Program specifications for: Medical Doctorate (MD) of Internal Medicine

[1] Basic Information

1. **Program title:** Medical Doctorate (MD) of Internal Medicine (CODE: GM100)
2. **Final award:** Medical Doctorate (MD) in Internal Medicine.
3. **Program type:** **single.**
4. **Responsible department:** Internal Medicine
5. **Departments involved in the program:** Internal Medicine, Public Health and Preventive medicine, Medical Physiology, Pathology.
6. **Program duration: 3.5 Years.**
7. **Number of program courses:** 5
8. **Coordinator: Prof. Ass.** Prof. Mohamed Emad Abdel-Fattah
9. **External evaluators:** Prof. Dr. Hanan Ali Taha
10. **Program management team:** All staff members of Internal Medicine department.

[2] Basic Information: Program Aims

Graduate of the MD degree in Internal Medicine should be able to:

The aim of this program is to provide the MD candidate with the medical knowledge; skills and attitudes essential to gain further training and practice in the field of internal medicine that allow the postgraduate to be prepared to engage in the academic education through:

1. Providing the scientific knowledge essential for the practice of internal medicine according to the international standards.
2. Enhance skills necessary for proper diagnosis and management of patients in the field of internal medicine including diagnostic, problem solving and decision making.
3. Spread the ethical principles related to the practice in this specialty.
4. Enhance the interaction with the community and its problems and problems solving.
5. Stimulate continued medical learning, development and research.
6. Increase the creativity of the students to maintain research interest and abilities.

[3] Intended Learning Outcomes (ILOs):

(a) Knowledge and understanding:

By the end of the study of MD degree of Internal Medicine the candidate should be able to:

a.1 Explain the normal physiology and functions of different human organs.

a.2 Recall the essential pathological changes of different medical diseases.

a.3 Explain the genetic and immunological basics of different internal medicine diseases.

a.4 Illustrate main cardiological and pulmonary diseases, their etiologies, pathologies, diagnosis, and management.

a.5 Illustrate the main hepatobiliary and gastrointestinal diseases.

a.6 Illustrate the main nephrological, hematological, and endocrinal diseases.

a.7 Recognize the main infectious diseases and basics of managing critically ill patients.

a.8 Illustrate the main neurological and rheumatological disease.

a.9 Summarize scientific developments and recent guidelines in the field of Internal Medicine.

a.10 Explain the basics and methods of scientific research and medical statistics.

a. 11 Illustrate the different technology-related devices and software related to research and medical practice.

a.12 List the ethical and legal principles of professional practice in the field of Internal Medicine.

a.13 List the principles of quality in professional practice in the field of internal Medicine.

a.14 Discuss the mutual influence between professional practice and its impacts on the environment.

(b) Intellectual skills

By the end of the MD of Internal Medicine, the candidate should be able to:

b.1 Analyze different clinical, laboratory, and imaging data and deduce a diagnosis regarding different internal medicine diseases.

b.2 Formulate appropriate management plans for individual patients presenting with the most common medical disorders (cardiac, hepatic, GIT, hematological, neurological).

b.3 Solve the diagnostic and therapeutic challenges related to the internal medicine based on the available data.

b.4 Compare and select different diagnostic alternatives to reach a final diagnosis.

b.5 Hypothesize and design research projects that contributes to the scientific developments in the field of internal medicine.

b.6 Formulate, write, and publish research paper.

b.7 Construct good understanding to common risks and patient safety issues related to internal medicine patients.

b.8 Plan for the development of clinical and academic performance in the field of Internal Medicine.

b.9 Design diagnostic and therapeutic plans to Internal medicine patients and report them to colleagues and managerial authorities.

b.10 Analyze and interpret the results of research using common statistical tests.

b.11 Create innovative and non-traditional solutions

b.12 Manage scientific discussion administration based on scientific evidence and proofs

(c) Professional and practical skills

By the end of the study of MD of Internal Medicine, the candidate should be able to:

c.1 Assess clinical history and symptoms of internal Medicine.

c.2 Examine and perform clinical evaluation of different body systems.

c.3 Analyze different laboratory and imaging studies (x-rays, CT, MRIs), etc.

c.4 Assess different electrocardiograms and reach a diagnosis.

c.5 Perform some advanced procedures such as Endoscopy, colonoscopy, FNAB, Permcath insertion, etc.

c.6 Write and evaluate medical reports for internal medicine patients.

c.7 Compare and select the appropriate supportive investigations relevant to the patient and adequately interpret the results.

c.8 Use of different modern technologies to improve the practice of internal medicine.

c.9 Design new methods, tools, and ways of professional practice to help the improvement of others in the field of internal medicine.

(d) General and transferable skills

By the end of the study of MD **of Internal Medicine**, the candidate should be able to:

d.1 Communicate effectively with colleagues, and other managerial authorities in verbal, written, and electronic means.

d.2 Communicate effectively with patients and their families.

d.3 Use online databases to collect materials needed for research and thesis.

d.4 Manage and organize materials from various sources from the internet, libraries, etc.

d.5 Becomes an effective academic teacher and clinical trainer in the field of internal medicine.

d.6 Put and use indicators for evaluating the performance of others.

d.7 Develop a life-long attitude of continuous self-improvement and continuous medical education.

d.8 Use different physical and electronic information sources including media (videos, audio) to become a competent internist.

d.9 Work as a team worker and leader while working with other colleagues and in larger teams.

d.10 Develop leadership skills to manage fellows and teams.

d.11 Manage time effectively during clinical and academic work.

d.12 Manage Scientific meetings according to the available time.

[4] Program Academic Reference Standards:

- 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 decree No.7528, in its session No.191, dated: 15-3-2010), last update: 20-2-2023. {Annex I}.

Then, Internal Medicine department has developed the intended learning outcomes (ILOs) for doctorate (MD) program in Internal Medicine and the Date of program specifications first approval was by department council: 13-5-2013, last update: 6-3-2023{Annex 2}.

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[5] Program structure:

Program duration: 3.5 Years.

Courses	Lecture hours/week	Practical/Clinical hours/week	Total No. of hours hours/week
First part (6 months, 24 weeks)			
Medical Physiology	**2**	**1**	**3**
Pathology	**2**	**1**	**3**
Use of computer in medicine **Medical statistics and research methodology**	**1** **1**	**1** **1**	**2** **2**
Total/week	**6**	**4**	**10**
Second part (2 Academic Years, 60 Weeks)			
Internal Medicine. (2 academic years, 60 weeks)	10	10	20
Total hours/second part	**600**	**600**	**1200**
Third Part (12 months)			
Research Thesis and discussion	**continuous.**		

Program courses (curriculum)

Course Title	Total No. of hours	No. of hours /week			Program ILOs Covered
		Lect.	Practical	Tutorial	
FIRST PART (24 weeks)					
1. Medical Physiology	**72**	**2**	**1**		a.1, a.3, b.3, b7
2. Pathology	**53**	**2**	**1**		a.2, a.3, b.1, b.3, c.3, c.5.
3. Use of computer in medicine **4. Medical statistics and research methodology**	**30** **45**	**1** **1**	**1** **1**		a.10, a11, b.5, b.6, b.10, c.6, c.8, d.3, d.4, d.5, d.7, d.8.
Training programs and workshops, field visits, seminars& other scientific activities	Continuous				a.1-a.11, b.1-b.12, c.1-c.9, d.1-d.12
SECOND PART (60 weeks):					
1. Internal Medicine (lectures and clinical)	20	10	10		a.3, a.4, a.5, a.6, a.7, a.8, a.9, a.12, a.13, a.14, b.1, b.2, b.3, b.4, b.5, b.7, b.8, b.9, b.11, b.12, c.1, c.2, c.3, c.4, c.5, c.6, c.7, c.9, d.1-d.12
Training programs and workshops, field visits, seminars& other scientific activities	Continuous				a.1-a.11, b.1-b.12, c.1-c.9, d.1-d.12
THIRD PART (18 months):					

Research (Thesis)	Continuous	a.1-a.11, b.1-b.12, c.1-c.9, d.1-d.12

[6] program admission requirements:

Conditions should be fulfilled for registration:

1- **Candidates graduated from Egyptian Universities (or any approved university/institute by Minia University)**

2- **The Candidate should have at least "Good Rank" in their final year examination/ cumulative years, and grade "Good Rank" in internal medicine course too.**

3- **He should pass one year as a house officer in a university hospital or equivalent teaching hospital.**

4- **All candidates should have master's degree of internal medicine with GOOD rank at least from Egyptian university or fellowship of internal medicine from Egyptian ministry of health.**

5- **The candidates who are working in Ministry of health hospital must stay one year (full time) as visitor doctor for training in the university hospital after acceptance of registration.**

Specific Requirements:

1- **Candidate should know how to speak & write English well (TOEFL certificate).**

2- **Candidate should have computer skills and ICDL certificate.**

[7] Regulations for progression and program completion

A. First part

- Registration for the study in October every year.

