Minia University

Faculty of Medicine

Program Specification for MD Degree in: Rheumatology, Rehabilitation and physical medicine

A. Basic Information:

1. **Program title:** **MD Degree in Rheumatology, Rehabilitation and Physical medicine**
2. **Final award:** **MD Degree in Rheumatology, Rehabilitation and Physical medicine**
3. **Program type:** Single
4. **Department offering the program:** Rheumatology, Rehabilitation and physical medicine department.
5. **Program duration:** **3.5 years**
6. **Number of program courses:** 5
7. **Program code:** RR 100
8. **Academic year:** 2022/2023
9. **Date of approval:** 6/3/2023
10. **Coordinators:**

Dr. Al Shimaa Mamdouh
Dr. Esraa Fathy
Dr. Haidy Mohamed
Dr. Aya Hassan
Dr. Reem Mohammed
Dr. Doaa Mahmoud

11. **Evaluators:**

External evaluator: **Prof. Samar Muhammad Fawzy,** Professor of Rheumatology & Rehabilitation from Cairo University.

Internal evaluator: **Prof. Hanaa Ahmed Sadek,** Professor of Rheumatology, Rehabilitation and physical medicine department from Minia University.

B. Professional information:

I. Program aims

The program is a professional degree that enables candidates to advance knowledge and skills in the area of Rheumatology, Clinical immunology and Rehabilitation medicine. The candidates should achieve an advanced level of knowledge, clinical and medical skills in all aspects of Rheumatology & Rehabilitation practice, interact with community problems, respect ethical values according to community culture, and promote their medical standards through engaging in continuing medical education. The program also aims to introduce the candidate to the advanced scientific medical research.

II. Intended learning outcomes of program (ILOs)

A. Knowledge and understanding: By the end of the program the candidate should;

A1. Explain basic, advanced and updated scientific knowledge related to Rheumatic diseases and human musculoskeletal system including biomechanics, physiological aspects of body systems and clinical immunology with integration of other systems.

A2. Define Issues related to the basics and ethical items needed for implementation of scientific research methodology in Rheumatology, Rehabilitation and physical medicine.

A3. Identify ethical and medico legal aspects of practice, malpractice and avoid common medical errors in the field of Rheumatology, Rehabilitation and physical medicine.

A4. Identify Principles and the basics of quality in the implementation of practical skills and professionalism in Rheumatology, Rehabilitation and physical medicine.

A5. Summarize the mutual influence between the proper professional practice in Rheumatology & Rehabilitation and impact on surrounding environment and public health.

A6. Demonstrate common and rare rheumatic diseases and immunological problems causing disabilities and illustrate the pathological and psychological basis of different rheumatological, musculoskeletal disorders and disabilities.

A7. Define basic and extended concepts of immunological laboratory procedures imaging technique and elecrodiagnostic studies related to inflammatory and non-inflammatory rheumatological and musculoskeletal problems.

A8. Define modern knowledge in management of rheumatological diseases according to updated recommendations of ACR (Annex1) and EULAR (Annex 2).

A9. Illustrate the psychological basis of rheumatological disorders.

A10. Tell Principles, methodologies and tools of scientific research.

B. ***Intellectual skills*****: By the end of the program the candidate should be able to;**

B1. Analyze information and construct a differential diagnosis for common and rare rheumatological disorders.

B2. Solve specialized problems related to Rheumatology, Rehabilitation and physical medicine utilizing available data.

B3. Plan research studies that add to his knowledge in the field of Rheumatology, Rehabilitation and physical medicine.

B4. Formulate scientific papers in the area of Physical Medicine, Rheumatology and Rehabilitation.

B5. Assess risk in professional practices in the field of Physical Medicine, Rheumatology and Rehabilitation.

B6. Design goals, commitments and strategies for improved productivity and performance in the field of Physical Medicine, Rheumatology and Rehabilitation.

B7. Build up professional decisions in a wide variety of professional contexts related to the area of Rheumatology, Rehabilitation and physical medicine.

B8. Discover intellectual curiosity necessary for scientific discovery and innovation through active participation in research in the field of Physical Medicine, Rheumatology and Rehabilitation.

B9. Select and use appropriate research methods and strategies.

B10. Utilize Evidence-based strategies during scientific discussion or teaching others.

B11. Design an appropriate diagnostic plan for common and rare immunological, rheumatological and musculoskeletal disorders & different disabilities taking into consideration the nature of the clinical situation and the risks, benefits and costs to the patient.

B12. Formulate treatment plans for common and rare rheumatological problems taking into account the cultural and individual needs.

B13. Distinguish chronic rheumatological diseases needing lifelong treatment from other acute short-lasting conditions.

B14. Discuss different causes of handicap and loss of functions of different body organs or systems, and whether they are correctable, modifiable or not at all.

B15. Estimate the impact of professional practice on the environment.

C. Professional and practical skills: By the end of the program the candidates should be able to;

C1. Organize professionally clinical data specially the art of history taking required in common and rare rheumatological diseases.

C2. Examine and identify signs of common and rare rheumatic and musculoskeletal disorders and functional disabilities.

C3. Apply sample collection related to any joint fluid and bursa aspiration

C4. Apply invasive procedures needed for any joint dysfunction such as intra-articular and regional soft tissue injections.

C5. Construct advanced medical treatment for rheumatic, musculoskeletal and bone disorders.

C6. Evaluate any type of disability and guide through an efficient program of rehabilitation.

C7. Estimate all rheumatological emergencies properly.

C8. Solve the possible complications of the diseases themselves or their treatments.

C9. Design, write perfectly and evaluate medical reports.

C10. Make use properly and efficiently of the different methods and existing tools to serve the professional practice in the area of Rheumatology, Rehabilitation and physical medicine.

C11. Utilize the technological means to serve Professional practice in the field of Physical Medicine, Rheumatology and Rehabilitation.

C12. Plan for the development of professional practice and improve of the performance of others in the field of Physical Medicine, Rheumatology and Rehabilitation.

D. *General and transferable skills*: By the end of the program the candidates should be able to professionally.

D1. Communicate with the patients to gain their confidence.

D2. Respond effectively to a patient's emotional and psychosocial concerns

D3. 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.

D4. Master Computer skills necessary to set up medical data bases and use internet for communication.

D5. Develop effective teaching means to others and evaluating perfectly their performance.

D6. Perform periodic Self-assessment and continuous learning.

D7. Use wide variety of information resources (print, analog), online (electronic, digital,) text, audio-video, book and journal to address medical questions and knowledge to sustain professional growth.

D8. Acquire leadership skills that enable her/him to organize team work, lead the juniors and paramedical staff as well as working as a member of large team.

D9. Set up a plan for team working.

D10. Coordinate effectively with other specialties regarding management of some patients who need this coordination, also the skill of when and why to stop managing the case and referring him to another specialist.
D11. Move on with the administrative skills that enable her/him to fulfill the paperwork needed.

D12. Write scientific article according to the basics and advancements of scientific research.

D13. Present effectively reports in meetings and seminars and properly manage scientific meetings.

D14. Manage time perfectly and effectively depending on urgent or deferred priorities.

D15. Design questionnaires and Conduct research.

III. Program Academic Reference standards (ARS)

Academic reference standards:

- Minia faculty of medicine adopted the general national academic reference standards (GARS) provided by the national authority for quality assurance and accreditation of education (NAQAAE) for all postgraduate programs. (Faculty Council Decree No.6854.

in its cession No.177 Dated: 18/5/2009). (Annex3).

- Minia faculty of medicine had developed the academic reference standards (ARS) for medical doctorate program (MD) and was approved in faculty council decree No. 7528, in its session No. 191, dated 15/3/2010. Last update: 20/2/2023 (Annex4).

Then, rheumatology, rehabilitation, & physical medicine department has developed the intended learning outcomes (ILOs) for medical doctorate program (MD) in rheumatology, rehabilitation, & physical medicine and date of program specifications first approved was by department council 13/5/2013, last update: 6/3/2023 (Annex5).

IV. Program structure and contents.

Program duration: 3.5 years

Program courses: 5 courses are compulsory.

Program structure: divided to:

Subject	No. of Hours/Week	
	Lectures	Practical
First part:		
Basic Sciences:		
• **Anatomy (annex-6)**	2-4	1-2
• **Physiology (annex-7)**	2	------
• **Medical statistics and research methodology (annex-8)**	1-4	1-2
• **Use of Computer in medicine (annex-9)**	4	2
Second part:		
	Lectures	**Clinical**
• Rheumatic Diseases	4	12
• Musculoskeletal disorders		
• Immunology		
• Physical medicine		
• Rehabilitation Medicine, Orthoses and prostheses		

V. Program admission requirements

I) General Requirements:

1. Candidates should have either:

a. M.B.B.Ch Degree from any Egyptian Faculty of Medicine, or:

b. Equivalent Degree from Medical Schools abroad approved by the Ministry of Higher Education.

2. Master Degree in Physical Medicine, Rheumatology and Rehabilitation.

3. Follow postgraduate regulatory rules of Minia Faculty of Medicine.

II)Specific Requirements:

1. Candidate graduated from Egyptian Universities should have at least "Good Rank" in their final years / cumulative years examination, and grade of "Good Rank" in the Internal Medicine Rank too.

2. Master Degree in Physical Medicine, Rheumatology and Rehabilitation with at least "Good Rank"

VI. Regulations for progression and program completion

The student submits a protocol for MD thesis. Before submitting to the final exam, he should finish the thesis and collect the required credit points. The candidate will receive his degree after passing this final exam. In case the student fails to pass the exam, he can resubmit for the next exam. The student should finish his MD degree within a maximum of years.

- **First Part:**

  - Program-related basic sciences (medical statistics & Research Methodology, use of Computer in medicine, anatomy and physiology courses).
  - At least six months after registration should pass before the student can ask for examination in the 1st part.
  - Two sets of exams: 1st in April — 2nd in October.
  - For the student to pass the first part exam, a score of at least 60% in each curriculum is needed.
  - Those who fail in one curriculum need to re-exam it only.

- **Second Part:**

  - Program related specialized science of Physical Medicine, Rheumatology and Rehabilitation courses.
  - At least 24 months after passing the 1st part should pass before the student can ask for examination in the 2nd part.
  - Fulfillment of the requirements in each course as described in the template and registered in the logbook is a prerequisite for candidates to be assessed and undertake

Grand rounds	**اجتماع علمي 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 علمي موسع**
Self-education program	

part 1 and part 2 examinations: as following:

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

Thesis:

- Could start 1.5 years after registration and should be completed, defended, publishing at least 2 papers (one national and one international) and accepted after passing the 2nd part final examination, and after passing of at least 24 months after documentation of the subject of the thesis.
- Accepting the thesis is enough to pass this part.

VII. Teaching and learning methods

Lectures (offline and online)	**المحاضرات**
Out patient clinic cases	**حالات العيادة الخارجية**
Rehabilitation cases	**حالات التأهيل**
Inpatient cases (shifts)	**النوبتجيات**
Grand rounds	**اجتماع علمي 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 علمي موسع**

Practical and Clinical training

The student should command his/her clinical skills, upgrade and refine the intervention procedures and efficiently use diagnostic imaging modalities to help in the diagnosis of Rheumatology and Clinical immunology diseases.

Advanced training will continue the clinical and educational tasks of the specialized training program, so as to be able to provide proper and judicious therapeutic decisions for Rheumatology, Clinical immunology and Rehabilitations problems.

The students will continue the previous procedures in the specialized training program and refine his/her skills. Advanced ultrasonographic musculoskeletal examination will be incorporated. The administrative, scientific and social activities and skills will be continued as the student will attend, share and participate in lectures, seminars, journal clubs, grand rounds and inpatient staff rounds.

M.D. Thesis

All MD-degree students should prepare a thesis in any aspect of Rheumatology and Rehabilitation. The department and the ethical committees must approve the protocol of the research. The thesis should include a review part and a research part. The Thesis is supervised by one or more senior staff members from the Rheumatology and Rehabilitation department and may include other specialties according to the nature of the research. The thesis should be evaluated and approved by a committee of three professors including one of the supervisors and an external professor.

Scientific Activities:

The students should participate in the scientific activities of the departments such as:

- Journal club (presenting scientific articles).
- Seminars (including recent topics and controversial issues). Students are expected to participate in the discussions.
- Scientific meetings arranged by the department.

Each activity will be monitored and registered in a scientific activities' logbook.

VIII. Methods of student assessment and weighting of assessment

A. Assessment Tools

- **Supervision and Monitoring of Training Program**

According to the bylaws of the MD candidates, professors carry continuous assessment during the program. A clinical/practical training logbook and scientific activities logbook will be kept for each candidate to document all his/her clinical, laboratory and operative activities as well as

his/her participation in different scientific activities. The head of the department should allow the students to undergo the final examination when they complete their training program and collect the credit points needed**.**

B. Assessment Schedule:

Final Exam Part I

Basic sciences:

- **Anatomy:** Three-hours written exam (including short assay and multiple choice questions) + oral exam.
- **Physiology:** Three-hours written exam (including short assay and multiple choice questions) + oral exam.
- **Medical statistics and research methodology:** Three-hours written exam (including short assay and multiple choice questions) + oral exam.
- **Use of Computer in medicine :** Three-hours written exam (including short assay and multiple choice questions) + oral exam.

The written exam will be held in four days:

Day one : Medical statistics and research methodology
Day two : Use of Computer in medicine
Day three: Anatomy
Day four : Physiology

This will be followed by clinical and oral exams in separate days

Final Exam Part 2

Rheumatology & Rehabilitation: three written exams (Three-hours each) including short assay questions, MCQ and problem solving + oral exam + clinical exam

Day one : Rheumatology (short assay and MCQs)
Day two : Rehabilitation (short assay and MCQs)
Day three: problem solving **(**Rheumatology **and** Rehabilitation**)**

The clinical exams will be held in two days.
The oral exams will be held in two days.

Method of assessment	**Weighting of assessment**			**The assessed ILOs**
1) First part				
	Written Exam	**Practical Exam**	**Oral Exam**	
Anatomy	**100**	**100**	**100**	**Mentioned in the**

				course specification
Physiology	**40**	**-**	**60**	**Mentioned in the course specification**
Medical Statistics and Research Methodology	**100**	**100**	**100**	**Mentioned in the course specification**
Use of Computer in Medicine	**100**	**100**	**100**	**Mentioned in the course specification**
2) Research assignment				A2, A10 B3, B4, B8, B9, D1, D2, D5, D6, D7, D8, D9, D11, D12, D14, D15
3) Second part				
Written Exams: • Short essay • MCQs • Problem solving		**100 × 3= 300**		-A1, 6, 7, 8 -A1, 6, 7, 8, 9 ---B1, 2, 7, 11, 12, 13, 14 -B1, 2, 7, 10, 11, 12, 13
Clinical Exams.		100		-A1, 3, 4, 9 -B1, 7, 10, 11, 12, 13, 14 -C1, 2, 5, 6, 10, 11, 12
CIVA		100		-B1, 2, 5, -C2, 3, 4, 6, 10, 11, 12 -D4
Oral Exams.		**100**		-A1, 2, 5, 5, 7, 8, 9 -B6, 10, 14, 15 -D3, 13

Remarks

1. It is mandatory to pass all papers of the Rheumatology and Rehabilitation exams separately
2. Passing mark in a written exam is ≥ 60%.

