



كلية الطب
وحدة ضمان الجودة



Faculty of Medicine
Quality Assurance Unit

**Medical Doctorate (M.D.) Degree Program and Courses
Specifications for **Rheumatology , Rehabilitation and Physical
Medicine****

(According to currently applied Credit point **bylaws**)

***Rheumatology,
Rehabilitation &
Physical medicine
Faculty of medicine
Assiut University
2022-2023***

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M. D. degree of Rheumatology & Rehabilitation

A. Basic Information

- + **Program Title:** M.D. degree of Rheumatology & Rehabilitation.
- + **Nature of the program:** Single.
- + **Responsible Department:** Department of Physical Medicine, Rheumatology & Rehabilitation - Faculty of Medicine- Assiut University.
- + **Program Academic Director (Head of the Department):**
Prof. Essam Ahmad Abda
Coordinator (s):
 - **Principle coordinator:** Prof. zahraa Ibrahim AbuEloyon
 - **Assistant coordinator (s):** Marwa Ahmad AbdelAziz
- + **Internal evaluators:** Prof. Nihal Ahmed Fathy
- + **External evaluator:** Prof Ahmed Abdel-Nasser- Minia University
- + **Date of Approval by the Faculty of Medicine Council of Assiut University:** 23-9-2014
- + **Date of most recent approval of program specification by the Faculty of Medicine Council of Assiut University:** 27-11-2022
- + **Total number of courses:** 6 courses + 2 elective courses

B. Professional Information

1- Program aims

The main aims of this program are to:

1-1 Enable candidate to master high level of *clinical skills*, bedside care skills, in addition to update medical knowledge as well as clinical experience and competence in the area of Rheumatology & Rehabilitation & Physical Medicine and enabling the candidates of making appropriate referrals to a sub-specialist.

1-2 Provide the candidate with *principles* of Rheumatology, physical medicine and rehabilitation in patients with rheumatologic and various musculoskeletal disorders. Giving formal instructions and clinical experience to demonstrate competence in the prevention, evaluation and management of various rheumatic and musculoskeletal diseases.

1-3 Train the candidate on interpretations of different *diagnostic procedures* used in the field of rheumatology whether radiological imaging, laboratory, nerve conduction studies and others.

1-4 Enable the candidate to perform high standard *scientific medical research* and how to proceed with publication in indexed medical journals.

1-5 Enable the candidate to describe the *basic ethical and medicolegal principles* relevant to the rheumatic disease or rehabilitation medicine.

1-6 Enable the candidate to have *professional career* as a consultant in Egypt and abroad.

1-7 Enable the candidate to continue *self-learning* in the different subspecialties.

1-8 Enable candidate to master different *research methodology* and do their own.

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

2-1 Knowledge and understanding:

- A. Demonstrate in-depth knowledge and understanding of theories, basics and updated biomedical, clinical epidemiological and socio – behavioral science relevant to Rheumatology & Rehabilitation as well as the evidence – based application of this knowledge to patient care.
- B. Explain basics, methodology, tools and ethics of scientific medical, clinical research.
- C. Mention ethical, medico logical principles and bylaws relevant to his practice Rheumatology & Rehabilitation.
- D. Mention principles and measurements basics of quality assurance and quality improvement in medical education and in clinical practice of Rheumatology & Rehabilitation.

E. Mention health care system, public health and health policy, issues relevant to this specialty and principles and methods of system – based improvement of patient care Rheumatology & Rehabilitation.

2-2 Intellectual outcomes

- A. Apply the basic and clinically supportive sciences which are appropriate to the specialty related conditions / problem / topics.
- B. Demonstrate an investigatory and analytic thinking “problem – solving “approaches to clinical situation related to Rheumatology & Rehabilitation.
- C. Plan research projects.
- D. Write scientific papers.
- E. Participate in clinical risk management as a part of clinical governance.
- F. Plan for quality improvement in the field of medical education and clinical practice in his specialty.
- G. Create / innovate plans, systems, and other issues for improvement of performance in his practice.
- H. Present and defend his / her data in front of a panel of experts.
- I. Formulate management plans and alternative decisions in different situations in the field of Rheumatology & Rehabilitation.

2-3 Skills

2-3-1: Practical skills (Patient Care)

Students will be able to:

- A. Provide extensive level of *patient care* that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health.
p.s. Extensive level means in-depth understanding from basic science to evidence – based clinical application and possession of skills to manage independently all problems in field of practice.
- B. Provide extensive level of patient care ***for patients with all common diagnoses and for uncomplicated procedures*** Rheumatology & Rehabilitation.
- C. Provide extensive level of patient care ***for non-routine, complicated patients and under increasingly difficult circumstances***, while demonstrating compassionate, appropriate and effective care.
- D. Perform *diagnostic and therapeutic procedures* considered essential in Rheumatology & Rehabilitation & Physical medicine.
- E. *Handles unexpected complications*, while demonstrating compassion and sensitivity to patient needs and concerns.
- F. *Communicate effectively* and demonstrate caring and respectful behaviors when interacting with patients and their families in Rheumatology & Rehabilitation related situations.

