Doctorate (MD) Program & Courses' Specifications of Neurology
2022-2023

Program Specifications for Doctorate Degree (MD) in Neurology (2022-2023)

Course Title	**MD degree in Neurology**
Course Code	**NP100**
Program	**Neurology**
Department	**Neurology and Psychiatry**
Faculty	**Medicine**
Institution	**Minia University**

University: MINIA

Faculty(s): MEDICINE

Department: Special Medicine, Neurology and Psychiatry Unit

A- Basic Information:

1- Program title: Doctorate Degree (MD) in Neurology

2- Program type: **Single** √ ~~Double~~ ~~Multiple~~

3- Department responsible for offering the degree: Special Medicine, Neurology and Psychiatry department

B- Professional Information:

1- Program aims:

Graduate of Doctorate Degree in Neurology, the candidate should be able to:

1.1. Provide candidates with international update standards of patients care of Neurologic disorders by mastering high level of clinical skills, bedside patient care skills.
1.2. Provide them with different research methodology and to encourage them to do their own.
1.3. Acquire updated medical knowledge as well as clinical experience and competence in the area of common, infrequent, and rare neurologic disorders.
1.4. Acquire methodology and perform high standard scientific medical research with ethical issues and how to proceed with publication in indexed medical journals.
1.5. Provide candidate with fundamental updated details knowledge of neurologic disorders emergencies
1.6. Provide professional careers as a consultant in Egypt
1.7. Gain effective use of diagnostic tools of neurophysiology studies.
1.8. Gain effective use of available technologies to improve his practice.
1.9. Gain effective deal with common and infrequent neurologic emergencies.
1.10. Provide the candidates with making appropriate referrals to a sub-specialist for consultation or intervention.
1.11. Gain the skills that make them recognized as a consultant abroad.
1.12. Gain continuous self-learning in subspecialties.

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1. Intended Learning Outcomes:

2.1. (a) Knowledge and understanding:

By the end of the study of doctorate program in Neurology the candidate should be able to:

A1. Discuss theories, basics and updated biomedical, clinical epidemiological and socio – behavioral science relevant to his specialty as well as the evidence – based application of this knowledge to patient care.
A2. Explain basics, methodology, tools and ethics of scientific medical, clinical research.
A3. Mention ethical, medico logical principles and bylaws relevant to his practice in the field of neurology.
A4. Mention principles measurements of quality assurance and quality improvement in medical education and in clinical practice of neurology.
A5. Mention health care system, public health and health policy, issues relevant to this specialty and principles and methods of system – based improvement of patient care in common health problems of the field of neurology.

2.2. (b) Intellectual skills

By the end of the doctorate program in Neurology the candidate should be

able to:

B1. Apply the basic and clinically supportive sciences which are appropriate to the specialty related conditions / problem / topics.
B2. Demonstrate an investigatory and analytic thinking "problem – solving "approaches to clinical situation related to Neurology.
B3. Hypothesize and design research projects that contributes to the scientific developments in the field of
neurology.
B4. Formulate, write, and publish research paper
B5. Construct good understanding to common risks and patient safety issues related to neurological patients.
B6. Plan for the development of clinical and academic performance in the field of neurology.
B7. Formulate management plans and alternative decisions in different situations in the field of Neurology.
B8. Create / innovate plans, systems, and other issues for improvement of performance in his practice.
B9. Manage scientific discussion based on scientific evidence and proofs

3.2. Skills:

3.2.1 (c) Professional and practical skills

By the end of the study of doctoral program in Neurology the candidate should be able to:

C.1. Practice extensive level of patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health.
C.2. Perform extensive level of patient care for patients with all common diagnoses and for uncomplicated procedures related to Neurology.
C.3. Practice extensive level of patient care for non-routine, complicated patients and under increasingly difficult circumstances, while demonstrating compassionate, appropriate and effective care
C.4. Gather essential and accurate information about patients of the Neurology related conditions and reporting these data effectively.
C.5. Perform diagnostic and therapeutic procedures considered essential in the field of Neurology
C.6. Make use of different modern technologies to improve the practice of neurology.
C.7. Design new methods, tools, and ways of professional practice to help the improvement of others in the field of neurology
C.8. Communicate effectively and demonstrate caring and respectful behaviors when interacting with patients and their families in the Neurology related situations

3.2.2. (d) General and transferable skills

By the end of the study of doctoral program in Neurology the candidate should be able to:

D1. 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
D.2. Use information technology to manage information
D.3. Elicit and provide information using effective nonverbal, explanatory, questioning, and writing skills.
D.4. Put and use indicators for evaluating the performance of others.
D.5.Continuously improves patient care based on constant self-evaluation and life-long learning.
D.6. Use different physical and electronic information sources including media (videos, audio) to become a competent internist.
D.7. Work effectively with others as a member or leader of a health care team or other professional group.
D.8.Manage time effectively during clinical, academic work and scientific meetings.

2- Program Academic Reference Standards (ARS):

- Faculty of Medicine, Minia university adopted the general national academic reference standards provided by the national authority for quality assurance and accreditation of education (NAQAAE) for all postgraduate programs. (Faculty council Degree No.6854, in its cession No.177 Dated :18\5\2009) (see Annex I)

- Faculty of Medicine, Minia university has developed the academic standards (ARS) for Medical Doctorate (MD) program and was approved in faculty Council Degree No.7528, in its session No.191, dated: 15-3-2010), last update: 20-2-2023. {Annex I}.
- Then, special Medicine department has developed the intended learning outcomes (ILOs) for doctorate (MD) program in neurology and the Date of program specifications first approval was by department council: 13-5-2013, last update: 6-3-2023{Annex 2}.

4- Curriculum Structure and Contents

4. A. Program duration: (3.5 years).

4. B. Program structure:

- No of hours/week:

– Lecture: 12 h/w (for first part) and 8 h/w (for second part)
– Practical and clinical: 16 h /w (for first part) and 8 h/w (for second part)
– Total hours/week: 28 h/w (for first part) and 16 h/w (for second part)
 Basic sciences (compulsory) courses: 4 Percentage %80
 Basic sciences (optional) courses: No;0 Percentage %0
 Specific courses related to the specialty: No:1 Percentage %20
 Other courses: No:… Percentage %:…
 Training programs and workshops, field visits, seminars & other scientific activities: Distributed along the whole program.

4. C. Levels of program in credit hours system: Not applicable

4. D. Program courses:

4. D. Program courses:

Number of courses: 5

Course Title	Total No. of Hours	No. of hours /week		Program ILOs Covered
		Lect.	Practica	
FIRST PART (Level of course):				
Medical statistics and Research Design	4	3	1	A2,4,5 B 3,4,6,7,8,9 C2,3,8
Use of computer in medicine	2	1	1	D1,2,3,4,5,6,7
Pathology	3	2	1	A1 B1 C1 D4
Medical Physiology	3	2	1	A1 B1 C1 D4
Training programs and workshops, field visits, seminars& other scientific activities	Continuous			
SECOND PART (Level of course):				

Advanced Neurology NP100	150	8	8	A1,3,4,5 B2,5,7,8,9 C1,2,3,4,5,6,7,8 D1,3,4,5,6,7,8
Training programs and workshops, field visits, seminars& other scientific activities	Continuous			
THIRD PART:				
Research (Thesis)	Continuous			A.1-A.5, B.1-B.9, C.1-C.8, D.1-D.8

5- Program admission requirements

1. General requirements:

A-Candidates should have either:

1. MBBCH degree from any Egyptian faculty of medicine.
2. Equivalent degree from medical schools abroad approved by the Ministry of higher education.

B-Master degree in neurology and psychiatry

C- Follows postgraduate regulatory rules of postgraduate studies of Minia faculty of medicine.

2. Specific requirements:

A-Candidates graduated from Egyptian universities should have at least "Good Rank" in their final year / cumulative years examination and grade "Good Rank "in Medicine course too.
B-Master degree in neurology and psychiatry with at least" Good Rank".
C-Candidate should know how to speak& write English well.
D-Candidate should have computer skill.

6- Regulations for progression and program completion

Duration of program is (3.5 years), starting from registration till acceptance of the thesis; divided to:

First Part: (≥6 months):

- All courses as specified in the internal bylaw
- At least six months after registration should pass before the student can ask for examination in the 1st part.
- Two sets of exams: 1st in April — 2nd in October.

- For the student to pass the first part exam, a score of at least 60% in each curriculum is needed.
- Those who fail in one curriculum need to re-exam it only.

Second Part: (≥24months):

- Program related specialized Courses.
- At least 24 months after passing the 1st part should pass before the student can ask for examination in the 2nd part.
- Fulfillment of the requirements in each course as described in the template and registered in the log book is a prerequisite for candidates to be assessed and undertake part 1 and part 2 examinations; as following:

Training courses

a. Grand rounds
b. Case presentation
c. Seminars
d. Thesis discussion
e. Workshops
f. Conference attendance
g. Journal club
h. Other scientific activities requested by the department

- Two sets of exams: 1st in April— 2nd in October.
- At least 60 % of the written exam is needed to be admitted to the oral and practical exams.
- 4 times of oral and practical exams are allowed before the student has to re-attend the written exam.

Thesis/essay: (24-48 months):

- Could start after registration and should be completed, defended and accepted after passing the 2nd part final examination, and after passing of at least 24 months after documentation of the subject of the thesis.
- The thesis should be accepted from the discussion committee, special medicine department and faculty councils and vice dean of postgraduate studies of the university. One literature at least should be edited from the research in a documented scientific journal documented from the high council of the Egyptian universities.

-If the candidate fails to finish the thesis in the provisional date, the chief supervisor should write a full report about causes of candidate's delay and if he needs another exceptional year to finish his research. This extension should be accepted by special medicine department and faculty

councils and the vice dean of post-graduates' studies of university.