- Start of the study in October.

- Registration of the scientific research after 6 months of registration and after acceptance of internal medicine department and faculty councils and the vice dean of post graduate studies of the university.

-Examination of the first part starts after 6 months from registration of MD degree.

- 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.

B) Second Part (≥24 months)

• Program related specialized science of internal medicine courses and ILOs. At least 48 months after passing the 1st part should pass before the student can take permission 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:

Grand rounds اجتماع علمى موسع
Training courses دورات تدريبية
Conference attendance حضور مؤتمرات علمية
Thesis discussion حضور مناقشات رسائل
Workshops حضور ورش عمل
Journal club ندوة الدوريات الحديثة
Case presentation تقييم حالة مرضية
Seminars لقاء علمى موسع
Morbidity and Mortality conference ندوة تحليل المخاطر المرضية أوالوفاة
Self education program برنامج التعليم الذاتى
- Examination of the second part after passing first part examination and finishing clinical studies and training (not less than 24 months).

-The candidate must pass the written exams of second part to be allowed to start clinical and oral examination cessions.

-If the candidate failed in the clinical examinations he should repeat trials up to 4 times. If failed more than 4 times he/she should be restart second part examination again by written exams.

C. Third Part: Scientific research (Thesis)

- Thesis title and protocol is submitted at least 18 months after registration for the program.

- Discussion of the research done after passing clinical examination of the second part and passing 2 years at least from registration of the title. The thesis should

be accepted from the discussion committee, internal 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 internal medicine department and faculty councils and the vice dean of post-graduates studies of university.

[8] Teaching and learning methods	[9] Methods of assessment.:
Lectures (PowerPoint, chalk, and talk)	WRITTEN EXAM - Short essay10 - MCQs - Complete - True or false and correct the wrong - Commentary - Problem solving
Clinical and practical (Including grand rounds)	CLINICAL EXAM: - Long case history and examination. - Short case history and examination. - Commentary cases. - ECG Quizzes. - Radiology Quizzes.
Presentation/seminar	ORAL EXAM
Journal club	LOG BOOK
Thesis discussion	

Courses	Written	Oral	Practical	Total
Medical Physiology	100	100		100%
Pathology	100	100		100%
Use of computer in medicine	100	100	100	100%
Medical statistics and research methodology	100	100	100	100%
Internal Medicine.	100	100	100	100%

[10] Evaluation of program intended learning outcomes:

Evaluator (By whom)	Method/tool	Sample
1. Senior students (Students of last year	Questionnaires	All the students
2. Graduates (Alumni)	Questionnaires	10 at least
3. Stakeholders	Meeting Questionnaires	10 at least
4. External & Internal evaluators and external examiners	Reports	1 at least
5. Quality Assurance Unit	Reports Questionnaires Site visits	
6. Exams results	Results analysis Report	All the students

ANNEX [I]

Matrix Between National Academic Quality Assurance & Accreditation (NAQAAE) General Academic Reference Standards (GARS) and Faculty Academic Reference Standards (ARS), (Including Graduate Attributes)

برامج الدكتوراه NAQAAE	Faculty Doctorate (MD) Program
1. مواصفات الخريج: **خريج برنامج الدكتوراه في أي تخصص يجب أن يكون قادرا على:**	**1. Graduate attributes:** **Graduate of doctorate (MD) program in any specialty should be able to:**
1.1. إتقان أساسيات ومنهجيات البحث العلمي.	1.1. Mastery of basic research skills and types of study design.
1.2. العمل المستمر علي الإضافة للمعارف في مجال التخصص.	1.2. Contribute to development, application, and translation of new medical knowledge in his scholarly field through research.
1.3. تطبيق المنهج التحليلي والناقد للمعارف في مجال التخصص والمجالات ذات العلاقة.	1.3. use analytical and critical skills in observing, collecting and interpreting data.
1.4. دمج المعارف المتخصصة مع المعارف ذات العلاقة مستنبطا ومطورا للعلاقات البينية بينها.	1.4. Integrate biomedical sciences with clinical information to explore scientific basis of medical practice for improvement of management of diseases.
1.5. إظهار وعيا عميقا بالمشاكل الجارية والنظريات الحديثة في مجال التخصص.	1.5. Demonstrate an awareness of current health problems and recent theories in his scholarly field

1.6. تحديد المشكلات المهنية و إيجاد حلولا مبتكرة لحلها.	1.6. Identify and create solutions for occupational problems and medical malpractice conditions.
1.7. إتقان نطاقا واسعا من المهارات المهنية في مجال التخصص	1.7. perform a wide range of professional skills in his scholarly field.

1.8. التوجه نحو تطوير طرق و أدوات و أساليب جديدة للمزاولة المهنية.	1.8. Develop and improve new methods and approaches in the professional medical practice of the specific field.
1.9. استخدام الوسائل التكنولوجية المناسبة بما يخدم ممارسته المهنية	1.9. Use information technology to improve his professional medical practice including online medical information manage information and researches.
1.10. التواصل بفاعلية وقيادة فريق عمل في سياقات مهنية مختلفة.	1.10. communicate effectively as a member or leader of health care group or other professional group and gain leadership skills.
1.11.اتخاذ القرار في ظل المعلومات المتاحة.	1.11. Make informed decisions based on available data (e.g. patient information, up to date scientific evidence and clinical judgement).
1.12. توظيف الموارد المتاحة بكفاءة وتنميتها والعمل على إيجاد موارد جديدة .	1.12. Effective management, development & improvement of available resources and have the competency to get new resources.
1.13.الوعي بدوره في تنمية المجتمع و الحفاظ على البيئة.	1.13. Be aware of his community needs related to his field and have the ability to improve & maintain health care and carryout system-based improvement.
1.14.التصرف ب ما يعكس الالتزام بالنزاهة والمصداقية وقواعد المهنة.	1.14. Demonstrate ethical behavior, moral reasoning, honesty, integrity, dependability, and commitment to service and health equity.

15.1.الالتزام بالتنمية الذاتية المستمرة ونقل علمه و خبراته للآخرين.	1.15. Critically reflect on one's own performance to set learning and improving goals and sharing his knowledge.

2. المعايير القياسية العامة: **NAQAAE General Academic Reference Standards "GARS" for MD Programs**	**2. 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. Intellectual skills: Upon completion of the doctorate program (MD), the graduate must be able to:	2.2. المهارات الذهنية: بانتهاء دراسة برنامج الدكتوراه يجب أن يكون الخريج قادرا على:
2.2.1 Analysis and evaluation of information to correlate and deduce from it.	1.2.2.تحليل وتقييم المعلومات في مجال التخصص والقياس عليها والاستنباط منها
2.2.2. Problem solving skills based on analysis of available data for common health problems related to his scholarly field.	2.2.2. حل المشاكل المتخصصة استنادا على المعطيات المتاحة
2.2.3. Carryout research projects related to his scholarly field.	3.2.2. إجراء دراسات بحثية تضيف إلى المعارف
2.2.4. Write and publish scientific papers.	4.2.2. صياغة أوراق علمية
2.2.5. Assess risk in professional medical practice.	5.2.2. تقييم المخاطر في الممارسات المهنية
2.2.6. Establish goals, commitments and strategies for improved productivity and performance.	6.2.2. التخطيط لتطوير الأداء في مجال التخصص
2.2.7. Making professional decisions in different professional contexts.	7.2.2. اتخاذ القرارات المهنية في سياقات مهنية مختلفة
2.2.8. Demonstrate intellectual curiosity necessary for scientific discovery and innovation through active participation in research.	8.2.2. الابتكار/ الإبداع

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.

