DEPARTMENT OF Rheumatology& Rehabilitation
DEGREE: Doctorate (MD) in Rheumatology& Rehabilitation
Programme Specification
2012/2015

A.Basic Information

1-**Programme title**: Doctorate (MD) in Rheumatology& Rehabilitation.

2- Final Award: MD degree in Rheumatology& Rehabilitation.

3- Programme type: Multiple

4-Responsible Departments:

Rheumatology & Rehabilitation Department.
Anatomy Department
Physiology Department
Community medicine Department

5- programme duration: 3 academic years.

6- Number Programme courses: 6 courses

{Pre-requisite courses in: 1-statistics & methodology for MD students (MS), 2-Computer and internet application in medicine (CA), **RRMD 0**1 (Anatomy), **RRMD 02** (Physiology), **RRMD 0** 3 (Rheumatology), **RRMD 0** 4 (Rehabilitation) and **MDTH** (thesis)

7- Coordinators:

- Prof. Dr. Amany Abo Elsoud
- Assist. Prof Dr. Hala Gaballa
- Assist. Prof Dr. Ghada Sanad Nageeb
- Lect. Dr. Eman EL-dessoky
- Lect.Dr.Amaniy El-najjar

8-**External evaluators**:

-Prof. Salah Hawas, Professor and head of Rheumatology & Rehabilitation department, faculty of medicine, Mansoura University.

-Prof. Dr.AbdlSamad Alhewallah, Professor of Rheumatology & Rehabilitation department, faculty of medicine, Zagazig University.

-Assistant Prof. Aziza Omar, Assistant Professor of Rheumatology & Rehabilitation department, faculty of medicine, Kanat Al-Sues University.

9-**Last date of programme specifications approval**: ----------

10- Programme management team:

B-Professional Information

1-Programme aims to:

The aims of this program is making candidate able to apply all the knowledge he gained to develop and implement new approaches in diagnosis and management as a specialist in the field of Rheumatology and Rehabilitation and to achieve high level of research activity and methodology ,to apply systematic analysis in his practice ,to be a good educational source in his university or community, to have perfect professional skills and using technology in professional practice, have communication skills, team work concept, take decisions ,and manage information , management of the available resources, oriented with community and environmental development , always takes the moral standards and the professional ethics

2- Intended learning outcomes (ILOs):

By the end of the Programme the candidate should be able to:

A. Knowledge and Understanding

KU.1- Describe basic anatomy of spinal nerves, cranial nerves and nerve plexuses.
KU.2- Identify upper& lower limbs, respiratory muscles and back muscles.
KU.3- Recognize joints (types, structures, movements, and stability).
KU.4- Define physiology relevant to the rheumatic diseases.
KU.5 Define postural reflexes
KU.6- Define control of motor activity (reflexes & muscle tone) .
KU.7- Outline physiological abnormalities of cardiovascular system.
KU.8- Outline energy balance, obesity, physical fitness and sports physiology
KU.9- Recognize pulmonary function tests.
KU.10- Identify Anaemias, biological homeostasis and physiology of endocrinal glands.
KU.11- Identify physiology of renal function
KU.12- Outline immune system.
KU.13- Discuss Types of studies and Population & sampling.
KU.14- Outline Normal distribution curve hypothesis testing.
KU.15- Identify Correlation and regression analysis of data.
KU.16- Define the commonly used terms and the main sources of information on the internet.
KU.17- Mention the steps of identifying search statements.
KU.18- List the different aspects of plagiarism and the methods to avoid this misconduct
KU.19- Identify scope, tools and methods and styles of e-learning
KU.20- Describe epidemiology and incidence in rheumatic disease
KU.21- Mention immune, inflammatory response, genetics, gene therapy of rheumatic diseases, neuro-endocrinal aspects of the immune system & inflammation.

KU.22- Mention differential diagnosis of different types of arthritis & extra articular manifestations of rheumatic diseases.
KU.23- Define diagnostic tests, procedures and laboratory markers
KU.24- Discuss different regional joint and soft tissue pain, rheumatic diseases in adult and childhood
KU.25- Discuss arthritis as a manifestation of other systemic diseases.
KU.26- Discuss entrapment neuropathy and related disorders, Outline low back pain .
KU.27- Identify different drugs used in treatment of rheumatic disorders.
KU.28- Define intra articular therapy, Indications of surgery in rheumatic diseases.
KU.29- Discuss electro diagnosis .
KU.30- Discuss different physical modalities used in rehabilitation.
KU.31- Define Rehabilitation of patients with arthritis and connective tissue diseases.
KU32- Outline rehabilitation of neurological and musculoskeletal conditions.
KU.33- Discuss rehabilitation of degenerative diseases of spine and peripheral joints, orthopedic and traumatic conditions.
KU.34- Discuss pediatric rehabilitation, geriatric rehabilitation, and rehabilitation of sports injuries.
KU.35- Define Rehabilitation of amputee, rehabilitation after joint replacement therapy, gait training.
KU.36- Define Rehabilitation after different systemic disorders.
KU.37- Discuss transfers devices for disabled cases and wheelchairs**.**
KU.38- Define orthoses and prostheses**.**
KU.39- Identify recent advances in field of Rheumatology and Rehabilitation
KU.40- Define essentials and ethics of medical research
KU.41- Define ethical and medico-legal basics in Rheumatology and Rehabilitation.
KU.42- Identify professional knowledge, hypothesis and basics in the field of Rheumatology and Rehabilitation.
KU.43-Define basics of quality and Rheumatology and Rehabilitation practical performance.
KU.44- Describe effect of practical performance on environment and work of environmental protection.