IX. Evaluation of program intended learning outcomes:

Evaluator	Tool	Sample
1- Senior students	Questionnaire	Student's Questionnaire reports are attached to the program (annex 10)
2- Alumni	The faculty is currently developing an Alumni office for postgraduates	Not yet determined
3- Stake holders (Employers)	A meeting was arranged during the annual conference of the department	Available representatives from: • Army hospitals • National medical insurance • Medical syndicate • Ministry of health.
4-External Evaluators and internal evaluators	-Review the program and courses (A Report attached to the file, annex11). -Attending the final -.exam	Once before implementation
5. College Quality Assurance committee	Annual program review (Revise programs and courses specifications).	

Signatures

Head of Department

Prof. Faten Ismail Muhammed

Matrix between GARS and Faculty ARS

المعايير القياسية العامة: NAQAAE General Academic Reference Standards "GARS" for MD Programs	Faculty Academic Reference Standards (ARS) for MD Program
1.2. المعرفة والفهم: بانتهاء دراسة برنامج الدكتوراه يجب أن يكون الخريج قادرا علي الفهم والدراية بكل من:	**2.1. Knowledge and understanding:** **Upon completion of the doctorate Program (MD), the graduate should have sufficient knowledge and understanding of:**
1.1.2. النظريات والأساسيات والحديث من المعارف في مجال التخصص والمجالات ذات العلاقة	2.1.1. Theories, basics and updated knowledge in his scholarly field and related basic sciences.
2.1.2. أساسيات ومنهجيات وأخلاقيات البحث العلمي وأدواته المختلفة	2.1.2. Basic, methods and ethics of medical research.
3.1.2. المبادئ الأخلاقية والقانونية للممارسة المهنية في مجال التخصص	2.1. 3. Ethical and medicolegal principles of medical practice.
4.1.2. مبادئ وأساسيات الجودة في الممارسة المهنية في مجال التخصص	2.1. 4. Identify Principles and fundamental of quality in professional medical practice.
5.1.2. المعارف المتعلقة بآثار ممارسته المهنية على البيئة وطرق تنمية البيئة وصيانتها	2.1.5. Knowledge related to effects of professional practice on public health and methods of maintenance and system-based improvement of public health.
2.2. المهارات الذهنية: بانتهاء دراسة برنامج الدكتوراه يجب أن يكون الخريج قادرا على:	**2.2. Intellectual skills:** **Upon completion of the doctorate program (MD), the graduate must be able to:**
1.2.2.تحليل وتقييم المعلومات في مجال التخصص والقياس عليها والاستنباط منها	2.2.1 Analysis and evaluation of information to correlate and deduce from it.
2.2.2. حل المشاكل المتخصصة استنادا على المعطيات المتاحة	2.2.2. Problem solving skills based on analysis of available data for common health problems related to his scholarly field.

3.2.2. إجراء دراسات بحثية تضيف إلى المعارف	2.2.3. Carryout research projects related to his scholarly field.
4.2.2. صياغة أوراق علمية	2.2.4. Write and publish scientific papers.
5.2.2. تقييم المخاطر في الممارسات المهنية	2.2.5. Assess risk in professional medical practice.
6.2.2. التخطيط لتطوير الأداء في مجال التخصص	2.2.6. Establish goals, commitments and strategies for improved productivity and performance.
7.2.2. اتخاذ القرارات المهنية في سياقات مهنية مختلفة	2.2.7. Making professional decisions in different professional contexts.
8.2.2. الابتكار/ الإبداع	2.2.8. Demonstrate intellectual curiosity necessary for scientific discovery and innovation through active participation in research.
9.2.2. الحوار والنقاش المبني على البراهين والأدلة	2.2.9. Using Evidence-based strategies to during discussion or teaching others.
3.2. مهارات المهنية: **بانتهاء دراسة برنامج الدكتوراه يجب أن يكون الخريج قادرا على:**	**2.3. Professional skills:** **Upon completion of the doctorate program (MD), the graduate must be able to:**
1.3.2. إتقان المهارات المهنية الأساسية والحديثة في مجال التخصص	2.3.1. Master the basic as well as modern professional practical and/or clinical skills.
2.3.2 . كتابة وتقييم التقارير المهنية	2.3.2. Write and evaluate professional reports.
2.3.3 . تقييم وتطوير الطرق والأدوات القائمة في مجال التخصص	2.3.3. Evaluate and improve the methods and tools in the specific field
4.3.2. استخدام الوسائل التكنولوجية بما يخدم الممارسة المهنية	2.3.4. use of technological means to serve Professional practice
2.3.5. التخطيط لتطوير الممارسة المهنية وتنمية أداء الآخرين.	2.3.5. Planning for the development of professional practice and improve of the performance of others
4.2. المهارات العامة والمنتقلة: **بانتهاء دراسة برنامج الدكتوراه يجب أن يكون الخريج قادرا على:**	**2.4. General and transferable skills** **Upon completion of the doctorate program (MD), the graduate must be able to:**
1.4.2. التواصل الفعال بأنواعه المختلفة	2.4.1. Communicate (in writing and orally) effectively and respectfully with

	peers, faculty, colleagues, and other members of the health care team, understanding the role of consultations and referrals.
2.4.2. استخدام تكنولوجيا المعلومات ب ما يخدم تطوير الممارسة المهنية	2.4.2. Use of information technology to serve Professional Practice Development.
3.4.2. تعليم الآخرين وتقييم أداءهم	2.4.3. Demonstrate effective teaching and evaluating others.
4.2.4. التقييم الذاتي والتعلم المستمر.	2.4.4. Self-assessment and continuous learning
5.4.2. استخدام المصادر المختلفة للحصول على المعلومات والمعارف.	2.4.5. use physical information resources (print, analog), online (electronic, digital,) text, audio-video, book and journal to address medical questions and knowledge to sustain professional growth
6.4.2. العمل في فريق وقيادة فرق العمل	2.4.6. Work as a member in larger teams and as well as a team leader knows how to develop "teaming strategy" to plan how people will act and work together.
7.2-4 . إدارة اللقاءات العلمية والقدرة علي إدارة الوقت	2.4.7. Manage of scientific meetings and the ability to manage Time effectively.

Matrix between Faculty ARS and program ILOS

Faculty Academic Reference Standards (ARS) for MD Program	program ILOS
2.1. Knowledge and understanding: **Upon completion of the doctorate Program (MD), the graduate should have sufficient knowledge and understanding of:**	**A. Knowledge and understanding:** **By the end of the program the candidate should;**
2.1.1. Theories, basics and updated knowledge in his scholarly field and related basic sciences.	A1. Explain basic, advanced and updated scientific knowledge related to Rheumatic diseases and human musculoskeletal system including biomechanics, physiological aspects of

	body systems and clinical immunology with integration of other systems A6. Demonstrate common and rare rheumatic diseases and immunological problems causing disabilities and illustrate the pathological and psychological basis of different rheumatological, musculoskeletal disorders and disabilities. A7. Define basic and extended concepts of immunological laboratory procedures imaging technique and elecrodiagnostic studies related to inflammatory and non-inflammatory rheumatological and musculoskeletal problems. A8. Define modern knowledge in management of rheumatological diseases according to updated recommendations of ACR and EULAR A9. Illustrate the psychological basis of rheumatological disorders.
2.1.2. Basic, methods and ethics of medical research.	A1. Define Issues related to the basics and ethical items needed for implementation of scientific research methodology in Rheumatology, Rehabilitation and physical medicine. A10. Tell Principles, methodologies and tools of scientific research.
2.1. 3. Ethical and medicolegal principles of medical practice.	A3. Show ethical and medico legal aspects of practice, malpractice and avoid common medical errors in the field of Rheumatology, Rehabilitation and physical medicine
2.1. 4. Identify Principles and fundamental of quality in professional medical practice.	A4. Show Principles and the basics of quality in the implementation of practical skills and professionalism in Rheumatology, Rehabilitation and physical medicine
2.1.5. Knowledge related to effects of professional practice on public health	A5. Relate the mutual influence between the proper professional practice

and methods of maintenance and system-based improvement of public health.	in Rheumatology & Rehabilitation and impact on surrounding environment and public health.
2.2. Intellectual skills: **Upon completion of the doctorate program (MD), the graduate must be able to:**	**B.Intellectual skills:** **By the end of the program the candidate should be able to;**
2.2.1 Analysis and evaluation of information to correlate and deduce from it.	B1. Analyze information and construct a differential diagnosis for common and rare rheumatological disorders. B11. Design an appropriate diagnostic plan for common and rare immunological, rheumatological and musculoskeletal disorders & different disabilities taking into consideration the nature of the clinical situation and the risks, benefits and costs to the patient. B12. Formulate treatment plans for common and rare rheumatological problems taking into account the cultural and individual needs.
2.2.2. Problem solving skills based on analysis of available data for common health problems related to his scholarly field.	B2. Solve specialized problems related to Rheumatology, Rehabilitation and physical medicine utilizing available data.
2.2.3. Carryout research projects related to his scholarly field.	B3. Plan research studies that add to his knowledge in the field of Rheumatology, Rehabilitation and physical medicine. B9. Select and use appropriate research methods and strategies.
2.2.4. Write and publish scientific papers.	B4. Formulate scientific papers in the area of Physical Medicine, Rheumatology and Rehabilitation.
2.2.5. Assess risk in professional medical practice.	B5. Assess risk in professional practices in the field of Physical Medicine, Rheumatology and Rehabilitation.
2.2.6. Establish goals, commitments and strategies for improved productivity and performance.	B6. Design goals, commitments and strategies for improved productivity and performance in the field of Physical

	Medicine, Rheumatology and Rehabilitation. B15. Estimate the impact of professional practice on the environment
2.2.7. Making professional decisions in different professional contexts.	B7. Build up professional decisions in a wide variety of professional contexts related to the area of Rheumatology, Rehabilitation and physical medicine. B13. Distinguish chronic rheumatological diseases needing lifelong treatment from other acute short-lasting conditions. B14. Discuss different causes of handicap and loss of functions of different body organs or systems, and whether they are correctable, modifiable or not at all.
2.2.8. Demonstrate intellectual curiosity necessary for scientific discovery and innovation through active participation in research.	B8. Discover intellectual curiosity necessary for scientific discovery and innovation through active participation in research in the field of Physical Medicine, Rheumatology and Rehabilitation
2.2.9. Using Evidence-based strategies to during discussion or teaching others.	B10. Utilize Evidence-based strategies during scientific discussion or teaching others.
2.3. Professional skills: **Upon completion of the doctorate program (MD), the graduate must be able to:**	**C.Professional and practical skills:** **By the end of the program the candidates should be able to;**
2.3.1. Master the basic as well as modern professional practical and/or clinical skills.	C1. Organize professionally clinical data specially the art of history taking required in common and rare rheumatological diseases. C2. Examine and identify signs of common and rare rheumatic and musculoskeletal disorders and functional disabilities. C3. Apply sample collection related to any joint fluid and bursa aspiration C4. Apply invasive procedures needed

	for any joint dysfunction such as intra-articular and regional soft tissue injections. C5. Construct advanced medical treatment for rheumatic, musculoskeletal and bone disorders. C6. Evaluate any type of disability and guide through an efficient program of rehabilitation C7. Estimate all rheumatological emergencies properly. C8. Solve the possible complications of the diseases themselves or their treatments
2.3.2. Write and evaluate professional reports.	C9. Design, write perfectly and evaluate medical reports.
2.3.3. Evaluate and improve the methods and tools in the specific field	C10. Make use properly and efficiently of the different methods and existing tools to serve the professional practice in the area of Rheumatology, Rehabilitation and physical medicine.
2.3.4. use of technological means to serve Professional practice	C11. Utilize the technological means to serve Professional practice in the field of Physical Medicine, Rheumatology and Rehabilitation
2.3.5. Planning for the development of professional practice and improve of the performance of others	C12. Plan for the development of professional practice and improve of the performance of others in the field of Physical Medicine, Rheumatology and Rehabilitation.
2.4. General and transferable skills **Upon completion of the doctorate program (MD), the graduate must be able to:**	**D.General and transferable skills:** **By the end of the program the candidates should be able to professionally.**
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.	D3. Communicate (in writing and orally) effectively and respectfully with peers, faculty, colleagues, and other members of the health care team, understanding the role of consultations and referrals. D1. Communicate with the patients to gain their confidence. D2. Respond effectively to a patient's emotional and psychosocial concerns D9. Coordinate effectively with other

	specialties regarding management of some patients who need this coordination, also the skill of when and why to stop managing the case and referring him to another specialist.
2.4.2. Use of information technology to serve Professional Practice Development.	D4. Master Computer skills necessary to set up medical data bases and use internet for communication.
2.4.3. Demonstrate effective teaching and evaluating others.	D5. Develop effective teaching means to others and evaluating perfectly their performance
2.4.4. Self-assessment and continuous learning	D6. Perform periodic Self-assessment and continuous learning.
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	D7. Use wide variety of information resources (print, analog), online (electronic, digital,) text, audio-video, book and journal to address medical questions and knowledge to sustain professional growth. D11. Move on with the administrative skills that enable her/him to fulfill the paperwork needed. D12. Write scientific article according to the basics and advancements of scientific research. D15. Design questionnaires and Conduct research.
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.	D8. Acquire leadership skills that enable her/him to organize team work, lead the juniors and paramedical staff as well as working as a member of large team. D9. Set up a plan for team working.
2.4.7. Manage of scientific meetings and the ability to manage Time effectively.	D13. Present effectively reports in meetings and seminars and properly manage scientific meetings. D14. Manage time perfectly and effectively depending on urgent or deferred priorities

Matrix between program courses and program ILOS

Subject	No. of Hours/Week		program ILOS
	Lectures	Practical	
First part:			
Basic Sciences:			
• Anatomy (annex-3)	2-4	1-2	A 1
• Physiology (annex-4)	2	------	A 1, 9
• Medical statistics and research methodology (annex-5)	1-4	1-2	A 1, 2, 5, 9 B 4, 6, 8, 12, 15 D 4,11, 12, 13, 14, 15
• Use of Computer in medicine (annex-6)	4	2	A 1 C 9, 11 D 4, 9, 15
Second part:			
	Lectures	**Clinical**	
• Rheumatic Diseases	4	12	A 1, 3, 4, 6, 7, 8 B 1, 2, 3, 5, 7, 11, 12, 13 C 1, 2, 3, 4, 5, 7, 8. 9, 12 D 1, 2, 3, 5, 6, 9
• Musculoskeletal disorders			A 1, 4, 3, 6, 7, 8 B 1, 2, 3, 5, 7, 11, 12, 13 C 1, 2, 3, 4, 5, 7, 8. 9, 12 D 1, 2, 3, 5, 6, 9
• Immunology			A 1, 4, 6, 7, 8 B 1, 2, 3, 5, 7, 11, 12, 13 C 1, 2, 3, 4, 5, 7, 8. 9, 12 D 1, 2, 3, 5, 6, 10
• Physical medicine			A 1, 4, 6, 7, 8 B 1, 2, 3, 5, 7, 11, 12, 13, 14 C 1, 2, 6, 8, 9, 12 D 1, 2, 3, 5, 6, 10
• Rehabilitation			A 1, 3, 4, 6, 7, 8, 9 B 1, 2, 3, 5, 7, 11, 12, 13,