G. *Gather essential and accurate information* about patients of Rheumatology & Rehabilitation related conditions.

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

I. Develop and carry out *patient management plans* for Rheumatology & Rehabilitation related conditions.

J. *Counsel and educate patients* and their families about Rheumatology & Rehabilitation related conditions.

K. Use *information technology* to support patient care decisions and patient education in all Rheumatology & Rehabilitation related clinical situations.

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

M. Provide health care services aimed at preventing Rheumatology & Rehabilitation related health problems.

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

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

2/3/2 General skills

Including:

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

Practice-Based Learning and Improvement

- A. Demonstrate the competency of continuous *evaluation* of different types of care provision to patients care provision to patients in the different area of Rheumatology & Rehabilitation.
- B. Appraise scientific evidence.
- C. Continuously improve patient care based on constant self-evaluation and life-long learning.
- D. Participate in clinical audit and research projects.
- E. Practice skills of evidence-based Medicine (EBM).
- F. Educate and evaluate students, residents and other health professionals.
- G. Design logbooks.
- H. Design clinical guidelines and standard protocols of management.

- I. Appraise evidence from scientific studies related to the patients' health problems.
- J. Apply knowledge of study designs and statistical methods to the appraisal of clinical studies.
- K. Use information technology to manage information, access on-line medical information; for the important topics.

Interpersonal and Communication Skills

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

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

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

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

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

Professionalism

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

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

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

Systems-Based Practice

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

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

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

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

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

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

Academic standards for Medical Doctorate (MD) degree in Rheumatology & Rehabilitation

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

In preparing these standards, the General Academic Reference Standards for post graduate programs (GARS) were adopted. These standards set out the graduate attributes and academic characteristics that are expected to be achieved by the end of the program. These standards were approved by the faculty council on 20/3/2010. These standards were revised and approved without changes by the Faculty Council on 23-9-2014. These standards were revised and reapproved recently without changes by the Faculty Council on 27-11-2022.

4- Program External References (benchmarks)

1. ACGME (Accreditation Council for Graduate Medical Education).
http://www.acgme.org/acWebsite/navPages/nav_Public.asp
2. American Board of Rheumatology
<http://www.abim.org/speciality/rheumatology.aspx>
3. American Board of Physical Medicine and Rehabilitation
<https://www.abpmr.org/index.html>

Comparison between program and external reference		
Item	Rheumatology & Rehabilitations program	American Board of Physical Medicine and Rehabilitation
Goals	Matched	Matched
ILOS	Matched	Matched
Duration	4-6 years	Different
Requirement	Different	Different
Program structure	Different	Different

5- Program Structure

A. Duration of program: 4-6 years

B. Structure of the program:

Total number of credit points: = 420 CP

- Master degree: 180 credit point

Didactic #: 37 CP (23.1%), practical 123 (76.9%), total 160 CP Thesis and researches: 80 CP (33.3%)

- **First part**
Didactic 10 (100%), practical 0 (0 %), total 10 CP
 - **Second part**
Didactic 24, (16.3 %), practical 123 (83.7 %), total 147 CP
 - **Elective courses: 3 credit points**
- #Didactic (lectures, seminars, tutorial)**

According the currently applied bylaws:

Total courses: 160 credit point

Compulsory courses: 157 credit point (98.1%)

Elective courses: 3 credit point (1.9%)

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

C. Program Time Table

Duration of program 4 years divided into

➤ **Part 1**

Program-related essential courses

Program-related basic science courses

- Medical statistic

- Research methodology

- Medicolegal Aspects and Ethics in Medical Practice and Scientific Research

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

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

○ **Thesis and 2 published researches**

For the M D thesis;

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

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

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

➤ **Part 2**

Program –related speciality courses and ILOs

Students are not allowed to sit the exams of these courses before 4 years from applying to the MD degree.

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

The students pass if they get 50% from the written exams and 60% from oral exams, 60% from clinical/practical exams of each course and 60% of summation of the written exams, oral and clinical/practical exams of each course

- Total degrees 1700 marks:

500 marks for first part

1200 for second part

Written exam 40% - 70%.

Clinical/practical and oral exams 30% - 60%.

D. Curriculum Structure: (Courses):

✚ Levels and courses of the program:

Courses and student work load list	Course Code	Credit points		
		didactic #	training	total
First Part				
Basic science courses (10 CP)				
Course 1: Medical Statistics	FAC309A	1		1
Course 2: Research Methodology	FAC309B	1		1
Course 3: Medicolegal Aspects & Ethics in Medical Practice and Scientific Research	FAC310C	1		1
Course 4: Immunology in Rheumatological Diseases	PRR322A	4		4
Course 5: Applied anatomy and Applied physiology	PRR322B#	3		3
Elective courses*		3 CP		
- Elective course 1		1.5		1.5
- Elective course 2		1.5		1.5
Thesis		40 CP		
Published researches**		40 CP		
Second Part		Specialized courses 24 CP Specialized Clinical Work (log Book) 123 CP		
Specialized Courses				
1. Course 6 Rheumatology & Rehabilitation & Physical medicine	PRR322C	24		24
Specialized Clinical Work (123 CP)	PRR322C		123	123
Total of second part		24	123	147