B- Intellectual skills :

IS-1- Integrate basic science of anatomy, pathology, genetics, immunology, biochemistry, and physiology.
IS-2- Create an effective search statement
IS-3-Interpret the retrieved results and decode URLs contents
IS-4-Performing and /or writing researches about medical scientific research problems.
IS-5- Recognize procedures and aspiration analysis and injection of joints & soft tissues of connective tissue, bone, joint, and muscle with clinical care of patients with rheumatic disorders.
IS-6- Explain the scientific basis of the methodology, indications and laboratory tests and imaging; procedures used in diagnosis and management of rheumatic diseases.
IS-7- Evaluate risk factors in Rheumatology.
IS-8- Classify Rheumatology problems and arrange it in chronological manner.
IS-9- Solve specific Rheumatology problems
IS-10- Make practical decisions according to available knowledge.
IS-11- Interpret electromyograms and nerve conduction studies.
IS-12- Apply physical medicine and rehabilitation programme in patients with rheumatic, neurological ,orthopedic and other medical disorders.

IS-13- Evaluate rehabilitation of exercise- related (sports) illness.
IS-14- Evaluate orthoses and protheses of different parts of the body.
IS-15- Apply coordination between different knowledge for solving Rehabilitation problems.

C- Professional and Practical skills:

PS-1- Examine patients, to include a specific examination of structure and function of all joints, both axial and peripheral, as well as periarticular structure and muscle units.
PS-2- Perform diagnostic aspiration and analysis of synovial fluid.
PS-3- Perform therapeutic injection of diarthrodial joints, bursae, tenosynovial structures and enthuses.
PS-4- Interpret bone and joint imaging techniques.
PS-5- Interpret bone density measurement.
PS-6-Use non steroidal anti-inflammatory drugs, disease modifying drugs, biological response modifiers, glucocorticoids, cytotoxic drugs, antihyperuricemic drugs, and antibiotic therapy.
PS-7- Design controlled clinical trials in rheumatic diseases.
PS-8- Design controlled clinical trials in rehabilitation.
PS-9- Evaluate professional skills and recent advances in rheumatology and rehabilitation.
PS-10-Use different techniques for serving Rheumatology and Rehabilitation practice.
PS-11- Apply practical skills in Rheumatology and Rehabilitation.
PS-12- Construct practical reports in Rheumatology and Rehabilitation
PS-13-Plan to improve Rheumatology and Rehabilitation practice and improving performance of other rheumatologists
PS-14-Apply the principles and tools of evidence-based medicine in every day medical practicing
PS-15-Conduct a systematic review and critical appraisal of medical topics by using internet tools
PS-16-Prepare and upload a medical report, fact sheet or power point presentation
PS-17- Apply an e-learning simple and relevant course

D- General and Transferable Skills:

GS.1- Be prepared for the lifelong learning needs of the profession in rehabilitation medicine.
GS.2- Use information and communication technology effectively in the field of rehabilitation.
GS.3- Retrieve information by all means.
GS.4- Communication of ideas and arguments effectively.
GS.5- Work effectively within a team.
GS.6- Analyze numerical data including the use of simple statistical methods.
GS.7- Use roles and predictors for evaluation of other's performance
GS.8- Operate with learning of other rheumatologist and analyze their performance.
GS.9- Organize scientific Rheumatologic meetings and practice time managing.
GS.10- Communicate effectively with colleagues, students, patients as well as world wide scientific community by using e-mails and other social web tools.
GS.11- Work as an active participant in the internet scientific groups.
GS.12- Self evaluation and classification of personal learning needs.
GS.13- Formulate different sources for achieving knowledge and information in Rheumatology and Rehabilitation.
GS.14- Apply working in a team and time mapping.
GS.15- Apply continuous self learning.

3. Academic standards:

3a. Generic standards of postgraduate programmes prepared by National Authority of Quality Assurance and Accreditation of Education (NAQAAE).