Medicine, Orthoses and prostheses			**14** **C 1, 2, 3, 4, 5, 6, 7, 8. 9, 12** **D 1, 2, 3, 5, 6, 10**
MD thesis			**A 2, 3, 12, 10** **B 4, 12, 10** **C 1, 2** **D 1, 2, 3, 8, 9, 10, 11, 12, 13, 14, 15**

Matrix between Teaching and learning methods and program ILOS

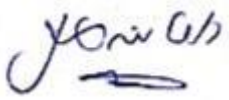
Teaching and learning methods	**program ILOS**			
	A-knowledge and understanding skills	**B- intellectual skills**	**C- professional and practical skills**	**D- general and transferable skills**
Lectures (offline and online)	**A1: A10**	**B1: B15**	**-----**	**------**
Outpatient clinic cases	**---------**	**B 1, 2, 3, 5, 6, 7, 10. 11, 12, 13, 14, 15**	**C1: C12**	**D1: D10+ D14**
Rehabilitation cases	**---------**	**B 1, 2, 3, 5, 6, 7, 10. 11, 12, 13, 14, 15**	**C1: C12**	**D1: D10+ D14**
Inpatient cases (shifts)	**---------**	**B 1, 2, 3, 5, 6, 7, 10. 11, 12, 13, 14, 15**	**C1: C12**	**D1: D10+ D14**
Grand rounds	**A1: A10**	**---------**	**---------**	**D3 : D7 + D14**
Training courses	**----------**	**---------**	**C1 : C5**	**D 1, 2, 4 7, 8, 9, 14**
Conference attendance	**A1: A10**	**--------**	**--------**	**D 1, 2, 4 7, 8, 9, 14**

Thesis discussion	**A 2, 3, 10**	**-------**	**------**	**D 7, 8, 9, 14**
Workshops	**A1**	**--------**	**C1 : C5 + C10**	**D 1, 2, 5, 8, 9, 14**
Journal club	**A 1, 6, 7, 8**	**---------**	**---------**	**D 4, 5, 6, 7, 8, 9, 14**
Case presentation	**A 6, 7, 8**	**B 1, 2, 10, 11, 12, 13, 14, 15**	**---------**	**D4: D9 + D14, D15**
Seminars	**A1: A10**	**---------**	**---------**	**D4 : D15**
Morbidity and Mortality conference	**--------**	**B2, 5, 6, 10, 15**	**--------**	**D 6, 9, 10**

Matrix between Methods of student assessment and program ILOS

Method of assessment	**The assessed ILOs**

	A-knowledge and understanding skills	B- intellectual skills	C- professional and practical skills	D- general and transferable skills
1) Research assignment	**A2, 3, 10**	--------	-------	**D 1, 2, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15**
4) Written Exams:				
-Short essay	**A 1, 6, 7, 8**	----------	--------	--------
-MCQs	**A 1, 6, 7, 8**	**B 1, 2, 7, 8, 11, 12, 13, 14**	---------	--------
- problem solving	**A 1, 6, 7, 8**	**B 1, 2, 7, 8, 11, 12, 13, 14**	----------	----------
3) Clinical Exams.	--------	**B 1, 2, 7, 11, 12, 13, 14**	**C1 : C6 + C10**	**D1, 2, 3, 8, 10, 15**
4) CIVA	------	**B 1, 2, 7, 11, 12, 13, 14**	**C1 : C6 + C10, C11**	------
5) Oral Exams.	**A1, 2, 3, 4, 6, 7, 8, 9**	**B 1, 2, 7, 10, 11, 12, 13, 14, 15**	------	**D 3, 6, 8, 10, 14**



Minia University
Faculty of Medicine
Department of Rheumatology and Rehabilitation

Course Specification of MD degree In Rheumatology, rehabilitation and physical medicine

- **Department offering the course: Rheumatology, Rehabilitation and Physical Medicine**
- **Academic year: 2022-2023**
- **Date of specification approval: 6/3/2023**
- **Program on which the course is given: MD Degree in Rheumatology & Rehabilitation and Physical Medicine.**

A) Basic Information:

- **Allocated marks: 100%** marks
- **Course duration:** 78 weeks of teaching
- **Teaching hours**
  - **Lectures:** Total of **312** hours; **4**hours/week
  - **Clinical:** Total of **930 hours**; **12** hours/week.

B) Professional Information:

1- Overall Aim of the Course:

- To provides advanced knowledge, intellectual and clinical skills needed to enable the candidates to competently diagnose and manage Rheumatology, Clinical immunology and Rehabilitation medicine problems.
- To apply national and international standards of patient care, using evidence-based medicine competently in practice together with the ability to respond to the changing health needs of the Egyptian community.

2- Intended Learning Outcomes (ILOs):

A-Knowledge and Understanding (A)

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

(1) Rheumatology & Clinical Immunology:

A1. Explain basic, advanced and updated scientific knowledge related to Rheumatic diseases and clinical immunology disorders.

A2. Identify Principles and the basics of quality in the implementation of clinical skills and professionalism in Rheumatology and relate the impact on surrounding environment and public health.

A3. Demonstrate common and rare rheumatic diseases and immunological problems causing disabilities and illustrate the pathological and psychological basis of different rheumatological disorders.

A4. Define basic and extended concepts of immunological laboratory procedures and imaging technique related to inflammatory and non-inflammatory rheumatological problems.

A5. Define the clinical pharmacology of different treatment modalities including indications, dosages, contraindications and precautions as well as the recent advances of biologic therapies for common and rare rheumatological diseases.

A6. Illustrate the principles of advanced interventional procedures related to rheumatological disorder and principles of Reconstructive surgery for rheumatic disease.

A7. Identify ethical and medico legal aspects of practice, malpractice and avoid common medical errors in the field of Rheumatology.

A8. Define Issues related to the basics and ethical items needed for implementation of scientific research methodology and Principles in rheumatology field.

2) Musculoskeletal Medicine and Regional Diseases:

A9. Define extended scientific knowledge underpinning the human musculoskeletal system including the anatomy, physiology, biochemistry, pathology, pharmacology and biomechanics, regional diseases and describe pathological changes of the musculoskeletal and neurological systems and the regional diseases.

A10. Describe etiology and pathogenesis of pain and illustrate pain pathways and diagnosis and treatment of musculoskeletal pain.

A11. Describe methods of measurements and detailed evaluation of musculoskeletal function.

A12. Discuss common and rare musculoskeletal and regional diseases causing disabilities.

A13. Identify the specific pathology of different musculoskeletal and regional disorders.

A14. Identify advanced concepts of laboratory and radiological investigations related to musculoskeletal and regional diseases.

A15. Identify the indications, techniques and limitations of Electro diagnosis in musculoskeletal and neurological diseases.

A16. Describe normal gait and abnormal gait patterns.

A17. Describe different management modalities for common and uncommon problems including musculoskeletal and regional diseases.

A18. Recognize the principles of advanced interventional procedures related to regional and musculoskeletal disorders.

A19. Discuss the etiological, clinical and therapeutic basis of sports medicine.

3) Physical Medicine and Rehabilitation:

A20. Define the basis and extended knowledge regarding indications, contraindications, precautions and procedures of electrotherapy and other Physical modalities in rehabilitation.

A21. Define the indications, procedures and types of therapeutic exercises.

A22. Describe the indications of different types of orthosis, wheelchairs, assistive devices, walking aids and footwear modifications.

A23. Interpret the causes, types of amputation and Rehabilitation of the amputee with the indications and types of prostheses.

A24. Show the detailed Rehabilitation of the different disorders affecting the CNS, CVS, Urinary, respiratory and bowel, Cancer, and musculoskeletal systems.

A25. Explain speech, language and auditory disorders and describe the rehabilitation principles.

A26. Illustrate the rehabilitation of swallowing impairment.

A27. Interpret the principles for evaluation and prescription of occupational and vocational therapy.

A28. Recall the Rehabilitation of geriatric and/ or immobilized patients regarding of the Activities of Daily Living (ADL).

A29 Demonstrate the rehabilitation of burn and related disabilities.

Intellectual Skills (B):

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

(1)Rheumatology & Clinical Immunology:

B1. Analyze the complex nature of Rheumatology and Clinical immunology diseases before giving the appropriate decision

B2. Interpret the different clinical manifestations and investigations of Rheumatology and clinical immunology including laboratory, radiological and biopsy findings.

B3. Evaluate of patient's activity according to disease activity indices.

B4. Build the appropriate detailed management plan of common and rare Rheumatology and clinical immunology cases and comorbidities.

B5. Construct strategies to avoid disease flares and activity in Rheumatology patients.

B6. Build up preventive measures for patients at high risk of complications.

(2) Musculoskeletal Medicine and Regional Diseases:

B7. Choose appropriate laboratory and radiological investigations for different Musculoskeletal Medicine and Regional disorders according to a goal-based approach.

B8. Interpret the results of different investigations or interventions for Musculoskeletal Medicine and Regional disorders.

B9. Build up interventional solutions for Musculoskeletal and Regional Diseases.

B10. Construct treatment plans for common and rare Musculoskeletal Medicine and Regional disorders.

3) Physical Medicine and Rehabilitation:

B11. Recommend rehabilitation medicine solutions for patients with disability and involve the patient's family in the strategy.

B12. Construct proper rehabilitation treatment plans and follow up for patients.

B13. Implementation of total quality management related to Rehabilitation plans.

B14. Interpret the results of different rehabilitation programs and follow up for patients with disabilities.

B15. Appraise the scientific dialogue and debates based on related arguments and evidence in the area of physical medicine and rehabilitation

Professional and practical skills (C)

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

(1) Rheumatology & Clinical Immunology:

C1. Analyze clinical data specially the art of history taking required in rheumatic and clinical immunology disorders.

C2. Examine and identify signs of common and rare rheumatic disorders.

C3. Classify the rheumatological emergencies and referal properly.

C4. Construct the appropriate treatment plans for common and rare rheumatological disorders taking into consideration the comorbidities and individual needs and cost.

C5. Make use of modern technological means that serve the profession of Rheumatology.

C6. Build up the useful strategies needed in the implementation of management of Rheumatic and clinical immunology disorders.

C7. Create and criticize the professional reports and papers prepared in relation to Rheumatology.

2) Musculoskeletal Medicine and Regional Diseases:

C9. Examine and identify signs of common and rare musculoskeletal disorders.

C10. Apply invasive procedures and skills for joint dysfunctions such as joint fluid aspiration, intra articular and soft tissue injections.

C11. Build up the useful and modern strategies needed in managing various Musculoskeletal Medicine and Regional Disorders.

C12. Use the advanced technological means that serve assessment and management of various Musculoskeletal Medicine and Regional Disorders.

3) Physical Medicine and Rehabilitation:

.C13. Evaluate different types of disabilities and Plan an efficient program of rehabilitation.

C14. Construct proper and efficient rehabilitation programs for management of different musculoskeletal disorders and disabilities.

C15. Make use of the different physical modalities techniques and devices.

C16. Apply electro diagnostic tools efficiently in the field of Rehabilitation and physical medicine.

D- General and transferable skills:

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

D1. Explain and simplify knowledge to others with the proper evaluation of overall performance in Rheumatology, Rehabilitation and Physical medicine.

D2.evaluate and assess himself and continuous learning for self-development in the field of Rheumatology, Rehabilitation and Physical medicine.

D3. Motive his colleagues and construct the spirit of team Work cooperatively while serving in the area of Rheumatology, Rehabilitation and Physical medicine.

D5. Explaine to the patient and/or his/her relatives the nature of the illness, diagnostic and therapeutic plans, possible complications and outcomes.

D6.. Simplify the situation and appropriate handling during difficult situations such as conveying bad News or dealing with patients' anger.

D7. Interview with colleagues the progression of the patient's condition, therapeutic outcomes.
.

D8. Develop optimal patient care and the same time appreciating the Cost effectiveness to allow maximum benefit from available resources.

3- Course contents:

III-A) TOPICS:

Students will receive presentations on the following subjects:

(1): Rheumatology & Clinical Immunology (14 topics)

1. Detailed Immune& inflammatory responses of rheumatic and auto immune diseases.
2. Detailed pathogenesis, immune response and cells implicated in systemic auto immune and rheumatic disorders
3. Systemic connective tissue diseases:
   i. Rheumatoid arthritis
   ii. Sjogren's Syndrome
   iii. Systemic lupus erythematosus
   iv. Systemic sclerosis
   v. Scleroderma mimics
   vi. Inflammatory muscle diseases
   vii. overlap disorders
   viii. Mixed connective tissue and undifferentiated connective tissue diseases
   ix. Antiphospholipid syndrome
   x. Adult onset Still's disease
   xi. Polymyalgia Rheumatica
4. Vasculitides & related disorders
5. Vasculitis mimics
6. Immunoglobulin disorders
7. Seronegative Spondyloarthropathies
8. Pediatric Rheumatic diseases
9. Rheumatic disorders associated with systemic diseases
10. Rheumatic disorders related to various infectious agents
11. Medical management of rheumatic diseases.
12. Reconstructive surgery for rheumatic disease.
13. Care of rheumatological patients with COVID-19

(2): Musculoskeletal Medicine and Regional diseases 17 topics:

1. Musculoskeletal pain etiology, pathogenesis, diagnosis and treatment.
2. Measurement, evaluation and functional assessment of musculoskeletal system

3. Musculoskeletal and regional diseases; types, causes and pathology.
4. Psychological basis of musculoskeletal and regional disorders.
5. Laboratory and radiological investigations related to musculoskeletal and regional diseases.
6. Electrodiagnosis: indications, principles, techniques and limitations.
7. Normal gait and abnormal gait patterns.
8. Fibromyalgia and Myofascial pain syndrome
9. Crystal induced arthropathies
10. Osteoarthritis and related conditions
11. Metabolic bone disease.
12. Renal osteodystrophy
13. Congenital and heritable bone and connective tissue disorders
14. Dysplasia; types, pathogenesis and management
15. Modern management modalities for musculoskeletal and regional disorders.
16. Advanced principles of interventional procedures related to regional and musculoskeletal disorders
17. Sports medicine. etiological, clinical and therapeutic basis
18. Musculoskeletal manifestations accompanying Malignancies.
19. Tumors in joints.
20. Musculoskeletal manifestations accompanying pregnancy

(3): Physical Medicine and Rehabilitation (25 topics)

1- physical modalities used in rehabilitation and physical medicine (scientific bases and applications)
2- Electrotherapy.
3- Advanced principles and techniques of therapeutic exercises
4- Principles and uses of hydrotherapy in rehabilitation.
5- Advances in field of orthotics, prosthesis, Wheel chairs and assistive devices in rehabilitation.
6- Rehabilitation of stroke and comorbidities
7- Advanced principles and techniques in rehabilitation of Spasticity.

8- Rehabilitation of traumatic brain injury cases

9- Rehabilitation of Spinal cord injury

10- Rehabilitation of Extra pyrimadal disorders

11- Rehabilitation of ataxia

12- Rehabilitation of pediatric disorders.