7. Teaching and Learning Methods:

Methods of Teaching & Learning	Intended Learning Outcomes (ILOs)
Lecture (power point, chalk and talk)	A1, A2, A3, A4, A5 B1, B2, B3, B4, B5, B6, B7, B8, B9
Clinical: Case presentation, Bedside clinical**;** Practical clinical examination in neurology outpatient clinic.	C1, C2, C3, C4, C5, C6.C7, C8
Others: Presentations, journal club, thesis discussion attendance, training courses, workshops, seminars, morbidity and mortality conference, and other scientific activities requested by the department	D1, D2 D3, D4, D5, D6, D7, D8

8.Methods of student assessments

Method of assessment	The assessed ILOs

1. Written Exams:
• Paper 1 and paper 2 include:
  • Short essay
  • MCQs
  • Problem solving
• Paper 3: Commentary
	A1, A2, A3, A4, A5
	B1, B2, B3, B4, B5, B6, B7, B8, B9
	
	B1, B2, B3, B4, B5, B6, B7, B8, B9
	C1, C2, C3, C4, C5, C6

2. Clinical Exams: Long case and 2 short cases	C1, C2, C3, C4, C5, C6, C7,C8
3. Oral Exams including **Investigations exams:** Interpretation of brain imaging, nerve conduction study, EMG and EEG.	A1, A2, A3, A4, A5 B1, B2, B3, B4, B5, B6, B7, B8, B9 D1, D2, D3, D4, D5, D6, D7,D8

9. Weighing of Assessment

	Written exam		**Oral exam**	**Clinical/practical**
pathology	100		100	---
Medical physiology	100		100	---
Medical statistics and Research Design	100		100	100
Uses of computer in medicine	100		100	100
Advanced neurology	Paper 1	100	100	100
	Paper 1	100		
	Commentary	100		

10. Methods of Program Evaluation:

Evaluator (By whom)	**Method/tool**	**Sample**
1. Senior students (Students of last year	Questionnaires	10
2. Graduates (Alumni)	Questionnaires	5
3. Stakeholders	Meeting Questionnaires	5
4. External & Internal evaluators and external examiners	Reports	2
5. Quality Assurance Unit	Reports Questionnaires Site visits	1

- **Program Coordinators:** Dr. Rasha Nady

- **Head of Department**: Nermin Aly Hamdy

Date of program specifications 1st approval by <u>department council</u>: 13/5/2013.**Date of <u>last update</u> & approval by <u>department council</u>:** Mars 2023.

Annex (1): Comparison between General Academic Reference Standards (GARS) and Faculty Academic Reference Standards (ARS)

المعايير القياسية العامة: NAQAAE General Academic Reference Standards "GARS" for MD Programs	Faculty Academic Reference Standards (ARS) for MD Program
1.2. المعرفة والفهم: **بانتهاء دراسة برنامج الدكتوراه يجب أن يكون الخريج قادرا علي الفهم والدراية بكل من:**	**2.1. Knowledge and understanding:** Upon completion of the doctorate Program (MD), the graduate should have sufficient knowledge and understanding of:
1.1.2. النظريات والأساسيات والحديث من المعارف في مجال التخصص والمجالات ذات العلاقة	2.1.1. Theories, basics and updated knowledge in his scholarly field and related basic sciences.
2.1.2. أساسيات ومنهجيات وأخلاقيات البحث العلمي وأدواته المختلفة	2.1.2. Basic, methods and ethics of medical research.
3.1.2. المبادئ الأخلاقية والقانونية للممارسة المهنية في مجال التخصص	2.1. 3. Ethical and medicolegal principles of medical practice.
4.1.2. مبادئ وأساسيات الجودة في الممارسة المهنية في مجال التخصص	2.1. 4. Identify Principles and fundamental of quality in professional medical practice.
5.1.2. المعارف المتعلقة بآثار ممارسته المهنية على البيئة وطرق تنمية البيئة وصيانتها	2.1.5. Knowledge related to effects of professional practice on public health and methods of maintenance and system-based improvement of public health.
2.2. المهارات الذهنية: **بانتهاء دراسة برنامج الدكتوراه يجب أن يكون الخريج قادرا على:**	**2.2. Intellectual skills:** Upon completion of the doctorate program (MD), the graduate must be able to:

1.2.2.تحليل وتقييم المعلومات في مجال التخصص والقياس عليها والاستنباط منها	2.2.1 Analysis and evaluation of information to correlate and deduce from it.
2.2.2. حل المشاكل المتخصصة استنادا على المعطيات المتاحة	2.2.2. Problem solving skills based on analysis of available data for common health problems related to his scholarly field.
3.2.2. إجراء دراسات بحثية تضيف إلى المعارف	2.2.3. Carryout research projects related to his scholarly field.
4.2.2. صياغة أوراق علمية	2.2.4. Write and publish scientific papers.
5.2.2. تقييم المخاطر في الممارسات المهنية	2.2.5. Assess risk in professional medical practice.
6.2.2. التخطيط لتطوير الأداء في مجال التخصص	2.2.6. Establish goals, commitments and strategies for improved productivity and performance.
7.2.2. اتخاذ القرارات المهنية في سياقات مهنية مختلفة	2.2.7. Making professional decisions in different professional contexts.
8.2.2. الابتكار/ الإبداع	2.2.8. Demonstrate intellectual curiosity necessary for scientific discovery and innovation through active participation in research.
9.2.2. الحوار والنقاش المبني على البراهين والأدلة	2.2.9. Using Evidence-based strategies to during discussion or teaching others.
3.2. مهارات المهنية: **بانتهاء دراسة برنامج الدكتوراه يجب أن يكون الخريج قادرا على:**	**2.3. Professional skills:** Upon completion of the doctorate program (MD), the graduate must be able to:
1.3.2. إتقان المهارات المهنية الأساسية والحديثة في مجال التخصص	2.3.1. Master the basic as well as modern professional practical and/or clinical skills.

2.3.2 . كتابة وتقييم التقارير المهنية	2.3.2. Write and evaluate professional reports.
2.3.3 . تقييم وتطوير الطرق والأدوات القائمة في مجال التخصص	2.3.3. Evaluate and improve the methods and tools in the specific field
4.3.2. استخدام الوسائل التكنولوجية بما يخدم الممارسة المهنية	2.3.4. use of technological means to serve Professional practice
2.3.5. التخطيط لتطوير الممارسة المهنية وتنمية أداء الآخرين.	2.3.5. Planning for the development of professional practice and improve of the performance of others
4.2. المهارات العامة والمنتقلة: **بانتهاء دراسة برنامج الدكتوراه يجب أن يكون الخريج قادرا على:**	**2.4. General and transferable skills** Upon completion of the doctorate program (MD), the graduate must be able to:
1.4.2. التواصل الفعال بأنواعه المختلفة	2.4.1. Communicate (in writing and orally) effectively and respectfully with peers, faculty, colleagues, and other members of the health care team, understanding the role of consultations and referrals.
2.4.2. استخدام تكنولوجيا المعلومات ب ما يخدم تطوير الممارسة المهنية	2.4.2. Use of information technology to serve Professional Practice Development.
3.4.2. تعليم الآخرين وتقييم أداءهم	2.4.3. Demonstrate effective teaching and evaluating others.
4.2.4. التقييم الذاتي والتعلم المستمر.	2.4.4. Self-assessment and continuous learning.
5.4.2. استخدام المصادر المختلفة للحصول على المعلومات والمعارف.	2.4.5. use physical information resources (print, analog), online (electronic, digital,) text, audio-video, book and journal to address medical questions and knowledge to sustain professional growth
6.4.2. العمل في فريق وقيادة فرق العمل	2.4.6. Work as a member in larger teams and as well as a team leader knows how to develop "teaming strategy" to plan how people will act and work together.
7..4.2 إدارة اللقاءات العلمية والقدرة علي إدارة الوقت	2.4.7. Manage of scientific meetings and the ability to manage Time effectively.

Annex [2] Matrix Between Faculty Academic Reference Standards (ARS), and Program ILOS for MD in Neurology

Faculty Academic Reference Standards (ARS) for MD Program	Neurology MD Program ILOs
2.1. Knowledge & Understanding: Upon completion of **the MD Program** the graduate should have sufficient knowledge and understanding of:	**A. Knowledge And Understanding:** Upon completion of **the MD Program in** neurology the graduate should have sufficient knowledge and understanding of:
2.1.1. Theories, basics and updated knowledge in his scholarly field and related basic sciences.	A1. Discuss theories, basics and updated biomedical, clinical epidemiological and socio – behavioral science relevant to his specialty as well as the evidence – based application of this knowledge to patient care.
2.1.2. Basic, methods and ethics of medical research.	A2. Explain basics, methodology, tools and ethics of scientific medical, clinical research.

2.1. 3. Ethical and medicolegal principles of medical practice.	A3. Mention ethical, medico logical principles and bylaws relevant to his practice in the field of neurology.
2.1.4. Identify Principles and fundamental of quality in professional medical practice.	A4. Mention principles measurements of quality assurance and quality improvement in medical education and in clinical practice of neurology.
2.1.5. Knowledge related to effects of professional practice on public health and methods of maintenance and system-based improvement of public health.	A5. Mention health care system, public health and health policy, issues relevant to this specialty and principles and methods of system – based improvement of patient care in common health problems of the field of neurology.
2.2. Intellectual Skills: Upon completion of the MD program the graduate should be able to:	**(B) Intellectual Skills:** Upon completion of the MD program in neurology, the graduate should be able to:
2.2.1Analysis and evaluation of information to correlate and deduce from it.	B1. Apply the basic and clinically supportive sciences which are appropriate to the specialty related conditions / problem / topics.
2.2.2. Problem solving skills based on analysis of available data for common health problems related to his scholarly field.	B2. Demonstrate an investigatory and analytic thinking "problem – solving "approaches to clinical situation related to Neurology.
2.2.3. Carryout research projects related to his scholarly field.	B3. Hypothesize and design research projects that contributes to the scientific developments in the field of neurology.
2.2.4. Write and publish scientific papers.	B4. Formulate, write, and publish research paper.

2.2.5. Assess risk in professional medical practice.	B5. Construct good understanding to common risks and patient safety issues related to neurological patients.
2.2.6. Establish goals, commitments and strategies for improved productivity and performance.	B6. Plan for the development of clinical and academic performance in the field of neurology.
2.2.7. Making professional decisions in different professional contexts.	B7. Formulate management plans and alternative decisions in different situations in the field of Neurology.
2.2.8. Demonstrate intellectual curiosity necessary for scientific discovery and innovation through active participation in research.	B8. Create / innovate plans, systems, and other issues for improvement of performance in his practice.
2.2.9. Using Evidence-based strategies to during discussion or teaching others.	B9. Manage scientific discussion based on scientific evidence and proofs
3.2. Professional Skills: Upon completion of the MD program, the graduate must be able to:	**(C) Professional Skills:** Upon completion of the MD program in neurology, the graduate must be able to:
2.3.1. Master the basic as well as modern professional practical and/or clinical skills.	C.1. Practice extensive level of patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health. C.2. Perform extensive level of patient care for patients with all common diagnoses and for uncomplicated procedures related to Neurology. C.3. Practice extensive level of patient care for non-routine, complicated patients and under increasingly difficult circumstances, while demonstrating compassionate, appropriate and effective care
2.3.2. Write and evaluate professional reports.	C.4.Gather essential and accurate information about patients of the Neurology related conditions and reporting these data effectively.