المعاييرالقياسية العامة لبرامج الدراسات العليا التي أعدتها الهيئة القومية لضمان جودة التعليم والاعتماد فبراير(2009)

3b. External references for standards (Benchmarks)

In Rheumatology Medicine: Rheumatology Fellowship Curriculum, State University of New York Upstate Medical University http://www.upstate.edu/medicine/fellowships/rheum.php.

In Rehabilitation Medicine: Joint Royal Colleges of Physicians Training Board/UK

http://www.gmc-uk.org/Rehabilitation_medicine_3_Jul_07_v.Curr_0027.pdf_30536066.pdf

3c. Matrices:

1- Comparison between the intended learning outcomes (ILOs) of the Faculty of Medicine Zagazig university MD in Rheumatology & Rehabilitation programme and that of the Generic Academic standards of postgraduate programme prepared by National Authority of Quality Assurance and Accreditation of Education.

1- المعرفة و الفهم **أ- النظريات و الأساسيات والحديث من المعارف فى مجال التخصص وكذا في المجالات ذات العلاقة** **ب- المبادئ الأخلاقية و القانونية للممارسة المهنية في مجال التخصص.** **ت- مبادئ و أساسيات الجودة في الممارسات المهنية في مجال التخصص.** **ث- أساسيات و أخلاقيات البحث العلمي وأدواته المختلفة** **ج- المعارف المتعلقة بآثار ممارسته المهنية على البيئة وطرق تنمية البيئة وصيانتها**	KU39 KU40 KU41, KU42 KU43 KU44	100 % is fulfilled

المهارات الذهنية **أ- تحليل و تقييم المعلومات في مجال التخصص والقياس عليها والإسباط منها.** **ب- حل المشاكل المتخصصة استنادا على المعطيات المتاحة** **ت- الربط بين المعارف المختلفة لحل المشاكل المهنية.** **ث- اجراء دراسة بحثية تضف إلى المعارف.** **ج- تقييم المخاطر في الممارسات المهنية في مجال التخصص.** **ح- التخطيط لتطوير الأداء في مجال التخصص.** **خ- أتخاذ القرارات المهنية في سياقات مهنية متنوعة.** **د- صياغة أوراق علمية** **ذ- الإبتكار والإبداع.** **ر- الحوار والنقاش المبنى على البراهين والأدلة.**	IS14 IS9 IS10, IS11 IS12 IS8 IS3	100% is fulfilled
المهارات المهنية **أ -اتقان المهارات المهنية الأساسية و الحديثة في مجال التخصص.** **ب -كتابة و تقييم التقارير المهنية.** **ت -تقييم وتطوير الطرق والأدوات القائمة في مجال التخصص** **ج-إستخدام الوسائل التكنولوجية بما يخدم الممارسة المهنية.** **ح- التخطيط لتطور الممارسة المهنية وتنمية آداء الآخرين.**	PS9-PS11 PS13 PS4,5,10,14 PS14,15,17 PS7,8,9,11	100% is fulfilled
المهارات العامة و المتنقلة **أ -التواصل الفعال بأنواعه المختلفة** **ب -استخدام تكنولوجيا المعلومات بما يخدم الممارسة المهنية.** **ت -التقييم الذاتي والمستمر** **ث -استخدام المصادر المختلفة للحصول علي المعلومات والمعارف.** **ج -تعليم الآخرين وتقييم آداءهم.** **ح -العمل في فريق و قيادة فرق في سياقات مهنية مختلفة.** **خ -إدارة اللقاءات العلمية والوقت بكفاءة.** **د -التعلم الذاتي و المستمر.**	GS4,5,8,10,11 GS2,3,6 GS12,15 GS2,3,13 GS8,11,12,14 GS5,14 GS14 GS12,15	100% is fulfilled

3b- Comparison of provision to external references

2- Comparison between the ILOs of the MD programme in Rheumatology& Rehabilitation, Faculty of medicine-Zagazig university and Rheumatology& Rehabilitation MD Programme of New York Upstate Medical University

Rheumatology Fellowship Curriculum State University of New York Upstate Medical University	**ILOs in MD of Rheumatology& Rehabilitation programme Faculty of medicine, Zagazig University**	**Approximate achievable ILOs**
3.1 Programme content and objectives The Training Programme aims to :		
The ability to formulate appropriate differential diagnoses of rheumatic diseases.	KU,22,23 IS,3,4,5 PS,2,6,7,8,11,12	70%
Can apply knowledge of the appropriate basic sciences relevant to rheumatology	KU1,2,,3 IS 1 PS,1,2	55%
Can develop management plans for the "whole patient" Fully appreciate and know how to use the multi-disciplinary team approach to management of rheumatic diseases	KU,43,44 IS,8,11,12,14,15 PS,10,13,15,17 GS2,10,11,14	Needs improvement Needs local guidelines
Can use skills of lifelong learning to keep up to date with developments in Rheumatic Diseases	PS,15,17 GS,1,12,13,15 IS,11	40%
A knowledge of the principles of effective teaching	PS,14,15,16 GS 8,9,10	70%
Are able to manage time and resources to the benefit of their patients and colleagues	GS,5,14	70%
Enable to submit their work for peer-reviewed presentation at local and other scientific meetings, journal publication and/or research grant funding.	KU13,16-19,40 IS,9-11 PS,14,15 GS,10,11	Satisfactory
The performance and/or interpretation of diagnostic and therapeutic procedures common to the practice of Rheumatology,	KU,22,23 IS,2,3 PS,2,3,4,7	60%
The ability to perform as a Rheumatology consultant or	KU,42,43	40%