13- Advanced and modern modalities in rehabilitation after joint arthroplasty.

14- Advanced principles and techniques in rehabilitation of the cardiovascular and respiratory diseases.

15- Traditional and modern concepts and techniques in rehabilitation of Myopathy disorders

16- Traditional and modern concepts and techniques in rehabilitation of Neuropathic disorders

17- Rehabilitation of regional musculoskeletal disorders.

18- Speech, language and auditory disorders.

19- Rehabilitation of swallowing impairment.

20- Occupational & Vocational therapy (evaluation & management)

21- Geriatric rehabilitation

22- Rehabilitation of the bladder and bowel impairments

23- Rehabilitation of cancer

24- Rehabilitation of burn patients.

25- Rehabilitation of peripheral vascular diseases

26- Care and Rehabilitation of amputations.

III-B) Tutorial / Small Group Discussions

1) **Appropriate History taking.**
2) **Musculoskeletal examination.** The candidate should be able to identify**:**
   i. Shoulder pathology:
      a. Rotator cuff lesions.
      b. Glenohumeral/capsular pathology.
      c. Muscle wasting, proximal myopathy.
      d. S/C joint pathology – synovitis.

e. A/C joint pathology – synovitis.

f. Shoulder pain due to pain referred from viscera or neck.

ii. Elbow pathology:
    a. Olecranon bursitis.
    b. Elbow joint pathology.
    c. Radio-ulnar joint pathology.
    d. Medial or lateral epicondylitis.
    e. Ulnar nerve entrapment.

iii. Hand & wrist pathology:
    a. Radiocarpal joint pathology.
    b. Distal radio-ulnar joint pathology.
    c. MCP or IP joint pathology.
    d. Hand deformities.
    e. Muscle wasting.
    f. Flexor or extensor tenosynovitis or tendon nodules.
    g. Rupture or attenuation of flexor or extensor tendons of fingers or thumb.
    h. De Quervain's tenosynovitis.
    i. Carpal tunnel syndrome.

iv. Hip/pelvic pathology:
    a. Trochanteric, iliopsoas, gluteal bursitis.
    b. Hip joint pathology including dysplasia.
    c. Real & apparent leg length inequality.
    d. SI joint pathology.
    e. Muscle wasting, proximal myopathy, Trendlenberg sign.
    f. Deformities of the hip, Thomas' test.
    g. Pathology of symphysis pubis.
    h. Hip pain due to pain referred from lumbar region.
    i. Lesions of tendons and entheses.

v. Knee pathology:
    a. Knee joint pathology, including internal derangements.
    b. Deformities.
    c. Muscle wasting, myopathy.
    d. Prepatellar, anserine bursitis.
    e. Popliteal cyst.

f. Damage to collateral ligaments.
g. Knee pain due to pain referred from hip or lumbar spine.
h. Lesions of tendons and entheses.
i. Osgood-Schlatter's disease.
j. Adolescent anterior knee pain/Patello-femoral syndrome.

vi. Ankle & foot pathology:
    a. Ankle (tibiotalar) pathology.
    b. Subtalar/midtarsal joint pathology.
    c. MTP & IP joint pathology.
    d. Lesions of the Achilles tendon, enthesis and retrocalcaneal bursa.
    e. Deformities of the ankle and foot.
    f. Foot pain due to pain referred from lumbar spine.
    g. Plantar fasciitis.
    h. Tenosynovitis of tibialis post and peroneal tendons.
    i. Rupture of tibialis posterior or Achilles tendon.
    j. Lesions of bone (e.g. stress fracture).

vii. Spinal pathology:
    a. Cervical, thoracic, and lumbar spine pathology.
    b. Spinal nerve root entrapment syndromes.
    c. Spinal deformities including scoliosis and kyphosis.

viii. Extra-articular pathology:
    a. Raynaud's phenomenon.
    b. Vasculitic skin lesions.
    c. Rheumatoid nodules.
    d. Rash – psoriasis, pustular psoriasis, onycholysis, balanitis, lupus rashes, erythema nodosum,
    e. Calcinosis.
    f. Nail lesions – pitting, onycholysis, splinter hemorrhages, nailfold infarcts
    g. Scleritis, episcleritis, conjunctivitis, iritis
    h. Sclerodactyly.
    i. Tophi.
    j. Other medical complications of rheumatic diseases affecting internal organs.

3) <u>The differential diagnosis of</u>: monoarthropathy, oligoarthropathy, polyarthropathy,

axial arthropathy, muscle weakness, regional limb pain, spinal musculoskeletal pain disorders, unexplained musculoskeletal pain and rheumatological emergencies.

4) Management of the following rheumatologic & immunologic cases:

a. Musculoskeletal pain problems and soft tissue rheumatism including:

i. Neck pain.
ii. Spinal pain.
iii. Intervertebral disc disorders.
iv. Spinal canal or foraminal stenosis & related syndromes.
v. ” Whiplash” injury.
vi. Limb pain syndromes, e.g.:
    1. Rotator cuff disease, enthesopathies including epicondylitis, plantar fasciitis, bursitis and non-specific limb pain
    2. Complex regional pain syndromes - algodystrophy
vii. Chest wall pain syndromes.
viii. Fibromyalgia and related somatoform disorders.
ix. Benign joint hypermobility.
x. Pain problems specific to childhood, e.g. Osgood-Schlatter’s disease, Perth’s disease and Nocturnal limb pain.
xi. Occupational and sports related problems.

b. Autoimmune connective tissue diseases including:

i. Rheumatoid arthritis
ii. Sjögren's syndrome.
iii. Systemic lupus erythematosus.
iv. Systemic sclerosis.
v. Scleroderma mimics
vi. Inflammatory muscle disesess (dermatomyositis/polymyositis.
vii. Overlap syndromes.
viii. Mixed connective tissue disease.

ix. Anti-phospholipid syndrome.
x. Adult stills disease
xi. Polymyalgia rheumatica

And regarding each item the following are required;

- Pathogenesis of the diseases
- Clinical manifestations: including articular, respiratory, ocular, neurological, hematological, and dermatological manifestations.
- Complications and comorbidities.
- Detailed modern principles and lines of management according to international guidelines

c. Vasculitides: including:

i. Giant cell arteritis and polymyalgia rheumatica.
ii. Wegener's granulomatosis.
iii. Polyarteritis nodosa and microscopic polyangiitis.
iv. Churg Strauss vasculitis.
v. Behçet's disease.
vi. Takayasu's arteritis.
vii. Cutaneous vasculitis.
viii. Henoch Schoenlein purpura.
ix. Cryoglobulinemia.
x. Vasculitis mimics

And regarding each item the following are required;

- Pathogenesis of the diseases
- Systemic manifestations: including skin, renal, respiratory, ocular, neurological, hematological, and CNS manifestations.
- Complications and comorbidities.
- Detailed modern principles and lines of management according to

international guidelines

d. Spondyloarthropathies including:

i. Ankylosing spondylitis.

ii. Psoriatic arthritis.

iii. Enteropathic arthropathies.

iv. Reactive arthritis.

v. Whipple's disease.

And regarding each item the following are required;

- Pathogenesis of the diseases
- Articular manifestations.
- Systemic manifestations: including respiratory, ocular, neurological, hematological, and dermatological manifestations.
- Complications and comorbidities.
- Detailed modern principles and lines of management according to international guidelines.

e. **Pediatric rheumatic disorders including:**

- Juvenile Idiopathic Arthritis.
- Juvenile systemic connective tissue diseases
- Juvenile vasculitis
- Anti-rheumatic drugs doses and precautions in childhood

f. **Rheumatic and musculoskeletal manifestations accompanying systemic disorders including:**

i. Endocrine disorders affecting bone, joint or muscle (e.g. pituitary, diabetes, thyroid, parathyroid disorders

ii. Metabolic disorders affecting joints (e.g. alkaptonuria, haemochromatosis).

iii. Rheumatic manifestations of haemoglobinopathies.

iv. Rheumatic manifestations of hemophilia and other disorders of haemostasis.

v. Rheumatic manifestations of gastroenterology and renal disorders

vi. Amyloidosis

vii. Sarcoidosis

viii. Familial Auto inflammatory and periodic fever syndromes

ix. Rheumatic manifestations of malignancies

x. Rheumatic manifestations with pregnancy

g. **Rheumatic and musculoskeletal manifestations accompanying Infections**

i. Septic arthritis and osteomyelitis.
ii. Post-infectious rheumatological conditions, including rheumatic fever, post-meningococcal arthritis.
iii. Lyme disease.
iv. Mycobacterial, fungal & parasitic arthropathies
v. Viral arthritis.
vi. Rheumatic manifestations related to Human Immunodeficiency Virus and acquired immunodeficiency syndrome.
vii. Rheumatic manifestations related to Hepatitis C.
viii. Rheumatic manifestations related to covid 19.
ix. Vaccinations in patients with rheumatic &autoimmune disorders.

h. Osteoarthritis and related conditions including:

i. Osteoarthritis of large joints.

ii. Generalized osteoarthritis.

iii. Diffuse idiopathic skeletal hyperostosis.

iv. Neuropathic arthritis.

i. Crystal associated arthropathies including:

i. Gout.

ii. Pseudogout.

iii. Apatite deposition disease.

iv. Oxalate metabolism disorders.

j. Bone disorders including:

i. Osteoporosis.

ii. Rickets and osteomalacia.

iii. Bone & joint dysplasias.

iv. Renal bone disease.

v. Regional disorders: Paget's disease, hypertrophic pulmonary osteoarthropathy, osteonecrosis, Perthe's disease.

vi. Osteochondritis dissecans, transient regional osteoporosis.

k. Neoplastic disease including:

i. Paraneoplastic musculoskeletal syndromes.

ii. Primary and secondary neoplastic conditions of connective tissue.

iii. Tumors of bone.

iv. Pigmented villonodular synovitis.

l. **Management of Rheumatic diseases including;**

i. Nonsteroidal anti-inflammatory drugs

ii. Glucocorticoids

iii. Systemic anti rheumatic drugs

iv. Immunosuppressive and immunoregulatory drugs

v. Biological agents

vi. Biosimilars

vii. Hyopourecemic and urate lowering drugs

viii. Bone strengthening agents

ix. Peri-operative management of patients with rheumatic diseases

x. Management of covid19 in rheumatic patients.

xi. Vaccinations with rheumatic disorders

(3): Physical Medicine, Rehabilitation including;

Proper evaluation of the patient and approach to physical medicine and rehabilitations and enable the resident to guide an efficient program for rehabilitation of the common disorders:

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a. Physical modalities used in rehabilitation and physical medicine including

i. Heat therapy(superficial and deep heat modalities)

ii. Cold therapy modalities

iii. Electrotherapy

iv. Laser therapy

v. Hydrotherapy

b. Therapeutic exercises including

i. Stretching and range of motion exercises

ii. Strengthening exercises

iii. Therapeutic massage

iv. Manual therapy

v. Traction therapy

vi. Coordination exercises

c. Rehabilitation of pediatric disorders including.

i. Cerebral palsy

ii. Scoliosis

iii. Erb's palsy
iv. Spina bifida
v. Dysplasias
vi. Pediatric neuropathies
vii. Pediatric myopathies
viii. Ataxia in children

III-C) Clinical CLASSES :

1. Joint aspiration, lavage and/or injection.
2. Soft tissue and regional injection.
3. Examination of synovial fluid by Polarized microscopy.
4. Electromyography and nerve conduction studies.
5. Diagnostic musculoskeletal ultrasound.
6. Orthotics and prosthesis clinic.

4- Teaching and learning methods:

1. **Lectures (online / offline)**
2. **Seminar**
3. **Journal club**
4. **Grand round**
5. **Inpatient's staff round**
6. **Annual scientific meetings**
7. **Attending or present scientific meetings, conferences, workshops and thesis discussion**
8. **Clinical classes:**

i. Outpatient clinic cases
ii. Follow up clinic cases
iii. Rehabilitation cases
iv. Orthotics and prosthesis clinic
v. MSUS unit /cases (hands on).
vi. Electrophysiology unit /cases (hands on).

TEACHING PLAN:

Lectures: 2 lectures / week, 2h each

Clinical classes: 12 h/w

5- Students Assessment methods:

5-A) <u>ATTENDANCE CRITERIA</u>: Faculty bylaws

5-B) Assessment TOOLS:

- **Written exam papers:**

  Paper 1 Rheumatology (1/3 short essay, 1/3 MCQ, 1/3 problem solving)

  Paper 2 Rehabilitation (1/3 short essay, 1/3 MCQ, 1/3 problem solving)

  Paper 3; (cases)

- **Oral exams**; (Rheumatology, Rehabilitation)
- **Clinical exam (**long and short cases rheumatology & rehabilitation)
- **clinical image and video assessment (CIVA)**; (radiology exam, orthotics and prosthetics & Electro diagnostics)

5-C) <u>TIME SCHEDULE</u>: Faculty bylaws

Written and oral exams are held twice yearly; first set in April and second set in October.

5-D) <u>GRADING SYSTEM:</u>

Name of the course/ code	**Course code**	**3 Written exams (3 Hours for each)**	**Oral exam**	**Clinical**	**Total marks**
MD degree Rheumatology & Rehabilitation (Code):	RR100	300	100	100	100%

6- List of references:

6- A) Course notes: will be provided by staff members

6-B) Essential textbooks:

- Kelley's Textbook of Rheumatology: Firestein GS, Budd RC,Harris ED, McInnes IB, Ruddy S and Sergent JS (eds.), 11th edition, 2021.

- Primer on the Rheumatic Diseases: Klippel JH, Stone JH, Crofford LJ and White PH (eds.) 13th edition, 2008.

- Physical Medicine and Rehabilitation: Braddom RL (ed.), In Cifu, D. X., Eapen, B. C. (ed.), 6th edition, 2021

6- C) Recommended books for further readings:

- Oxford Textbook of Rheumatology: Isenberg DA, Maddison PJ, Woo P, Glass D and Breedveld FC. (eds.), 4d edition, 2013

- Physical Medicine and Rehabilitation: Principles and Practice. DeLisa JA, Gans BM and Walsh NE. (eds.), 6th edition, 2019

6-D) Periodicals: Selected articles from international journals are provided to students

Web sites:

a- Area of Rheumatology and clinical immunology:

European Board of Rheumatology and the American College of Rheumatology High Impact Rheumatology Curriculum (***http://www.rheumatology.org/educ/hir/ppt.asp***)

b- Area of Rehabilitation medicine:

Signatures

Course Coordinators

Dr. Alshiamaa Mamdouh

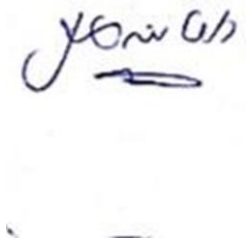
Dr. Israa Fathey

Dr. Haidy Mohammed

Dr. Reem Mohammed

Dr. Aya Hassan

Dr. Doaa Mahmoud



Head of Department

Prof. Faten Ismail Mohamed

ueprint of Rheumatology, Rehabilitation and physical medicine Departme

Blueprint of Rheumatology& Clinical Immunology "MD degree" Examination Paper

	Topic	Hours	Knowledge %	Intellectual %	Marks
1	**Immunology of Rheumatic diseases.**	58	80%	20%	**26.5 %**
2	**Systemic Rheumatic diseases**	98	60%	40%	**44.5 %**
3	**Musculoskeletal and regional pain disorders.**	64	60%	40%	**29 %**
	Total	**220**			**100%**

Blueprint of Rheumatology, Rehabilitation and physical medicine Department.