2.3.3. Evaluate and improve the methods and tools in the specific field	C.5. Perform diagnostic and therapeutic procedures considered essential in the field of Neurology.
2.3.4. Use of technological means to serve Professional practice.	C.6. Make use of different modern technologies to improve the practice of neurology
2.3.5. Planning for the development of professional practice and improve of the performance of others	C.7 Design new methods, tools, and ways of professional practice to help the improvement of others in the field of neurology. C.8. Communicate effectively and demonstrate caring and respectful behaviors when interacting with patients and their families in the Neurology related situations
4.2. **General and transferable skills** Upon completion of the MD program, the graduate should be able to:	**(D)General and Transferrable Skills.** Upon completion of the MD program of neurology the graduate should be able to:
4.2.1. Communicate (in writing and orally) effectively and respectfully with peers, faculty, colleagues, and other members of the health care team, understanding the role of consultations and referrals.	D1.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
4.2.2. Use of information technology to serve Professional Practice Development.	D.2. Use information technology to manage information.
4.2.3. Demonstrate effective teaching and evaluating others.	D.3. Elicit and provide information using effective nonverbal, explanatory, questioning, and writing skills .D.4.put and use indicators for evaluating the performance of others.

4.2.4. Self-assessment and continuous learning.	D.5.Continuously improves patient care based on constant self-evaluation and life-long learning.
4.2.5. use physical information resources (print, analog), online (electronic, digital,) text, audio-video, book and journal to address medical questions and knowledge to sustain professional growth.	D.6. Use different physical and electronic information sources including media (videos, audio) to become a competent internist.
4.2.6. Work as a member in larger teams and as well as a team leader knows how to develop "teaming strategy" to plan how people will act and work together.	D.7. Work effectively with others as a member or leader of a health care team or other professional group.
4.2.7. Manage of scientific meetings and the ability to manage Time effectively.	D.8.Manage time effectively during clinical, academic work and scientific meetings.

ANNEX [3] Matrix of Coverage of program ILOs By Contents

Courses (List of courses in first and second parts)	Program Intended Learning Outcomes (ILOs)			
	A. Knowledge and Understanding	B. Intellectual skills	C. Professional and Practical Skills	D. General and Transferable skills
	A	B	C	D
1. Medical statistics and Research Design	A2,4,5	B3,4,6,7,8,9	C2,3,8	D1,2,3,4,5,6,7,8
2.Use of computer in medicine	A5	B3,4	C7,8	D1,3,4,8
3.Pathology	A1	B.1	C.1	D.4
4.Medical Physiology	A1	B.1	C.1	D.4
5. Advanced neurology	A1,3,4,5	B2,5,7,8,9	C.1,2,3,4,5,6,7,8	D.1,2,3,4,5,6,7,8
6. Thesis	A.1,2,3,4,5	B.1,2,3,4,5,6,7,8,9	C.1,2,3,4,5,6,7,8	D.1,2,3,4,5,6,7,8

ANNEX [4] Matrix of Coverage of program ILOs by Methods of Teaching and learning:

Methods of Teaching & Learning	Intended Learning Outcomes (ILOs)			
	A. Knowledge & Understanding	B. Intellectual Skills	C. Professional & Practical skills	D.General & Transferable Skills
	A	B	C	D
Lecture	A1,2,3,4,5	B.1,2,3,4,5,6,7,8,9		
Clinical (Including case presentation and bed side clinical)			C.1,2,3,4,5,6,7,8	
Presentation/seminar			C.1,2,3	D.1,2,3,4,5,6,7,8
Journal club	A1,2,3,4,5			D.1,2,3,4,5,6,7,8
Thesis discussion				D.1,2,3,4,5,6,7,8
Training courses & workshops		B.1,2,3,4,5,6,7,8,9	C.1,2,3,4,5,6,7,8	D.1,2,3,4,5,6,7,8
Online webinars	A1,2,3,4,5	B.1,2,3,4,5,6,7,8,9		D.1,2,3,4,5,6,7,8

ANNEX[5] Matrix of Coverage of program ILOs by Methods of Assessment

Methods of Assessment	Intended Learning Outcomes (ILOs)			
	A.Knowledge &Understanding	B.Intellectual Skills	C. Professional & Practical skills	D. General & Transferable Skills
	A	B	C	D
Written exam	A.1,2,3,4,5	B.1,2,3,4,5,6,7,8,9		
Clinical exam			C.1,2,3,4,5,6,7,8	
Oral Exam	A.1,2,3,4,5	B.1,2,3,4,5,6,7,8,9		
Assignment				D.1,2,3,4,5,6,7,8
Case presentation and discussion	A.1,2,3,4,5	B.1,2,3,4,5,6,7,8	C.1,4	
Thesis				D.1,2,3,4,5,6

Program coordinator:Ass. Prof. Rasha Nady

Head of department:Prof. Nermin Ali Hamdy

Date of last update & approval by department council 3/2023

Course Specifications of Advanced Neurology
2nd Part of MD Program of Neurology
2022/2023

University: Minia

Faculty: Medicine

Department: neurology

1. Course Information

• **Academic Year/level:** neurology MD.	• **Course Title:** 2nd part of MD Neurology.	• **Code: NP100**
• **Number of teaching hours:** - **Lectures:** Total of **62** hours; **2** hours/week - **clinical:** Total of **88** hours; **2** hours/week		

2. Overall Aims of the course	*By the end of the course the student must be able to:* 1. Gain continuous add developments to the field of neurology through research 2. Provide the medical knowledge in the field of neurology with other relevant sciences and apply such knowledge in practical skills 3. Gain and create solutions for health problems in the field of neurology 4. Provide competency in a wide range of professional skills in common areas of specialty, from basic clinical care to evidence based clinical application, and possession of skills to manage independently all problems in the field of neurology 5. Acquire and improve new methods and approaches in the professional medical practice of the field of neurology 6. Gain suitable technologies to improve the professional medical practice in the field of neurology 7. Provide effective communication skills and leadership competencies in different professional situations. 8. Provide decision making capabilities in different situations in view of the available data 9. Gain effective management skills & improvement of available resources and have the competency to get new resources 10. Acquire in depth awareness of public health and health policy issues and have the ability to improve & maintain health care and carryout system-based improvement of it. 11. Provide appropriate attitudes and professionalism that reflect adherence to credibility and principles of medical practice. 12. Gain commitment for lifelong learning and maintenance of competence and ability for continuous medical education in subsequent stages in the field of neurology as well as teaching others.

3. Intended learning outcomes of course (ILOs):

Upon completion of the course, the student should be able to:

A- Knowledge and Understanding	A1. Discuss updated knowledge in the fields of Neurology. A2. Discuss etiology, pathogenesis, aetiology, clinical manifestations, fate and complications of main common disease categories that may affect the Nervous systems. A3. Outline recent scientific development in the fields of disease biomarkers. A4. Describe basics & methods of application of ethics and medico-logical aspects and quality assurance during the professional practice of Neurology. A5. Outline the mutual effect of professional practice of Neurology.
B- Intellectual Skills	B1. Assess & interpret relevant basic information, history taking then correlate them with available clinical data to reach a final correct diagnosis. B2. Solve problems based on analysis of available data through the approach of investigative & analytical thinking by making a list of differential diagnosis for further advanced investigations. B3. Conduct scientific research efficiently. B4. Master writing scientific papers and select suitable journals for publication B5. Assess & manage competently potential risks that may develop during the professional practice of Neurology in various practical contexts such as during diagnosing and investigating patients. B6. Relate the essential skills of basic & recent Neurological techniques. B7. Appraise the skills of critical appraisal & decision making in different professional settings & circumstances during the professional practice of Neurology. B8. Correlate the new innovative methods, tools & ideas in the different aspects of the field of Neurology. B9. Manage professionally evidence-based discussion during case-presentation, workshops & seminars

C- Professional and Practical Skills	C1. Deal with patients and reporting their gross abnormalities and correlate such information with the available provided clinical data. C2. Practice competently standard and recent investigations in Neurology. C3. practice of neurophysiological techniques that enable reaching a final & correct diagnosis C4. Write professionally a Neurophysiology report on evidence-based approach, through analytical approach and correlation of findings together with available clinical data. C5. Evaluate & develop plans for improvement of current methods and tools used in diagnosis. C6. Perform principle techniques and other issues related to safety and maximizing the use of the available resources and ensure maintaining them. C7. Use competently the different technological devices during reporting, archiving & scientific writing. C8. Plan for professional self-development as well as enhancement of performance of others.

D- General and transferable Skills	D1. Demonstrate effective communication skills in all its forms in different settings & events that may involve different groups such as students, junior staff, colleagues, senior staff, technicians, patients and other health care workers D2. Use competently information technology (IT) including data entry & analysis to enhance data management and to achieve improvement of the professional practice D3. Show efficient skills of educating others and assessment of their performance. D4. Evaluate personal needs and plan for self-development and continuous medical education. D5. Use efficiently available information resources to get principle & updated knowledge related to the field of neurology D6. Work competently as a team-leader as well as a team member in different professional contexts. D7. Manage scientific meetings and efficient time-management.

4. Course Contents

Topic	Lecture hours/week	Clinical hours/week	Total No. of hours /week
Neurology			
1.**History and Clinical Examination**	4	2	6

a- Knowledge and understanding: *By the end of the course, students should be able to:* a1- Take adequate history from the patient. b- Intellectual skills: Analyze the history to reach anatomical and etiological provisional diagnosis c- Professional and clinical skills: Perform full Neurological examination			
2. **Speech** a- Knowledge and understanding: a1- List cortical areas concerned with speech. a2- Recognize the role of different areas in speech formulation and speech articulation a3- Define aphasia a4- Define dysarthria a5- Describe different types of aphasia and dysarthria. a6- List causes of each type of speech disorder b- Intellectual skills: b1- Recognize different types of aphasia. b2- Recognize different types of dysarthria. c- Professional and clinical skills: Perform different tests to detect types of aphasia	3	5	8
3.**Cranial Nerves and their Diseases** a-Intellectual skills:	4	6	10

Analyze symptoms and detect signs of cranial nerve lesions c- Professional and clinical skills: Perform examination of different cranial nerves			
4. **4) Investigations of Neurological Diseases** a-Knowledge and understanding: List the different lines of investigations (clinical neurophysiologic tests, neuroradiological, blood test, lumbar puncture and biopsy). b- Intellectual skills: b1- Recognize the indications and possible limitations of each tool. b2- Prioritize the investigations according to the clinical situation b3- Recognize the different abnormalities detected in each selected tool in different clinical situation.	6	8	14
5. **5) Cerebrovascular Stroke** a-Intellectual skills: 1) Analyze symptoms and detect signs of Ischemic stroke. 2) Distinguish the brain area and blood vessel affected, based on the clinical presentation. 3) Correlate the clinical picture to the aetiology. 4) Select and prioritize the appropriate investigation. 5) Combine clinical and investigational data to diagnose a case of ischemic stroke (embolic vs thrombotic).	2	4	6