Date of the last approval by department council: 6-3-2023
Head of the department signature:

ANNEX [II]
Matrix Between Faculty Academic Reference Standards (ARS), and Program ILOs for MD in Internal Medicine.

Faculty Academic Reference Standards (ARS) for MD Program	Internal Medicine MD program ILOs
2.1. Knowledge & Understanding: Upon completion of **the MD Program in** internal Medicine the graduate should have sufficient knowledge and understanding of:	**A. Knowledge And Understanding (A)**
2.1.1. Theories, basics and updated knowledge in his scholarly field and related basic sciences.	a.1 Explain the normal **physiology** and functions of different human organs. a.2 Recall the essential **pathological** changes of different medical diseases. a.3 Explain the **genetic** and **immunological** basics of different internal medicine diseases. a.4 Illustrate main **cardiological** and **pulmonary** diseases, their etiologies, pathologies, diagnosis, and management. a.5 Illustrate the main **hepatobiliary** and gastrointestinal diseases. a.6 Illustrate the main **nephrological**, haematological, and endocrinal diseases. a.7 Recognize the main **infectious** diseases and basics of managing **critically** ill patients. a.8 Illustrate the main **neurological** and **rheumatological** disease. a.9 Summarize scientific developments and recent guidelines in the field of Internal Medicine.

2.1.2. Basic, methods and ethics of medical research.	a.10 Explain the basics and methods of scientific research and medical statistics. a. 11 Illustrate the different technology-related devices and software related to research and medical practice.
2.1. 3. Ethical and medicolegal principles of medical practice.	a.12 List the ethical and legal principles of professional practice in the field of Internal Medicine.
2.1. 4. Identify Principles and fundamental of quality in professional medical practice.	a.13 List the principles of quality in professional practice in the field of internal Medicine.
2.1.5. Knowledge related to effects of professional practice on public health and methods of maintenance and system-based improvement of public health.	a.14 Relate the mutual influence between professional practice and its impacts on the environment.
2.2. Intellectual Skills: Upon completion of the MD program of, the graduate should be able to:	**Intellectual Skills** **(B)**
2.2.1 Analysis and evaluation of information to correlate and deduce from it.	b.1 Analyze different clinical, laboratory, and imaging data and deduce a diagnosis regarding different internal medicine diseases. b.2 Formulate appropriate management plans for individual patients presenting with the most common medical disorders (cardiac, hepatic, GIT, hematological, neurological).
2.2.2. Problem solving skills based on analysis of available data for common health problems related to his scholarly field.	b.3 Solve the diagnostic and therapeutic challenges related to the internal medicine based on the available data. b.4 Compare and select different diagnostic alternatives to reach a final diagnosis.

2.2.3. Carryout research projects related to his scholarly field.	b.5 Hypothesize and design research projects that contributes to the scientific developments in the field of internal medicine.
2.2.4. Write and publish scientific papers.	b.6 Formulate, write, and publish research paper.
2.2.5. Assess risk in professional medical practice.	b.7 Construct good understanding to common risks and patient safety issues related to internal medicine patients.
2.2.6. Establish goals, commitments and strategies for improved productivity and performance.	b.8 Plan for the development of clinical and academic performance in the field of Internal Medicine.
2.2.7. Making professional decisions in different professional contexts.	b.9 Design diagnostic and therapeutic plans to Internal medicine patients and report them to colleagues and managerial authorities.
2.2.8. Demonstrate intellectual curiosity necessary for scientific discovery and innovation through active participation in research.	b.10 Analyze and interpret the results of research using common statistical tests. b.11 Create innovative and non-traditional solutions
2.2.9. Using Evidence-based strategies to during discussion or teaching others.	b.12 12 Manage scientific discussion based on scientific evidence and proofs
3.2. Professional Skills: Upon completion of the MD program of Internal Medicine, the graduate must be able to:	**Professional Skills (C)**
2.3.1. Master the basic as well as modern professional practical and/or clinical skills.	c.1 Assess clinical history and symptoms of internal Medicine.

	c.2 Examine and perform clinical evaluation of different body systems. c.3 Analyze different laboratory and imaging studies (x-rays, CT, MRIs), etc. c.4 Assess different electrocardiograms and reach a diagnosis. c.5 Perform some advanced procedures such as Endoscopy, colonoscopy, FNAB, Permcath insertion, etc.
2.3.2. Write and evaluate professional reports.	c.6 Write and evaluate medical reports for internal medicine patients.
2.3.3. Evaluate and improve the methods and tools in the specific field	c.7 Compare and select the appropriate supportive investigations relevant to the patient and adequately interpret the results.
2.3.4. use of technological means to serve Professional practice.	c.8 Use of different modern technologies to improve the practice of internal medicine.
2.3.5. Planning for the development of professional practice and improve of the performance of others	c.9 Design new methods, tools, and ways of professional practice to help the improvement of others in the field of internal medicine.
4.2. **General and transferable skills** Upon completion of the MD program of Internal Medicine, the graduate should be able to:	**General and Transferrable Skills.** **(D)**

4.2.1. 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.	d.1 Communicate effectively with colleagues, and other managerial authorities in verbal, written, and electronic means. d.2 Communicate effectively with patients and their families.
4.2.2. Use of information technology to serve Professional Practice Development.	d.3 Use online databases to collect materials needed for research and thesis. d.4 Manage and organize materials from various sources from the internet, libraries, etc.
2.4.3. Demonstrate effective teaching and evaluating others.	d.5 Becomes an effective academic teacher and clinical trainer in the field of internal medicine. d.6 Put and use indicators for evaluating the performance of others.
2.4.4. Self-assessment and continuous learning.	d.7 Develop a life-long attitude of continuous self-improvement and continuous medical education.
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.	d.8 Use different physical and electronic information sources including media (videos, audio) to become a competent internist.
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.	d.9 Work as a team worker and leader while working with other colleagues and in larger teams. d.10 Develop leadership skills to manage fellows and teams.
2.4.7. Manage of scientific meetings and the ability to manage Time effectively.	d.11 Manage time effectively during clinical and academic work.

	d.12 Manage Scientific meetings according to the available time.

Date of the last approval by department council: 6-3-2023
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ANNEX [III]:
Matrix of Coverage of Program ILOs by Program topics (Courses)

Program Topic (course)	Course ILOS
FIRST PART (24 weeks)	
1- Medical Physiology	a.1, a.3, b.3, b7
2- Pathology	a.2, a.3, b.1, b.3, c.3, c.5.
3- Use of computer in medicine 4- Medical statistics and research methodology	a.10, a11, b.5, b.6, b.10, c.6, c.8, d.3, d.4, d.5, d.7, d.8.
Training programs and workshops, field visits, seminars& other scientific activities	a.1-a.11, b.1-b.12, c.1-c.9, d.1-d.12

SECOND PART (60 weeks):	
5. <u>Internal Medicine (lectures and clinical)</u>	**a.3, a.4, a.5, a.6, a.7, a.8, a.9, a.12, a.13, a.14, b.1, b.2, b.3, b.4, b.5, b.7, b.8, b.9, b.11, b.12, c.1, c.2, c.3, c.4, c.5, c.6, c.7, c.9, d.1-d.12**
Training programs and workshops, field visits, seminars& other scientific activities	**a.1-a.11, b.1-b.12, c.1-c.9, d.1-d.12**
THIRD PART (1 year):	
Research (Thesis)	**a.1-a.11, b.1-b.12, d.1, d.3, d.4, d.5, d.7,d.8, d.9, d.10, d.11**

Date of the last approval by department council: 6-3-2023
Head of the department signature:

ANNEX [IV]:
Matrix of Coverage of Program 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 (PowerPoint, chalk, and talk)	1,2,3,4,5,6,7,8,9,10,11 ,12, 13, 14.	1,2,3,4,5,6,7, 8,9,10,11, 12	1,3,4,7,9	1,4,5,7,8.
Clinical and practical (Including grand rounds)	1,2,3,4,5,6,7,8,9, 10,11,12,13,14	1,2,3,4,5,6,7, 8,9,10,11, 12	1,2,3,4,5,6,7, 8,9	1,2,4,5,6,7, 8,9 ,10,11
Presentation/seminar	1,2,3,4,5,6,7,8, 9,10,11,12,13,14	1,2,3,4,5,6,7, 8,9,10,11, 12	1,3,4,7,9	1,3,5,6,8,9, 10,11,12
Journal club	1,2,3,4,5,6,7,8, 9,10,11,12,13,14	1,2,3,4,7,9,10, 11, 12	1,7,8,9	1,3,5,6,8,9, 10,11,12
Thesis	3,4,5,6,7,8,9,10, 11,12,13,14	5,6,8,10	-	3,4,7,9,11.

