second part

iii. Marks: 1200

8. List of references

i. Lectures notes

- Conferences.
- Staff members print out of lectures and/or CD copies
- Principles of Neurological (Book by Staff Members of the Department of Neurology and Psychiatry -Assiut University

ii. Essential books

- John C. M. Brust - CURRENT Diagnosis & Treatment Neurology-McGraw-Hill Education (2019).
- (In Clinical Practice) Ondrej Dolezal - Clinical Cases in Neurology-Springer International Publishing (2019).
- Michael Donaghy et al., Brain's Diseases of the nervous system, 12th edition ,2009,published on line 2011, Oxoford University.
- Lewis P (ED) HANDBOOK Merritt's Neurology,14th edition,2021Elan D. Louis MD, MS, Stephan A. Mayer MD, James M. Noble MD, MS, CPH, FAAN.
- Blueprints Neurology-LWW Wolters Kluwer (2019)(Blueprints) Frank W. Drislane_ Alexandra Hovaguimian_ Andrew W. Tarulli_ Aimee K. Boegle_ Courtney McIlduff_ Louis R. Caplan -
- Merritt's Neurology,Elan D. Louis, Stephan A. Mayer, James M. Noble - 14th edition -LWW. Wolters Kluwer (2021).
- Netter's Concise Neurology Karl E. Misulis MD PhD, Thomas C. Head MD Updated Edition-Elsevier (2017)

- Bradley’s Neurology in Clinical Practice, 2-Volume Set (Robert B. Daroff, Joseph Jankovic etc.),7th edition,Elsevier
- Neurology and Neurosurgery Illustrated 5th Edition by Kenneth W. Lindsay PhD FRCS (Author), Ian Bone FRCP FACP (Author), Geraint Fuller MD FRCP (Author).
- Algorithms for Emergency Neurology-Springer (2021).Giuseppe Micieli, Anna Cavallini, Stefano Ricci, Domenico Consoli, Jonathan A. Edlow - Decision
- Case Files Neurology, Third Edition by Eugene C. Toy , Ericka Simpson, et al. | Sold by: Amazon.com Services LLC | Nov 10, 2017
- Differential Diagnosis in Neurology and Neurosurgery: A Clinician's Pocket Guide
  by Sotirios A. Tsementzis | Dec 12, 2018
- On Call Neurology: On Call Series
  by Stephan A. Mayer MD and Randolph S. Marshall MD | Mar 14, 2020
- Neurology Secrets ,Part of: Secrets (58 Books) |by Joseph S. Kass MD JD and Eli M. Mizrahi MD |, 2016
- Principles of Neurology – Remond D. Adams, Maurice Victor, Alan H. Ropper.,2009. De Jong 's Neurplpgical examination.
-Principles of Neurology Remond D Adams

iii. Recommended books

-**Localization in Clinical Neurology, 6th Edition (Paul W. Brazis, Joseph Masdeu e)**

- Principles of Neurology – Remond D. Adams, Maurice Victor, Alan H. Ropper.,2009

-Adams and Victor's Principles of Neurology 11th Edition by Allan Ropper Hardcove

-William Campbell, Richard J. Barohn - DeJong's The Neurologic Examination-LWW (2019)

iv. Periodicals,for last 3-5 years, Web sites, …

- Neurology**.**
- Lancet Neurology.
- Stroke.
- Epilepsia.
- BMJ (Neurology, Neurosurgery and Psychiatry).
- European Journal of Neurology.
- Egyptian Journal of Neurology, Psychiatry and neurosurgery.
- Clinical Neurophysiology.
- Current opinion Neurology.
- Years book of Psychiatry and Neurology.
- Neuroscience.
- Cephalagia.

- American journal of physiology.
- Journal of applied physiology.

- Human pathology
- Histopathology
- American Journal of surgical pathology
- **Web Sites:** http://www. ncbi.nlm.nih.gov/pubmed**… etc.**

v. Others None

9. Signatures

Course Coordinator: (module 1-4)	**Head of the Department:**
Date:	**Date:**

ANNEX 2
Program Academic Reference Standards (ARS)

1- Graduate attributes for medical doctorate in Neurology

***The Graduate (after residence training and medical doctorate years of study) must*:**

1- Demonstrate competency and mastery of basics, methods and tools of scientific research and clinical audit in the chosen field of neurology.

2- Have continuous ability to add knowledge to the ***Neurology*** through research and publication.

3- Appraise and utilise relevant scientific knowledge to continuously update and improve clinical practice.