#Didactic (lectures, seminars, tutorial)

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

Student work load calculation:

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

Elective Courses#:

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

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

3. Thesis / Researches:

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

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

Units' Titles' list	% from total	Level (Year)	Core Credit points		
			Didactic	Training	Total
1) Unit 1 "Rheumatological and Autoimmune Diseases."	50%	1,2,3&4	12	63	75
2) Unit 2 "Physical Medicine, Rehabilitations, Prosthesis, Orthosis, and Electrophysiology."	50%	1,2,3&4	12	60	72
Total No. of Units:	2	1,2,3&4	24	123	147

6. Courses Contents (Annex 1)

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

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

7-Admission requirements

✚ Admission Requirements (prerequisites) if any :

I. General Requirements:

- Master degree in the Rheumatology & Rehabilitation.

II. Specific Requirements:

- Fluent in English (study language)

VACATIONS AND STUDY LEAVE

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

FEES:

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

8-Progression and completion requirements

✚ Examinations of the first part (Medical statistic, Research methodology and Medicolegal Aspects and Ethics in Medical Practice and Scientific Research) could be set at 6 months from registering to the MD degree.

✚ Students are allowed to sit the exams of the remaining essential courses of the first part after 12 months from applying to the MD degree.

- ✚ Examination of the second part cannot be set before 4 years from registering to the degree.
- ✚ Discussion of the MD thesis could be set after 2 years from officially registering the MD subject, either before or after setting the second part exams.
- ✚ The minimum duration of the program is 4 years.

The students are offered the degree when:

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

9-Program assessment methods and rules (Annex IV)

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

Weighting of assessments:

Courses	Course Code	Degrees			
		Written Exam	Oral *	Practical / Clinical Exam	Total
First Part					
Basic science courses:					
Medical Statistics	FAC309A	35	15		50
Research Methodology	FAC309B	35	15		50
Medicolegal Aspects & Ethics in Medical Practice and Scientific Research	FAC310C	35	15		50
Immunology in Rheumatological Diseases	PRR322A	120	80		200
Applied anatomy and Applied physiology	PRR322B#	50 50	25 25		150
Total of the first part					500
Second Part					
	Course code	written	Oral *	Practical / Clinical Exam	total
Specialized Courses					
Physical Medicine, Rheumatology and Rehabilitation*	PRR322C		360	360	1200
Paper 1: Rheumatological and Autoimmune Diseases 1:		120			
Paper 2: Rheumatological and Autoimmune Diseases 2		120			
Paper 3: Physical Medicine, Rehabilitations, Prosthesis, Orthosis, and Electrophysiology 1		120			
Paper 4: Physical Medicine, Rehabilitations, Prosthesis, Orthosis, and Electrophysiology 2		120			
Total of The second part		480	360	360	1200
Elective course 1		50		50	100
Elective course 2		50		50	100

25% of the oral exam for assessment of logbook

* **Physical Medicine, Rheumatology and Rehabilitation Course**

Units' (Module)Titles' list	% from total Marks	Degrees			
		Written Exam	Oral Exam *	Practical / Clinical Exam	Total
1) Unit 1 "Rheumatological and Autoimmune Diseases."	50%	240	180	180	600
2) Unit 2 "Physical Medicine, Rehabilitations, Prosthesis, Orthosis, and Electrophysiology."	50%	240	180	180	600
Total No. of Units (Modules):	2	480	360	360	1200

* 25% of the oral exam for assessment of logbook

500 marks for first part

1200 for second part

Written exam 40% (480 marks)

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

Elective courses 200

✚ Examination system:

➤ **First part:**

- Written exam 2 hours in Medical Statistics and Research Methodology + oral examination
- Written exam 1 hours in Medicolegal Aspects and Ethics in Medical Practice and Scientific Research + oral examination
- Written exam 3 hours in Immunology in Rheumatological Diseases+ oral exam
- Written exam 2 hours in Applied anatomy and Applied physiology+ oral exam

➤ **Second part:**

- Written exam four papers 3 hours for each in in Physical Medicine, Rheumatology and Rehabilitation (Paper 1 Rheumatological and Autoimmune Diseases 1; Paper 2: Rheumatological and Autoimmune Diseases 2; Paper 3: Physical Medicine, Rehabilitations, Prosthesis, Orthosis, and Electrophysiology 1; Paper 4: Physical Medicine, Rehabilitations, Prosthesis, Orthosis, and Electrophysiology 2)+ Oral exam+ Clinical/Practical exam

➤ **Elective courses**

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

10-Program evaluation

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

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

11-Declaration

We certify that all of the information required to deliver this program is contained in the above specification and will be implemented.

All course specifications for this program are in place.