Date of the last approval by department council: 6-3-2023
Head of the department signature:

ANNEX [V]
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 - Short essay - MCQs - Complete - True or false and correct the wrong - Commentary - Problem solving	1,2,3,4,5,6,7,8, 9,10,11,12,13,14	1,2,3,4,7, 9,10.	-	-
CLINICAL/practical EXAMS.	1,2,3,4,5,6,7,8,9,10,11,12	1,2,3,4,5,7,8, 9,10,11,12	1,2,3,4,5, 6,7,9	1,2,5,6,9, 10,11.
ORAL EXAM	1,2,3,4,6,7,8,9,10,11,12,13,14	1,2,3,4,7,8, 9,10,11	-	1,2,5,6,9,10,112
LOGBOOK	-	-	1,2,3,4,5	1,2,3,4,5,6,7,8,9,10,11

Date of the last approval by department council: 6-3-2023
Head of the department signature:

Course Specifications of Internal Medicine
Medical Doctorate (MD) Degree.

University: Minia

Faculty: Medicine

Department: Internal Medicine

1. Course Information	
• **Academic Year/level:** Second Part	• **Course Title:** Course Specifications of Internal Medicine, MD Degree **(CODE: GM100)**
• **Number of teaching hours: 12 Hours per week for 96 weeks.** - **Lectures:** 10 Hours/w for 60 weeks. - **Practical/clinical**: 10 Hours/w for 60 W	
2. Overall Aims of the course	The aim of this program is to provide the postgraduate v medical knowledge and skills essential for the practice of specialty and neces to gain further training and practice in the field of internal medicine. 1- Scientific knowledge essential for the practice of internal medicine according to the international standards.

	2- Skills necessary for proper diagnosis and management of patients in the field of internal medicine including diagnostic, problem solving and decision making. 3- Ethical principles related to the practice in this specialty. 4- Active participation in community needs assessment and problems solving. 5- Maintenance of learning abilities necessary for continuous medical education. 6- Maintenance of research interest and abilities.
3. Intended learning outcomes of course (ILOs): ***Upon completion of the course, the student should be able to:***	
A- Knowledge and Understanding	A1- Explain the basics and the updated practice guidelines of the different **Gastroenterology** , **Hepatobiliary** & **pancreatic** disorders. A2. Discuss the basics and the updated practice guidelines of the different **Hematology** & **oncology** diseases. A3. Explain the basics of the common and emerging **Infectious diseases** in the community and worldwide. A4. Outline the basics and the updated practice of the different **General internal medicine** topics including, History taking and examination, Ethics and communication, Chest pain / Dyspnea / Polyuria, Syncope, PUO, Laboratory interpretation, Imaging techniques and interpretation. A5. Explain Evidence based medicine, Steps of EBM. A6. Explain the basics and the updated practice guidelines of the different **Endocrinology, Diabetes** ,**Metabolism**, And **Nutrition** disorders and conditions A7. Explain the basics and the updated practice guidelines of the different **Rheumatology** and **immunology** diseases. A8. Explain the basics and the updated practice guidelines of the different **Neurology & psychiatry** topics. A9. Explain the basics of the different geriatric medicine diseases. A10. Explain the basics and the updated practice guidelines of the different **Cardiology** diseases. A11. Explain the basics and the updated practice guidelines of the different **Renal** medicine & electrolyte disorders.

	A12. Explain the basic and the updated practice guidelines of the different **Respiratory** & **critical** care medicine topics. A13. Explain the basic and the updated practice guidelines of the following **emergency** medicine & Critical care aspects including, Shock, Pulmonary embolism, Cardiac arrest and brain death, Advanced life support (ALS). A14. Recognize ethical and legal principles in the internal medicine practice. A15. Define the mutual influences between the environment and the field of internal medicine.
B- Intellectual Skills	b.1 Analyze different clinical, laboratory, and imaging data and deduce a diagnosis regarding different internal medicine diseases. b.2 Interpret available data and use advanced knowledge of the basics and clinical skills to diagnose and treat different internal medicine diseases. b.3 Combine clinical history, examination, imaging, and laboratory studies, and updated evidence-based medicine to solve challenges in the diagnosis and treatment of different internal medicine diseases. b.4 Hypothesize, and design research ideas to write and publish a research paper related to the internal medicine. b.5 Develop a good understanding to common risks and patient safety issues related to internal medicine patients. b.6 Plan for the development of clinical and academic performance in the field of Internal Medicine. b.7 Decide diagnosis, referral, and treatment of complex internal medicine cases. b.8 Appraise evidence-based medicine in practice and teaching of internal medicine.
C- Professional and Practical Skills	c.1 Assess medical history and conduct advanced medical examination. c.2 Judge clinical, laboratory, and imaging data to solve complex cases of internal medicine diseases. c.3 Write and evaluate medical reports. c.4 Apprise and judge patient care plans and priorities in the management of internal medicine patients. c.5 Deal with complex internal medicine cases and evaluate the need for specialty consulting. c 6. Use of different modern technologies to improve the practice

	of internal medicine. c.7 Apply updated information and demonstrations on modern diagnostic tools. c.8 Judge and compare different laboratory investigations related to internal medicine. c.9 Interpret difficult X-ray, CT and ultrasonic images of common diseases and judge the basics of new imaging technologies (Transient elastography, doppler, etc.). c.10 Assess different electrocardiograms and reach a diagnosis. c.11 Perform different methods of patient's clinical assessment and monitoring, their significance, and inter-relations. c.12 Evaluate adequately the patient's acute morbidity score and need for urgent intervention. C.13. **Design new methods and tools** for the professional practice to help the improvement of practice in internal medicine. C.14 Perform some **advanced procedures** such as Endoscopy, colonoscopy, Permcath, etc (based on the available infrastructure).
D- General and transferable Skills	d.1 Communicate effectively with colleges, managerial authorities, patients and their families. d.2 Master the use of computer, hospital management systems, and the internet. d.3 Develop a life-long attitude of continuous self-improvement and continuous medical education. d.4 Develop personal skills in writing case summaries, assays, and reports. d.5 Master the use of PowerPoint and presentation skills. d.6 Become able to use different sources for information and knowledge continuously. d.7 Use information technology to serve the development of professional practice in internal medicine. d.8 Become a team worker and develop good communication skills while working in multidisciplinary teams. d.9 Manage meetings, seminars, and his own time effectively. d.10 Present and judge complex internal medicine-cases in seminars. d11. Communicate orders effectively by all types of effective communication to become a good leader.