4- Acquire excellent level of medical knowledge in the basic biomedical, behavioural and clinical sciences, medical ethics and medical jurisprudence and apply such knowledge in patient care and scientific research.

5- Function as a leader of a team to provide patient care that is appropriate, effective and compassionate for dealing with health problems and health promotion.

6- Identify and create solutions for health problems in his Speciality.

7- Acquire an in depth understanding of common areas of *Neurology*, from basic clinical care to evidence based clinical application, and possession of required skills to manage independently all problems in these areas.

8- Demonstrate leadership competencies including interpersonal and communication skills that ensure effective information exchange with individual patients

and their families and teamwork with other health professions, the scientific community and the public.

9- Function as teacher in relation to colleagues, medical students and other health professions.

10- Master decision making capabilities in different situations related to his field of practice.

11- Show leadership responsiveness to the larger context of the health care system, including e.g. the organisation of health care, partnership with health care providers and managers, practice of cost-effective health care, health economics, and resource allocations.

12- Demonstrate in depth awareness of public health and health policy issues including independent ability to improve health care, and identify and carryout system-based improvement of care.

13- Show model attitudes and professionalism.

14- Demonstrate commitment for lifelong learning and maintenance of competence and ability for continuous medical education and learning in subsequent stages and in the neurology or one of its subspecialties.

15- Use recent technologies to improve his practice in the neurology field.

16- Share in updating and improving clinical practice in the neurology field.

2- Competency based Standards for medical doctorate

2.1- Knowledge and understanding

By the end of the program, the graduate should demonstrate satisfactory knowledge and understanding of

2-1-A- Established, updated and evidence- based theories, basics and developments of *Neurology*
and relevant sciences.

2-1-B- Basics, methods and ethics of medical research.

2-1-C- Ethical and medicologal principles of medical practice related to *Neurology* field.

2-1-D- Principles and measurements of quality in the *Neurology* field.

2-1-E- Principles and efforts for maintainace and improvements of public health.

2- Intellectual skills

By the end of the program, the graduate should be able to demonstrate the following

2-2-A- Application of basic and other relevant science to solve speciality related Problems.

2-2-B- Problem solving based on available data.

2-2-C- Involvement in research studies related to the neurology.

2-2-D- Writing scientific papers.

2-2-E- Risk evaluation in the related clinical practice.

2-2-F- Planning for performance improvement in the neurology field.

2-2-G- Creation and innovation in the neurology field.

2-2-H- Evidence – based discussion.

2-2-I- Decision making in different situations related to the neurology fields.

2.3- Clinical skills

By the end of the program, the graduate should be able to

- ***Competency-based outcomes for Patient Care:-***

2-3-A- MD students must be able to provide extensive level of patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health extensive level means in depth understanding and from basic science to evidence – based clinical application and possession of skills to manage independently all problems in his field of practice.

2-3-B- Master patient care skills relevant to that Neurology speciality for patients with all diagnoses and procedures.

2-3-C- Write and evaluate reports for situations related to the field of Neurology speciality**.**

2.4- General skills

By the end of the program, the graduate should be able to

- ***Competency-based outcomes for Practice-based Learning and Improvement***

2-4-A-Master practice-based learning and improvement skills that involves investigation and evaluation of their own patient care, appraisal and assimilation of scientific evidence, improvements in patient care and risk management

2-4-B- Use competently all information sources and technology to improve his practice.

2-4-C- Master skills of teaching and evaluating others.

- ***Competency-based objectives for Interpersonal and Communication Skills***

2-4-D-Master interpersonal and communication skills that result in effective information exchange and teaming with patients, their families, and other health professionals.

- ***Competency-based objectives for Professionalism***

2-4-E-Master Professionalism behavior, as manifested through a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population.

- ***Competency-based objectives for Systems-based Practice:***

2-4-F-Demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively use system resources to provide care that is of optimal value.

2-4-G- Participate in improvement of the education system.

2-4-H- Demonstrate skills of leading scientific meetings including time management

2-4-O- Demonstrate skills of self and continuous learning.