Contributor	Name	Signature	Date
Program Principle Coordinator:	Prof. zahraa Ibrahim Abuloyoun		
Head of the Responsible Department (Program Academic Director):	Prof. Essam Ahmed Abda		

Annex 1, Specifications for Courses / Modules

Annex 1: specifications for courses/ modules

First Part

- 1) Course 1: Medical Statistics
 - 2) Course 2: Research Methodology
 - 3) Course 3: Medicolegal Aspects and Ethics in Medical Practice and Scientific Research
 - 4) Course 4: Immunology in Rheumatological Diseases
- Course 5: Applied anatomy and Applied physiology

Course 1: Medical statistics

Name of department: Public Health and Community Medicine
Faculty of medicine
Assiut University
2022-2023

1. Course data

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

2. Course Aims

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

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

A knowledge and understanding

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

B. intellectual

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

C. Practical skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Design data entry files.	Tutorial on SPSS	Assignments SPSS exam
B. Validate data entry.	Tutorial on SPSS	Assignments SPSS exam
C. Manage data files.	Tutorial on SPSS	Assignments SPSS exam
D. Construct tables and graphs.	Tutorial on SPSS	Assignments SPSS exam
E. Calculate measures of central tendency and dispersion.	Tutorial on SPSS	Assignments SPSS exam
F. Select, apply and interpret the proper test of significance.	Tutorial on SPSS	Assignments SPSS exam

D general skills

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

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

Time Schedule: First Part

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

5. Course Methods of teaching/learning

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

6. Course assessment methods:

- i. **Assessment tools:**
 1. Attendance and active participation
 2. Assignment
 3. Practical SPSS examination
 4. Written exam
- ii. **Time schedule:** After 6 months from applying to the M D degree.
- iii. **Marks:** 50 (35 for written exam and 15 for practical exam).

7. List of references

i. Lectures notes

Department lecture notes

ii. Essential books

- Medical Statistics: Book by Ramakrishna HK 2016
- Janet Peacock and Philip Peacock. Oxford Handbook of Medical Statistics (second edition.) Publisher: Oxford University Press, Print Publication Date: Nov 2010 Print ISBN-13: 9780199551286, Published online: Jun 2011. DOI: 10.1093/med/9780199551286.001.0001
- Leslie E. Daly MSc, PhD, Hon MFPHM,, Geoffrey J. Bourke MA, MD, FRCPI, FFPHM, FFPHMI, Interpretation and Uses of Medical Statistics, Fifth Edition, First published:1 January 2000, Print ISBN:9780632047635 |Online ISBN:9780470696750 |DOI:10.1002/9780470696750
- Marcello Pagano, Kimberlee Gauvreau: Principles of Biostatistics second edition published in 2000 by Brooks/Cole and then Cengage Learning. CRC Press, Feb 19, 2018 - Mathematics - 584 pages.

iii- Recommended books

- Ji-Qian Fang (Sun Yat-Sen University, China) Handbook of Medical Statistics: <https://doi.org/10.1142/10259> | September 2017. Pages: 852
- Robert H. Riffenburgh: Statistics in Medicine 4th Edition (2020). Evidence Evidence Based Medicine How to practice and teach EBM.
- Discovering Statistics Using IBM SPSS Book by Andy Field, 2013.

iii. Periodicals, Web sites, etc

iv. **Periodicals , etc** Statistics in Medicine - Wiley Online Library

v. **Web sites** <https://www.phc.ox.ac.uk/research/medical-statistics>

8. Signatures

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

Course 2: Research Methodology

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

1. Course data

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

2. Course Aims

To provide graduate students with the skills of:

- planning and implementing sound research
- writing a scientific research proposal

3. Intended learning outcomes (ILOs)

A knowledge and understanding

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Explain differences between different study designs.	Lecture and discussion Practical sessions Workshops	Written exam Log book assignments Practical exam
B. Identify sources and types of bias in research.	Lecture and discussion Practical sessions	Written exam Log book assignments Practical exam
C. Identify methods of data collection.	Lecture and discussion Practical sessions	Written exam Log book assignments
D. Select and design valid measurement tools for research.	Lecture and discussion Practical sessions Workshops	Written exam Log book assignments Practical exam
E. Explain ethical issues in conducting research on human subjects.	Lecture and discussion Practical sessions Workshops	Written exam Log book assignments
F. List the steps involved in proposal writing.	Lecture and discussion Practical sessions Workshops	Written exam Log book assignments Practical exam
G. Identify a research problem within a conceptual framework.	Lecture Discussion	Written exam Log book

		assignments Practical exam
H. Use the web sources to do a literature search	Practical tutorial on web	Log book assignment
I. Describe the rules of authorship in scientific writing.	Lecture and discussion Practical sessions Workshops	Written exam Log book assignments
J. Select the appropriate study design for the research question.	Lecture Practical sessions	Written exam Practical exam
K. Minimize bias in designing research.	Lecture	Written exam
L. Screening & theoretical background	Lectures	Written exam Practical exam
M. Mention the basic ethics for conducting a research and medicolegal principles relevant to data confidentiality.	lectures seminar	Written exam Practical exam

B. intellectual

Competency and Skills	Methods of teaching/ learning	Methods of Evaluation
A- Apply basic science & knowledge for appraising scientific literature.	Discussions & seminars	Written exam Practical exam
B- Design research and present study data, in seminars.	lecture seminar	log book assignments
C- Design suitable epidemiological study.	lecture seminar	log book assignments
D- Design strategies for resolving ethical concerns in research, law, and regulations.	lecture Workshops	Written exam log book assignments
E- Apply coherently synthesize ideas and integrate lateral and vertical thinking.	lecture Workshops	log book assignments
F- Evaluate screening tests and interpreting their uses in different population.	lecture	Written exam Practical exam