4. Course Contents

Topic	Lecture Hours	Clinical/Tutorial Hours	Total

Molecular & genetic factors in disease -Chromosome disorders -Mitochondrial DNA inherited diseases -C.T. inherited disorders -Practice of genetics in health and diseases -Stem cell therapy	**10**		**10**
Clinical Genetics Cystic Fibrosis Down's syndrome Familial cancer syndromes Familial cardiovascular disorders Haemophilia Huntington's disease Klinefelter syndrome Marfan's syndrome Polycystic kidney disease Sickle Cell disease & Thalassaemias Turner's syndrome Von Willeband's disease **Clinical Science** Structure and function of human cells, chromosomes, DNA, RNA and cellular proteins Principles of inheritance: mendelian, sex-linked, mitochondrial -Principles of mutation, polymorphism, trinucleotide repeat disorders Principles of genetic testing: metabolite assays, clinical examination and analysis of nucleic acid (e.g. PCR)	**10**		**10**
Immunological factors in diseases -Types of immune reaction -Major histocompatibility system in health & disease -Primary and secondary immune deficiencies -Allergy and anaphylaxis -Organ transplantation	**10**		**10**
Nutritional factors in health and diseases -Nutritional assessments and requirements -Malnutrition disorders -Obesity and eating disorders -Metabolic syndrome -Basics of parenteral nutrition	**10**	**10**	**20**

Oncology 1-Paraneoplastic conditions e.g. ectopic ACTH - SVC obstruction- Hypercalcaemia- Spinal cord compression - Neutropenic sepsis 2-Common cancers (presentation, diagnosis, treatment principles): lung, bowel, liver stomach, oesophagus, haematological, and brain. 3-Premalignant conditions: polyposis-ulcerative colitis	**10**	**24**	**34**
Critical illnesses -Acute respiratory distress syndrome -Shock &Sepsis and cardiac arrest -Coma &DD & Algorithm in management -Oncologic emergencies -Ventilatory support basics	**20**	**70**	**90**
Infectious diseases -Viral infections - Bacterial infections -Fungal and rickettsial infections -Parasitic and protozoal infections -Infective endocarditis - Laboratory diagnosis of infectious diseases	**20**	**20**	**40**
Clinical biochemistry& metabolism -Porphyrias -Hemochromatosis &Wilsons disease -Glycogen storage & lysosomal storage diseases -Osteomalacia -Pagets disease	**10**	**-**	**10**
Kidney diseases & Electrolytes disorders -Acute renal injury -Chronic kidney diseases -Dialysis and renal transplantation -Glomerular diseases -Tubulo- interstitial diseases -Vascular diseases of the kidney -Potassium &Sodium disorders -Calcium disorders -Acid-base balance disorders	**40**	**38**	**78**
Cardiovascular diseases -Tachyarrhythmias -Bradyarrhythmias -Cardiomyopathies and myocarditis		**60**	**110**

-Congestive heart failure and core pulmonale -Ischemic heart diseases -Rheumatic heart diseases -Pericardial diseases -Degenerative blood diseases -Pulmonary hypertension -Peripheral vascular diseases	**50**		
Respiratory diseases -Bronchial asthma -Chronic obstructive lung diseases -Interstitial lung diseases -Pleural diseases -Tuberculosis -Upper and lower respiratory tract infections -Pulmonary vasculitis -Pulmonary thromboembolism -Sleep apnea syndromes	**50**	**60**	**110**
Endocrine diseases -Pituitary disorders -Thyroid disorders -Parathyroid disorders -Suprarenal gland disorders -Short and tall statures -Hairsutism and virilization -Diabetes mellitus and its emergencies -Endocrine disorders of GIT	**40**	**40**	**80**
Alimentary tract and Pancreatic diseases -Motility disorders -Peptic ulcers -Gastrointestinal bleeding disorders -Malabsorption syndromes -Inflammatory bowel disease -Vascular diseases of GIT -Peritonitis - Pancreatic disorders	**50**	**60**	**110**
Hepato-biliary diseases -Acute and chronic hepatitis -Liver cirrhosis &its complications -Granulomatous and infiltrative liver diseases -Principles of liver transplantation -Acute and chronic cholecystitis -Jaundice and DD	**50**	**60**	**110**

Blood diseases -Hypoproliferative anemias -Hemoglobin disorders -Hemolytic anemias -Myeloproliferative disorders & polycythemia vera -Myelodysplasia & bone marrow failure diseases -Lymphoproliferative disorders -Platelets and vessel wall disorders -Coagulation disorders -Hypercoagulable status disorders -Antiplatelets &anticoagulants &fibrinolytic drugs	**50**	**50**	**100**
Collagen & Musculoskeletal diseases -Autoimmune diseases -Rheumatoid arthritis -Spondylo-arthropathies -Crystal induced arthropathies -Osteoporosis -Vasculitic disorders -Acute rheumatic fever and arthritis	**40**	**48**	**88**
Neurological diseases -Epilepsy -Cerebro-vascular disorders -Tremors disorders -Motor neurone diseases -Myopathies & myasthenia gravis -Peripheral nerve disorders -Spinal cord lesions -CNS infections -Dementia and confusion disorders	**50**	**60**	**110**
X-Ray & CT interpretation -Chest X ray -Barium studies -Bone and joints X-ray -Neuro-imaging (CT) -Abdominal CT	**40**	**-**	**40**
ECG interpretation -Arrhythmias -Cardiac ischemia (acute and chronic) -Conduction disorders -Metabolic changes in ECG	**40**	**-**	**40**
Total	600	600	1200

5. Teaching and Learning Methods	• Lectures (PowerPoint, chalk, and talk) • Clinical Training. • Seminars, Presentations. • Journal club • Thesis discussion
6. Teaching and Learning Methods for students with limited Capacity	- Special session for training and tutorials.
7. Student Assessment	
A. Student Assessment Methods	1. Research assignment for the students to assess the general and transferable skills. 2. Logbook to assess clinical, and transferable skills, attendance to medical conferences and oral discussions of thesis. 3 Final written and commentary written exam. to assess knowledge, understanding, and intellectual skills. 4. Final oral exam to assess knowledge and understanding, intellectual skills. 5. Final clinical exam., ECG and X- ray exam. to assess professional and clinical skills.
B. Assessment Schedule (Timing of Each Method of Assessment)	Assessment Final exam: ----------: 96 th Week.
C. Weighting of Each Method of Assessment	Final-term written examination (including commentary question) 40 % Oral examination & Clinical examination ---------- 60 % total: 100 %
8. List of References:	
A. Course Notes/handouts	• **Hepatology by Dr. Mahmoud Khattab.**
B. Essential Books	• **Davidson's Principles and practice of medicine (24th Edition, 2023).** • **Handbook of critical and intensive care (4th Edition, 2021).** • **Essentials of electrocardiography**

	• **Methods of Clinical examination (Salah Ibrahim)**
C. Recommended Text Books	• **Harrison's textbook of medicine (21st Edition, 2022)** • **Cecil's essentials of internal medicine (26th Edition)** • **Hutchison for clinical examination methods (25th Edition, 2022)** •
D. Periodicals, websites	• **https://pubmed.ncbi.nlm.nih.gov/** • **https://diabetesjournals.org/care (Diabetes Care).** • **https://www.acpjournals.org/journal/aim (Annals Of Internal Medicine).** • **Clinicalkey** • **Egyptian Knowledge bank (EKB)**

Course Coordinator:

Prof. Dr. Asmaa Kassem Mahmoud

Head of Department:

Prof. Dr. Youssef Ismail Moussa.

Date of last update & approval by department Council:

6th of March 2023

جامعة: المنيا

كلية: الطب

قسم: الباطنة العامة

مسمى المقرر	دكتوراه الباطنة العامة
كود المقرر	GM100

[ANNEX I] Matrix of Coverage of Course ILOs By Content (Topics)

Contents (List of course topics)	Intended Learning Outcomes (ILOs)			
	A. Knowledge & Understanding	B. Intellectual Skills	C. Professional & Practical skills	D. General & Transferable Skills
	A	B	C	D
Molecular & Factors in genetic disease	1,2,3,5,6,7,8, 10,11,12,15	1,2,3,7	5,6,7,13	3,6,7,10
Clinical Genetics	1,2,3,5,6,7, 8,10,11,12	1,2,3,7	5,6,7,13	3,6,7,10
Immunological factors in diseases	1,2,3,7,11,15	1,2,4	5,6,7,13	5,6,7,8
Nutritional factors in health and diseases	1,4,6,9,15	1,2,5,7,8	1,4,5,8,11,12	1,8,11