Annex 3, Methods of teaching/learning

Annex 3, Methods of teaching/learning

	Patient care	**Medical knowledge**	**Practice-based learning/ Improvement**	**Interpersonal and communication skills**	**Professionalism**	**Systems-based practice**
Didactic (lectures, seminars, tutorial)	X	X		X	X	X
journal club,	X	X	X			
Educational prescription	X	X	X	X	X	X
Present a case (true or simulated) in a grand round	X	X	X	X	X	
Observation and supervision	X		X	X	X	X
conferences		X	X	X		X
Written assignments	X	X	X	X	X	X
Oral assignments	X	X	X	X	X	X

Teaching methods for knowledge

- Didactic (lectures, seminars, tutorial)
- journal club
- Critically appraised topic
- Educational prescription (a structured technique for following up on clinical questions that arise during rounds and other venues).
- Present a case (true or simulated) in a grand round
- Others

Teaching methods for patient care

- Observation and supervision /Completed tasks procedure/case logs
- On-the-job" training without structured teaching is not sufficient for this skill (checklists).
- Simulation is increasingly used as an effective method for skill/ teamwork training.

Teaching methods for other skills

- Written communication (e.g., orders, progress note, transfer note, discharge summary, operative reports, and diagnostic reports).
- Oral communication (e.g., presentations, transfer of care, interactions with patients, families, colleagues, members of the health care team) and/or non verbal skills (e.g., listening, team skills)
- Professionalism, including medical ethics, may be included as a theme throughout the program curriculum that includes both didactic and experiential components (e.g., may be integrated into already existing small group discussions of vignettes or case studies and role plays, computer-based modules) and may be modeled by the faculty in clinical practice and discussed with the resident as issues arise during their clinical practice.

Annex 4, Assessment methods

Annex 4, ILOs evaluation methods for MD students.

Method	Practical skills	K	Intellectual	General skills			
	Patient care	K	I	Practice-based learning/ Improvement	Interpersonal and communication skills	Professionalism	Systems-based practice
Record review	X	X	X		X	X	X
Checklist	X				X		
Global rating	X	X	X	X	X	X	X
Simulations	X	X	X	X	X	X	
Portfolios	X	X	X	X	X		
Standardized oral examination	X	X	X	X	X		X
Written examination	X	X	X	X			X
Procedure/ case log	X	X					
OSCE	X	X	X	X	X	X	X

Annex 4, Glossary of MD students assessment methods

- Record Review – Abstraction of information from patient records, such as medications or tests ordered and comparison of findings against accepted patient care standards.

- Chart Stimulated Recall – Uses the MD doctor's patient records in an oral examination to assess clinical decision-making.

- Mini clinical evaluation: Evaluation of Live/Recorded Performance (single event) – A single resident interaction with a patient is evaluated using a checklist. The encounter may be videotaped for later evaluation.

- Standardized Patients (SP) – Simulated patients are trained to respond in a manner similar to real patients. The standardized patient can be trained to rate MD doctor's performance on checklists and provide feedback for history taking, physical examination, and communication skills. Physicians may also rate the MD doctor's performance.

- Objective Structured Clinical Examination (OSCE) – A series of stations with standardized tasks for the MD doctors to perform. Standardized patients and other assessment methods often are combined in an OSCE. An observer or the standardized patient may evaluate the MD doctors.

- Procedure or Case Logs – MD doctors prepare summaries of clinical experiences including clinical data. Logs are useful to document educational experiences and deficiencies.

- PSQs – Patients fill out Patient Survey questionnaires (PSQs) evaluating the quality of care provided by MD doctors.

- Case /problems – assess use of knowledge in diagnosing or treating patients or evaluate procedural skills.

- Models: are simulations using mannequins or various anatomic structures to assess procedural skills and interpret clinical findings. Both are useful to assess practice performance and provide constructive feedback.
- 360 Global Rating Evaluations – MD doctors, faculty, nurses, clerks, and other clinical staff evaluate MD doctors from different perspectives using similar rating forms.

- Portfolios – A portfolio is a set of project reports that are prepared by the MD doctors to document projects completed during the MD study years. For each type of project standards of performance are set. Example projects are summarizing the research literature for selecting a treatment option, implementing a quality improvement program, revising a medical student clerkship elective, and creating a computer program to track patient care and outcomes.

- Examination MCQ – A standardized examination using multiple-choice questions (MCQ). The in-training examination and written board examinations are examples.

- Examination Oral – Uses structured realistic cases and patient case protocols in an oral examination to assess clinical decision-making.

- Procedure or Case Logs – MD doctors prepare summaries of clinical experiences including clinical data. Logs are useful to document educational experiences and deficiencies.

- PSQs – Patients fill out Patient Survey questionnaires (PSQs) evaluating the quality of care provided by MD doctors.