health care team leader for patients with primary rheumatologic diagnoses.	IS,8,15 PS,12 GS7,8,9	
In Rehabilitation Medicine: Joint Royal Colleges of Physicians Training Board: By the end of training the trainee should be able to provide and determine the rehabilitation strategies for patients with: CNS diorders, musculoskeletal diorders	KU,32-36 IS,4-8	70%
cardiac disorders, respiratory diorders, GIT disorders of speech, cognitive dysfunction , bladder and bowel dysfunction, sexual dysfunction and bones and joints disease.	KU,31-36 IS, 6,7 PS,8,10,11,12	70%
occupational therapy, biomechanical modalities such as prosthetics, orthotics and splinting, assistive devices and environmental adaptation.	KU,28,33,35,36,37,38 IS7,14 PS,3 GS,10	60%
Determine knowledge of: prevention of medical complications of people with musculoskeletal and neurological	KU42 IS,14,l5	70%
shows respect for the law, acts within the law at all times, demonstrates a positive attitude to decision making within a legal framework and is prepared to seek advice when nessecary	KU,18,41	70%
100%	50%	

3- - Comparison between the ILOs of the MD programme in Rheumatology & Rehabilitation and that of the 4 courses (Computer, Statistics, Rheu12,Rheu13, Rheu14,Rheu15 and 16).

Programme of MD in Rheumatology & Rehabilitation	Computer CA	Statistics MS	RRMD 01	RRMD 02	RRMD 03	RRMD 04
KU1-3			KU1-10			
KU4-12				KU1-10		
KU13-17	.	KU1-10				
KU18,19	KU1-7					
KU20-28						

KU29-44					KU1-32	KU1-19
IS1			IS1-2-3-4-5	IS1	IS1	IS1
IS2-4,8					IS2-8,10	IS1-5
IS9,10	IS1-4					
IS11		IS1-4				
IS12-15					IS1-10	IS1-6-10
PS1-7,9-14			PS1-4	PS1,2,3	PS1-16	
PS8-13						PS1-10
PS15-17	PS1-5					
GS1-5		GS1	GS1,2	GS1-13		GS1-5
GS6			GS2			
GS6, 7-9, 11-15	GS1-7		GS2,3			GS6-15

4 - Programme structure:

First Part

Course	units	Teaching hours	weeks	Academic year
Computer	**11**	**48**	**24**	1st part
Statistics	**9**	**24**	**12**	1st part
RRMD 01	11	48	24	1st part
RRMD 02	9	64	30	1st part
RRMD 03	17	388	53	2nd part
RRMD 04	9	388	50	2rd part
MSTH		216	36	3nd part

5. Programme courses

Code No.	Units	Title	No of hours			No of weeks
			Theoretical & seminars	Practical	total	
Computer	1	How to locate the proper source for health and medical information	3	1	4	2
	2	How to decode URLs and identify file types	2	1	3	2
	3	How to formulate an effective search statements	3	2	5	2
	4	How to evaluate the internet information	3	2	5	2
	5	Citing internet documents and avoiding plagiarism	3	2	5	2
	6	Web 2.0 and social / collaborative internet tools	3	2	5	2
	7	Using of Internet tools in Evidence-Based Medicine	3	2	5	4
	8	Health on the net code of ethics	2		2	2
	9	Using of Free online Journal Databases	2	2	4	2
	10	Scope , uses, application of Pub-Med Medline database	3	2	5	2
	11	Medical Wiki, Blogs, groups, multimedia, and Health 2.0 tools	3	2	5	2
Statistics	1	Introduction to medical statistics	2	1	1	2
	2	Types of research methodology	4	2	2	2
	3	Population sampling	2	1	1	1
	4	Types of data, presentation	4	2	2	1
	5	Summarization of data	4	2	2	1
	6	Normal distribution curve	1		1	1
	7	Tests of significance	4	2	2	2
	8	Types of errors, bias	1		1	1