Oncology	1,2,5,6,8,9,10,11,12,15	2,5,7,8	1,2,3,5,13	1,4,6,7,8,10,11
Critical illnesses	10,12,13,14	3,5,8	1,2,3,4,9,10 ,11,12,13,14	1,3,7,10,11
Infectious diseases	1,3,4,15	1,2,3,8	1,2,3,6,7,13	5,6,7,8
Clinical biochemistry &metabolism	1,7	1,6,8	7,8,13	3,6,10
Kidney diseases & Electrolytes disorders	11,8,1	1,2,3,7,8	1,2,3,6,13,14	1,2,3,6,8,10
Cardiovascular diseases	10,13,14	3,7,8	1,2,3,10,12,13,14	1,2,3,6,9
Respiratory diseases	12,13,3	1,2,5,7,8	1,2,3,9,13,14	5,6,7,8
Endocrine diseases & Diabetes mellitus	6,13	2,5,7,8	1,2,3,4,11,13,14	1,3,7,10,11
Alimentary tract and Pancreatic diseases	9	3,5,8	1,2,3,11,12,13,14	1,2,3,6,8,10
Hepatobiliary diseases	9	1,2,3,8	1,2,3,11,12,13,14	1,2,3,6,9
Blood diseases	10	1,7,8	1,2,3,11,12,14	1,5,6,7,8
Collagen & Musculoskeletal diseases	12	1,2,3,7,8	1,2,3,5,9,13	1,2,3,6,8,10
Neurological diseases	12	3,7,8	1,2,5,9,12,13,14	1,2,3,6,8,10
X-Ray & CT interpretation	8,9,10,11	3,8	9,13	2,6,8

ECG interpretation	**8,11**	**3,8**	**10**	**2,6,8**

Head of the department signature:

[ANNEX II] 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 (PowerPoint, chalk, and talk)	1,2,3,4,5,6,7,8,9,10,11,12,13	1,2,5,7	1,2,4,5,6,7,8,9,10,11,12	1,2,3,4,6,10
Clinical (Including grand rounds)	1,2,3,4,5,6,7,8,9,10,11,12,13	1,2,3,5,6,7	1,2,3,4,5,6,7,8,9,10,11,12	1,2,3,4,6,8,11
Presentation/seminar	1,2,3,4,5,6,7,8,9,10,11,12,13	1,2,3,5,6,7	2,5,7,8,12	2,3,4,5,7,9,10,11
Journal club	1,2,3,4,5,6,7,8,9,10,11,12,13	1,2,3,5,6,7	4,5,6,7,8,12	2,3,4,5,7,9,10,11
Thesis discussion	-	-	-	2,3,4,5,6,7,8

Head of the department signature:

[ANNEX III] 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	1,2,3,4,6,7,8,9,10,11,12,13	1,2,3,7	-	-
Clinical exam - Short Case. - Long Case. - ECG & Radiology Quizzes.	1,2,3,4,5,6,7,8,9,10,11,12	1,2,3,5,7	1,2,3,49,10,11,12	1,4,11
Oral Exam	1,2,3,4,5,6,7,8,9,10,11,12	1,2,3,5,6,7	4,6,7,11,12	4,5
Logbook	1,2,3,4,5,6,7,8,9,10,11,12	2,3,7	1,2,3	1,2,3,4,5,6,7,8,9,10,11

Head of the department Signature:

[ANNEX IV] Blueprint Of Internal Medicine Department Candidates for MD Degree [Internal Medicine Examination Paper, Second Part]

	Topic	Hours	Knowledge %	Intellectual %	% of topic	Marks	Actual Mark
1	Molecular & Factors genetic in disease	10	80	20	0.89	0.89	1
2	Clinical Genetics	10	80	20	0.89	0.89	1
3	Immunological factors in diseases	10	80	20	0.89	0.89	1
4	Nutritional factors in health and diseases	20	80	20	1.79	1.79	2
5	Oncology	34	80	20	3.04	3.04	3
6	Critical illnesses	90	80	20	8.04	8.04	8
7	Infectious diseases	40	80	20	3.57	3.57	4
8	Clinical biochemistry &metabolism	10	80	20	0.89	0.89	1
9	Kidney diseases & Electrolytes disorders	78	80	20	6.96	6.96	7

10	**Cardiovascular diseases**	110	80	20	9.82	9.82	10
11	**Respiratory diseases**	110	80	20	9.82	9.82	10
12	**Endocrine diseases & Diabetes mellitus**	80	80	20	7.14	7.14	7
13	**Alimentary tract and Pancreatic diseases**	110	80	20	9.82	9.82	10
14	**Hepatobiliary diseases**	110	80	20	9.82	9.82	10
15	**Blood diseases**	100	80	20	8.93	8.93	9
16	**Collagen & Musculoskeletal diseases**	88	80	20	7.86	7.86	8
17	**Neurological diseases**	110	80	20	9.82	9.82	10
	Total	1120	80	20	100%	-	100

Head of the department Signature:

جامعة/أكاديمية : .....المنيا.....
كلية / معهد: .....الطب البشري .....
قسم: .....الفسيولوجيا الطبية.....

Medical Physiology Course Specifications

For 1st Part (MD) Degree in Internal Medicine

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 Internal Medicine.
Major or minor element of program(s): Medical Physiology.
Academic year/level: 1st part MD degree in Internal Medicine.
Date of specification approval: 2022-2023 Last update:2023

Basic Information

Title: Physiology course specifications for 1st part MD degree of Internal Medicine
Code: GM100 **Credit Hours:** Not applicable
Lectures: 2 hours / week
Tutorial/Practical: Not applicable

Professional information

OVERALL AIM OF COURSE:

The aim of the course is to provide the postgraduate students with sufficient and detailed basic knowledge about the physiological principles that help in understanding the underlying mechanisms for internal medicine diseases that help in better 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 Blood:

1.1. Recognize composition of blood as a vital fluid and function of each type of blood cell.
1.2. Describe in details RBCs as regard (structure, function)
1.3, Describe I details the process of erythropoiesis and its clinically related diseases.
1.4. Describe blood antigenicity, blood groups and its role in blood transfusion.
1.5. Discuss role of blood in body defense and immunity.
1.6. Discuss in details the hemostatic response and diseases characterized by disturbed hemostatic function.

A2. Physiology of Cardiovascular System (CVS):

2.1. Identify origin of heart beat and electrophysiology of cardiac muscle.
2.2. Discuss in details cardiovascular reflexes and regulation of heart rate.
2.3. Describe events of cardiac cycle and causes of heart sounds.
2.4. Describe ECG and types and causes of cardiac arrhythmia.
2.5. Explain blood flow and its dynamics and cardiac output.
2.6. Recognize blood pressure in different parts of the CVS (arterial, venous and capillary).

A3. Physiology of Central and autonomic nervous system:

3.1. Explain Sensory functions of the nervous system and mechanisms of sensory diseases.
3.2. Discuss Motor functions of the nervous system and mechanisms of motor diseases.
3.3. Recognize different functions of sympathetic NS and its clinical disorders.
3.4. Enumerate distribution and functions of parasympathetic NS and its clinical disorders.
3.5. Explain chemical transmitters and receptors of autonomic NS and the related disorders.

A4. Physiology of body Metabolism:

4.1. Describe regulation of body temperature and mechanism of fever & disorders.
4.2. Discuss regulation of food intake (satiety and feeding mechanisms).
4.3. Discuss obesity and starvation and their effects on the body metabolism.

A5. Physiology of Endocrinal System:

5.1. Discuss in details pituitary gland hormones and effect of their disturbance.
5.2. Discuss in details thyroid gland hormones and effect of their disturbance.
5.3. Discuss in details suprarenal gland hormones and effect of their disturbance.
5.4. Describe mechanisms of Ca^{+2} & Glucose homeostasis and its related disorders.

A6. Physiology of Respiratory System:

6.1. Identify mechanism of respiration.
6.2. Explain gas transport and related disorders.
6.3. Enumerate central and peripheral regulation of respiration.
6.4. Describe pulmonary function tests in health and disease.

A7. Physiology of Digestive System:

7.1. Explain mechanisms of upper GIT motility (mastication, deglutition, gastric motility and vomiting).
7.2. Discuss the functions, types and control of salivary, pancreatic, bile secretion and jaundice.
7.3. Describe in details intestinal motility and secretion and GIT hormones.

A8. Physiology of Urinary system:

8.1. Discuss in details mechanisms of renal tubular transport at different segments.
8.2. Explain water, electrolyte balance and acid base balance and common disorders.
8.3. Recognize renal function tests and their interpretation in kidney diseases .