Annex 5, Program evaluation tools

By whom	Method	sample
Quality Assurance Unit	Reports Field visits	#
External Evaluator (s):According to department council External Examiner (s): According to department council	Reports Field visits	#
Stakeholders	Reports Field visits Questionnaires	#
Senior students	Questionnaires	#
Alumni	Questionnaires	#

Annex 6, Program Correlations:

مصفوفة توافق المعايير القومية القياسية العامة لبرامج الدكتوراة مع المعايير الأكاديمية المعتمدة من كلية الطب – جامعة أسيوط لدرجة الدكتوراة في الدكتوراه في الأمراض العصبية

I- General Academic Reference Standards (GARS) versus Program ARS

1- Graduate attributes

Faculty ARS	NAQAAE General ARS for postgraduate Programs
1- Demonstrate competency and mastery of basics, methods and tools of scientific research and clinical audit in Neurology.	1-إتقان أساسيات و منهجيات البحث العلمي
2- Have continuous ability to add knowledge new developments to Neurology through research and publication.	2-العمل المستمر علي الإضافة للمعارف في مجال التخصص
3- Appraise and utilise scientific knowledge to continuously update and improve clinical practice and relevant basic sciences.	3-تطبيق المنهج التحليلي والناقد للمعارف في مجال التخصص و المجالات ذات العلاقة
4- Acquire excellent level of medical knowledge in the basic biomedical, clinical, behavioural and clinical sciences, medical ethics and medical jurisprudence and apply such knowledge in patient care and scientific	4-دمج المعارف المتخصصة مع المعارف ذات العلاقة مستنبطا و مطورا للعلاقات البينية بينها
5- Function as a leader of a team to provide patient care that is appropriate, compassionate for dealing effective and with health Problems and health promotion. 7- Acquire an in depth understanding of common areas of speciality, from basic clinical care to evidence based clinical application, and possession of skills to manage independently all problems in these areas.	5-إظهار وعيا عميقا بالمشاكل الجارية و النظريات الحديثة في مجال التخصص
6- Identify and create solutions for health problems in Neurology.	6-تحديد المشكلات المهنية و إيجاد حلولا مبتكرة لحلها

5- Function as a leader of a team to provide patient care that is appropriate, effective and compassionate for dealing with health problems and health promotion. 7- Acquire an in depth understanding of common areas of Neurology, from basic clinical care to evidence based clinical application, and possession of skills to manage independently all problems in these areas.	7-إتقان نطاقا واسعا من المهارات المهنية في مجال التخصص
16- Share in updating and improving clinical practice in Neurology. 9- Function as teacher in relation to colleagues, medical students and other health professions.	8- التوجه نحو تطوير طرق و أدوات و أساليب جديدة للمزاولة المهنية
15- Use recent technologies to improve his practice in Neurology.	9-استخدام الوسائل التكنولوجية المناسبة بما يخدم ممارسته المهنية
8- Demonstrate leadership competencies including interpersonal and communication skills that ensure effective information exchange with individual patients and their families and teamwork with other health professions, the scientific community and the public. 5- Function as a leader of a team to provide patient care that is appropriate, effective and compassionate for dealing with health problems and health promotion.	10-التواصل بفاعلية و قيادة فريق عمل في سياقات مهنية مختلفة
10- Master decision making capabilities in different situations related to Neurology.	11-اتخاذ القرار في ظل المعلومات المتاحة
11- Show leadership responsiveness to the larger context of the health care system, including e.g. the organisation of health care, partnership with health care providers and managers, practice of cost-effective health care, health economics, and resource allocations.	12-توظيف الموارد المتاحة بكفاءة و تنميتها والعمل على إيجاد موارد جديدة

12- Demonstrate in depth awareness of public health and health policy issues including independent ability to improve health care, and identify and carryout system-based improvement of care.	13–الوعي بدوره في تنمية المجتمع والحفاظ على البيئة
13- Show model attitudes and professionalism.	14–التصرف بما يعكس الالتزام بالنزاهة و المصداقية و قواعد المهنة
14- Demonstrate commitment for lifelong learning and maintenance of competence and ability for continuous medical education and learning in subsequent stages and in Neurology or one of its subspecialties. 15- Use recent technologies to improve his practice in Neurology.	15–الالتزام بالتنمية الذاتية المستمرة و نقل علمه و خبراته للآخرين