6) Analyze symptoms and detect signs of haemorrhagic syndromes. 7) Select and interpret the appropriate investigation. 8) Combine clinical and investigational data to differentiate between subarachnoid and intracerebral haemorrhage. 9) Recognize the importance of early suspicion of haemorrhagic syndromes. 10) Solve problems of patients presenting with hemiplegia to reach anatomical and etiological diagnosis. c- Professional and clinical skills: Perform neurovascular examination.			
6) The Cerebellum and Ataxias a- Knowledge and understanding: a1- List the types of Ataxia & describe the clinical presentation of each type. a2- Describe the clinical features of cerebellar ataxias in relation the part affected. a3- Differentiate the different types of heredofamilial Ataxias based on the clinical presentation. b- Intellectual skills: b1- Analyze symptoms and detect signs of ataxia. b2- Select and interpret the investigations to reach specific diagnosis. c- Professional and clinical skills:	4	6	10

perform different rent tests for cerebellar and sensory ataxia.			
7. **Extrapyramidal Diseases** a-Knowledge and understanding: Classify different causes of parkinsonism b-Intellectual skills: b1- Analyze symptoms and detect signs of Parkinsonism. b2- Discuss the differential diagnosis.. b3- Select and interpret the investigations. c- Professional and clinical skills: Perform tests of rigidity, postural instability and bradykinesia.	4	6	10
8. **Peripheral Neuropathy** a-Intellectual skills: a1-Analyze symptoms and detect signs of PN. a2-Construct a differential diagnosis. a3-Select and interpret the appropriate investigation. a4-Construct a management plan according to specific aetiology including patient education. c- Professional and clinical skills: c1-Perform clinical examination of the sensory system. c2-Perform examination of thickened nerves.	6	8	14
9. **Disorders of Neuromuscular Junction**	2	4	6

a-Knowledge and understanding: a1- Define myasthenia gravis a2- Explain the pathophysiology of myasthenia gravis a3- Describe the CP of myasthenia gravis a4- List the complications. a5- Define Eaton-Lambert disease. a6- list the etiology Eaton-Lambert disease a7- Describe the clinical picture of Eaton-Lambert disease b-Intellectual skills: b1- Select the appropriate investigation b2- Interpret the results of these investigations b3- Outline the management plan both diagnostic and therapeutic for a case of myastnenia garavis b4- Diagnose the emergency situations (myasthenic and cholinergic crisis) based on the clinical presentation b5-Compose an initial plan for stabilization for emergency situation. B6- Recognize the importance of early diagnosis and management of cases. c- Professional and clinical skills: c1-Perform tests of fatigability c2-Perform clinical signs associated with myasthenia gravis c3-Observe and do pharmacological tests of myasthenia			
10. **Diseases of the Skeletal Muscles** a- Knowledge and understanding:	4	6	10

a1-Describe the clinical picture of Myopathy. a2-Point out concepts of selectivity a3-Point out concept pf family history analysis b- Intellectual skills: b1- Analyze symptoms and detect signs to formulate a differential diagnosis for a case of myopathy. b2- Select the appropriate investigation. b3- Combine clinical and investigational data to diagnose a case of myopathy. b4- Outline a treatment plan according to the etiology. b5-discuss different causes of myopathy c- Professional and clinical skills: c1-Perform examination of different skeletal muscles			
11. **Diseases of the Spinal Cord (Myelopathy)** a- Knowledge and understanding: Define spinal cord diseases: Myolopathy, epoiconus, conus and cauda aquina lesions. b- Intellectual skills: b1- Interpret symptoms and detect signs of myelopathy and its relevance to the anatomical site of the lesion. b2- Choose the appropriate investigation. b3- outline the management strategy for a case of myelopathy.	4	6	10

12. **Motor Neuron Diseases** a- Knowledge and understanding: a1-Define MND a2-Describe clinical picture of MND	4	6	10

a3-Lists the appropriate investigation. b- Intellectual skills: b1- Analyze symptoms and detect signs suggestive of MND b2- Construct a differential diagnosis			
13. **Multiple Sclerosis.** a-Knowledge and understanding: a1-Define MS a2-Describe the etiology and pathophysiology Intellectual skills: 1- Recognize the different presentations 2- Analyze symptoms and detect signs. 3- Select and interpret the appropriate investigations to reach a diagnosis 4- Outline a management plan 5- Recognize the importance or early diagnosis and referral to slow disease regression.	4	6	10
14. **Epilepsy** a- Knowledge and understanding: a1- Define epilepsy and seizure a2- Recognize the classification of seizures a3- Lists the types of epilepsy syndromes a4- List the causes of seizures and epilepsy a5- List the precipitating factors a6- Describe the clinical picture of different types a7- Describe the pharmacological treatment including proper dose and adverse effects. b- Intellectual skills: b1- Evaluate a case presenting with seizure and construct a differential diagnosis. b2- Construct a treatment plan including treatment of underlying conditions, avoidance of precipitating factors and selection of appropriate antiepileptic drugs for different types of epilepsy.	2	4	6

b3-Manage a case of status epilepticus. b4- Recognize the importance of patient and family education b5- Recognize the importance of monitoring drug kevels to avoid toxicity.			
15. **Sphincteric Disturbances** a- Knowledge and understanding: *By the end of the course, students should be able to:* a1- Describe the nerve supply and neurologic control of the urinary bladder. a2- List lesions causing Sphincteric Disturbances. a3- Describe the different clinical presentations of Sphincteric Disturbances. b- Intellectual skills: Analyze the history of sphinchteric disturbance to put an appropriate differential diagnosis	4	4	8
16.Routine and special techniques in Neurophysiology.	5	7	12
Total hrs.	62	88	150
5. Teaching and Learning Methods	5.1. Lectures. 5.2. clinical rounds. 5.3. Self-training activities such as use of internet and multimedia 5.4. Regular weekly seminars.		
6. Teaching and Learning Methods for students with limited Capacity			
7. Student Assessment			

A. Student Assessment Methods	1. Written exam to assess the capability of the candidate for assimilation and application of the knowledge included in the course. 2. Clinical exam to assess ability of the candidate for applying information studied in the course in history taking, examination and diagnosis. 3. Oral exam to assess the student intellectual and communication abilities regarding basic knowledge and understanding of the course topics, and to help the teaching staff to evaluate the % of achievement of the intended learning outcome of the course.
B. Assessment Schedule (Timing of Each Method of Assessment)	Assessment 1: 2 written exam by the end of the course. Assessment 2: clinical exam. Assessment 3: Oral exam, after the written exam.
C. Weighting of Each Method of Assessment	**Type of Assessment** **%** • **Written** examination (40%) • **clinicall** examination (40%) **Oral** examination. (20%) **Total** (100%) ***N.B.*** - *Score of ≥ 60% of the written exam is essential to allow the student to perform both oral & clinical/ practical exams* - *For each exam, ≥ 60% is essential to pass***.** •
8. List of References	
A. Course Notes/handouts	1 -Neurology course notes: Prepared by the department staff.

B. Essential Books	-Current diagnosis &treatment Neurology, 3rd edition, 2019 -DeJong's Neurologic examination, 2008 brain's diseases of the nervous system 13th edition.
C. Recommended Text Books	Merritt Textbook of Neurology, 13th edition, 2019.
D. Periodicals, websites	To be determined and update during the course work -Neurology Journal, -Stroke journal, -Epilepsia journal http://www.pubmed.com http://www.medscape.com http://www.sciencedirect.com

Course Coordinator: Dr.Rasha Nady
Head of Department: Prof. **Dr. Nermin Aly Hamdy**

Professor of Neurology, Faculty of medicine – Minia university

Date of last update & approval by department Council: 3 / 2023

Blueprint of Neurology 2 nd MD examination paper (300 marks)

	Topic	Hours	Knowledge %	Intellectual %	% of topic	N of items per topic	Knowledge		Intellectual		Marks %
							N of items	Marks %	N of items	Marks	
1	History and clinical examination including speech and cranial nerves	24	50	50	16	4	2	8 %	2	8 %	16
2	Investigations of Neurological Diseases	14	70	30	9.4	3	2	6.5%	1	2.9%	9.4
3	Neurological disorders	100	75	25	66.6	11	8	49.5	3	17.1	66.6
4	Routine and special techniques in Neurophysiology	12	70	30	8	3	2	5.6	1	2.4	8
	Total	**150**			**100%**			**69.6 %**		**30.4 %**	**100 %**

A. Matrix of Coverage of Course ILOs By Contents

(List of topics)	Course Intended Learning Outcomes (ILOs)			
	Knowledge and Understanding	Intellectual skills	Professional and Practical Skills	General and Transferable skills
	A	B	C	D
History and clinical examination including speech and cranial nerves	A1,2,3,4,5	B1,2,3,4,5,6,7,8,9	C1,2,3,4,5,6,7, 8	D1,2,3,4,5,6,7
Investigations of Neurological Diseases	A1,2,3,4,5	B1,2,3,4,5,6,7,8,9	C1,2,3,4,5,6,7, 8	D1,2,3,4,5,6,7
Neurological disorders	A1,2,3,4,5	B1,2,3,4,5,6,7,8,9	C1,2,3,4,5,6,7, 8	D1,2,3,4,5,6,7
Routine and special techniques in Neurophysiology.	A1,2,3,4,5	B1,2,3,4,5,6,7,8,9	C1,2,3,4,5,6,7, 8	D1,2,3,4,5,6,7

B. Matrix of Coverage of Course ILOs by Methods of Teaching & Learning

Methods of Teaching & Learning	Intended Learning Outcomes (ILOs)			
	Knowledge & Understanding	B. Intellectual Skills	C. Professional & Practical skills	D. General & Transferable Skills
	A	B	C	D
Lecture	A1,2,3,4,5			
Practical		B.1,2,3,4,5,6,7,8,9	C.1,2,3,4,5,6,7,8	D.1,2,3,4,5,6,7
Clinical (Including grand rounds)		B.1,2,3,4,5,6,7,8,9	C.1,2,3,4,5,6,7,8	D.1,2,3,4,5,6,7
Presentation/seminar			C.1,2,3	D.1,2,3,4
Journal club	A1,2,3,4,5			D.1,2,3,4
Thesis discussion				D.1,2,3,4
Training courses & workshops		B.1,2,3,4,5,6,7,8,9	C.1,2,3,4,5,6,7,8	
Online webinars	A1,2,3,4,5	B.1,2,3,4,5,6,7,8,9		D.1,2,3,4,5,6,7

Matrix of Coverage of Course ILOs by Methods of Assessment

Methods of Assessment	Intended Learning Outcomes (ILOs)			
	A. Knowledge & Understanding	B. Intellectual Skills	C. Professional & Practical skills	D. General & Transferable Skills
	A	B	C	D
Written exam	A.1,2,3,4,5	B.1,2,3,4,5,6,7,8,9		
Clinical exam		B.1,2,3,4,5,6,7,8,9	C.1,2,3,4,5,6,7,8	
Oral Exam	A.1,2,3,4,5	B.1,2,3,4,5,6,7,8,9	C.1,4	

Medical Physiology Course Specifications

For 1st Part MD Degree in Neurology

University: Minia
Faculty: Medicine
Faculty offering the program: Faculty of Medicine.
Department offering the course: Medical Physiology Department.
Program(s), on which the course in given: MD Degree in **Neurology**.
Major or minor element of program(s): Medical Physiology.
Academic year/level: 1st part **MD** degree in **Neurology**.
Date of specification approval: 2022-2023

Basic Information

Title: Physiology course specifications for **1st part MD** degree of **Neurology**
Code: NP100 **Credit Hours:** Not applicable
Lectures: 2 hours / week
Tutorial/Practical: Not applicable

Professional information

1) OVERALL AIM OF COURSE:

The aim of the course is to provide the postgraduate students with knowledge about the physiological principles underlying neurological diseases that aid in interpretation of symptoms, investigations and management.