Blueprint of Rehabilitation and physical medicine "MD degree" Examination Paper

	Topic	Hours	Knowledge %	Intellectual %	Marks	Actual mark
1	**Physical modalities used in rehabilitation and physical medicine**	10h	70%	30%	**11.11%**	11%
2	**Therapeutic exercises**	9	60%	40%	**10 %**	10%
3	**Rehabilitation of Stroke TBI and Spasticity**	10h	60%	40%	**11.11%**	11%
4	**Rehabilitation of spinal cord injuries**	2h	60%	40%	**2.2%**	2%
5	**Orthotics, prosthesis, wheel chairs & assistive devices**	18h	60%	40%	**20%**	20%
6	**Rehabilitation of pediatric disorders.**	7h	60%	40%	**7.7 %**	8%
7	**Rehabilitation of the cardiovascular and respiratory diseases.**	6h	60%	40%	**6.5%**	6%
8	**Rehabilitation of myopathy disorders**	4h	60%	40%	**4.4%**	5%
9	**Rehabilitation of Neuropathic disorders**	8h	60%	40%	**8.8 %**	9%
10	**Rehabilitation of regional musculoskeletal disorders.**	8h	70%	30%	**8.8%**	9%
11	**Rehabilitation of burn.**	2h	70%	30%	**2.2%**	2%
12	**Rehabilitation of Extra pyrimadal disorders**	2h	70%	30%	**2.2%**	2%
13	**Rehabilitation of malignancy and geriatric**	4h	70%	30%	**4.4%**	5%
	Total	**90h**	%	%	**100%**	100%

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: All Clinical and Academic Postgraduate MD Students

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: **CM 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 **- Protocol Writing**		2	2
- Critic technique for the literature review		2	2
- Association and causation		1	
- Evidence -based approach in medical practice		2	1
- Ethics of medical research		2	
Statistics			
Sampling		1	
Introduction to Sample Size Calculation		1	1
Data presentation		1	1
Tests of significance		2	
Introduction to SPSS		1	1
Proportion test			1
Chi-square test			1
Student T test, Paired T test			1
ANOVA test			1
Correlation (simple and multiple)			1
Regression			1
Screening		1	1
Total		**30**	**15**

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

7. Student Assessment	
D. Student Assessment Methods	7.1- **Research assignment:** to assess general transferable skills, intellectual skills. 7.2- **Written exams:** • Short essay: to assess knowledge. • Commentary: to assess intellectual skills. 7.3- **Practical Exams:** to assess practical skills, intellectual skills. 7.4- **Oral Exams:** Oral exams to assess knowledge and understanding, attitude, communication 7.5- **Structured oral exams:** to assess knowledge.
E. Assessment Schedule (Timing of Each Method of Assessment)	Assessment 1: Final written exam week: 24-28 Assessment 2: Oral exam week: 24-28 Assessment 3: Practical exam week: 24-28
F. Weighting of Each Method of Assessment	- Final Written Examination 100% - Oral Examination 100% - Practical Examination 100% - Total 100%
8- List of References	
A. Course Notes/handouts	- Department notes, lectures and handouts
B. Essential Books	- The Lancet Handbook of Essential Concepts in Clinical Research
C. Recommended Textbooks	***Research methods:*** - **Introducing Research Methodology**; A Beginner's Guide to Doing a Research Project - **Understanding Clinical Research**, Renato Lopes and Robert Harrington; ISBN-10: 0071746781 | ISBN-13: 978-0071746786 - **Users' guides to the medical literature: a manual for evidence-based clinical practice:** Guyatt, G., D. Rennie, M. Meade and D. Cook (2002), AMA press Chicago.

	- **Research Methods in Community Medicine:** Surveys, Epidemiological Research, Programme Evaluation, Clinical Trials, 6th Edition Joseph Abramson, Z. H. Abramson ***Computer:*** - Discovering statistics using IBM SPSS statistics, Field, A. (2013). sage. - Medical Statistics: A Guide to SPSS, Data Analysis and Critical Appraisal, Belinda Barton, Jennifer Peat - 2nd EditionEveritt, Brian S. - Medical statistics from A to Z: a guide for clinicians and medical students. Cambridge University Press, 2021. - Bowers, David. Medical statistics from scratch: an introduction for health professionals. John Wiley & Sons, 2019. - Aviva, P. (2005): Medical Statistics at a Glance, Blackwell Company, 2nd , ed., Philadelphia
D. Periodicals, websites	- https://phrp.nihtraining.com/users/login.php - http://www.jhsph.edu/ - Journal of Biomedical Education - https://lagunita.stanford.edu/courses/Medicine/MedStats-SP/SelfPaced/about?fbclid=IwAR3nfirLM4wnuEqqUjLjk8TCR7lzPdnpGqwin06L-GjFq32a62w3j6R5s9c

- **Course Coordinators:**

  ➢ **Coordinators:**

  Lecturers: Dr / Chrestina Monir, Dr Shaimma Mahmoud

  Head of Department:

  Professor Dr. Nashwa Nabil Kamal

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

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

نموذج 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			B.3,	C.3,	D.1, D.2, D.3

Research Paper or Manuscript - Protocol Writing					
- 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

Test blueprint for Research methodology course

Topic	Hour	% of topic	Total No. of items	Written exam (100 marks)		Marks (percentag
				Knowledge	Intellectual	
Research						
Introduction: - Introduction to research. - Terminology and Rationale - Originality	3	10%	5	4	1	7%
- Study design	4	13.3%	8	3	5	17%
- Sources of Errors in Medical Research - Bias and confounding and its Control.	3	10%	4	2	2	13%
- Validity and reliability	2	6.67%	3	2	1	7%
- The questionnaire design	2	6.67%	3	1	2	5%
- Writing the Research Paper or	2	6.67%	4	1	3	13%

Manuscript - Protocol Writing						
- Critic technique for the literature review	2	6.67%	2	1	1	7%
- Association and causation	1	3.33%	3	2	1	7%
- Evidence -based approach in medical practice	2	6.67%	1	1		3%
- Ethics of medical research	2	6.67%	2	2		3%
Statistics						
Sampling	1	3.33%	2	1	1	4%
Introduction to Sample Size Calculation	1	3.33%	1	1		2%
Data presentation	1	3.33%	3	2	1	5%
Tests of significance	2	6.67%	2	1	1	8%
Introduction to SPSS	1	3.33%	1	1		3%
Screening	1	3.33%	2	1	1	3%
Total	**30**	**100%**				

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: All Clinical and Academic Postgraduate MD Students

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**	**Use of Computer in Medicine**	Code: **CM 100**

- **Number of teaching hours:**
  - **Lectures:** 20 hours
  - **Practical/clinical:** 10 hours
  - **Total:** 30 hours

2. Overall Aims of the course	***By the end of the course the student must be able to:*** 1. Recognize knowledge about the software and their applications in Medicine 2. Gain skills necessary for using and managing heath care information systems

3. Intended learning outcomes of course (ILOs): ***Upon completion of the course, the student should be able to:***	
A. Knowledge and understanding	A.1. Define each part of computer hardware and its function A.2. Have a basic understanding of various computer applications in medicine - for instruction, information managing, and computer based medical record, etc. A.3. Define telemedicine and its importance A.4. Recognize importance of health information technology in improvement of healthcare A.5. Describe electronic medical records and obstacles facing it A.6. Identify the concept of big data analysis
B. Intellectual Skills	B.1. Criticize adoption of telemedicine B.2. Discover factors constraining adoption of telemedicine
C. Professional and Practical Skills	C.1. Design framework for understanding of health information system performance
D. General and transferable Skills	D.1. Utilize computers in conducting research D.2. Appraise adoption of telemedicine D.3. Discover skills to carry out the process of improving health information system performance

4. Course Contents

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

5. Teaching and Learning Methods	**Since COVID-19 pandemic, blended learning approach was adopted that mixes virtual face-to-face interaction activities with the online learning. 60% of study method is offline and 40% of study is online** **Online learning materials are available at Minia University site** ▪ Lectures: Face to face lectures, Pre-recorded video lectures ▪ Practical lessons ▪ Assignment ▪ Online quizzes
6. Teaching and Learning Methods for students with limited Capacity	• Outstanding student rewarded certificate of appreciation due to high level of achievement • Limited students divided into small group to make learning more effective
7. Student Assessment	
A. Student Assessment Methods	7.1- **Research assignment:** to assess general transferable skills, intellectual skills. 7.2- **Written exams:** • Short essay: to assess knowledge. • Commentary: to assess intellectual skills. 7.3- **Practical Exams:** to assess practical skills, intellectual skills. 7.4- **Oral Exams:** Oral exams to assess knowledge and understanding, attitude, communication 7.5- **Structured oral exams:** to assess knowledge.
B. Assessment Schedule (Timing of Each Method of Assessment)	Assessment 1: Final written exam week: 24-28 Assessment 2: Oral exam week: 24-28 Assessment 3: Practical exam week: 24-28
C. Weighting of Each Method of Assessment	Final Written Examination 100% Oral Examination 100% Practical Examination 100% Total 100%
8. List of References	
A. Course Notes/handouts	Department notes, lectures and handouts
B. Essential Books	Essential Medical Statistics, Betty R. Kirkwood and J. A. Sterne (2000), 2nd edition

C. Recommended Textbooks	Data Management and Analytics for Medicine and Healthcare: Begoli, Edmon, Fusheng Wang, and Gang Luo. Springer, 2017.
D. Periodicals, websites	- National Institutes of Health: http://www.nih.gov - American Medical Informatics Association: http://www.amia.org/

- **Course Coordinators:**

  ➢ **Coordinators:**

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

- **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

Test blueprint for Uses of computer in Medicine course

c	**Hour**	**% of topic**	**Total No. of items**	**Written exam (100 marks)**		**Marks (Percentages)**	**Modified marks (Percentages)**
				Knowledge	**Intellectual**		
of Computer edicine							
ral concepts duction to osoft erPoint	4	20%	6	4	2	30%	30%
th Information ems (HIS)	4	20%	4	4		20%	15%
medicine	4	20%	6	2	4	25%	30%
vare Used in Health Care	4	20%	5	4	1	20%	15%
Data Analysis ealth	4	20%	1	1		5%	10%
l	20	100%	20			100%	100%

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

Medical Physiology Course Specifications
For 1st Part MD Degree in Rheumatology

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

Basic Information
Title: Physiology course specifications for 1st part MD degree of Rheumatology
Code: RR200 **Credit Hours:** Not applicable
Lectures: 2 hours / week
Tutorial/Practical: Not applicable

Professional information
1) OVERALL AIM OF COURSE:

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

INTENDED LEARNING OUTCOMES OF COURSE (ILOS)

A. Knowledge and Understanding:

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

A1. Physiology of Autonomic Nervous System (ANS):
1.1. Distribution & functions of sympathetic and parasympathetic**.**
1.2. Chemical transmission in ANS.

A2. Physiology of Central Nervous System (CNS):
2.1. Identify types, mechanism, body reactions and control mechanisms of Pain.

A3. Physiological basis of Metabolism:
3.1. Describe regulatory mechanisms of body temperature & disorders.

A4. Physiological basis of Endocrinal System:
4.1. describe in brief mechanisms of Ca^{+2} & Glucose homeostasis.

A5. Physiology of Upper Respiratory System:
5.1. Acid-base balance.
5.2. Enumerate different types of hypoxia, cyanosis and their effects on the body.

A6. Special Topics:
6.1. The molecular functions of the contractile proteins .
6.2. Types of skeletal muscle fibers (slow muscle versus fast) .
6.3. Molecular basis of muscle contraction & identify sliding theory .
6.4. Neuromuscular junction; transmission & clinical disorders .
6.5. Mechanism of excitation contraction coupling & muscle relaxation.
6.6. Difference between isometric and isotonic contraction .
6.7. The length-duration relationship .
6.8. The relation between load & velocity of contraction .
6.9. Muscle fatigue, metabolic changes & mechanical efficiency .

6.10. The motor unit .
6.11. Effect of denervation on skeletal muscle performance (LMNL).

B. Intellectual Skills:

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

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

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

C. Practical Skills:

Practical hours: -

D. General and Transferable Skills:

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

D1. Adopt the principles of lifelong learning.

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

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

Curriculum structure & contents:

Topic:	No. of Lectures	Total no. of hours
1. Physiology of Haematological System (Blood): • General composition & functions of blood components. • Clinical conditions resulting from abnormalities of blood components.	1	2
2. Autonomic Nervous System: • Distribution & functions of sympathetic and parasympathetic. • Chemical transmission in ANS.	1	2
3. Central Nervous System: • Pain sensation.	1	2
4. Respiratory System: • Acid-base balance. • Mechanism of respiration, hypoxia and cyanosis.	1	2
5. Metabolism: • Regulation of body temperature & fever.	1	2
6. Endocrine System: • Calcium homeostasis. • Glucose Homeostasis.	1	2
7. Special Topics: • The molecular functions of the contractile proteins. • Types of skeletal muscle fibres (slow muscle versus fast). • Molecular basis of muscle contraction & identify sliding theory. • Neuromuscular junction; transmission & clinical disorders. • Mechanism of excitation contraction coupling & muscle relaxation. • Difference between isometric and isotonic contraction. • The length-duration relationship. • The relation between load & velocity of contraction. • Muscle fatigue, metabolic changes & mechanical efficiency. • The motor unit. • Effect of denervation on skeletal muscle performance (LMNL).	6	12
Total	**12**	**24**

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** **40** marks (40%)
- **Final oral exam** **60** marks (60%)
- **Total** **100** 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. Eman Elbassuoni
Professor of Medical Physiology
Faculty of Medicine, Minia University

Head of Department,

Prof. Dr. Merhan Mamdouh Ragy
Prof. & Head of Medical Physiology Department
Faculty of Medicine, Minia University

Date of last update & approval by Department council: 2/2023

Physiology course specifications for 1st Part MD degree in Rheumatology	مسمى المقرر
RR200	**كود المقرر**

A. 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	-	

B. Matrix of Coverage of Course ILOs by Contents

ntents	**Intended Learning Outcomes ILOs**																						
	A. Knowledge & Understanding																				**B. Intellectual skills**		
	A 1.1	**A 1.2**	**A 2.1**	**A 2.2**	**A 3.1**	**A 4.1**	**A 5.1**	**A 6.1**	**A 6.2**	**A 7.1**	**A 7.2**	**A 7.3**	**A 7.4**	**A 7.5**	**A 7.6**	**A 7.7**	**A 7.8**	**A 7.9**	**A 7.10**	**A 7.11**	**B 1**	**B 2**	**D 1**
of al System (Blood)	X	X																			X	X	X
of m (ANS)			X	X																	X	X	X
of us System (CNS)					X																X	X	X
al basis of						X															X	X	X
al basis of System							X														X	X	X

of tory System								X	X												X	X	X
ics									X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