	9	Correlation, regression	2	1	1	1
		Total	24	11	13	12

Code No.	Units	Title	No of hours			No of weeks
			Theoretical & seminars	Practical	total	
RRMD 01	1	Joints (types, structures, movements, stability)	2		2	1
	2	Upper limb joints	2	2	4	1
	3	Lower limb joints	2	2	4	1
	4	4-Muscles of the Upper limb • Muscles of the Arm	2	2	4	1
		• Muscles of the forearm	2	2	4	1
		• Muscles of the hand	2	2	4	1
	5	Joints of the vertebral column and muscles of the back	2	2	4	1
	6	Muscles of the Lower limb • Muscles of the glutei & thigh	2	2	4	1
		• Muscles of the leg	2	2	4	1
		• Muscles of the foot	2	2	4	1
	7	Cortical areas	2	0	2	1
	8	Ascending tracts	2	0	2	1
	9	Descending tracts • Pyramidal tract	2	2	4	1
		• extra pyramidal tract	2	2	4	1
	10	Cranial nerves • Trigeminal nerve	2	2	4	1
		• Facial nerve	2	2	4	1
		• 3,4,6, cranial nerves	2	0	2	1
	11	Nerve plexuses • Brachial plexus	2	0	2	1
		• Median ,ulnar, radial & axillary	2	2	4	1

		• Applications of upper limb nerve lesions	2	2	4	1
		• Lumbosacral plexus	2	0	2	1
		• Scitic nerve	2	0	2	1
		• Nerves of the lower limb	2	2	4	1
		• Applications of lower limb nerve lesions	2	2	4	1
		Total	48	34	82	24
RRMD 02	1	**Introduction**	2	0	2	
	2	**Nerves** • Strength duration curve	2	0	2	1
		• Resting membrane potential	2	0	2	1
		• Action potential	2	0	2	1
		• Mechanism of nerve impulse conduction	2	0	2	1
		• Excitability changes (nerves)	2	0	2	1
		• Metabolic & thermal changes (nerves)	2	0	2	1
		• Mechanism of neuromuscular transmission (EPP)	2	0	2	1
		• Properties & drugs affecting neuromuscular transmission	2	0	2	1
	3	**Skeletal Muscle**				
		• Muscle structure (actine & myosine)	2	0	2	1
		• Excitation contraction coupling	2	2	4	1
		• Electric changes & Excitability changes	2	2	4	
		• Metabolic & thermal changes	2	0	2	1
		• Types of muscle contraction	2	0	2	1
		• Simple muscle twitch	2	0	2	1
		• Rigor mortis	2	0	2	1
	4	**Central Nervous System (CNS)**				

		• Sensory receptors	2	0	2	1
		• Somatic sensation	2	2	4	1
		• Reflex actions	2	2	4	1
		• Stretch reflex & skeletal muscle tone	2	2	4	1
		• Ascending tracts	2	0	2	1
		• Descending tracts	2	0	2	1
		• Pyramidal tract	2	0	2	1
		• Extra pyramidal tract	2	0	2	1
		• Common lesions in CNS	2	2	4	1
	5	**Cerebellum (CB)**				
		• Physiological divisions of (CB)	2	0	2	1
		• Structure of (CB) & it's neural circuits Connections of (CB)	2	0	2	1
		• Functions of (CB)	2	2	4	1
		• Clinical abnormalities of (CB)	2	0	2	1
	7	**Postural & Equilibrium**	2	0	2	1
	8	**Identify Ca++ homeostasis**	2	0	2	
		• Diseases of abnormal Ca++ level	2	0	2	1
	15	**TOTAL**	**64**	**14**	**78**	**30**

Units **RRMD 03**	• **Rheu16** • **TOPIC**	**No. of hours**			**No of weeks**
		Lectures	Practical/ small groups	Total	
1Anatomy	• Structure & function of joints • Structure & function of muscles	2 2	2 2	4 4	1
2Immunology	• Immune response: Innate response & Adaptive response &humoral response & Cell mediated responce • Inflammatory response	2 2	2 2	4 2	4
	• Genetics of rheumatic diseases	2 2	2 2	4 4	

	• Gene therapy in arthritis				
	• Matrix glycoproteins and protoglycans	2	2	4	
	• Biology, physiology of bone • Microbiology of bone	2 2	2 2	4 4	
3-Rheumatoid arthritis	• Rheumatoid arthritis,aeteology and pathogenesis • RA, clinical picture & recent classification • Diagnosis of RA • Differential diagnosis of RA • RA, recent lines of management • Felty syndrome • Jsogren syndrome	2 2 2 2 2 2 2	2 2 2 2 2 2 2	4 4 4 4 4 4 4	4
4-Seronegative	• Ankylosing spondylitis eateology and immunopathology • AS, classification, clinical picture and differential diagnosis. • AS, recent trends of management	2 2 2	2 2 2	4 4 4	4
	• Reiter s syndrome • Psoriatic arthropathy	2 2	2 2	4 4	
	• Enteropathic arthritis	2	2	4	
	• Behcets disease	2	2	4	
5-Systemic lupus erythematosus	• SLE , aeteology & pathogenesis • SLE, clinical picture & diagnosis • SLE, differential diagnosis, • SLE, recent trends in treatment	2 2 2 2	2 2 2 2	4 4 4 4	2
6-Vasculitis	Vasculitic syndromes: • Large- vessel vasculitis • Small- vessel vasculitis • Medium- vessel vasculitis	 2 2 2	 2 2 2	 4 4 4	2
7-Connective tissue disease	• Connective tissue disease characterized by fibrosis (Scleroderma) • Localized fibrotic disorders.	2 2	2 2	4 4	3