INTENDED LEARNING OUTCOMES OF COURSE (ILOS)

A. Knowledge and Understanding:

By the end of the course, the student should be able to:

A1. Physiology of Hematological System (Blood):

1.1. Explain the mechanism, factors affecting erythropoiesis & disorders.
1.2. Describe the role of WBCs in blood defense.
1.3. Discuss the mechanisms of hemostasis & common disorders.

A2. Physiology of Cardiovascular System (CVS):

2.1. Describe the factors affecting and regulation of arterial blood pressure (ABP).
2.2. Recognize the body reactions to hemorrhage & different types of shock.

A3. Physiology of Autonomic Nervous System (ANS):

3.1. Identify the physiology of the sympathetic & parasympathetic nervous systems, and their chemical transmitters.

A4. Physiology of Excitable Tissues:

4.1. Identify the physiology of the nerve, including its types, resting membrane potential & action potential.
4.2. Discuss the physiology of the skeletal muscles, including the excitation-contraction coupling.

A5. Physiology of Central Nervous System (CNS):

5.1. Identify the reflex arc and properties of its components.
5.2. Identify the physiology of synapses & the different neurotransmitters.
5.3. Discuss in details the sensory component of CNS & common disorders.
5.4. Discuss in details the motor component of CNS& common disorders.
5.5. Describe the role of cerebellum, basal ganglia and vestibular system in regulation of motor functions and the related disorders.
5.6. Describe the functional areas of cerebral cortex and cortical functions as speech, memory, learning and behavior and related disorders.
5.7. Describe the EEG & its waves.

A6. Physiological basis of Metabolism:

6.1. Describe regulatory mechanisms of body temperature & disorders.

A7. Physiological basis of Endocrinal System:

7.1. Describe in brief the impact of different hormones on the nervous system and effect of their disorders.

A8. Physiology of Special Senses:

8.1. Discuss in details the visual pathway & the effects of its lesions at different levels.
8.2. Describe the auditory pathway & the effects of its lesions.
8.3. Explain the pathway of smell & taste sensations & their common disorders.

B. Intellectual Skills:

By the end of the course, the student should be able to:

B1. Develop the skills for demonstrating different functions of the body systems related to the nervous system to diagnose deviation from normality as detected disease state.

B2. Assess the problems associated with different factors, which affect the normal function of different body systems related to the nervous system.

C. Practical Skills:

Practical hours: -

D. General and Transferable Skills:

By the end of the course, the student should be able to:

D1. Adopt the principles of lifelong learning.

D2. Prepare and present clearly and effectively a scientific topic in a tutorial, a staff meeting or the yearly scientific day.

D3. Work efficiently within a team, honor and respect his colleagues.

Curriculum structure & contents:

Topic:	No of lectures	Total no. of hours
1. Physiology of Haematological System (Blood): • Erythropoiesis & disorders. • WBCs & Blood defence. • Mechanisms of haemostasis & common disorders.	1	2
2. Physiology of Cardiovascular System (CVS): • Arterial blood pressure (APB); factors affecting & its regulation. • Body reactions to haemorrhage & different types of shock.	1	2
3. Physiology of Autonomic Nervous System (ANS): • Sympathetic & parasympathetic nervous systems. • Chemical transmitters.	3	6
4. Physiology of Excitable Tissues: • Physiology of the nerve. • Physiology of the skeletal muscles.	3	6
5. Physiology of Central Nervous System (CNS): • Reflex arc and properties of its components. • Synapses & neurotransmitters. • Sensory division of CNS & common disorders. • Motor division of CNS & common disorders. • Regulation of motor function by basal ganglia, cerebellum and Vestibular system. • Cortical functions, and EEG.	12	24
6. Physiological basis of Metabolism: • Body temperature regulation.	1	2
7. Physiological bass of Endocrinal System: • Actions & disorders of different hormones.	1	2
8. Physiology of Special Senses: • Visual pathway. • Auditory pathway. • Smell & taste.	2	4
Total	**24**	**48**

TEACHING AND LEARNING METHODS:

1. Lectures (2hr/wk.) throughout the academic year interchangeable with recorded lectures.
2. Self-learning activities such as use of internet and multimedia.

STUDENT ASSESSMENT METHODS:

1. **Written exam** to assess the student's knowledge in the form of short essay questions and /or MCQs.
2. **Oral exam** to assess student's knowledge, intellectual and general skills as well as assessing the verbal communication abilities.
3. **Log book.**

Assessment Schedule:

- **Assessment 1:** Final written exam (1.5.hr.)
- **Assessment 2:** Final oral exam.

Weighting of assessment:

- **Final written exam 100%**
- **Final oral exam 100%**
- **Total 100%**

LIST OF REFERENCES:

1. **Department books and notes.**
   Prepared by Medical Physiology Department staff members, Faculty of Medicine, Minia University.
2. **Essential books (Text Books):**
   - Ganong review of medical physiology.
   - Guyton text book of medical physiology.
3. **Periodicals, Web sites… etc.**

FACILITIES REQUIRED FOR TEACHING AND LEARNING:

1. Classrooms with data show for lectures.
2. Computers and internet facilities.

Course Coordinator(s),
Prof. Dr. Ibrahim Yahia Ibrahim
Prof. of Medical Physiology
Dr. Fatma Farrag Ali
Ass. Prof. of Medical Physiology

Head of Medical Physiology Department,
Prof. Dr. Merhan Mamdouh Ragy
Date of last update & approval by department council 3/2023

Physiology course specifications for **1st Part MD degree in Neurology**	**مسمى المقرر**
NP100	**كود المقرر**

A. Matrix of Coverage of Course ILOs by Contents

Contents	**Intended Learning Outcomes ILOs**																										
	A. Knowledge & Understanding																					**B. Intellectual skills**		**D. General & Transferable Skills**			
	A 1.1	**A 1.2**	**A 1.3**	**A 2.1**	**A 2.2**	**A 3.1**	**A 4.1**	**A 4.2**	**A 5.1**	**A 5.2**	**A 5.3**	**A 5.4**	**A 5.5**	**A 5.6**	**A 5.7**	**A 6.1**	**A 7.1**	**A 8.1**	**A 8.2**	**A 8.3**	**B 1**	**B 2**	**D 1**	**D 2**	**D 3**
1. Physiology of (Blood)	X	X	X																		X	X	X	X	X
2. Physiology of (CVS)				X	X																X	X	X	X	X
3. Physiology of (ANS)						X															X	X	X	X	X
4. Physiology of Excitable Tissues							X	X													X	X	X	X	X
5. Physiological of (CNS)									X	X	X	X	X	X	X						X	X	X	X	X
6. Physiologic basis of Metabolism																X					X	X	X	X	X
7. Physiologic basis of Endocrinal System																	X				X	X	X	X	X
8. Physiology of Special Senses																		X	X	X	X	X	X	X	X

B. Matrix of Coverage of Course ILOs by Methods of Teaching & Learning

Methods of Teaching & Learning	**Intended Learning Outcomes (ILOs)**			
	A. Knowledge & Understanding	**B. Intellectual Skills**	**C. Professional & Practical skills**	**D. General & Transferable Skills**
	A	**B**	**C**	**D**
Lectures	X	X	-	X
Self-learning activities	X	X	-	X

C. Matrix of Coverage of Course ILOs by Methods of Assessment

Methods of Assessment	Intended Learning Outcomes (ILOs)			
	A. Knowledge & Understanding	B. Intellectual Skills	C. Professional & Practical skills	D. General & Transferable Skills
	A	B	C	D
Written exam	X	X	-	-
Oral Exam	X	X	-	X
Log Book	X	X	-	X

Blueprint of Neurology MD Physiology Examination paper

Postgraduate Physiology Course for MD degree (1st part) of Neurology

(Code: NP100) (100 marks)

Topic	Hours	Knowledge %	Intellectual %	Weight %	Total Marks	Actual Mark
ILOS 1 and 2 Physiology of blood and Cardiovascular System (CVS): Erythropoiesis & disorders. WBCs & Blood defence. Mechanisms of hemostasis & common disorders. Arterial blood pressure (APB); factors affecting & its regulation. Body reactions to haemorrhage & different types of shock.	4	75	25	8.33	8.33	8
ILO 3 Physiology of autonomic nervous System: Sympathetic & parasympathetic nervous systems. Chemical transmitters.	6	75	25	12.5	12.5	13
ILO 4 Physiology of excitable tissues Physiology of nerve & skeletal muscle.	6	75	25	12.5	12.5	13
ILO 5 Physiology of CNS: Reflex arc and properties of its components. Synapses & neurotransmitters. Sensory division of CNS & common disorders. Motor division of CNS & common disorders. Regulation of motor function by basal ganglia, cerebellum and Vestibular system. Cortical functions, and EEG.	24	75	25	50	50	50

ILOS 6 and 7 Physiological basis of metabolism and endocrine system: Body temperature regulation. Actions & disorders of different hormones.	4	75	25	8.33	8.33	8
ILO 8 Physiology of special senses: Visual pathway, auditory pathway, smell and taste.	4	75	25	8.33	8.33	8
Total	48			100%	100	100