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

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

Course Coordinator,
Department,

Dr. Eman Elbassuoni
Professor of Medical Physiology
Medical Physiology Department
Faculty of Medicine, Minia University

Head of

Prof. Dr. Merhan Mamdoh Ragy
Prof. & Head of
Faculty of Medicine, Minia University

Date of last update & approval by Department council: 12/2023

for Doctorate degree (1st part)
Rheumatology Medicine (PR100)

Topic	ILOs	Contact Hours	Knowledge %	Intellectual %	Weight %	Total Mark	Actual Mark
Physiology of Hematological System (Blood): general composition & functions of blood components. Clinical conditions resulting from abnormalities of blood components.	1	4	70	30	8.3	8.3	8
Physiology of Cardiovascular System (CVS): the factors affecting and regulation of arterial blood pressure (ABP).	2	4	70	30	8.3	8.3	8
Physiology of Central Nervous System (CNS): types, mechanism, body reactions and control mechanisms of Pain.	3	4	70	30	8.3	8.3	8
Physiological basis of Metabolism: regulatory mechanisms of body temperature & disorders.	4	4	70	30	8.3	8.3	8
Physiological basis of Endocrinal System: mechanisms of Ca^{+2} & Glucose homeostasis.	5	4	70	30	8.3	8.3	8
Physiology of Upper Respiratory System: Acid-base balance. different types of hypoxia, cyanosis and their effects on the body.	6	4	70	30	8.2	8.2	8
Physiology of ANS System: Distribution & functions of sympathetic and parasympathetic**.** Chemical transmission in ANS.	7	4	70	30	8.3	8.3	8
Physiology of Nerve & Muscle	8	20	70	30	42	42	44
Total	**-**	**48**			**100%**	**100**	**100**

Course Specifications of Human Anatomy and Embryology in Doctorate Degree (MD) Doctorate in RHEUMATOLOGY

University: Minia

Faculty: Medicine

Department: Anatomy

1. Course Information		
• **Academic Year/level:** first part	• **Course Title:** Course Specifications of Human Anatomy and Embrylogy in Master degree in **RHEUMATOLOGY**	• **Code: RR100**
• **Number of teaching hours:** - **Lectures:** Total of 24 hours - **Practical/clinical**: Total of 9 hours		
2. Overall Aims of the course	*By the end of the course the student must be able to:* Have the professional knowledge of human anatomy and embryology of musculoskeletal system.	
3. Intended learning outcomes of course (ILOs): ***Upon completion of the course, the student should be able to:***		
A- Knowledge and Understanding	A1. Mention the normal structure and function of the musculoskeletal system on the macro levels. A2. Describe basic anatomy, including the anatomy of lumbosacral and brachial plexuses, different dermatomes, and the brain and spinal cord. A3. Recognize the basic principles of structure of the different joints of the human body, their biomechanics, and how each adapts to its function with the muscles acting upon each joint. A4. Understand early embryo development & normal growth and development of the musculoskeletal system. A5. List the recent advances in the abnormal structure, function, growth and development of musculoskeletal system. A6. List congenital anomalies and rare syndromes	

B- Intellectual Skills	B1. Link between knowledge for Professional problems solving. B2. Integrate the anatomy of the muscles, nerves and vertebral column of the human body with clinical examination of musculoskeletal system and utilize major clinical applications of anatomical facts. B3. Apply the surface landmarks of the underlying joints , bones , muscles and tendons in clinical examination of these parts, diagnosis of specific disorders of these structures and therapeutic injection. B4. Conduct research study and / or write a scientific study on a research problem. B5. Diagnosis of diseases based on anatomical disruptions.
C- Professional and Practical Skills	C1. Professional and modern medical skills in the area of internal medicine. C2. Apply the anatomical facts during musculoskeletal examination in order to reach a proper diagnosis C3. Description of diseases and anomalies based on anatomical data. C4. Demonstrate appropriate positioning in relation to the patient in the exam room to facilitate good rapport with patients.
D- General and transferable Skills	D1. Use information technology to serve the development of professional practice D2. Assess himself and identify personal learning needs. D3. Retrieve, manage, and manipulate information by all means. D4. Use different resources to gain knowledge and information related to applying anatomy in rheumatology and rehabilitation fields.

4. Course Contents

Topic	Lecture hours/week	Practical/ Clinical hours/week	Total No. of hours hours/week
Anatomy of axial skeleton, vertebrae, skull, ribs and joints.	4	2	6
Anatomy of peripheral skeleton, bones of limbs, and joints.	4	2	6
Development and anomalies of the axial skeleton.	2	1	3
Development and anomalies of the peripheral skeleton.	2	1	3
Nerve plexuses anatomy and development.	2	1	3
Peripheral nerves anatomy.	3	–	3
Muscles of the back, neck, upper and lower limbs	3	–	3
Clinical correlates to anatomy of joints.	2	–	2

Revision	2	2	4
Total	24	9	33

5. Teaching and Learning Methods	1 - Lectures. 2 - Practical lessons. 3- Assignments for the students to empower and assess the general and transferable skills
6. Teaching and Learning Methods for students with limited Capacity	

7. Student Assessment

A. Student Assessment Methods	1- Assignments for the students to empower and assess the general and transferable skills 2- Periodic written exam to assess Knowledge, understanding and Intellectual skills. 3- Periodic practical+ written examination to assess practical skills as well as Knowledge. 4- Final written exam to assess Knowledge, understanding and intellectual skills. 5- Final oral exam to assess understanding and intellectual skills. 6- Final practical exam to assess practical skills.
B. Assessment Schedule (Timing of Each Method of Assessment)	Assessment 1 …Final practical exam Week: 20-22 Assessment 2…. Final written exam. Week …22-24 Assessment 3…..Final oral exam Week….22-24
C. Weighting of Each Method of Assessment	Final-term Examination 100 Oral Examination. 100 Practical Examination 100

8. List of References:

- **Standring,S, Ellis, H., Healy, J.C., Johnson, D., and Williams, J.C., 2016. Gray's anatomy. 50th edition.**
- **Junqueira, L.C. and Carneiro, J., 2015. Basic histology. 10th edition.**
- **Moore K.L., and Agur A.M.R., 2016. Essential clinical anatomy. 14th edition.**
- **Romanes G.J., 2015. Cunningham's manual of practical anatomy, Oxford.**
- **Rheumatology & Rehabilitation and Physical Medicine Faculty of Medicine-Mansoura University**

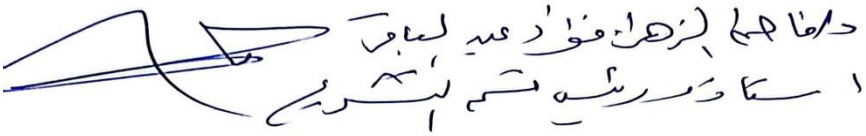
A. Course Notes/handouts	Lecture notes prepared by staff members in the department.
B. Essential Books	Gray's Anatomy.
C. Recommended Text	A colored Atlas of Human anatomy and Embryology.

Books	
D. Periodicals, websites	American J. of Anatomy Cochrane Library,Medline & Popline

Course Coordinator/s:

Prof. Dr. Mohammed Ahmed Desouky

Head of Department:
Prof. Dr. Fatma Fouad



Date of last update & approval by department Council:
20/2/2023

مسمى المقرر	التشريح
كود المقرر	**RR100**

جامعة/أكاديمية : المنيا
كلية / معهد: الطب
قسم: التشريح

A. Matrix of Coverage of Course ILOs By Contents

B. Matrix of Coverage of Course ILOs by Methods of teaching

Methods of Teac	Intended Learning Outcomes (ILOs)			
	A. Knowledge & Understanding	B. Intellectual Skills	C. Professional & Practical skills	D. General & Transferab Skills
	A	B	C	D
Lecture	1,2,3,4,5	1,2,4		
Practical			2,4	
Presentation/seminar	1,4			4,5
Group discussion	4		1	1,3,5

Intended Learning Outcomes (ILOs)
A. Knowledge & Understanding
B. Intellectual Skills
C. Professional & Practical skills
D. Genera Transferable

		A	B	C	D
my of axial skeleton, tebrae, skull, ribs and joints.	1	1,3,4,5	1	1,2,4	1,2,3
natomy of peripheral , bones of limbs, and joints.	2	2,3,4,5	3	2,3,4	2,4
pment and anomalies of the axial skeleton.	3	4,5,6	1	1,2	3,4
pment and anomalies e peripheral skeleton.	4	4,5,6	1	1,2	4,5
lexuses anatomy and development.	5	1,2,4	2	1,3	1,2,3
eral nerves anatomy.	6	1,2,3	2	2	2,4
les of the back, neck, pper and lower limbs	7	1,3,4,5	1	1,2	4,5
correlates to anatomy of joints.	8	1,2,4	3	1	1,2,5
Revision	9	1,2,4	2	1	1,3,5

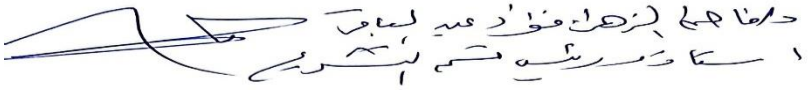
C. Matrix of Coverage of Course ILOs by Methods of Assessment

Methods of Assessment	Topic		Hours	Knowledge%	Intellectual%	% topic	No. Of items per topic	Knowledge Mark	Intellectual Mark	Mark	Actual mark
					Intended Learning Outcomes (ILOs)						
				A. Knowledge & Understanding	**B. Intellectual Skills**			**C. Professional & Practical skills**		**D. General & Transferable Skills**	
1	Anatomy of axial skeleton, vertebrae, skull, ribs and joints.		4	80%	20%	18.2 %	4	14.56	3.64	18.2	18
2	Anatomy of peripheral skeleton, bones of limbs, and joints.		4	80%	20%	18.2 %	2	14.56	3.64	18.2	18
Written exam			**1,2,3,4,5**		**1,4**						
3	Development and		2	75%	25%	9.1%	2	6.83	2.27	9.1	9
Practical exam	anomalies of the axial skeleton.						**2**				
4	Development and		2	75%	25%	9.1%	2	6.83	2.27	9.1	9
Oral Exam			**1,2,3,4**		**1,2,4**					**4,5**	

Blueprint of RHEUMATOLOGY MD" Examination Paper"

	anomalies of the peripheral skeleton.									
5	Nerve plexuses anatomy and development.	2	75%	25%	9.1%	2	6.83	2.27	9.1	9
6	Peripheral nerves anatomy.	3	75%	25%	13.6 %	2	10.2	3.4	13. 6	14
7	Muscles of the back, neck, upper and lower limbs	3	80%	20%	13.6 %	3	10.2	3.4	13. 6	14
8	Clinical correlates to anatomy of joints.	2	75%	25%	9.1%	1	6.83	2.27	9.1	9
	Total	22			100%		76.84	23.16	100	100

"100 Marks"



Course Specification of MD degree In Rheumatology &

- **Department offering the course: Rheumatology, Rehabilitation and Physical Medicine**
- **Academic year: 2022-2023**
- **Date of specification approval: 6/3/2023**
- **Program on which the course is given: MD Degree in Rheumatology & Rehabilitation and Physical Medicine.**

C) Basic Information:

- **Allocated marks: 100%** marks
- **Course duration:** 78 weeks of teaching
- **Teaching hours**:
  - **Lectures:** Total of **312** hours; **4**hours/week
  - **Clinical:** Total of **930 hours**; **12** hours/week.

D) Professional Information:

2- Overall Aim of the Course:

- To provides advanced knowledge, intellectual and clinical skills needed to enable the candidates to competently diagnose and manage Rheumatology, Clinical immunology and Rehabilitation medicine problems.
- To apply national and international standards of patient care, using evidence-based medicine competently in practice together with the ability to respond to the changing health needs of the Egyptian community.

2- Intended Learning Outcomes (ILOs):

A-Knowledge and Understanding (A)

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

(3) Rheumatology & Clinical Immunology:

A1. Explain basic, advanced and updated scientific knowledge related to Rheumatic diseases and clinical immunology disorders.

A2. Identify Principles and the basics of quality in the implementation of clinical skills and professionalism in Rheumatology and relate the

impact on surrounding environment and public health.

A3. Demonstrate common and rare rheumatic diseases and immunological problems causing disabilities and illustrate the pathological and psychological basis of different rheumatological disorders.

A4. Define basic and extended concepts of immunological laboratory procedures and imaging technique related to inflammatory and non-inflammatory rheumatological problems.

A5. Define the clinical pharmacology of different treatment modalities including indications, dosages, contraindications and precautions as well as the recent advances of biologic therapies for common and rare rheumatological diseases.

A6. Illustrate the principles of advanced interventional procedures related to rheumatological disorder and principles of Reconstructive surgery for rheumatic disease.

A7. Identify ethical and medico legal aspects of practice, malpractice and avoid common medical errors in the field of Rheumatology.

A8. Define Issues related to the basics and ethical items needed for implementation of scientific research methodology and Principles in rheumatology field.

3) Musculoskeletal Medicine and Regional Diseases:

A9. Define extended scientific knowledge underpinning the human musculoskeletal system including the anatomy, physiology, biochemistry, pathology, pharmacology and biomechanics, regional diseases and describe pathological changes of the musculoskeletal and neurological systems and the regional diseases.

A10. Describe etiology and pathogenesis of pain and illustrate pain pathways and diagnosis and treatment of musculoskeletal pain.

A11. Describe methods of measurements and detailed evaluation of musculoskeletal function.

A12. Discuss common and rare musculoskeletal and regional diseases causing disabilities.

A13. Identify the specific pathology of different musculoskeletal and regional disorders.

A14. Identify advanced concepts of laboratory and radiological investigations related to musculoskeletal and regional diseases.

A15. Identify the indications, techniques and limitations of Electro diagnosis in musculoskeletal and neurological diseases.

A16. Describe normal gait and abnormal gait patterns.

A17. Describe different management modalities for common and uncommon problems including musculoskeletal and regional diseases.

A18. Recognize the principles of advanced interventional procedures related to regional and musculoskeletal disorders.

A19. Discuss the etiological, clinical and therapeutic basis of sports medicine.

3) Physical Medicine and Rehabilitation:

A20. Define the basis and extended knowledge regarding indications, contraindications, precautions and procedures of electrotherapy and other Physical modalities in rehabilitation.

A21. Define the indications, procedures and types of therapeutic exercises.

A22. Describe the indications of different types of orthosis, wheelchairs, assistive devices, walking aids and footwear modifications.

A23. Interpret the causes, types of amputation and Rehabilitation of the amputee with the indications and types of prostheses.

A24. Show the detailed Rehabilitation of the different disorders affecting the CNS, CVS, Urinary, respiratory and bowel, Cancer, and musculoskeletal systems.

A25. Explain speech, language and auditory disorders and describe the rehabilitation principles.

A26. Illustrate the rehabilitation of swallowing impairment.

A27. Interpret the principles for evaluation and prescription of occupational and vocational therapy.

A28. Recall the Rehabilitation of geriatric and/ or immobilized patients regarding of the Activities of Daily Living (ADL).