2- Academic standards

Faculty ARS	NAQAAE General ARS for postgraduate Programs
2.1. A- Established, updated and evidence- based theories, basics and developments of Neurology and relevant sciences.	2-1-أ- النظريات و الأساسيات والحديث من المعارف في مجال التخصص والمجالات ذات العلاقة
2.1. B- Basic, methods and ethics of medical research.	2-1-ب -أساسيات و منهجيات و أخلاقيات البحث العلمي و أدواته المختلفة
2.1. C- Ethical and medicologal principles of medical practice related to Neurology.	2-1-ج- المبادئ الأخلاقية و القانونية للممارسة المهنية في مجال التخصص
2.1. D- Principles and measurements of quality in Neurology.	2-1-د مبادئ و أساسيات الجودة في الممارسة المهنية في مجال التخصص
2.1. E- Principles and efforts for maintains and improvements of public health.	2-1-هـ - المعارف المتعلقة بآثار ممارسته المهنية على البيئة وطرق تنمية البيئة وصيانتها
2.2. A- Application of basic and other relevant science to solve Neurology related problems.	2-2-أ -تحليل و تقييم المعلومات في مجال التخصص و القياس عليها و الاستنباط منها
2.2.B- Problem solving based on available data.	2-2-ب -حل المشاكل المتخصصة استنادا علي المعطيات المتاحة
2.2.C- Involvement in research studies related to Neurology.	2-2-ج -إجراء دراسات بحثية تضيف إلى المعارف
2.2. D- Writing scientific papers.	2-2-د- صياغة أوراق علمية
2.2. E- Risk evaluation in the related clinical practice.	2-2-هـ تقييم المخاطر في الممارسات المهنية
2.2.F- Planning for performance improvement in Neurology.	2-2-و -التخطيط لتطوير الأداء في مجال التخصص
2-2-G- Creation and innovation in the Neurology.	2-2-ز- الابتكار /الإبداع
2.2. H- Evidence – based discussion.	2-2-ح- الحوار والنقاش المبني علي البراهين

	والأدلة
2.2.I- Discussion making in different situations related to Neurology.	2-2-ط -اتخاذ القرارات المهنية في سياقات مهنية مختلفة
2.3. A- MD students must be able to provide extensive level of patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health extensive level means in depth understanding and from basic science to evidence – based clinical application and possession of skills to manage independently all problems in Neurology. 2.3. B- Master patient care skills relevant to Neurology or patients with all diagnoses and procedures.	2-3-أ -إتقان المهارات المهنية الأساسية و الحديثة في مجال التخصص
2.3. C- Write and evaluate reports for situations related to the field of Neurology.	2-3-ب- كتابة و تقييم التقارير المهنية.
2.4.A-Master practice-based learning and improvement skills that involves investigation and evaluation of their own patient care, appraisal and assimilation of scientific evidence, improvements in patient care and risk management	2-3-ج -تقييم و تطوير الطرق و الأدوات القائمة في مجال التخصص
2.4.B- Use competently all information sources and technology to improve his practice.	2-3-د - استخدام الوسائل التكنولوجية بما يخدم الممارسة المهنية
2.4.A-Master practice-based learning and improvement skills that involves investigation and evaluation of their own patient care, appraisal and assimilation of scientific evidence, improvements in patient care and risk management 2.4.G- Participate in improvement of the education system.	2-3-هـ -التخطيط لتطوير الممارسة المهنية وتنمية أداء الآخرين

II-Program ARS versus program ILOs

Comparison between ARS- ILOS for medical doctorate for

Neurology

(ARS)	(ILOs)
2-1- Knowledge and understanding	***2-1- Knowledge and understanding***
2-1-A- Established, updated and evidence-based Theories, Basics and developments of v and relevant sciences.	**2-1-A**- Demonstrate in-depth knowledge and understanding of theories, basics and updated biomedical, clinical epidemiological and socio behavioral science relevant to his Neurology as well as the evidence – based application of this knowledge to patient care.
2-1-B Basic, methods and ethics of medical research.	**2-1-B-** Explain basics, methodology, tools and ethics of scientific medical, clinical research.
2-1-C- Ethical and medicologal principles of medical practice related to Neurology field.	**2-1-C-** Mention ethical, medico logical principles and bylaws relevant to his practice in the field of Neurology.
2-1-D- Principles and measurements of quality in the Neurology field.	**2-1-D-** Mention principles and measurements of quality assurance and quality improvement in medical education and in clinical practice of Neurology.
2-1-E-Principles and efforts for maintains and improvements of public health.	**2-1-E-** Mention health care system, public health and health policy, issues relevant to this speciality and principles and methods of system – based improvement of patient care in common health problems of the field of Neurology.
2-2- Intellectual skills**:**	***2-2- Intellectual skills:***
2-2-A-Application of basic and other	**2-2-A-** Apply the basic and clinically