C. Practical skills

Competency and Skills	Methods of teaching/ learning	Methods of Evaluation
A- Conduct epidemiological studies, screening and surveys.	lectures seminar	written exam log book assignments
B- Identify steps required in fielding the study.	Lecture	Assignments Written exam
C- Managing data collection team.	lectures seminar	log book assignments
D- Identify steps required for calculation sensitivity, specificity, positive predictive value, negative predictive value, accuracy of a screening test.	Lecture Practical sessions	Assignments Written exam Practical exam
E- Be able to define and apply the epidemiologic criteria of causality and be able to distinguish between a measure of association and evidence of causality.	Lecture Practical sessions	Assignments Written exam Practical exam
F- Synthesize information from multiple sources for research writing and the ability to perform paper critique .	Lecture Practical sessions	Assignments Written exam Practical exam
G- Identify bias and confounding in epidemiological study designs, their types and ways to control them in various types of biases.	Lecture Practical sessions	Assignments Written exam Practical exam

D General skills
Practice-Based Learning and Improvement

ILOs	Methods of teaching/ learning	Methods of Evaluation
A- Scientific paper and proposal writing skills: be able to write an introduction, objectives and the methodological section.	Tutorial	Written examination
B- Learn authorship ethical rules.	Tutorial	Written examination
C- Perform practice-based improvement activities using a systematic methodology (audit, logbook, critical appraisal)	- Lectures - Practical sessions - Discussion - Readings	critical appraisal
D- Appraise evidence from scientific studies(journal club)	- Lectures - Practical sessions - Discussion - Readings	critical appraisal
E- Conduct epidemiological studies, screening and surveys.	- Lectures - Practical sessions - Discussion - Readings	attendance and participation
F- Facilitate training of junior students and other health care professionals in different screening activities.	Field work Participation in projects	attendance and participation

Interpersonal and Communication Skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
G- Maintain ethically sound relationship with community members.	- Lectures - Practical sessions - Discussion - Readings	Written exams
H- Provide information using effective nonverbal, explanatory, questioning, and writing skills.	- Lectures - Practical sessions - Discussion - Readings	Written exams Practical exams
I- Present results of researches in seminars.	- Lectures - Practical sessions - Discussion - Readings	Log book assignments

Professionalism

ILOs	Methods of teaching/ learning	Methods of Evaluation
J- Demonstrate respect, compassion, and integrity to the needs of society.	- Lectures - Discussion - Readings	Written exams
K- Manage potential conflicts of interest encountered by practitioners, researchers, and organizations.	- Lectures - Discussion - Readings	Written exams
L- Design strategies for resolving ethical concerns in research, law, and regulations.	Lectures - Discussion - Readings	Written exams Practical exams
M- Demonstrate ways to control for confounding in the analysis phase of a study	Lectures - Discussion - Readings	Written exams Practical exams
N- Demonstrate a commitment to ethical principles including confidentiality of participants' information and informed consent.	Lectures - Discussion - Readings	Written exams
O- Assess ethical considerations in developing communications and promotional initiatives.	- Lectures - Discussion - Readings	Written exams

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

Time Schedule: First Part

Topic	Covered ILOs			
	Knowledge A	Intellectual B	Practical skills C	General Skills D
Over view on research conduction and research ethics	A&E	A-D	A-C	C-G, I,L&M-O
How to write a research proposal	F,I	E	F	A-C&H
Observational study design	A& D	B & C	D	E & F
Experimental study design	A& D	B & C	B	E & F
Evaluation of diagnostic tests (Screening)	L	A	B& E	F
Systematic reviews and meta analysis	G, H & M	E& F	F	C, D
Confounding, bias & effect modification	B & K	D	E & G	M

5. Course Methods of teaching/learning:

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

6. Course assessment methods:

i. Assessment tools:

1. Attendance and participation
2. Log book assignments
3. Written examination
4. Practical examination

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

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

7. List of references

i. Lectures notes

- Department lecture notes

ii. Essential books

- Research Design: Qualitative, Quantitative and Mixed Methods Approaches 4th Edition by John W. Creswell SAGE Publications, Inc; 4th edition (January 1, 2014)
- Research methodology: A step – by – step Guide for Beginners. Ranjit Kumar, 2020. Second edition <https://books.google.com.eg/books?>
- Medical Research Essentials Rania Esteitie, McGraw Hill Professional, third edition, Feb 5, 2014 - Medical - 104 pages
- Research Methodology in the Medical and Biological Sciences Petter Laake, Haakon Breien Benestad, Bjorn R. Reino Olsen, 4th edition , Academic Press, Nov 5, 2007 - Science - 512 pages

iv. Recommended books

- Research Methods in Education 7th Edition, by Louis Cohen, Lawrence Manion, Keith Morrison Publisher: Routledge; (April 22, 2011) www.routledge.com/textbooks/cohen7e.
- Research Methodology: A Practical and Scientific Approach Vinayak Bairagi, Mousami V. Munot · 2019, Research Methodology: A Practical and Scientific Approach - Google Books
- Based Medicine How to practice and teach EBM. David Sachett, Sharon E. Straus, W. Scott Richardson , William Rosenberg R.Brain Haynes
- Dissertation workshop open courseware JHSPH