A29 Demonstrate the rehabilitation of burn and related disabilities.

Intellectual Skills (B):

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

(1)Rheumatology & Clinical Immunology:

B1. Analyze the complex nature of Rheumatology and Clinical immunology diseases before giving the appropriate decision

B2. Interpret the different clinical manifestations and investigations of Rheumatology and clinical immunology including laboratory, radiological and biopsy findings.

B3. Evaluate of patient’s activity according to disease activity indices.

B4. Build the appropriate detailed management plan of common and rare Rheumatology and clinical immunology cases and comorbidities.

B5. Construct strategies to avoid disease flares and activity in Rheumatology patients.

B6. Build up preventive measures for patients at high risk of complications.

(4) Musculoskeletal Medicine and Regional Diseases:

B7. Choose appropriate laboratory and radiological investigations for different Musculoskeletal Medicine and Regional disorders according to a goal-based approach.

B8. Interpret the results of different investigations or interventions for Musculoskeletal Medicine and Regional disorders.

B9. Build up interventional solutions for Musculoskeletal and Regional Diseases.

B10. Construct treatment plans for common and rare Musculoskeletal Medicine and Regional disorders.

3) Physical Medicine and Rehabilitation:

B11. Recommend rehabilitation medicine solutions for patients with disability and involve the patient's family in the strategy.

B12. Construct proper rehabilitation treatment plans and follow up for patients.

B13. Implementation of total quality management related to Rehabilitation plans.

B14. Interpret the results of different rehabilitation programs and follow up for patients with disabilities.

B15. Appraise the scientific dialogue and debates based on related arguments and evidence in the area of physical medicine and rehabilitation

Professional and practical skills (C)

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

(1) Rheumatology & Clinical Immunology:

C1. Analyze clinical data specially the art of history taking required in rheumatic and clinical immunology disorders.

C2. Examine and identify signs of common and rare rheumatic disorders.

C3. Classify the rheumatological emergencies and referal properly.

C4. Construct the appropriate treatment plans for common and rare rheumatological disorders taking into consideration the comorbidities and individual needs and cost.

C5. Make use of modern technological means that serve the profession of Rheumatology.

C6. Build up the useful strategies needed in the implementation of management of Rheumatic and clinical immunology disorders.

C7. Create and criticize the professional reports and papers prepared in relation to Rheumatology.

3) Musculoskeletal Medicine and Regional Diseases:

C9. Examine and identify signs of common and rare musculoskeletal disorders.

C10. Apply invasive procedures and skills for joint dysfunctions such as joint fluid aspiration, intra articular and soft tissue injections.

C11. Build up the useful and modern strategies needed in managing various Musculoskeletal Medicine and Regional Disorders.

C12. Use the advanced technological means that serve assessment and management of various Musculoskeletal Medicine and Regional Disorders.

3) Physical Medicine and Rehabilitation:

.C13. Evaluate different types of disabilities and Plan an efficient program of rehabilitation.

C14. Construct proper and efficient rehabilitation programs for management of different musculoskeletal disorders and disabilities.

C15. Make use of the different physical modalities techniques and devices.

C16. Apply electro diagnostic tools efficiently in the field of Rehabilitation and physical medicine.

D- General and transferable skills:

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

D1. Explain and simplify knowledge to others with the proper evaluation of overall performance in Rheumatology, Rehabilitation and Physical medicine.

D2.evaluate and assess himself and continuous learning for self-development in the field of Rheumatology, Rehabilitation and Physical medicine.

D3. Motive his colleagues and construct the spirit of team Work cooperatively while serving in the area of Rheumatology, Rehabilitation and Physical medicine.

D5. Explaine to the patient and/or his/her relatives the nature of the illness, diagnostic and therapeutic plans, possible complications and outcomes.

D6.. Simplify the situation and appropriate handling during difficult situations such as conveying bad News or dealing with patients' anger.

D7. Interview with colleagues the progression of the patient's condition, therapeutic outcomes.

.

D8. Develop optimal patient care and the same time appreciating the Cost effectiveness to allow maximum benefit from available resources.

3- Course contents:

III-A) TOPICS:

Students will receive presentations on the following subjects:

(4): Rheumatology & Clinical Immunology (14 topics)

1. Detailed Immune& inflammatory responses of rheumatic and auto immune diseases.
2. Detailed pathogenesis, immune response and cells implicated in systemic auto immune and rheumatic disorders
3. Systemic connective tissue diseases:

xii. Rheumatoid arthritis

xiii. Sjogren's Syndrome

xiv. Systemic lupus erythematosus

xv. Systemic sclerosis

xvi. Scleroderma mimics

xvii. Inflammatory muscle diseases

xviii. overlap disorders

xix. Mixed connective tissue and undifferentiated connective tissue diseases

xx. Antiphospholipid syndrome

xxi. Adult onset Still's disease

xxii. Polymyalgia Rheumatica

4. Vasculitides & related disorders
5. Vasculitis mimics
6. Immunoglobulin disorders
7. Seronegative Spondyloarthropathies
8. Pediatric Rheumatic diseases
9. Rheumatic disorders associated with systemic diseases
10. Rheumatic disorders related to various infectious agents
11. Medical management of rheumatic diseases.
12. Reconstructive surgery for rheumatic disease.
13. Care of rheumatological patients with COVID-19

(5): Musculoskeletal Medicine and Regional diseases 17 topics:

21. Musculoskeletal pain etiology, pathogenesis, diagnosis and treatment.
22. Measurement, evaluation and functional assessment of musculoskeletal system

23. Musculoskeletal and regional diseases; types, causes and pathology.

24. Psychological basis of musculoskeletal and regional disorders.

25. Laboratory and radiological investigations related to musculoskeletal and regional diseases.

26. Electrodiagnosis: indications, principles, techniques and limitations.

27. Normal gait and abnormal gait patterns.

28. Fibromyalgia and Myofascial pain syndrome

29. Crystal induced arthropathies

30. Osteoarthritis and related conditions

31. Metabolic bone disease.

32. Renal osteodystrophy

33. Congenital and heritable bone and connective tissue disorders

34. Dysplasia; types, pathogenesis and management

35. Modern management modalities for musculoskeletal and regional disorders.

36. Advanced principles of interventional procedures related to regional and musculoskeletal disorders

37. Sports medicine. etiological, clinical and therapeutic basis

38. Musculoskeletal manifestations accompanying Malignancies.

39. Tumors in joints.

40. Musculoskeletal manifestations accompanying pregnancy

(6): Physical Medicine and Rehabilitation (25 topics)

27- physical modalities used in rehabilitation and physical medicine (scientific bases and applications)

28- Electrotherapy.

29- Advanced principles and techniques of therapeutic exercises

30- Principles and uses of hydrotherapy in rehabilitation.

31- Advances in field of orthotics, prosthesis, Wheel chairs and assistive devices in rehabilitation.

32- Rehabilitation of stroke and comorbidities

33- Advanced principles and techniques in rehabilitation of Spasticity.

34- Rehabilitation of traumatic brain injury cases

35- Rehabilitation of Spinal cord injury

36- Rehabilitation of Extra pyrimadal disorders

37- Rehabilitation of ataxia

38- Rehabilitation of pediatric disorders.

39- Advanced and modern modalities in rehabilitation after joint arthroplasty.

40- Advanced principles and techniques in rehabilitation of the cardiovascular and respiratory diseases.

41- Traditional and modern concepts and techniques in rehabilitation of Myopathy disorders

42- Traditional and modern concepts and techniques in rehabilitation of Neuropathic disorders

43- Rehabilitation of regional musculoskeletal disorders.

44- Speech, language and auditory disorders.

45- Rehabilitation of swallowing impairment.

46- Occupational & Vocational therapy (evaluation & management)

47- Geriatric rehabilitation

48- Rehabilitation of the bladder and bowel impairments

49- Rehabilitation of cancer

50- Rehabilitation of burn patients.

51- Rehabilitation of peripheral vascular diseases

52- Care and Rehabilitation of amputations.

III-B) Tutorial / Small Group Discussions

5) **Appropriate History taking.**

6) **Musculoskeletal examination.** The candidate should be able to identify**:**

i. Shoulder pathology:

a. Rotator cuff lesions.

b. Glenohumeral/capsular pathology.

c. Muscle wasting, proximal myopathy.

d. S/C joint pathology – synovitis.

e. A/C joint pathology – synovitis.

f. Shoulder pain due to pain referred from viscera or neck.

ii. Elbow pathology:
    a. Olecranon bursitis.
    b. Elbow joint pathology.
    c. Radio-ulnar joint pathology.
    d. Medial or lateral epicondylitis.
    e. Ulnar nerve entrapment.

iii. Hand & wrist pathology:
    a. Radiocarpal joint pathology.
    b. Distal radio-ulnar joint pathology.
    c. MCP or IP joint pathology.
    d. Hand deformities.
    e. Muscle wasting.
    f. Flexor or extensor tenosynovitis or tendon nodules.
    g. Rupture or attenuation of flexor or extensor tendons of fingers or thumb.
    h. De Quervain's tenosynovitis.
    i. Carpal tunnel syndrome.

iv. Hip/pelvic pathology:
    a. Trochanteric, iliopsoas, gluteal bursitis.
    b. Hip joint pathology including dysplasia.
    c. Real & apparent leg length inequality.
    d. SI joint pathology.
    e. Muscle wasting, proximal myopathy, Trendlenberg sign.
    f. Deformities of the hip, Thomas' test.
    g. Pathology of symphysis pubis.
    h. Hip pain due to pain referred from lumbar region.
    i. Lesions of tendons and entheses.

v. Knee pathology:
    a. Knee joint pathology, including internal derangements.
    b. Deformities.
    c. Muscle wasting, myopathy.
    d. Prepatellar, anserine bursitis.
    e. Popliteal cyst.
    f. Damage to collateral ligaments.
    g. Knee pain due to pain referred from hip or lumbar spine.
    h. Lesions of tendons and entheses.

i. Osgood-Schlatter’s disease.

j. Adolescent anterior knee pain/Patello-femoral syndrome.

vi. Ankle & foot pathology:

a. Ankle (tibiotalar) pathology.
b. Subtalar/midtarsal joint pathology.
c. MTP & IP joint pathology.
d. Lesions of the Achilles tendon, enthesis and retrocalcaneal bursa.
e. Deformities of the ankle and foot.
f. Foot pain due to pain referred from lumbar spine.
g. Plantar fasciitis.
h. Tenosynovitis of tibialis post and peroneal tendons.
i. Rupture of tibialis posterior or Achilles tendon.
j. Lesions of bone (e.g. stress fracture).

vii. Spinal pathology:

a. Cervical, thoracic, and lumbar spine pathology.
b. Spinal nerve root entrapment syndromes.
c. Spinal deformities including scoliosis and kyphosis.

viii. Extra-articular pathology:

a. Raynaud's phenomenon.
b. Vasculitic skin lesions.
c. Rheumatoid nodules.
d. Rash – psoriasis, pustular psoriasis, onycholysis, balanitis, lupus rashes, erythema nodosum,
e. Calcinosis.
f. Nail lesions – pitting, onycholysis, splinter hemorrhages, nailfold infarcts
g. Scleritis, episcleritis, conjunctivitis, iritis
h. Sclerodactyly.
i. Tophi.
j. Other medical complications of rheumatic diseases affecting internal organs.

7) **<u>The differential diagnosis of</u>:** monoarthropathy, oligoarthropathy, polyarthropathy, axial arthropathy, muscle weakness, regional limb pain, spinal musculoskeletal pain disorders, unexplained musculoskeletal pain and rheumatological emergencies.

8) Management of the following rheumatologic & immunologic cases:

m. Musculoskeletal pain problems and soft tissue rheumatism including:

i. Neck pain.
ii. Spinal pain.
iii. Intervertebral disc disorders.
iv. Spinal canal or foraminal stenosis & related syndromes.
v. ” Whiplash” injury.
vi. Limb pain syndromes, e.g.:
    1. Rotator cuff disease, enthesopathies including epicondylitis, plantar fasciitis, bursitis and non-specific limb pain
    2. Complex regional pain syndromes - algodystrophy
vii. Chest wall pain syndromes.
viii. Fibromyalgia and related somatoform disorders.
ix. Benign joint hypermobility.
x. Pain problems specific to childhood, e.g. Osgood-Schlatter’s disease, Perth’s disease and Nocturnal limb pain.
xi. Occupational and sports related problems.

n. Autoimmune connective tissue diseases including:

i. Rheumatoid arthritis
ii. Sjögren's syndrome.
iii. Systemic lupus erythematosus.
iv. Systemic sclerosis.
v. Scleroderma mimics
vi. Inflammatory muscle disesess (dermatomyositis/polymyositis.
vii. Overlap syndromes.
viii. Mixed connective tissue disease.
ix. Anti-phospholipid syndrome.
x. Adult stills disease
xi. Polymyalgia rheumatica

And regarding each item the following are required;

- Pathogenesis of the diseases
- Clinical manifestations: including articular, respiratory, ocular, neurological, hematological, and dermatological manifestations.
- Complications and comorbidities.
- Detailed modern principles and lines of management according to international guidelines

o. Vasculitides: including:

i. Giant cell arteritis and polymyalgia rheumatica.
ii. Wegener's granulomatosis.
iii. Polyarteritis nodosa and microscopic polyangiitis.
iv. Churg Strauss vasculitis.
v. Behçet's disease.
vi. Takayasu's arteritis.
vii. Cutaneous vasculitis.
viii. Henoch Schoenlein purpura.
ix. Cryoglobulinemia.
x. Vasculitis mimics

And regarding each item the following are required;

- Pathogenesis of the diseases
- Systemic manifestations: including skin, renal, respiratory, ocular, neurological, hematological, and CNS manifestations.
- Complications and comorbidities.
- Detailed modern principles and lines of management according to international guidelines

p. Spondyloarthropathies including:

i. Ankylosing spondylitis.
ii. Psoriatic arthritis.
iii. Enteropathic arthropathies.
iv. Reactive arthritis.
v. Whipple's disease.