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 and 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.

C. Practical Skills:

Practical hours: - Not applicable

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 Blood: - Recognize composition of blood as a vital fluid and function of each type of blood cell. - Describe in details RBCs as regard (structure, function) - Describe I details the process of erythropoiesis and its clinically related diseases. - Describe blood antigenicity, blood groups and its role in blood transfusion. - Discuss role of blood in body defense and immunity. - Discuss in details the hemostatic response and diseases characterized by disturbed hemostatic function.	**2**	**4**
2. Physiology of Cardiovascular System (CVS): - Identify origin of heart beat and electrophysiology of cardiac muscle. - Discuss in details cardiovascular reflexes and regulation of heart rate. - Describe events of cardiac cycle and causes of heart sounds. - Describe ECG and types and causes of cardiac arrhythmia. - Explain blood flow and its dynamics and cardiac output. - Recognize blood pressure in different parts of the CVS (arterial, venous and capillary).	**3**	**6**
3. Physiology of Central Nervous System and autonomic NS: - Explain Sensory functions of the nervous system and mechanisms of sensory diseases. - Discuss Motor functions of the nervous system and mechanisms of motor diseases. - Recognize different functions of sympathetic NS and its clinical disorders. - Enumerate distribution and functions of parasympathetic NS and its clinical disorders. -. Explain chemical transmitters and receptors of autonomic NS and the related disorders.	**4**	**8**
4. Physiological basis of Metabolism: - Describe regulation of body temperature and mechanism of fever & disorders. - Discuss regulation of food intake (satiety and feeding mechanisms). - Discuss obesity and starvation and their effects on the body metabolism.	**2**	**4**
5. Physiological basis of Endocrinal System: - Discuss in details pituitary gland hormones and effect of their disturbance.		

- Discuss in details thyroid gland hormones and effect of their disturbance. - Discuss in details suprarenal gland hormones and effect of their disturbance. - Describe mechanisms of Ca^{+2} & Glucose homeostasis and its related disorders.	**4**	**8**
6. Physiology of Respiratory System: - Identify mechanism of respiration. - Explain gas transport and related disorders. - Enumerate central and peripheral regulation of respiration. - Describe pulmonary function tests in health and disease.	**3**	**6**
7. Physiology of Digestive System: - Explain mechanisms of upper GIT motility (mastication, deglutition, gastric motility and vomiting). - Discuss the functions, types and control of salivary, pancreatic, bile secretion and jaundice. - Describe in details intestinal motility and secretion and GIT hormones.	**3**	**6**
8. Physiology of Urinary System: - Discuss in details mechanisms of renal tubular transport at different segments. - Explain water, electrolyte balance and acid base balance and common disorders. - Recognize renal function tests and their interpretation in kidney diseases	**3**	**6**
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.
- **Assessment 2:** Final oral exam.

Weighting of assessment:

- **Final written exam** **100** marks (50%)
- **Final oral exam** **100** marks (50%)
- **Total** **200** marks (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,

Dr. Adel Hussien Saad
Professor of Medical Physiology Faculty Department of Medicine, Minia University

Head of Department,

Dr. Merhan M. Ragy
Prof. & Head of Medical Physiology of Medicine, MiniaUniversity

جامعة/أكاديمية : ....المنيا..............
كلية / معهد: ....الطب البشري ....
قسم: ....الفسيولوجيا الطبية....................

Physiology course specifications for 1st Part MD degree in Internal Medicine	مسمى المقرر
GM100	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**		
	A1.1	**A1.2**	**A1.3**	**A1.4**	**A1.5**	**A1.6**	**A2.1**	**A2.2**	**A2.3**	**A2.4**	**A2.5**	**A2.6**	**A3.1**	**A3.2**	**A3.3**	**A3.4**	**A3.5**	**A4.1**	**A4.2**	**A4.3**	**A5.1**	**A5.2**	**A5.3**	**A5.4**	**A5.5**	**A6.1**	**A6.2**	**A6.3**	**A6.4**	**A7.1**	**A7.2**	**A7.3**	**A8.1**	**A8.2**	**A8.3**	**B1**	**B2**	**D1**	**D2**	**D3**
1. **Physiology of Blood**	X	X	X	X	X	X																														X	X	X	X	X
2. **Physiology of Cardiovascular System (CVS)**							X	X	X	X	X	X																								X	X	X	X	X
3. **Physiology of**													X	X	X	X	X																			X	X	X	X	X

Central and autonomic NS																																								
4. Physiological basis of Metabolism																	X	X	X																X	X	X	X	X
5. Physiological basis of Endocrinal System																				X	X	X	X	X											X	X	X	X	X
6. Physiology of Respiratory System																									X	X	X	X							X	X	X	X	X
7. Physiology of Digestive System																													X	X	X				X	X	X	X	X
8. Physiology of Urinary System																																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	-	

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

Course Coordinator,
Head of Department,

Dr. Adel Hussien Saad
Dr. Merhan M. Ragy
Professor of Medical Physiology
Professor & Head of Medical Physiology Department
Faculty of Medicine, Minia University
Faculty of Medicine, Minia University

Blueprint of Postgraduate Physiology Course for MD degree (1st part) of Internal Medicine Department (Code: GM 100) (100 marks)

Topic	Hours	Knowledge %	Intellectual %	Weight %	ILOs	Actual Mark	Modified mark
1. **Physiology of Blood:** Recognize composition of blood as a vital fluid and function of each type of blood cell. Describe in details RBCs as regard (structure, function) Describe details the process of erythropoiesis and its clinically related diseases. Describe blood antigenicity, blood groups and its role in blood transfusion. Discuss role of blood in body defense and immunity. Discuss in details the hemostatic response and diseases characterized by disturbed hemostatic function.	4	75	25	8.3	A1	8.3	8
2. Physiology of Cardiovascular System: Identify origin of heart beat and electrophysiology of cardiac muscle. Discuss in details cardiovascular reflexes and regulation of heart rate. Describe events of cardiac cycle and causes of heart sounds. Describe ECG and types and causes of cardiac arrhythmia. Explain blood	6	75	25	12.5	A2	12.5	12.5

flow and its dynamics and cardiac output. Recognize blood pressure in different parts of the CVS (arterial, venous and capillary).							
3. Physiology of Central and autonomic nervous system: Explain Sensory functions of the nervous system and mechanisms of sensory diseases. Discuss Motor functions of the nervous system and mechanisms of motor diseases. Recognize different functions of sympathetic NS and its clinical disorders. Enumerate distribution and functions of parasympathetic NS and its clinical disorders. Explain chemical transmitters and receptors of autonomic NS and the related disorders.	8	75	25	16.6	A3	16.6	17
4. Physiological basis of Metabolism: Describe regulation of body temperature and mechanism of fever & disorders. Discuss regulation of food intake (satiety and feeding mechanisms). Discuss obesity and starvation and their effects on the body metabolism.	4	75	25	8.3	A4	8.3	8
5. Physiological basis of Endocrinal System: Discuss in details pituitary gland hormones and effect of their disturbance. Discuss in details thyroid gland hormones and effect of their disturbance. Discuss in details suprarenal gland hormones and effect of their disturbance. Describe mechanisms of Ca^{+2} &	8	75	25	16.6	A5	16.6	17

Glucose homeostasis and its related disorders.							
6. Physiology of Respiratory System: Identify mechanism of respiration. Explain gas transport and related disorders. Enumerate central and peripheral regulation of respiration. Describe pulmonary function tests in health and disease.	6	75	25	12.5	A6	12.5	12.5
7. Physiology of Digestive System: Explain mechanisms of upper GIT motility (mastication, deglutition, gastric motility and vomiting). Discuss the functions, types and control of salivary, pancreatic, bile secretion and jaundice. Describe in details intestinal motility and secretion and GIT hormones.	6	75	25	12.5	A7	12.5	12.5
8. Physiology of Urinary system: Discuss in details mechanisms of renal tubular transport at different segments. Explain water, electrolyte balance and acid base balance and common disorders. Recognize renal function tests and their interpretation in kidney diseases	6	75	25	12.5	A8	12.5	12.5
Total	48			100%	-	100	

Merhan M. Ragy

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: Internal Medicine

Programme(s) on which the course is given: First part MD in Internal Medicine

Academic year/ Level: First part of MD

1. Course Information		
Academic Year/level: **First part MD**	Course Title: **Use of Computer in Medicine**	Code: **GM 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 Introduction to Microsoft PowerPoint		A.1, A.2,			D.1
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:**

➢ **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: Internal Medicine

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: **Medical Statistics and Research Methodology**	Code: **GM 100**

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			
Introduction : - Introduction to research. - Terminology and Rationale - Originality		3	
- Study design : -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		4	
- 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		2	2

- Protocol Writing			
- 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 department council: 13 /5/2013.