8. Signatures

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

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

Name of department:

Forensic medicine and clinical toxicology

Faculty of medicine

Assiut University

20122-2023

1. Course data

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

- + Coordinator (s):
 - Course coordinator:
Prof. Ghada omran
 - Assistant coordinator (s) Assist.
Prof. Zaghoul Thabet

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

2. Course Aims

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

3. Intended learning outcomes (ILOs):

A knowledge and understanding

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

B. intellectual

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

C. Practical skills

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

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

D general skills

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

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

Time Schedule: First Part

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

5. Course Methods of teaching/learning:

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

6. Course assessment methods:

i. Assessment tools:

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

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

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

7. List of references

i. Lectures notes

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

ii. Essential books

- Bernard Knight and Pekka Saukko (2015: Knight Forensic Pathology. Hodder Arnold press
- Goldfrank, Lewis R.; Howland, Mary Ann; Hoffman, Robert S.; Nelson, Ewis S.; Lewin, Neal A (2019): Goldfrank's Toxicologic Emergencies, 11th ed. McGraw Hill / Medical.
- Medical Ethics Manual. World medical association. Third edition 2015.
 - Medical ethics and law. Dominic Wilkinson, 3rd edition 2019.

iii. Recommended books

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

iv. Journal and web site

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

8. Signatures

- Course Coordinator: Prof. Ghada Omran	- Head of the Department: Prof. Randa Hussein Abdel hady
Date: 17-4-2022	Date: 17-4-2022

Course 4: Immunology in Rheumatological Diseases

Name of department: of Rheumatology & Rehabilitation & physical medicine

Faculty of medicine

Assiut University

2022-2023

I. Course data

- + **Course Title:** Immunology in Rheumatological Diseases
- + **Course code:** PRR322A
- + **Specialty:** Rheumatology & Rehabilitation
- + **Number of credit points:**4 credit point for didactic,0 CP for practical
- + **Department (s) delivering the course:** Department of Rheumatology & Rehabilitation & Physical medicine- Faculty of Medicine- Assiut- EGYPT
- + **Coordinator (s):**
 - **Course coordinator:** Prof. Zahraa Ibrahim Abuloyoun
 - **Assistant coordinator (s)** Prof. Fatma Al Zahraa

- + **Date last reviewed:** 3-4-2022
- + **Requirements (prerequisites) if any :** None
- + **Requirements from the students to achieve course ILOs are clarified in**
the joining log book.

2. Course Aims

To acquire indepth facts of Immunology in Rheumatological Diseases necessary for Rheumatology, Rehabilitation & Physical medicine

3. Course intended learning outcomes (ILOs)

A- Knowledge and understanding

ILOs	Methods of teaching/ learning	Methods of Evaluation
<p>A. Illustrate principles of: Immunology in Rheumatological Diseases</p> <ul style="list-style-type: none"> • Cells involved in autoimmune diseases and inflammation • Fibroblasts and fibroblasts like synoviocytes • Mononuclear phagocytes • T-lymphocytes • B-lymphocytes • Platelets • Effectors mechanisms in autoimmunity and Inflammation • Autoimmunity • Innate immunity • Complement system • HLA system • Cell-cell interaction • Cytokines • Apoptosis • Leukocytes adhesion and Migration • Autoantibodies • Prostaglandins, leukotrienes, and related compounds 	-Didactic (lectures, seminars, tutorial)	- Written and oral examination - Log book

B- Intellectual outcomes

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Apply the basic (Immunology in Rheumatological Diseases) supportive sciences which are appropriate to Rheumatology, Rehabilitation & Physical medicine elated problems.	-Didactic (lectures, seminars, tutorial)	-Written and oral examination - Log book
B. Demonstrate an investigatory and analytic thinking (problem solving) approaches to common clinical situations related to Rheumatology, Rehabilitation & Physical medicine		

C- Practical skills

Practical: 0 credit point

D- General Skills

Practice-Based Learning and Improvement

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

Interpersonal and Communication Skills

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

Professionalism

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

Systems-Based Practice

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

**4. Course contents (topic s/modules/rotation
Course (Unit 1) Matrix**

Time Schedule: First Part

Topic	Covered ILOs			
	Knowledge A	Intellectual B	Practical skills C	General Skills D
• Cells involved in autoimmune diseases and inflammation	A	A&B	-	A-D
• Fibroblasts and fibroblastslike synoviocytes	A	A&B	-	A-D
• Mononuclear phagocytes	A	A&B	-	A-D
• T-lymphocytes	A	A&B	-	A-D
• B-lymphocytes	A	A&B	-	A-D
• Platelets	A	A&B	-	A-D
• Effectors mechanisms in autoimmunity and Inflammation	A	A&B	-	A-D
• Autoimmunity	A	A&B	-	A-D
• Innate immunity	A	A&B	-	A-D
• Complement system	A	A&B	-	A-D
• HLA system	A	A&B	-	A-D
• Cell-cell interaction	A	A&B	-	A-D
• Cytokines	A	A&B	-	A-D
• Apoptosis	A	A&B	-	A-D
• Leukocytes adhesion and Migration	A	A&B	-	A-D
• Autoantibodies	A	A&B	-	A-D
• Prostaglandins, leukotrienes, and related compounds	A	A&B	-	A-D