Course Coordinator,

Head of Department,

Prof. Dr. Ibrahim Yahia Ibrahim

Prof. Dr. Merhan Mamdouh Ragy

Ass. Prof. Dr. Fatma farrag Ali

Prof. & Head of Medical Physiology Department

Faculty of Medicine, Minia University

Faculty of Medicine, Minia University

Date of last update & approval 3/2023

Course specification of :

"Use of Computer in Medicine"

in MD degree

University: Minia

Faculty: Medicine

Department offering the course: Public health and preventive medicine department

Department offering the programme: neuropsychiatry department

Programme(s) on which the course is given: First part MD for all postgraduates

Academic year/ Level: First part of MD

1. Course Information		
Academic Year/level: **First part MD**	Course Title: **Use of Computer in Medicine**	Code: **CM 100**
• **Number of teaching hours:** - **Lectures:** 20 hours - **Practical/clinical:** 10 hours - **Total:** 30 hours		
2. Overall Aims of the course	***By the end of the course the student must be able to:*** 1. Recognize knowledge about the software and their applications in Medicine 2. Gain skills necessary for using and managing heath care information systems	
3. Intended learning outcomes of course (ILOs): ***Upon completion of the course, the student should be able to:***		
A. Knowledge and understanding	A.1. Define each part of computer hardware and its function A.2. Have a basic understanding of various computer applications in medicine - for instruction, information managing, and computer based medical record, etc. A.3. Define telemedicine and its importance	

	A.4. Recognize importance of health information technology in improvement of healthcare A.5. Describe electronic medical records and obstacles facing it A.6. Identify the concept of big data analysis
B. Intellectual Skills	B.1. Criticize adoption of telemedicine B.2. Discover factors constraining adoption of telemedicine
C. Professional and Practical Skills	C.1. Design framework for understanding of health information system performance
D. General and transferable Skills	D.1. Utilize computers in conducting research D.2. Appraise adoption of telemedicine D.3. Discover skills to carry out the process of improving health information system performance

4. Course Contents

Topic	**No. of hours**	**Lecture**	**Tutorial/ Practical**
Use of Computer in Medicine			
General concepts Introduction to Microsoft PowerPoint	6	4	2
Health Information Systems (HIS)	6	4	2
Telemedicine	6	4	2
Software Used in the Health Care	6	4	2
Big Data Analysis in Health	6	4	2
Total	**30**	**20**	**10**

5. Teaching and Learning Methods

Since COVID-19 pandemic, blended learning approach was adopted that mixes virtual face-to-face interaction activities with the online learning. 60% of study method is offline and 40% of study is online

Online learning materials are available at Minia University site

- Lectures: Face to face lectures, Pre-recorded video lectures
- Practical lessons

	▪ Assignment ▪ Online quizzes
6. Teaching and Learning Methods for students with limited Capacity	• Outstanding student rewarded certificate of appreciation due to high level of achievement • Limited students divided into small group to make learning more effective
7. Student Assessment	
A. Student Assessment Methods	7.1- **Research assignment:** to assess general transferable skills, intellectual skills. 7.2- **Written exams:** • Short essay: to assess knowledge. • Commentary: to assess intellectual skills. 7.3- **Practical Exams:** to assess practical skills, intellectual skills. 7.4- **Oral Exams:** Oral exams to assess knowledge and understanding, attitude, communication 7.5- **Structured oral exams:** to assess knowledge.
B. Assessment Schedule (Timing of Each Method of Assessment)	Assessment 1: Final written exam week: 24-28 Assessment 2: Oral exam week: 24-28 Assessment 3: Practical exam week: 24-28
C. Weighting of Each Method of Assessment	Final Written Examination 100% Oral Examination 100% Practical Examination 100% Total 100%
8. List of References	
A. Course Notes/handouts	Department notes, lectures and handouts
B. Essential Books	Essential Medical Statistics, Betty R. Kirkwood and J. A. Sterne (2000), 2nd edition
C. Recommended Textbooks	Data Management and Analytics for Medicine and Healthcare: Begoli, Edmon, Fusheng Wang, and Gang Luo. Springer, 2017.
D. Periodicals, websites	- National Institutes of Health: http://www.nih.gov

	- American Medical Informatics Association: http://www.amia.org/

- **Course Coordinators:**

  ➢ **Coordinators:**

  1) **Lecturers:** Dr / Shaimma Mahmoud, Dr/ Chrestina Monir

  ٢)**Assistant coordinator: Assistant lecture Shaza Fadel**

- **Head of Department**:

  Professor Dr. Nashwa Nabil Kamal

Date of program specifications 1st approval by department council: 13 /5/2013.

Date of last update & approval by department council: 6/ 3 / 2023

نموذج رقم (١١)

أكاديمية :المنيا/جامعة

معهد: الطب / كلية

الوقائي قسم: الصحة العامة والطب

Use of Computer in Medicine	**مسمى المقرر**
CM 100	**كود المقرر**

Matrix of Coverage of Course ILOs By Contents

Contents (List of course topics)	**Week No.**	**Intended Learning Outcomes (ILOs)**			
		A. Knowledge & Understanding	**B. Intellectual Skills**	**C. Professional & Practical skills**	**D. General & Transferable Skills**
		A	**B**	**C**	**D**
Use of Computer in Medicine					
General concepts		A.1, A.2,			D.1

Introduction to Microsoft PowerPoint					
Health Information Systems (HIS)		A.4, A.5		C1	D.3
Telemedicine		A.3	B.1, .2		D.2
Software Used in the Health Care		A.5, A.6			D.1
Big Data Analysis in Health		A.6			

Matrix of Coverage of Course ILOs by Methods of Teaching & Learning

Methods of Teaching & Learning	**Intended Learning Outcomes (ILOs)**			
	A. Knowledge & Understanding	**B. Intellectual Skills**	**C. Professional & Practical skills**	**D. General & Transferable Skills**
	A	**B**	**C**	**D**
Lecture	A.1 to A.6	B.1,		

Practical			C1	
Assignment	A.4	B.2		D1.D.2,D3

Matrix of Coverage of Course ILOs by Methods of Assessment

Methods of Assessment	**Intended Learning Outcomes (ILOs)**			
	A. Knowledge & Understanding	**B. Intellectual Skills**	**C. Professional & Practical skills**	**D. General & Transferable Skills**
	A	**B**	**C**	**D**
Written paper based exam	A.1, to A.6	B.1		
Practical computer exam **(For SPSS, PowerPoint)**			C1	D.1
Oral Exam	A.4, A..6	B.2	C.1	D.2, D.3

Course Coordinators:

2) **Lecturers:** Dr / Shaimma Mahmoud, Dr/ Chrestina Monir

٢)Assistant coordinator: Assistant lecture Shaza Fadel

- **Head of Department**:

Professor Dr. Nashwa Nabil Kamal

Date of program specifications 1st approval by department council: 13 /5/2013.

Date of last update & approval by department council: 6/ 3 / 2023

Course specification of:

"Medical Statistics and Research Methodology"

In MD degree

University: Minia

Faculty: Medicine

Department offering the course: Public health and preventive medicine department

Department offering the programme: neuropsychiatry department

Programme(s) on which the course is given: First part MD for all postgraduates

Academic year/ Level: First part of MD

1. Course Information		
Academic Year/level: **First part MD**	Course Title:	Code: **CM 100**

	Medical Statistics and Research Methodology	
Number of teaching hours: - **Lectures:** 30 hours - **Practical/clinical:** 15 hours - **Total:** 45 hours		
2. Overall Aims of the course	***By the end of the course the student must be able to:*** 1. Gain skills necessary for proper practice in the field of Research Methods including diagnostic, problem solving and decision making skills. 2. Apply ethical principles of scientific research with good awareness about patient´s rights. 3. Use precisely the research methodology in researches 4. Influence the students to adopt an analytical thinking for evidence-based medicine 5. Enable graduate students to use statistical principles to	

	improve their professional work and develop the concept of critical interpretation of data 6. To use precisely computer programs SPSS, Epi Info and Excel in data analysis
3. Intended learning outcomes of course (ILOs): ***Upon completion of the course, the student should be able to:***	
A. Knowledge and understanding	A.1. Define terms of research methodology . A.2. Describe the spectrum of research methodology . A.3. Explain tie strategies and design of research . A.4. Describe the study design, uses, and limitations . A.5. Explain evidence-based Medicine A.6. Define causation and association . A.7. Tell the principles and fundamentals of ethics. A.8. Describe the different sampling strategies A.9. Summarize the advantages and disadvantages of different sampling strategies A.10. Summarize different methods of samples size calculation

	A.11. Recognize the sources and the recent methods in data collection and analysis. A.12. Identify the types of variables A.13. Identify types of tabular and graphic presentation of data A.14. Describe the normal curves and its uses A.15. Identify the characters of normal distribution curve A.16. Identify measures of central tendency and measures of dispersion A.17. Explain regression analysis, its use and differentiate its types A.18. Define the screening tests pertinent to selected diseases and the at-risk approach in the application of screening tests A.19. Explain the usefulness of screening tests
B. Intellectual Skills	B.l. Apply research methods to different community health problems. B.2. Apply appropriate research strategies for use . B.3. Select appropriate research methods .