relevant science to solve Neurology related problems.	supportive sciences which are appropriate to Neurology related conditions / problem / topics.
2-2-B-Problem solving based on available data.	**2-2-B-** Demonstrate an investigatory and analytic thinking "problem – solving "approaches to clinical situation related to Neurology.
2-2-C- Involvement in research studies related to the Neurology.	**2-2-C-** Plan research projects.
2-2-D Writing scientific papers.	**2-2-D-** Write scientific paper.
2-2-E-Risk evaluation in the related clinical practice.	**2-2-E-** Participate in clinical risk management as a part of clinical governance.
2-2-F-Planning for performance improvement in the Neurology field.	**2-2-F-** Plan for quality improvement in the field of medical education and clinical practice in Neurology.
2-2-G-Creation and innovation in the Neurology field.	**2-2-G-** Create / innovate plans, systems, and other issues for improvement of performance in his practice.
2-2-H-Evidence – based discussion.	**2-2-H-** Present and defend his / her data in front of a panel of experts.
2-2-I-Decision making in different situations related to Neurology fields.	**2-2-I-** Formulate management plans and alternative decisions in different situations in the field of the Neurology.

continuous (ARS)	continuous (ILOs)
2-3- Clinical skills:	***2/3/1/Practical skills (Patient care :)***
2-3-A- MD students must be able to provide extensive level of patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health extensive level means in depth understanding and from basic science to evidence – based clinical application and possession of skills to manage independently all problems in his field of practice.	**2-3-1-A-** Provide extensive level of patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health. ***p.s.*** Extensive level means in-depth understanding from basic science to evidence – based clinical application and possession of skills to manage independently all problems in field of practice.
2-3-B- Master patient care skills relevant to Neurology for patients with all diagnoses and procedures.	**2-3-1-B-** Provide extensive level of patient care for patients with all common diagnoses and for uncomplicated procedures related to Neurology.
	2-3-1-C- Provide extensive level of patient care for non-routine, complicated patients and under increasingly difficult circumstances, while demonstrating compassionate, appropriate and effective care.
	2-3-1-D- Perform diagnostic and therapeutic procedures considered essential in the field of Neurology.
	2-3-1-E- Handles unexpected complications, while demonstrating compassion and sensitivity to patient needs and concerns.
	2-3-1-F- Communicate effectively and demonstrate caring and respectful behaviors when interacting with patients and their families in the Neurology related situations.
	2-3-1-G- Gather essential and accurate

	information about patients of the Neurology related conditions. **2-3-1-H** Make informed decisions about diagnostic and therapeutic interventions based on patient information and preferences, up-to-date scientific evidence and clinical judgment for the Neurology related conditions. **2-3-1-I-** Develop and carry out patient management plans for Neurology related conditions. **2-3-1-J-** Counsel and educate patients and their families about Neurology related conditions. **2-3-1-K-** Use information technology to support patient care decisions and patient education in all Neurology related clinical situations. **2-3-1-L-** Perform competently all medical and invasive procedures considered essential for the Neurology related conditions / area of practices. **2-3-1-M-** Provide health care services aimed at preventing the Neurology related health problems. **2-3-1-N-** Lead health care professionals, including those from other disciplines, to provide patient-focused care in Neurology related conditions**.**

2-3-C- Write and evaluate reports for situations related to the field of Neurology.	**2-3-1-O-** Write competently all forms of patient charts and sheets including reports evaluating these charts and sheets.(Write and evaluate a consultation note, Inform patients of a diagnosis and therapeutic plan, completing and evaluating comprehensive timely and legible medical records).
2-4- General skills **2-4-A-** Master practice-based learning and improvement skills that involves investigation and evaluation of their own patient care, appraisal and assimilation of scientific evidence, improvements in patient care and risk management	***2/3/2 General skills*** **2-3-2-A-** Demonstrate the competency of continuous evaluation of different types of care provision to patients in the different area of Neurology. **2-3-2-B-** Appraise scientific evidence. **2-3-2-C-** Continuously improve patient care based on constant self-evaluation and life-long learning. **2-3-2-D**. Participate in clinical audit and research projects. **2-3-2-E-** Practice skills of evidence-based Medicine (EBM). **2-3-2-G-** Design logbooks. **2-3-2-H-** Design clinical guidelines and standard protocols of management. **2-3-2-I-** Appraise evidence from scientific studies related to the patients' health problems.