5. Course methods of teaching/learning:

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

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

- i. Extra didactic (lectures, seminars, tutorial)

7. Course assessment methods:

i. Assessment tools:

1. Written and oral examination
2. Log book

ii. Time schedule: After 12 months from applying to the M D degree.

- ii. Marks: 200
- iii.

8. List of references

i. Lectures notes

- Course notes
- Staff members print out of lectures and/or CD copies
 - Principles of Rheumatology & Rehabilitation Diseases Book by Staff Members of the Department of Rheumatology & Rehabilitation & Physical medicine -Assiut University

ii. Essential books:

- Primer's text book of Rheumatology, 2008
- Kelly's text book of Rheumatology, 2021

iii. Recommended books

- Current Diagnosis & Treatment in Rheumatology, 2021

iv. Periodicals, Web sites, ... etc

- Egyptian Journal of Rheumatology & Rehabilitation
- Journal of The Egyptian Society of Joint Diseases & Arthritis
- Annals of Rheumatic Diseases
- The Egyptian Rheumatologists Journal

v. Others : none

9. Signatures

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

Course 5: Applied Anatomy & Physiology

Name of department: of Rheumatology & Rehabilitation & physical medicine

Faculty of medicine

Assiut University

2022-2023

Course 5: Unit 1 Applied Anatomy

I. Unit data

- Unit Title:** Applied Anatomy
- Unit code:** PRR322B#
- Specialty:** Rheumatology & Rehabilitation
- Number of credit points:** 1.5 credit point for didactic, OCP for practical.
- Department (s) delivering the unit :** Department of Anatomy in conjunction with Department of Rheumatology & Rehabilitation & Physical medicine- Faculty of Medicine- Assiut- Egypt
- Coordinator (s):** Staff members of Department of Anatomy in conjunction with Department of Rheumatology & Rehabilitation & Physical medicine as annually approved by both departments councils
- Date last reviewed:**5-2022
- Requirements (prerequisites) if any :** None
- Requirements from the students to achieve unit ILOs are clarified in the joining log book.**

2. Unit Aims

To acquire in-depth Anatomical facts necessary for Rheumatology, Rehabilitation & Physical medicine physician.

3. Unit intended learning outcomes (ILOs):

A- Knowledge and understanding

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Illustrate Anatomical principles of: <ul style="list-style-type: none"> • Anatomy of the upper limb • Anatomy of the lower limb • Anatomy of the back • Anatomy of the facial nerve 	-Didactic (lectures, seminars, tutorial)	- Written and oral examination - Log book

B- Intellectual outcomes

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

C- Practical skills

Practical: 0 credit point

General Skills

Practice-Based Learning and Improvement

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

Interpersonal and Communication Skills

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

Professionalism

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

Systems-Based Practice

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

**4. Course contents (topic s/modules/rotation
Course (Unit 1) Matrix**

Time Schedule: First Part

Topic	Covered ILOs			
	Knowledge	Intellectual	Practical skills	General Skills
	A	B	C	D
• Anatomy of the upper limb	A	A&B	-	A-D
• Anatomy of the lower limb	A	A&B	-	A-D
• Anatomy of the back	A	A&B	-	A-D
Anatomy of the facial nerve	A	A&B	-	A-D

5. Course methods of teaching/learning:

5. Didactic (lectures, seminars, tutorial)
6. Observation and supervision
7. Written & oral communication
8. Senior staff experience

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

1. Extra didactic (lectures, seminars, tutorial)

7. Course assessment methods:

1. **Assessment tools:**
2. Written and oral examination
3. Log book
4. **Time schedule:** After 12 months from applying to the M D degree.
5. **Marks:** 75

8. List of references

i. Lectures notes

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

ii. Essential books

- Gray's Anatomy. [Gray's Anatomy for Students](#): by Richard Drake PhD, A. Wayne Vogl PhD, and Adam W. M. Mitchell MB BS FRCS FRCR (2020)

iv. others

None

Course 5: Unit 2 Applied Physiology

I. Unit data

- + **Unit Title:** Applied Physiology
- + **Unit code:** PRR322B#
- + **Specialty:** Rheumatology & Rehabilitation
- + **Number of credit points:** 1.5 credit point for didactics, 0 CP for practical
- + **Department (s) delivering the unit :** Department of Physiology in conjunction with Department of Rheumatology & Rehabilitation & Physical medicine- Faculty of Medicine- Assiut- EGYPT
- + **Coordinator (s):** Staff members of Department of Physiology in conjunction with Department of Rheumatology & Rehabilitation & Physical medicine as annually approved by both departments councils
- + **Date last reviewed:** 5-2022
- + **Requirements (prerequisites) if any :** None
- + **Requirements from the students to achieve unit ILOs are clarified in the joining log book.**

2. Unit Aims

To acquire in-depth **Physiological** facts necessary for Rheumatology, Rehabilitation & Physical medicine physician.