	• Overlap syndromes • MCTD • Hereditable diseases of connective tissue	2 2 2	2 2 2	4 4 4	
	• Inflammatory disorders of muscles	2	2	4	
8-Pediatric rheumatic diseases	• Juvenile chronic arthritis • Juvenile SLE • Differencial diagnosis of pediatric chronic arthritis • Management of pediatric arthritis	2 2 2 2	2 2 2 2	4 4 4 4	2
9-Arthritis as a manifestation of other systemic diseases	• Arthritis and liver diseases • Arthritis & eye diseases. • Arthritis & skin diseases. • Arthritis & diabetis • Arthritis and CNS diseases.	2 2 2 2 4	2 2 2 2 2	4 4 4 4 4	3
10-Impaired immune system	• Syndrome of impaired immune functions	2	0	2	1
11-Crystal induced arthritis	• Gout • ,Psudogout &Hydroxy apatite arthropathy	4 4	2 2	6 6	2
12-Osteoarthritis	• Osteoarthritis:causes, types and clinical variants • OA management • LBP:Acute type: clinical picture, diagnosis & management. • LBP: chronic type: clinical picture, diagnosis & management.	2 2 2 2	2 2 2 2	4 4 4 4	2
13-Osteochondritis	• Polychondritis	2	2	4	1
14-Infection and arthritis	• Bacterial • viral. • Fungal • Lyme • Reactive arthritis • post streptococcal arthritis & Rheumatic fever	2 2 2 2 2 2	2 2 2 2 2 2	4 4 4 4 4 4	3
15-Metabolic and Infiltrative disorder	• Metabolic bone diseases	2	0	2	2
	• Infiltrative disorder associated with rheumatic	2	2	4	

	diseases • Proliferative bone diseases • Rheumatic manifestations of HIV infection	 2 2	 2 2	 4 4	
16-Special issues of the rheumatic diseases	• Special issues of the rheumatic diseases • (fibromyalgia)	2	2	4	16
	• Amylodosis • Osteonecrosis • Relapsing polychondritis	2 2 2	0 2	2 2 4	
	• Sarciodosis	2	2	4	
	• Musculoskletal syndrome associated with malignancy	2	2	4	
	• Disorders of bone& structural proteins	2	2	4	
	• Benign tumors involving joints. • Malegnant tumors involving joints.	2 2	2 2	4 4	
	• Medical orthopedics and sports medicine affecting upper limb • Sport medicine affecting lower limb	2 2	2 2	4 4	
	• Reconstructive surgery in rheumatic diseases for the upper limb& lower limb. • Different laboratory testing in rheumatic diseases • CT importance in rheumatic diseases • MRI importance in rheumatic diseases	2 2 2 2 2	2 2 2 2 2	4 4 4 4 4	
	• NSAIDS, types & mode of action. • NSAIDS,drug interactions & contraindications	2 2	2 2	4 4	
	• Glucocorticoids, mode of action& types • Glucocorticoids, drug	2 2	2 2	4 4	

	interactions & contraindications.				
	• DMARDS. Types & mode of action • DMARDS, drug interactions &contraindications	2 2	2 2	4 4	
	• Immunoregulatory agents, types & mode of action • Immunoregulatory agents, drug interactions & contraindications	2 2	2 2	4 4	
	• Antihyperuricemic agents, types & mode of action • Antihyperuricemic drugs, drug interaction & contraindications.	2 2	2 2	4 4	
	• Biologic agents in treatment of RA, types & mode of action • Biologic agents,drug interactions & contraindications	2 2	2 2	4 4	
	• Bone strengthen agents, types & mode of action • Bone strengthening agents, drug interactions &contraindications	2 2	2 2	4 4	
	• Intra articular therapy in arthritis, types & mode of action • Methods of application & contraindications of intraarticular therapy.	2 2	2 2	4 4	
17-Recent advances in rheumatology	• Recent advances in rheumatology	2	2	4	1
•	• **TOTAL**	194	194	**388**	**53**
Units	**Rheu17**	**No. of hours**			**No of**