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

نموذج رقم (١١)

Medical Statistics and Research Methodology	**مسمى المقرر**
CM 100	**كود المقرر**

جامعة/أكاديمية : المنيا

كلية / معهد: الطب

قسم: الصحة العامة والطب الوقائي

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 -Case-control study, Odd's ratio sampling -Experimental study and clinical trials		A.3, A.4,	B.l, B.2, B.3, B.4,	C.1,	
- 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

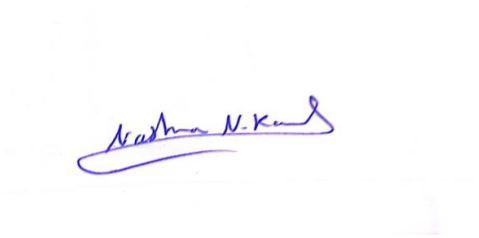
Assistant Coordinator: Assis .lecturer Shaza Fadel

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 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%**

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%

Course Specification of Pathology

Doctorate Degree in Internal Medicine (2022-2023)

- **University:** Minia
- **Faculty:** Medicine
- **Program on which the course is given**: Doctorate Degree in Internal Medicine
- **Major or minor element of program:** Pathology
- **Department offering the program:** Internal Medicine 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 Internal Medicine	**Course Title**: Course Specification of Pathology (MD Internal Medicine)	**Code**: PA100

- **Number of teaching hours:**

Lectures: Total of 27 hours; 1 hour/week

Practical: Total of 16 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 in details granuloma pathogenesis, types, and pathology A7: Define mycobacterial infection A8: Recognise different forms of haemodynamic disorders and their underlying pathogenesis A9: Recognise the pathological aspects of neoplasms A10: Discuss different environmental diseases as tobacco smoking alcohol consumption, occupational diseases, and exposure to irradiation nutritional disorders, and obesity. A11: Define and discuss the main disease categories of the cardiovascular system A12: Define and discuss the main disease categories of the respiratory system A13: Define and discuss the main disease categories of the kidney and urinary tract

	A14: Define and discuss the main disease categories of the gastrointestina tract. A15: Define and discuss the main disease categories of the hepatobiliary system and pancreas A16: Define and discuss the main disease categories of the haematopoieti and lymphopoietic systems A17: Define and discuss the main disease categories of of endocrine organ
(B)- Intellectual Skills	B1: Correlate & evaluate the gross and microscopic features of differen disease process with available clinical data to provide a list of differentia 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 an processing of specimens as well as during performing different essentia laboratory techniques
(C)- Professional and Practical Skills	C1: Deal with anatomical pathology specimens in view of adopte standards as well as quality & safety procedures. C2. Practice efficiently basic and modern laboratory techniques tha include histochemical, immunohistochemical and other principa procedures such as biopsy preservation C3: Counsel expertise in the lab regarding the basics of essential technique and issues related to maintain safety and available resources.
(D)- General and transferable Skills	D1: Demonstrate efficient communication & interpersonal skills in all it 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 source of information to get essential information and updates regarding th different topics and techniques in surgical pathology. D3: Develop skills of self-evaluation and identify personal learning need 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	2	1	3
[4]- Inflammation	2	1	3
[5]- Tissue Repair	1	1	2

[6]- Acute bacterial infection viral infection, mycotic diseases, parasitic infestation	1	1	2
[7]- Tuberculosis	1	1	2
[8]- Hemodynamic disorders	2	1	3
[9]- Neoplasia	2	1	3
[10]- Environmental and nutritional diseases & ionising radiation	1	-	1
(B)- Systemic Pathology			
[1]- Diseases of cardiovascular system	2	1	3
[2]- Diseases of the respiratory system	2	1	3
[3]- Diseases of the kidney and urinary tract	2	1	3
[4]- Diseases of the gastrointestinal tract.	2	1	3
[5]- Diseases of the hepatobiliary system and pancreas	2	1	3
[6]- Diseases of the haematopoietic and lymphopoietic systems	2	1	3
[7]- Diseases of endocrine organs	2	1	3
Total	27	16	53

[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 40% (Marks) 2- Oral exam 60% (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: Professor Wafaey Mohammad Gomaa

Head of Department: Professor Heba Mohamed Tawfik

جامعة المنيا
كلية الطب البشري
قسم الباطنة العامة

Course Specification of Pathology MD degree of Internal Medicine (First part) **مسمى المقرر:**

PA100 **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	**A1,2,3,4,5,6,7,8,9,10**	**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				
[7]- Tuberculosis				
[8]- Hemodynamic disorders				
[9]- Neoplasia				
[10]- Environmental and nutritional diseases & ionising radiation				
(B)- Systemic pathology				
[1]- Diseases of cardiovascular system	**A11**	**B1,2**	**C 1, 2, 3**	**D 1, 2**
[2]- Diseases of the respiratory system	**A12**			
[3]- Diseases of the kidney and urinary tract	**A13**			
[4]- Diseases of the gastrointestinal tract.	**A14**			
[5]- Diseases of the hepatobiliary system and pancreas	**A15**			

[6]- Diseases of the haematopoietic and lymphopoietic systems	**A16**			
[7]- Diseases of endocrine organs	**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	✓	✓	**NA**	**NA**
Practical	✓	✓	✓	✓
Presentation/seminar	**NA**	**NA**	✓	✓
Journal club	✓	✓	**NA**	✓
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	✓	✓	**NA**	**NA**
Practical exam			✓	✓
Clinical exam	**NA**	**NA**	**NA**	**NA**
Oral Exam	✓	✓	✓	✓
Assignment	✓	✓	**NA**	**NA**
Structured oral exams	**NA**	**NA**	**NA**	**NA**

Date of department council approval: 12-3-2023

Blueprint Pathology
Doctorate Degree in Internal Medicine (2022-2023)

Topic	Contact hours	Knowledge %	Intellectual%	% of topic	%
(A)- General Pathology					
[1]- Routine and special techniques in surgical pathology and the related safety & quality measures.	1	70 %	30 %	3	3
[2]- Handling of anatomical pathology specimens and the related safety & quality measures.	1	70 %	30 %	3	3
[3]- Cell injury and cell death	2	70 %	30 %	8	8
[4]- Inflammation	2	70 %	30 %	8	8
[5]- Tissue Repair	1	70 %	30 %	4	4
[6]- Acute bacterial infection viral infection, mycotic diseases, parasitic infestation	1	70 %	30 %	3	3
[7]- Tuberculosis	1	70 %	30 %	3	3
[8]- Hemodynamic disorders	2	70 %	30 %	7	7
[9]- Neoplasia	2	70 %	30 %	7	7
[10]- Environmental and nutritional diseases & ionising radiation	1	70 %	30 %	3	3
(B)- Systemic Pathology					
[1]- Diseases of cardiovascular system	2	70 %	30 %	8	8
[2]- Diseases of the respiratory system	2	70 %	30 %	8	8
[3]- Diseases of the kidney and urinary tract	2	70 %	30 %	7	7
[4]- Diseases of the gastrointestinal tract.	2	70 %	30 %	7	7
[5]- Diseases of the hepatobiliary system and pancreas	2	70 %	30 %	7	7

[6]- Diseases of the haematopoietic and lymphopoietic systems	2	70 %	30 %	7	7
[7]- Diseases of endocrine organs	2	70 %	30 %	7	7
Total	28			100%	100%

Date of approval by department council: 12-3-2023