2-4-B- Use competently all information sources and technology to improve his practice.	**2-3-2-J-** Apply knowledge of study designs and statistical methods to the appraisal of clinical studies. **2-3-2-K**- Use information technology to manage information, access on-line medical information; for the important topics.
2-4-C- Master skills of teaching and evaluating others.	**2-3-2-F-** Educate and evaluate students, residents and other health professionals.
2-4-D- Master interpersonal and communication Skills that result in effective information exchange and teaming with patients, their families, and other health professionals.	**2-3-2-L**- Master interpersonal and communication skills that result in the effective exchange of information and collaboration with patients, their families, and health professionals, including:- • Present a case. • Write a consultation note. • Inform patients of a diagnosis and therapeutic plan Completing and maintaining comprehensive. • Timely and legible medical records. • Teamwork skills. **2-3-2-M-** Create and sustain a therapeutic and ethically sound relationship with patients. **2-3-2-N**- Elicit and provide information using effective nonverbal, explanatory, questioning, and writing skills. **2-3-2-O-** Work effectively with others as a member or leader of a health care team or other professional group.
2-4-E- Master Professionalism behavior, as manifested through a commitment to carrying out professional responsibilities,	**2-3-2-P-** Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society.

adherence to ethical principles, and sensitivity to a diverse patient population.	**2-3-2-Q-** Demonstrate a commitment to ethical principles including provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices. **2-3-2-R-** Demonstrate sensitivity and responsiveness to patients' culture, age, gender, and disabilities.
2-4-F- Demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively use system resources to provide care that is of optimal value. **2-4-G**- Participate in improvement of the education system.	**2-3-2-S-** Work effectively in health care delivery settings and systems related to Neurology including good administrative and time management. **2-3-2-T-** Practice cost-effective health care and resource allocation that does not compromise quality of care. **2-3-2-U-** Advocate for quality patient care and assist patients in dealing with system complexities. **2-3-2-V-** Design, monitor and evaluate specification of under and post graduate courses and programs.
2-4-H- Demonstrate skills of leading scientific meetings including time management	**2-3-2-W-** Act as a chair man for scientific meetings including time management **2-3-2-S-** Work effectively in health care delivery settings and systems related to Neurology including good administrative and time management.
2-4-O- Demonstrate skills of self and contin learning .	From A to H

III - Program matrix
Knowledge and understanding

Course	Program covered ILOs				
	2/1/A	2/1/B	2/1/C	2/1/D	2/1/E
Course 1 : Medical statistics		✓			
Course 2 : Research Methodology		✓			
Course 3 : Medicolegal Aspects and Ethics in Medical Practice and Scientific Research			✓		
Course 4: Neurophysiology	✓				
Course 5: Neuropathology of Neurological disorders. Genetics of Neurological & disorders.	✓				
Course 6: Neuropharmacology	✓				
Course 7:Neurology	✓	✓	✓	✓	✓

Intellectual

Course	Program covered ILOs								
	2/2/A	2/2/B	2/2/C	2/2/D	2/2/E	2/2/F	2/2/G	2/2/H	2/2/I
Course 1 : Medical statistics			✓	✓				✓	
Course 2 : Research Methodology			✓	✓				✓	
Course 3 : Medicolegal Aspects and Ethics in Medical Practice and Scientific Research								✓	
Course 4: Neurophysiology	✓	✓							
Course 5: Neuropathology of Neurological disorders. & Genetics of Neurological disorders	✓	✓							
Course 6: Neuropharmacology)	✓	✓							
Course 7: Neurology	✓	✓	✓	✓	✓	✓	✓	✓	✓

Practical Skills (Patient Care)

Course	Program covered ILOs							
	2/3/1/A	2/3/1/B	2/3/1/C	2/3/1/D	2/3/1/E	2/3/1/F	2/3/1/G	2/3/1/H
Course 1 : Medical statistics								
Course 2 : Research Methodology								
Course 3 : Medicolegal Aspects and Ethics in Medical Practice and Scientific Research				✓				✓
Course4: Neurophysiology								
Course 5: Neuropathology of Neurological disorders. Genetics & of Neurological disorders.								
Course 6: neuropharmacology								
Course 7: Neurology	✓	✓	✓	✓	✓	✓	✓	✓

Practical Skills (Patient Care)