	B.4. Teach and advocate appropriately in the research design. B.5. Describe the normal curves B.6. Describe and summarize data B.7. Select the proper test of significance for a specific data. B.8. Interpret selected tests of significance and the inferences obtained from such tests
C. Professional and Practical Skills	C.1. Plan a research proposal for community diagnosis. C.2. Design questionnaires. C.3. Conduct research. C.4. Judge association and causation. C.5. Criticize for bias and confounding factors C.6. Design data entry file C.7. Validate data entry C.8. Manage data files C.9. Construct tables and graphs C.10. Calculate different samples sizes

	C.11. Calculate measures of central tendency and measures of dispersion C.12. Calculate sensitivity, specificity, and predictive values
D. General and transferable Skills	D.l. Lead a research team to conduct a specific study . D.2. Take part and work coherently with his associates to in research. D.3. Write scientific papers. D.4. Appraise scientific evidence D.5. Analyze and interpret data D.6. Use standard computer programs for statistical analysis effectively

4. Course Contents

Topic	No. of hours	Lecture	Tutorial/ Practical
Research methods			
<u>Introduction :</u> - Introduction to research. - Terminology and Rationale - Originality		3	
- Study design :		4	

-Cross sectional study and the prevalence rate -Cohort study, incidence rate, relative & attributable risk -Case-control study, Odd's ratio sampling -Experimental study and clinical trials			
- Sources of Errors in Medical Research **- Bias and confounding and its Control.**		3	
- Validity and reliability		2	
- The questionnaire design		2	
- Writing the Research Paper or Manuscript **- Protocol Writing**		2	2
- Critic technique for the literature review		2	2
- Association and causation		1	
- Evidence -based approach in medical practice		2	1
- Ethics of medical research		2	
Statistics			
Sampling		1	
Introduction to Sample Size Calculation		1	1
Data presentation		1	1
Tests of significance		2	
Introduction to SPSS		1	1
Proportion test			1
Chi-square test			1
Student T test, Paired T test			1
ANOVA test			1
Correlation (simple and multiple)			1

Regression			1
Screening		1	1
Total		**30**	**15**
5. Teaching and Learning Methods	**Since COVID-19 pandemic, blended learning approach was adopted that mixes virtual face-to-face interaction activities with the online learning. 60% of study method is offline and 40% of study is online** **Online learning materials are available at Minia University site** ▪ Lectures: Face to face lectures, Pre-recorded video lectures ▪ Practical lessons ▪ Assignment ▪ Online quizzes		
6. Teaching and Learning Methods for students with limited Capacity	• Outstanding student rewarded certificate of appreciation due to high level of achievement • Limited students divided into small group to make learning more effective		

7. Student Assessment	
D. Student Assessment Methods	7.1- **Research assignment:** to assess general transferable skills, intellectual skills. 7.2- **Written exams:** • Short essay: to assess knowledge. • Commentary: to assess intellectual skills. 7.3- **Practical Exams:** to assess practical skills, intellectual skills. 7.4- **Oral Exams:** Oral exams to assess knowledge and understanding, attitude, communication 7.5- **Structured oral exams:** to assess knowledge.
E. Assessment Schedule (Timing of Each Method of Assessment)	Assessment 1: Final written exam week: 24-28 Assessment 2: Oral exam week: 24-28

	Assessment 3: Practical exam week: 24-28
F. Weighting of Each Method of Assessment	- Final Written Examination 100% - Oral Examination 100% - Practical Examination 100% - Total 100%
8- List of References	
A. Course Notes/handouts	- Department notes, lectures and handouts
B. Essential Books	- The Lancet Handbook of Essential Concepts in Clinical Research
C. Recommended Textbooks	***Research methods:*** - **Introducing Research Methodology**; A Beginner's Guide to Doing a Research Project - **Understanding Clinical Research**, Renato Lopes and Robert Harrington; ISBN-10: 0071746781 | ISBN-13: 978-0071746786

	- **Users' guides to the medical literature: a manual for evidence-based clinical practice:** Guyatt, G., D. Rennie, M. Meade and D. Cook (2002), AMA press Chicago. - **Research Methods in Community Medicine:** Surveys, Epidemiological Research, Programme Evaluation, Clinical Trials, 6th Edition Joseph Abramson, Z. H. Abramson ***Computer:*** - Discovering statistics using IBM SPSS statistics, Field, A. (2013). sage. - Medical Statistics: A Guide to SPSS, Data Analysis and Critical Appraisal, Belinda Barton, Jennifer Peat - 2nd EditionEveritt, Brian S. - Medical statistics from A to Z: a guide for clinicians and medical students. Cambridge University Press, 2021.

	- Bowers, David. Medical statistics from scratch: an introduction for health professionals. John Wiley & Sons, 2019. - Aviva, P. (2005): Medical Statistics at a Glance, Blackwell Company, 2nd , ed., Philadelphia
D. Periodicals, websites	- https://phrp.nihtraining.com/users/login.php - http://www.jhsph.edu/ - Journal of Biomedical Education - https://lagunita.stanford.edu/courses/Medicine/MedStats-SP/SelfPaced/about?fbclid=IwAR3nfirLM4wnuEqqUjLjk8TCR7lzPdnpGqwin06L-GjFq32a62w3j6R5s9c

- **Course Coordinators:**

  - **Coordinators:**

Lecturers: Dr / Chrestina Monir, Dr Shaimma Mahmoud

Assistant Coordinator: Assis .lecturer Shaza Fadel

Head of Department:

Professor Dr. Nashwa Nabil Kamal

Date of program specifications 1st approval by <u>department council</u>: 13 /5/2013.

Date of <u>last update</u> & approval by <u>department council</u>: 6 / 3 / 2023

نموذج (١١)

جامعة/أكاديمية : المنيا

كلية / معهد: الطب

قسم: الصحة العامة والطب الوقائي

Medical Statistics and Research Methodology	مسمى المقرر
CM 100	كود المقرر

Matrix of Coverage of Course ILOs By Contents

Contents (List of course topics)	Week No.	Intended Learning Outcomes (ILOs)			
		A. Knowledge & Understanding	B. Intellectual Skills	C. Professional & Practical skills	D. General & Transferable Skills
		A	B	C	D
Introduction : - Introduction to research. - Terminology and Rationale - Originality		A.1, A.2,			
- Study design : -Cross sectional study and the prevalence rate -Cohort study, incidence rate, relative & attributable risk		A.3, A.4,	B.l, B.2, B.3, B.4,	C.1,	

-Case-control study, Odd's ratio sampling -Experimental study and clinical trials					
- Sources of Errors in Medical Research **- Bias and confounding and its Control.**			B.3,	C.5	
- Validity and reliability					
- The questionnaire design				C.2,	
- Writing the Research Paper or Manuscript **- Protocol Writing**			B.3,	C.3,	D.1, D.2, D.3
- Critic technique for the literature review					
- Association and causation		A.6,		C.4,	
- Evidence -based approach in medical practice		A.5,			
- Ethics of medical research		A.7			
Statistics					
Sampling		A.8, A.9, A.11			D.4
Introduction to Sample Size Calculation		A.10		C.10	D.4
Data presentation		A.13, A.14	B.6	C.9	D.4
Tests of significance		A.15, A16	B.5	C.11	D.4
Introduction to SPSS		A.12	B.6	C.6, C7, C8	D.5, D.6
Proportion test		A.11	B.7, B8		D.5, D.6
Chi-square test		A.11	B.7, B8		D.5, D.6
Student T test, Paired T test		A.11	B.7, B8		D.5, D.6
ANOVA test		A.11	B.7, B8		D.5, D.6
Correlation (simple and multiple)		A.11	B.7, B8		D.5, D.6
Regression		A.17	B.7, B8		D.5, D.6

Screening		A.18, A.19	B.7, B8	C.12	D.4

Matrix of Coverage of Course ILOs by Methods of Teaching & Learning

Methods of Teaching & Learning	Intended Learning Outcomes (ILOs)			
	A. Knowledge & Understanding	B. Intellectual Skills	C. Professional & Practical skills	D. General & Transferable Skills
	A	B	C	D
Lecture	A.1, A.2, A.3, A.4, A.5, A.6, A.7 , A.8,A9,A10,A11,A12,A13 A.14, A.15, A.16,A17, A.18	B.1, B.2, B.3, B.4, B5,B.6, B.7, B.8		
Practical			C1, C.3, C4, C.5, C.6, C.7, C.8. C.9, C.10, C11,C.12	
Assignment	A.11, A.13, A.18	B.7, B.8	C.2, C.6, C.8, C.9, C.10, C.12	D.1, D.2., D.4, D.5, D.6

Matrix of Coverage of Course ILOs by Methods of Assessment

Methods of Assessment	Intended Learning Outcomes (ILOs)			
	A. Knowledge & Understanding	B. Intellectual Skills	C. Professional & Practical skills	D. General & Transferable Skills
	A	B	C	D
Written paper based exam	A.3, A.4, A.5, A.6, A.7, A.8, A.9, A.14, A.15, A16, A18	B.3, B.5,		
Practical exam (Statistical exam)			C.1, C.2, C.5, C.6, C.7,C.8, C.9, C.10, C.11, C.12	
Oral exam	A.10, A11, A.12, A13, A.15, A.16, A.17, A18	B.1, B.2, B.6, B.7, B.8		D.1, D.2, D.5, D.6

- **Course Coordinators:**

➢ **Coordinators:**

Lecturers: Dr / Chrestina Monir, Dr Shaimma Mahmoud

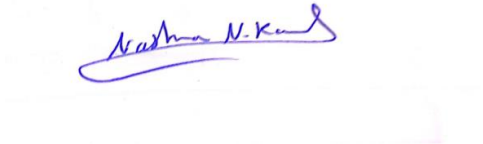
Assistant Coordinator: Assis .lecturer Shaza Fadel

Head of Department:

Professor Dr. Nashwa Nabil Kamal

Date of program specifications 1st approval by department council: 13 /5/2013.

Date of last update & approval by department council: 6 / 3 / 2023



Test blueprint for Uses of computer in Medicine course

Topic	Hour	% of topic	Total No. of items	Written exam (100 marks)		Marks (Percentages)	Modified marks (Percentages)
				Knowledge	Intellectual		
Use of Computer in Medicine							
General concepts Introduction to Microsoft PowerPoint	4	20%	6	4	2	30%	30%
Health Information Systems (HIS)	4	20%	4	4		20%	15%
Telemedicine	4	20%	6	2	4	25%	30%
Software Used in the Health Care	4	20%	5	4	1	20%	15%
Big Data Analysis in Health	4	20%	1	1		5%	10%
Total	20	100%	20			100%	100%

Test blueprint for Medical statistics and Research methodology course

Topic	Hour	% of topic	Total No. of items	Written exam (100 marks)		Marks (percentages)	Modified marks (Percentages)
				Knowledge	Intellectual		
Research							
Introduction: - Introduction to research. - Terminology and Rationale - Originality	3	10%	5	4	1	7%	5%
- Study design	4	13.3%	8	3	5	17%	17%
- Sources of Errors in Medical Research - Bias and confounding and its Control.	3	10%	4	2	2	13%	10%
- Validity and reliability	2	6.67%	3	2	1	7%	5%
- The questionnaire design	2	6.67%	3	1	2	5%	5%
- Writing the Research Paper or Manuscript - Protocol Writing	2	6.67%	4	1	3	13%	10%
- Critic technique for the literature review	2	6.67%	2	1	1	7%	5%
- Association and causation	1	3.33%	3	2	1	7%	8%
- Evidence -based approach in medical practice	2	6.67%	1	1		3%	5%

- Ethics of medical research	2	6.67%	2	2		3%	6%
Statistics							
Sampling	1	3.33%	2	1	1	4%	4%
Introduction to Sample Size Calculation	1	3.33%	1	1		2%	2%
Data presentation	1	3.33%	3	2	1	5%	4%
Tests of significance	2	6.67%	2	1	1	8%	8%
Introduction to SPSS	1	3.33%	1	1		3%	3%
Screening	1	3.33%	2	1	1	3%	3%
Total	**30**	**100%**					**100%**

Course Specification of Pathology

Doctorate Degree in Neurology (2022-2023)

- **University:** Minia
- **Faculty:** Medicine
- **Program on which the course is given**: Doctorate Degree in Neurology
- **Major or minor element of program:** Pathology
- **Department offering the program:** Neurology Department
- **Department offering the course:** Department of Pathology
- **Academic year / Level:** First part
- **Date of specification approval:** Last date of approval: **17/2/2023**

[1]- Basic Information		
Academic Year/level: Postgraduate; 1st Part MD Neurology	**Course Title**: Course Specification of Pathology (MD Neurology)	**Code**: NP100

- **Number of teaching hours:**

Lectures: Total of 24 hours; 1 hour/week

Practical: Total of 18 hour; 1 hour/week

[2]- Professional Information

(I)- Overall aims of the course	1. Explain theories, basics & recent advances in the field of pathology. 2. Appraise & interpret relevant basic information and correlate them with essential clinical data to reach a final diagnosis. 3. Plan for the development of acquisition of skills of basic & modern pathological laboratory techniques as well as principals of anatomical pathology. 4. Demonstrate competency on dealing with various biopsies and anatomical pathology reports and correlate such information with the relevant provided clinical data. 5. Learn the basics of essential techniques and follow issues related to maintenance of safety and maintenance of available resources. 6. Communicate efficiently with senior staff, colleagues, lab technical staff, other health care professionals, students, and patients. 7. Use efficiently the information technology including data entry & analysis to enhance data management and to achieve improvement of the professional practice 8. Manage time efficiently and learn to priorities tasks. 9. Show the skills of continuous & self-learning.