And regarding each item the following are required;

- Pathogenesis of the diseases
- Articular manifestations.
- Systemic manifestations: including respiratory, ocular, neurological, hematological, and dermatological manifestations.
- Complications and comorbidities.
- Detailed modern principles and lines of management according to international guidelines.

q. **Pediatric rheumatic disorders including:**

- Juvenile Idiopathic Arthritis.
- Juvenile systemic connective tissue diseases
- Juvenile vasculitis
- Anti-rheumatic drugs doses and precautions in childhood

r. **Rheumatic and musculoskeletal manifestations accompanying systemic disorders including:**

i. Endocrine disorders affecting bone, joint or muscle (e.g. pituitary, diabetes, thyroid, parathyroid disorders
ii. Metabolic disorders affecting joints (e.g. alkaptonuria, haemochromatosis).
iii. Rheumatic manifestations of haemoglobinopathies.
iv. Rheumatic manifestations of hemophilia and other disorders of haemostasis.
v. Rheumatic manifestations of gastroenterology and renal disorders
vi. Amyloidosis
vii. Sarcoidosis
viii. Familial Auto inflammatory and periodic fever syndromes
ix. Rheumatic manifestations of malignancies
x. Rheumatic manifestations with pregnancy

s. **Rheumatic and musculoskeletal manifestations accompanying Infections**

x. Septic arthritis and osteomyelitis.

xi. Post-infectious rheumatological conditions, including rheumatic fever, post- meningococcal arthritis.

xii. Lyme disease.

xiii. Mycobacterial, fungal & parasitic arthropathies

xiv. Viral arthritis.

xv. Rheumatic manifestations related to Human Immunodeficiency Virus and acquired immunodeficiency syndrome.

xvi. Rheumatic manifestations related to Hepatitis C.

xvii. Rheumatic manifestations related to covid 19.

xviii. Vaccinations in patients with rheumatic &autoimmune disorders.

t. <u>Osteoarthritis and related conditions including:</u>

   i. Osteoarthritis of large joints.
   ii. Generalized osteoarthritis.
   iii. Diffuse idiopathic skeletal hyperostosis.
   iv. Neuropathic arthritis.

u. <u>Crystal associated arthropathies including:</u>

   i. Gout.
   ii. Pseudogout.
   iii. Apatite deposition disease.
   iv. Oxalate metabolism disorders.

v. <u>Bone disorders including:</u>

   i. Osteoporosis.
   ii. Rickets and osteomalacia.
   iii. Bone & joint dysplasias.
   iv. Renal bone disease.
   v. Regional disorders: Paget's disease, hypertrophic pulmonary osteoarthropathy,

osteonecrosis, Perthe's disease.

vi. Osteochondritis dissecans, transient regional osteoporosis.

w. Neoplastic disease including:

i. Paraneoplastic musculoskeletal syndromes.

ii. Primary and secondary neoplastic conditions of connective tissue.

iii. Tumors of bone.

iv. Pigmented villonodular synovitis.

x. **Management of Rheumatic diseases including;**

xii. Nonsteroidal anti-inflammatory drugs

xiii. Glucocorticoids

xiv. Systemic anti rheumatic drugs

xv. Immunosuppressive and immunoregulatory drugs

xvi. Biological agents

xvii. Biosimilars

xviii. Hyopourecemic and urate lowering drugs

xix. Bone strengthening agents

xx. Peri-operative management of patients with rheumatic diseases

xxi. Management of covid19 in rheumatic patients.

xxii. Vaccinations with rheumatic disorders

(3): Physical Medicine, Rehabilitation including;

Proper evaluation of the patient and approach to physical medicine and rehabilitations and enable the resident to guide an efficient program for rehabilitation of the common disorders:

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a. Physical modalities used in rehabilitation and physical medicine including

vi. Heat therapy(superficial and deep heat modalities)

vii. Cold therapy modalities

viii. Electrotherapy

ix. Laser therapy

x. Hydrotherapy

b. Therapeutic exercises including

vii. Stretching and range of motion exercises

viii. Strengthening exercises

ix. Therapeutic massage

x. Manual therapy

xi. Traction therapy

xii. Coordination exercises

c. Rehabilitation of pediatric disorders including.

ix. Cerebral palsy

x. Scoliosis

xi. Erb's palsy

xii. Spina bifida

xiii. Dysplasias

xiv. Pediatric neuropathies

xv. Pediatric myopathies

xvi. Ataxia in children

III-C) Clinical CLASSES :

7. Joint aspiration, lavage and/or injection.
8. Soft tissue and regional injection.
9. Examination of synovial fluid by Polarized microscopy.
10. Electromyography and nerve conduction studies.
11. Diagnostic musculoskeletal ultrasound.
12. Orthotics and prosthesis clinic.

4- Teaching and learning methods:

9. **Lectures (online / offline)**
10. **Seminar**
11. **Journal club**
12. **Grand round**
13. **Inpatient's staff round**
14. **Annual scientific meetings**
15. **Attending or present scientific meetings, conferences, workshops and thesis discussion**
16. **Clinical classes:**

vii. Outpatient clinic cases
viii. Follow up clinic cases
ix. Rehabilitation cases
x. Orthotics and prosthesis clinic
xi. MSUS unit /cases (hands on).
xii. Electrophysiology unit /cases (hands on).

TEACHING PLAN:

Lectures: 2 lectures / week, 2h each

Clinical classes: 12 h/w

5- Students Assessment methods:

5-A) ATTENDANCE CRITERIA: Faculty bylaws

5-B) Assessment TOOLS:

- **Written exam papers:**

  Paper 1 Rheumatology (1/3 short essay, 1/3 MCQ, 1/3 problem solving)

  Paper 2 Rehabilitation (1/3 short essay, 1/3 MCQ, 1/3 problem solving)

  Paper 3; (cases)

- **Oral exams**; (Rheumatology, Rehabilitation)
- **Clinical exam (**long and short cases rheumatology & rehabilitation)
- **clinical image and video assessment (CIVA)**; (radiology exam, orthotics and prosthetics & Electro diagnostics)

5-C) TIME SCHEDULE: Faculty bylaws

Written and oral exams are held twice yearly; first set in April and second set in October.

5-D) GRADING SYSTEM:

Name of the course/ code	Course code	3 Written exams (3 Hours for each)	Oral exam	Clinical	Total marks
MD degree Rheumatology & Rehabilitation (Code):	RR100	300	100	100	100 %

6- List of references:

6- A) Course notes: will be provided by staff members

6-B) Essential textbooks:

- Kelley's Textbook of Rheumatology: Firestein GS, Budd RC,Harris ED, McInnes IB, Ruddy S and Sergent JS (eds.), 11th edition, 2021.

- Primer on the Rheumatic Diseases: Klippel JH, Stone JH, Crofford LJ and White PH (eds.) 13th edition, 2008.

- Physical Medicine and Rehabilitation: Braddom RL (ed.), In Cifu, D. X., Eapen, B. C. (ed.), 6th edition, 2021

6- C) Recommended books for further readings:

- Oxford Textbook of Rheumatology: Isenberg DA, Maddison PJ, Woo P, Glass D and Breedveld FC. (eds.), 4d edition, 2013

- Physical Medicine and Rehabilitation: Principles and Practice. DeLisa JA, Gans BM and Walsh NE. (eds.), 6th edition, 2019

6-D) Periodicals: Selected articles from international journals are provided to students

Web sites:

c- Area of Rheumatology and clinical immunology:

European Board of Rheumatology and the American College of Rheumatology High Impact Rheumatology Curriculum (***http://www.rheumatology.org/educ/hir/ppt.asp***)

d- Area of Rehabilitation medicine:

Signatures

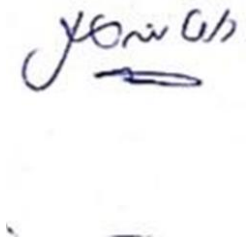
Course Coordinators

Head of Department

Prof. Faten Ismail Mohamed

Dr. Alshiamaa Mamdouh

Dr. Israa Fathey



Dr. Haidy Mohammed

Dr. Reem Mohammed

Dr. Aya Hassan

Dr. Doaa Mahmoud

A. Matrix of Coverage of Course ILOs of MD degree by Contents

List of contents	*Intended Learning Outcomes (ILOs)*			
	A. Knowledge & Understanding	**B. Intellectual Skills**	**C. Professional & Practical skills**	**D. General & Transferable Skills**
	A	**B**	**C**	**D**
Immune& inflammatory responses of rheumatic diseases.	A1, A4,	B1		
Systemic connective tissue diseases	A1,A2,A3,A4,A5,A66,A7, A8,	B1, B2, B3, B4, B5, B6	C1	
Vasculitides & related disorders.	A1,A2,A3,A4,A5,A66,A7, A8,	B1, B2, B3, B4, B5, B6	C1,C2,C3,C4,C5,C6,C7,C8	
Seronegative Spondyloarthropathies.	A1,A2,A3,A4,A5,A66,A7, A8,	B1, B2, B3, B4, B5, B6	C1,C2,C3,C4,C5,C6,C7,C8	
Pediatric Rheumatic diseases	A1,A2,A3,A4,A5,A66,A7, A8,	B1, B2, B3, B4, B5, B6	C1,C2,C3,C4,C5,C6,C7,C8	
Rheumatic disorders associated with systemic diseases	A1,A2,A3,A4,A5,A66,A7, A8,	B1, B2, B3, B4, B5, B6	C1,C2,C3,C4,C5,C6,C7,C8	
Arthritis related	A1,A2,A3,A4,A5,A66,A7, A8,	B1, B2,	C1,C2,C3,C4,C5,C6,C	

to infectious agents		B3, B4, B5, B6	7,C8	
Management of rheumatic diseases.	A5, A6, A7, A8	B4, B5,B6	C4,C5,C6,C7	
Musculoskeletal Medicine and Regional diseases	A9,A10,A11,A12,A13,A14,A15,A16,A17,A19	B7,B8, B9& B10	C9,C10,C11,C12	
Physical modalities used in rehabilitation and physical medicine	A20	B11, B12, B13 &B14	C14, c15	
Therapeutic exercises	A21	B11, B12, B13 &B14	C13, C 14	
Rehabilitation of stroke and Spasticity	A24, A25	B11, B12, B13, B14 &B15	C13, C14	
Orthotics, prosthesis & Wheel chairs and assistive devices	A22, A23	B11, B12, B13, B14 &B15	C14,C15	
Rehabilitation of pediatric disorders.	A20, A21, A24	B11, B12, B13,B14 &B15	C13, C14,C15,C16	
Rehabilitation after joint arthroplasty	A17,A20,21,27,	B11, B12, B13,B14 &B15	C13, C14,C15,C16	
Rehabilitation of the cardiovascular and respiratory diseases.	A24, A27	B11, B12, B13,B14 &B15	C13, ,C16	

Rehabilitation of Myopathic disorders	A12, A18, A19, A24	B11, B12, B13,B14 &B15	C13, C14,C15,C16	
Rehabilitation of Neuropathic disorders	A12, A18, A19, A22, A24	B11, B12, B13,B14 &B15	C13, C14,C15,C16	
Rehabilitation of regional musculoskeletal disorders.	A9, A10, A11, A12, A13, A14, A15, A16, A17, A18, A19	B11, B12, B13,B14 &B15	C13, C14,C15,C16	
Rehabilitation of burn.	A29	B11, B12, B13,B14 &B15	C13, C14,C15,C16	
Rehabilitation of traumatic brain injury cases	A24, A25, A26, A27	B11, B12, B13,B14 &B15	C13, C14,C15,C16	
Rehabilitation of Spinal cord injury	A24, A25, A26, A27	B11, B12, B13,B14 &B15	C13, C14,C15,C16	
Rehabilitation of Extra pyrimadal disorders	A 22, A24, A25, A26, A27,	B11, B12, B13,B14 &B15	C13, C14,C15,C16	
Rehabilitation of ataxia	A24, A25, A26, A27	B11, B12, B13,B14 &B15	C13, C14,C15,C16	

Speech, language and auditory disorders.	A25	B11, B12, B13,B14 &B15	C13, C14,C15,C16	
Rehabilitation of swallowing impairment	A24, A25, A26	B11, B12, B13,B14 &B15	C13, C14,C15,C16	
- Occupational & Vocational therapy (evaluation & management	A27, A28	B11, B12, B13,B14 &B15	C13, C14,C15,C16	
Geriatric rehabilitation	A28	B11, B12, B13,B14 &B15	C13, C14,C15,C16	
Rehabilitation of the bladder and bowel impairments	A24	B11, B12, B13,B14 &B15	C13, C14,C15,C16	
Rehabilitation of cancer	A24	B11, B12, B13,B14 &B15	C13, C14,C15,C16	
Rehabilitation of peripheral vascular diseases	A24	B11, B12, B13,B14 &B15	C13, C14,C15,C16	

Matrix of Coverage of MD 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
Lectures	A1; A29	B1; B15		
Clinical (grand rounds, outpatient clinics, in patient, electro diagnosis &MSUS units)			C1,c2,c3, c4,c5, c6,c7,c8,c9,c10, C11, C12, C13,C14,C15,C16	D1,D2,D3,D4, D5, D6,D7,D8
Presentations/seminar (performing and attendance	A1, A2 ,A3	B1, B2, B3, B4, B5, B6, B12, B13, B14		D1,D2,D3,D4, D5, D6,D7,D8
Training courses & Workshops			C5,C10,C11, C15, C16	D1,D2,D3,D4, D5, D6,D7,D8

Matrix of Coverage of Course ILOs of MD course by Methods of Assessment

Assessment	Intended Learning Outcomes (ILOs)

Methods of	A. Knowledge & Understanding	B. Intellectual Skills	C. Professional & Practical skills	D. General & Transferable Skills
	A	B	C	D
Written exams	A1; A29	B1; B15		
CIVA	A14, A15 A17, A22	B8,	C5,C11,C12,C16	
Clinical exam long and short cases history and examination			C1,C2,C3,C4,C5,C6,C7, C8,C9,C10,C11,C12,C13 ,C14,C15,C16	D5,D6,D7.D8
Oral Exam		B1,B2,B3,B4,B5,B 6,B7,B8,B9,B10,B 15		D5,D6,D7.D8
MD Thesis			C1	D5,D6,D7.D8

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Blueprint of Rheumatology& Clinical Immunology "MD degree" Examination Paper

	Topic	Hours	Knowledge %	Intellectual %	Marks
1	**Immunology of Rheumatic diseases.**	58	80%	20%	**26.5 %**
2	**Systemic Rheumatic diseases**	98	60%	40%	**44.5 %**
3	**Musculoskeletal and regional pain disorders.**	64	60%	40%	**29 %**
	Total	**220**			**100%**

Blueprint of Rheumatology, Rehabilitation and physical medicine Department.

Blueprint of Rehabilitation and physical medicine "MD degree" Examination Paper

	Topic	Hours	Knowledge %	Intellectual %	Marks	Actual mark
1	**Physical modalities used in rehabilitation and physical medicine**	10h	70%	30%	**11.11%**	11%
2	**Therapeutic exercises**	9	60%	40%	**10 %**	10%
3	**Rehabilitation of Stroke TBI and Spasticity**	10h	60%	40%	**11.11%**	11%
4	**Rehabilitation of spinal cord injuries**	2h	60%	40%	**2.2%**	2%
5	**Orthotics, prosthesis, wheel chairs & assistive devices**	18h	60%	40%	**20%**	20%
6	**Rehabilitation of pediatric disorders.**	7h	60%	40%	**7.7 %**	8%
7	**Rehabilitation of the cardiovascular and respiratory diseases.**	6h	60%	40%	**6.5%**	6%
8	**Rehabilitation of myopathy disorders**	4h	60%	40%	**4.4%**	5%
9	**Rehabilitation of Neuropathic disorders**	8h	60%	40%	**8.8 %**	9%
10	**Rehabilitation of regional musculoskeletal disorders.**	8h	70%	30%	**8.8%**	9%
11	**Rehabilitation of burn.**	2h	70%	30%	**2.2%**	2%
12	**Rehabilitation of Extra pyrimadal disorders**	2h	70%	30%	**2.2%**	2%
13	**Rehabilitation of malignancy and geriatric**	4h	70%	30%	**4.4%**	5%
	Total	**90h**	%	%	**100%**	100%