Course	Program covered ILOs						
	2/3/1/I	2/3/1/J	2/3/1/K	2/3/1/L	2/3/1/M	2/3/1/N	2/3/1/0
Course 1 : Medical statistics							
Course 2 : Research Methodology							
Course 3 : Medicolegal Aspects and Ethics in Medical Practice and Scientific Research	✓	✓					
Course4: Neurophysiology	✓	✓					
Course 5: Neuropathology of Neurological disorders. Genetics of & Neurological disorders.	✓	✓					
Course 6: neuropharmacology	✓	✓					
Course 7: Neurology	✓	✓	✓	✓	✓	✓	✓

General Skills

Course	Program covered ILOs							
	2/3/2/A	2/3/2/B	2/3/2/C	2/3/2/D	2/3/2/E	2/3/2/F	2/3/2/G	2/3/2/H
Course 1 : Medical statistics		✓						
Course 2 : Research Methodology		✓		✓	✓			
Course 3 : Medicolegal Aspects and Ethics in Medical Practice and Scientific Research								
Course 4: Neurophysiology		✓						
Course 5: Neuropathology of Neurological disorders. & Genetics of Neurological disorders.		✓		✓	✓			
Course 6: Neuropharmacology		✓						
Course 7 neurology	✓	✓	✓	✓	✓	✓	✓	✓

General Skills

Course	Program covered ILOs							
	2/3/2/I	2/3/2/J	2/3/2/K	2/3/2/L	2/3/2/ M	2/3/2/N	2/3/2/O	2/3/2/P
Course 1 : Medical statistics	✓	✓	✓					
Course 2 : Research Methodology	✓	✓						
Course 3 : Medicolegal Aspects and Ethics in Medical Practice and Scientific Research				✓				
Course 4: Neurophysiology			✓	✓				
Course 5: Neuropathology of Neurological disorders. Genetics of & Neurological disorders.			✓	✓				
Course6: Neuropharmacology			✓	✓				
Course 7:Neurology	✓	✓	✓	✓	✓	✓	✓	✓

General Skills

Course	Program covered ILOs						
	2/3/2/Q	2/3/2/R	2/3/2/S	2/3/2/T	2/3/2/U	2/3/2/V	2/3/2/W
Course 1 : Medical statistics							
Course 2 : Research Methodology							
Course 3 : Medicolegal Aspects and Ethics in Medical Practice and Scientific Research							
Course 4: Neurophysiology	✓		✓				
Course 5: Neuropathology of Neurological disorders. & Genetics of Neurological disorders.	✓		✓				
Course 6: Neuropharmacology	✓		✓				
Course 7: Neurology	✓	✓	✓	✓	✓	✓	✓

Annex 7, Additional information:

☒ **Department information: Neurology and Psychiatry department is divided into many specialized equipped units i.e.:**

- ❖ Neurological patients' wards: 72 beds.
- ❖ Weekly 3 out patients' neurology clinics (new patients, follow up post discharge appointments, discharged critical care patients Follow up clinic)
- ❖ Weekly 2 epilepsy out patient clinic and other subspecialities .
- ❖ Stroke ICU (24 beds)
- ❖ Neurophysiology unit (equipped with computerized Digital EEG – conventional EEG and Video monitoring EEG, 2 Nihon Khoden for Neurophysiology testing (evoked potential , EMG, NCVs, F wave…….) and magnetic lab (diagnostic and therapeutic tools).
- ❖ Sleep Lab
- ❖ Plasma pharesis unit
- ❖ Multiple sclerosis unit
- ❖ Psychatric patients wards 72 beds.
- ❖ Addiction patients wards 10 beds.
- ❖ Weekly 2 days out patients' Psychiatry clinics (new patients, follow up post discharge appointments, discharged patients Follow up clinic.

- ❖ 2 days/Week out patients' Psychiatry clinics for treatment and follow up of chronic psychiatric patients.
- ❖ Psychomotery lab.

☒ **Staff members:**

Forty staff members: 15 Psychiatrists and 25Neurologists.

☒ **Opportunities within the department:**

- ❖ Scientific Library (Neurology and Psychiatry Text Books and journals periodicals), MD, MSc thesis,
- ❖ Seminar room with data show
- ❖ Electronic Library of Scientific Seminars, case presentations.
- ❖ Audiovisual skills teaching unit (neurological and psychiatric examination- basic science and medical knowledge).
- ❖ New center.

☒ **Department quality control insurance for completing the program:**

Evaluation by:

- **The director of program (head of department), Coordinators of Program, and each module, and staff members.**
- **Regular assessments.**
- **Log book monitoring.**
- **External assessment.**