(II)- Intended learning outcomes of course (ILOs): Upon completion of the course, the student should be able to:	
(A)- Knowledge and understanding	A1: Identify the basics of anatomical, cytopathology, immunohistochemistry & molecular diagnostic technique. A2: Recognise the causes of cell injury and its consequences. A3: Identify the basics of general pathological features of inflammation. A4: Describe the process of tissue healing A5: Recognise infectious agents and bacterial infections A6: Describe patterns of injury in the nervous system A7: Recognise the pathological aspects of edema, herniation and hydrocephalus A8: Recognise different forms of cerebrovascular diseases and their underlying pathogenesis A9: Discuss pathology of central nervous system trauma. A10: Define and discuss the main disease categories of the congenital and perinatal brain injury. A11: Recognise the infections of the nervous system and their consequences. A12: Recognise the pathological aspects of tumors. A13: Define and discuss the main disease categories of the primary diseases of the myelin. A14: Discuss pathology of acquired metabolic and toxic disturbances. A15: Define and discuss the main disease categories of degenerative diseases and dementias. A16: Recognise the diseases of the peripheral nervous system.

	A17: Describe the familial tumor syndromes.
(B)- Intellectual Skills	B1: Correlate & evaluate the gross and microscopic features of different disease process with available clinical data to provide a list of differential diagnosis for further advanced investigations to reach the correct diagnosis. B2: Evaluate and control efficiently potential risks that may arise during the professional practice in various clinical situations like handling and processing of specimens as well as during performing different essential laboratory techniques
(C)- Professional and Practical Skills	C1: Dealing with pathological specimens in view of adopted standards as well as quality & safety procedures. C2. Practice efficiently basic and modern laboratory techniques that include histochemical, immunohistochemical and other principal procedures such as biopsy preservation C3: Counsel expertise in the lab regarding the basics of essential techniques and issues related to maintain safety and available resources.
(D)- General and transferable Skills	D1: Demonstrate efficient communication & interpersonal skills in all its forms and in different situations that may involve senior staff, colleagues, students, lab technical staff, other health care professionals, and patients D2: Use efficiently the information technology and select reliable sources of information to get essential information and updates regarding the different topics and techniques in surgical pathology. D3: Develop skills of self-evaluation and identify personal learning needs to plan for self-development and continuous medical education D4: Demonstrate the skills of effective time management.

[3]- Course Contents

TOPIC	Contact hours		
	Lecture	Practical	Total
(A)- General Pathology			
[1]- Routine and special techniques in surgical pathology and the related safety & quality measures.	1	1	2
[2]- Handling of anatomical pathology specimens and the related safety & quality measures.	1	1	2
[3]- Cell injury and cell death	1	1	2
[4]- Inflammation	1	1	2
[5]- Tissue Repair	1	1	2
[6]- Acute bacterial infection, viral infection, mycobacterial mycotic diseases, parasitic infestation	1	1	2
(B)- Systemic Pathology			
[1]- Patterns of injury in the nervous system.	1	1	2
[2]- Edema, herniation and hydrocephalus	1	1	2
[3]- Cerbrovascular diseases.	2	1	3
[4]- Central nervous system trauma	1	1	2
[5]- Congenital malformations and perinatal brain injury	1	1	2
[6]- Infections of the nervous system	2	1	3

[7]- Tumors	2	1	3
[8]- Primary diseases of myelin	2	1	3
[9]- Acquired metabolic and toxic disturbances	1	1	2
[10]- Degenerative diseases and dementias	2	1	3
[11]- Diseases of the peripheral nervous system	2	1	3
[12]- Familial tumor syndromes	1	1	2
Total	24	18	42

[4]- Teaching and Learning Methods

A- Straight lectures; power point presentations
B- Brain storming with the students
C- Questions and Answers

[5]- Teaching and learning methods to students with limited capacity: Not applicable

[6]- Student assessment

(A)- Student assessment methods	**<u>Attendance criteria</u>**: by faculty regulations (Activity logbook) **<u>Assessment Tools:</u>** {I}- Final Written exam: A- Short essay to assess knowledge and understanding B- Problem solving to assess intellectual skills C- MCQ to assess knowledge and intellectual skills {II}- Oral exam; to assess knowledge, understanding, intellectual skills, attitude, and communication.

(B)- Assessment schedule	1- Final Written exam 2- Oral exam
(C)- Weighting of assessment	1- Final Written exam 100% (Marks) 2- Oral exam 100% (Marks) Total 100% (Marks)

[7]- List of References

(A)- Course Notes/handouts	Lectures handouts by staff members
(B)-Essential Books (textbooks)	Robbins Basic Pathology, 10th Edition (2018) By Kumar, Abbas, Aster.
(C)-Recommended Books	Differential Diagnosis in Surgical Pathology 2021
(D)-Periodicals	Modern Pathology Diagnostic Histopathology Cancer Annals of diagnostic pathology
(E)-Web sites	https://www.webpathology.com/index.asp https://www.pathologyoutlines.com/

[8]- Facilities required for teaching and learning

I- Classrooms for theoretical lectures and tutorials

II- Laboratories for practical

Course Coordinator: Assistant Professor/ Alzahraa Ibrahim Khalil

Head of Department: Professor / Heba Mohamed Tawfik

جامعة المنيا
كلية الطب البشري
قسم الامراض العصبية

مسمى المقرر: Course Specification of Pathology MD degree of Neurology (First part)

كود المقرر:

(A)- The matrix of coverage of course ILOs by contents

Contents	Intended Learning Outcomes (ILOs)			
	A. Knowledge & Understanding	B. Intellectual Skills	C. Professional & Practical skills	D. General & Transferable Skills
(A)- General pathology	A1,2,3,4,5	B 1, 2	C 1, 2, 3	D 1, 2
[1]- Routine and special techniques in surgical pathology and the related safety & quality measures.				
[2]- Handling of anatomical pathology specimens and the related safety & quality measures.				
[3]- Cell injury and cell death				
[4]- Inflammation				
[5]- Tissue Repair				

[6]- Acute bacterial infection viral infection, mycotic diseases, parasitic infestation				
(B)- Systemic pathology		B1,2	C 1, 2, 3	D 1, 2
[1]- Patterns of injury in the nervous system.	A6			
[2]- Edema, herniation and hydrocephalus	A7			
[3]- Cerbrovascular diseases.	A8			
[4]- Central nervous system trauma	A9			
[5]- Congenital malformations and perinatal brain injury	A10			
[6]- Infections of the nervous system	A11			
[7]- Tumors	A12			
[8]- Primary diseases of myelin	A13			
[9]- Acquired metabolic and toxic disturbances	A14			
[10]- Degenerative diseases and dementias	A15			
[11]- Diseases of the peripheral nervous system	A16			
[12]- Familial tumor syndromes	A17			

(B)- Matrix of Coverage of Course ILOs by Methods of Teaching & Learning

Methods of teaching & learning	Intended learning outcomes (ILOs)			
	A. Knowledge & Understanding	B. Intellectual Skills	C. Professional & Practical skills	D. General & Transferable Skills
Lecture	✓	✓		
Practical			✓	
Presentation/seminar				✓
Journal club				✓
Training courses & workshops				✓

(C)- Matrix of Coverage of Course ILOs by Methods of Assessment

Methods of Assessment	Intended learning outcomes (ILOs)			
	A. Knowledge & Understanding	B. Intellectual Skills	C. Professional & Practical skills	D. General & Transferable Skills
Written exam	✓	✓		
Practical exam				
Clinical exam				
Oral Exam	✓	✓		✓
Log book	✓	✓	✓	✓
Structured oral exams				

Blueprint Pathology
Doctorate Degree in Neurology (2022-2023)

Topic	Contact hours	Knowledge %	Intellectual%	% of topic	%
(A)- General Pathology	6	70 %	30%	4	25
[1]- Routine and special techniques in surgical pathology and the related safety & quality measures.					
[2]- Handling of anatomical pathology specimens and the related safety & quality measures.					
[3]- Cell injury and cell death					
[4]- Inflammation					
[5]- Tissue Repair					
[6]- Acute bacterial infection viral infection, mycotic diseases, mycobacterial, parasitic infestation					
(B)- Systemic Pathology					
[1]- Patterns of injury in the nervous system.	1	70 %	30 %	4.2	4
[2]- Edema, herniation and hydrocephalus	1	70 %	30 %	4.2	4
[3]- Cerbrovascular diseases.	2	70 %	30 %	8.3	8

[4]- Central nervous system trauma	1	70 %	30 %	4.2	4
[5]- Congenital malformations and perinatal brain injury	1	70 %	30 %	4.2	4
[6]- Infections of the nervous system	2	70 %	30 %	8.3	9
[7]- Tumors	2	70 %	30 %	8.3	9
[8]- Primary diseases of myelin	2	70 %	30 %	8.3	9
[9]- Acquired metabolic and toxic disturbances	1	70 %	30 %	4.2	4
[10]- Degenerative diseases and dementias	2	70 %	30 %	8.3	8
[11]- Diseases of the peripheral nervous system	2	70 %	30 %	8.3	8
[12]- Familial tumor syndromes	1	70 %	30 %	4.2	4