RRMD 04	TOPIC	Lectures	Practical/ small groups	TOTAL	weeks
1- Training of functional independence	• Psychological aspects of rehabilitation & disability evaluation	2	2	4	
	• Vocational evaluation &rehabilitation	2	2	4	
	• Self- care: evaluation& management	2	2	4	
	• Speech,rehabilitation	2	2	4	
	• Language rehabilitation	2	2	4	
	• Swallowing Rehabilitation	2	2	4	
	• Auditory Rehabilitation	2	2	4	
	• Disability evaluation& Functional outcome assessment	2	2	4	
	• Communication disorders	2	2	4	
	• Vestibular rehabilitation	2	2	4	
	• Rehabilitation of the blind	2	2	4	
	• Gait training • walking aids	2 2	2 2	4 4	6
2 Electrophysiology	• Basics of Electrophysiology	2	2	4	
	• Nerve conduction studies:	2	2	4	
	• Normal C-MAP	2	2	4	
	• Carpal tunnel syndrome	2	2	4	
	• Entrapment neuropathies of upper limb	2	2	4	
	• Entrapment neuropathies of lower limb	2 2	2 2	4 4	
	• Polyneuropathy	2	2	4	10
	• Mononeuritis multiplex	2	2	4	
	• Nerve injury in upper limb	2	2	4	
	• Nerve injury of lower limb	2	2	4	
	• Cervical Radiculopathies	2	2	4	
	• Lumbar radiculopathies	2	2	4	
	• F-waves	2	2	4	
	• H-reflex	2	2	4	
	• Myaesthenea gravis				

	• Normal EMG • EMG of neuropathies • EMG of cut nerve • EMG of myopathies • EMG of cervical radiculopathies • EMG of lumbar radiculopathies	2 2 2 2 2 2	2 2 2 2 2 2	4 4 4 4 4 4	
3-Different physical modalities used in rehabilitation programs	• Different physical modalities used in rehabilitation programs: • Superficial heat therapy IR &hot packs • Deep heat therapy Short wave • Microwave • Cold therapy • Hydrotherapy • Laser • TENS therapy • Didynamic	2 2 2 2 2 2 2 2 2	2 2 2 2 2 2 2 2 2	4 4 4 4 4 4 4 4 4	7
	• Traction manipulation • Massage	2 2	2 2	4 4	
	• Electrostimulation: faradic current • Galvanic current	2 2	2 2	4 4	
	• Therapeutic exercises	2	2	4	
4-Orthotics	• Orthotics of upper limb: • shoulder joint • Elbow joint • Wrist joint • Small joints of hand • Orthosis of lower limb: • Hip joint • Knee joint • Ankle joint • Prosthesis of upper limb	2 2 2 2 2 2 2 2 2 2 2	2 2 2 2 2 2 2 2 2 2 2	4 4 4 4 4 4 4 4 4 4 4	7
	• Prosthesis of lower limb	2	2	4	
	• Adaptive systems for the disabled	2	2	4	

	• Transfers & devices • wheelchairs	2 2	2 2	4 4	
5-Special issues of rehabilitation	• Rehabilitation of the pediatric patients	2	2	4	
	• Rehabilitation of the geriatric patients	2	2	4	
	• Spasticity and associated abnormalities of muscle tone	2	2	4	
	• Movement disorders	2	2	4	
	• Neurogenic bladder & bowel	2	2	4	
	• Nutrition	2	2	4	
	• Rehabilitation of amputee	2	2	4	
	• Rehabilitation of gynecological & obstetric disorders	2	2	4	
	• Rehabilitation of stroke patient	2	2	4	
	• Rehabilitation of patients with head injury	2	2	4	
	• Rehabilitation of the patients with multiple sclerosis	2	2	4	
	• Rehabilitation of the patient with spinal cord injury	2	2	4	
	• Rehabilitation of cancer patient	2	2	4	
	• Rehabilitation of cardiac patient	2	2	4	
	• Rehabilitation of patients with pulmonary disorders • -COPD • -Restrictive lung disease	2 2 2	2 2 2	4 4 4	
	• Treatment of patient with pain	2	2	4	
	• Rehabilitation of patients with arthritis and connective tissue diseases	2	2	4	
	• Rehabilitation of patients with vascular diseases and • diabetic foot	2 2	2 2	4 4	
	• Rehabilitation of injured athletes (sport medicine)	2	2	4	13

	• Rehabilitation of patients burn	2	2	4	
	• Rehabilitation of neurological disorders • rehabilitation of musculoskletal conditions	2 2	2 2	4 4	
	• Rehabilitation of traumatic conditions	2	2	4	
	• Rehabilitation of rigidity	2	2	4	
	• Rehabilitation of diabetic patient	2	2	4	
6- Osteoporosis	• Osteoporosis	2	2	4	1
7- Orthopedic rehabilitation:	• Orthopedic rehabilitation: • Rehabilitation after fractures • Rehabilitation after THA • Rehabilitation after TKA	2 2 2 2	2 2 2 2	4 4 4 4	4
	• Spinal disorders • Cervical orthosis • Lumbar orthosis	2 2 2	2 2 2	4 4 4	
	• Occupational therapy	2	2	4	
8- Industrial rehabilitation	• Industrial rehabilitation	2	2	4	1
9- Recent rehabilitation issues	• Recent rehabilitation issues	2	2	4	1
	Total	194	194	388	50

6- Programe admission requirements

Master degree in Rheumatology Rehabilitation (Candidates must pass the final exam of course Phys 2 with at least 65%**)**

7- Regulations for progression and programme completion

At the end of 1st Academic Year

***-** fulfillment of the of log book.

*- Pass examinations in the computer and statistics courses.

2nd Academic Year

*- Perform the MD thesis in new area of Rheumatology Rehabilitation (MDTH): fulfillment of the supervisors report every 3 months.
*- perform a seminar about the thesis results.
*- Acceptance of the MD thesis from judgment committee nominated by department council.

3rd Academic Year

***-** fulfillment of the of log book.
*- Pass examination in the course Rheumatology and rehabilitation .

8- Evaluation of programme intended learning outcomes

Evaluator		**Tool**	**Sample**
1- Exams results		Results analysis Report	All the students
2- Students		Questionnaires	All the students
3-Graduates after achieving MSc degree		Questionnaires – group discussion	10 at least
4-Stakeholders	*- teaching staff. *- Technicians. *- Regional medical institutes *- International medical institutes. *- other Governmental faculties *- Non governmental faculties	Interviews Internet contact Phone calls Questionnaires	10 at least
5-External Evaluator		Questionnaires	
6-Others(If Present)			

References :

In Rheumatology Medicine: Rheumatology Fellowship Curriculum, State University of New York Upstate Medical University http://www.upstate.edu/medicine/fellowships/rheum.php.

In Rehabilitation Medicine: Joint Royal Colleges of Physicians Training Board/UK

http://www.gmc-uk.org/Rehabilitation_medicine_3_Jul_07_v.Curr_0027.pdf_30536066.pdf

VII-B) SUGGESTED MATERIALS:

-Browsing web sites of physiology: www.Zu.edu.eg, Entrez pubmed, Science direct, Springer.

Supports for Candidates and their Learning:

Candidates and their learning are supported in a number of ways:

- ✓ Printed copies of the programme and Physiology courses (Candidates aware of the ILOs and requirement of the MD degree in Medical Physiology.
- ✓ Availability of University central liberary.
- ✓ Availability of the Faculty postgraduate library
- ✓ Availability of the Department Postgraduate library.
- ✓ Availability of the faculty digital library.
- ✓ Availability of the other educational resources included in every course.
- ✓ MD thesis Supervisors (three Staff members according to the research specialty for each candidate).

Methods used for improving the programme:

- ✓ Peer teaching observations and feedback to the programme management team and the coordinator (written reports at the end of the courses).
- ✓ Faculty appointed external examiners.
- ✓ Candidates evaluation of teaching (Questionnaires).
- ✓ Contact with **Michigan State University asking for their support**

Committee with responsibility for monitoring and evaluating quality:

- ✓ Internal Evaluators:
  1- Prof. Dr Abd Al samad Al hewala (Proffesor of Rheumatology &Rehabilitation).
  2- Member from Quality unit in the faculty.

- ✓ External Evaluator :

Prof. Dr. Salah Hawas : Faculty of Medicine – Suez canal University

Regulations of assessment by-laws of the MD degree postgraduate of the faculty of medicine:

1- Attendance Criteria: Minimum acceptance attendance in each course is75%.

2- Log book should be fulfilled and signed by Head of the department.

3- Assessment tool.

Tools	Mark	Percentage of the total mark
Written exam: 1-Anatomy	100	**9%**

2- Physiology	100	**9%**
3- Statistics	100	**9%**
4- computer	100	**9%**
Total marks:	**1100**	

Classification of Final Result for the MD

To qualify for the award of the MD with distinction, candidates must achieve an overall average mark of a 75% or more, with a mark of at least 75% being achieved in each course. To qualify for the award of the MSc, candidates must pass at least 60% of the final exam

Second part

Assessment Rules

1-Attendance Criteria: Minimum acceptance attendance in each course is 75%
2-Log book should be fulfilled and signed by Head of the department
3-Assessment tool

Tools	Mark	Percentage of the total mark
Rheumatology	300	**27%**
Rehabilitation	300	**27%**
Commentary case	100	**9%**
Total marks:	**1100**	

Classification of Final Result for the MD

To qualify for the award of the MD with distinction, candidates must achieve an overall average mark of a 75% or more, with a mark of at least 75% being achieved in each course. To qualify for the award of the Md, candidates must pass at least 60% of the final exam.