3. Unit intended learning outcomes (ILOs):

A- Knowledge and understanding

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Illustrate Anatomical principles of: <ul style="list-style-type: none"> ● Physiology of nerve and muscle ● Receptors ● Pain sensation and it's control system ● Effect of muscular exercise on respiration ● Effect of muscular exercise on cardiovascular system ● Physiology of obesity ● Stretch reflex ● Skeletal muscle tone and tendon jerks ● Spinal cord lesions ● CNS (ascending and descending tracts) ● Upper and lower motor neuron lesions 	-Didactic (lectures, seminars, tutorial)	- Written and oral examination - Log book

B- Intellectual outcomes

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

C- Practical skills

Practical: 0 credit point

D- General Skills
Practice-Based Learning and Improvement

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

Interpersonal and Communication Skills

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

Professionalism

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

Systems-Based Practice

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

**4. Course contents (topic s/modules/rotation
Course (Unit 1) Matrix**

Time Schedule: First Part

Topic	Covered ILOs			
	Knowledge A	Intellectual B	Practical skills C	General Skills D
● Physiology of nerve and muscle	A	A&B	-	A-D
● Receptors	A	A&B	-	A-D
● Pain sensation and it's control system	A	A&B	-	A-D
● Effect of muscular exercise on respiration	A	A&B	-	A-D
● Effect of muscular exercise on cardiovascular system	A	A&B	-	A-D
● Physiology of obesity	A	A&B	-	A-D
● Stretch reflex	A	A&B	-	A-D
● Skeletal muscle tone and tendon jerks	A	A&B	-	A-D
● Spinal cord lesions	A	A&B	-	A-D
● CNS (ascending and descending tracts)	A	A&B	-	A-D
● Upper and lower motor neuron lesions	A	A&B	-	A-D

5. Course methods of teaching/learning:

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

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

1. Extra didactic (lectures, seminars, tutorial)

7. Course assessment methods:

1. Assessment tools:

2. Written and oral examination
3. Log book
4. **Time schedule:** After 12 months from applying to the M D degree.
5. **Marks:** 75

8. List of references

i. Lectures notes

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

ii. Essential books

- Guyton AC, Hall JE: Textbook of Medical Physiology, 14th ed. Saunders, 2020

iv. Others

None

9. Signatures

Course Coordinator	
Unit 1 Coordinator:	Head of the Department:
Date:	Date:
Unit 2 Coordinator:	Head of the Department:
Date: ...	Date:

Second Part

Course 4 Physical Medicine, Rheumatology and Rehabilitation

Name of department: of Rheumatology & Rehabilitation & physical medicine

Faculty of medicine

Assiut University

2022-2023

I. Course data

- + **Course Title:** Physical Medicine, Rheumatology and Rehabilitation
- + **Course code:** PRR322C
- + **Specialty:** Rheumatology & Rehabilitation & Physical medicine
- + **Number of credit points:** 147 credit point - didactic 24 credit point (16.3%) - practical 123 credit point (83.7%)
- + **Department (s) delivering the course:** : Department of Rheumatology & Rehabilitation & Physical medicine- Faculty of Medicine- Assiut- EGYPT
- + **Coordinator (s):**
 - **Course coordinator:** Prof. Tayseer khedr
 - **Assistant coordinator (s)** Prof. Fatma Al Zahraa
- + **Date last reviewed:**5-2022
- + **Requirements (prerequisites) if any :** None
- + **Requirements from the students to achieve course ILOs are clarified in**
the joining log book.

2. Course Aims

1. To enable MD students to master high level of clinical skills, in addition to update medical knowledge as well as clinical experience and competence in the area of Rheumatology & related Immunology as well as the evidence – based application of this knowledge to patient care.
2. To provide candidates with fundamental knowledge and skills of investigatory and analytic thinking “problem – solving “approaches to clinical situation related to Rheumatology & related Immunology.
3. To be able to make informed decisions about diagnostic and therapeutic interventions based on patient information and preferences, up-to-date scientific evidence and clinical judgment for the Rheumatology & Rehabilitation & Physical medicine related conditions.
4. To gain proficiency in the use and performance of arthrocentesis, local joint injection and therapeutic exercise as diagnostic and therapeutic tools emphasizing indications, complications and likelihood of successful outcome.
5. Master proficiency in performing complex procedures and handling unexpected complications, while demonstrating compassion and sensitivity to patient needs and concerns.

3. Course intended learning outcomes (ILOs):

Unit (Module) 1 Rheumatological and Autoimmune Diseases

A-Knowledge and understanding

ILOs	Methods of teaching/ learning	Methods of Evaluation
<p>A. Explain update and evidence based etiology, clinical picture, diagnosis and management of the following common diseases and clinical conditions:</p> <p>1-Rheumatoid arthritis. 2-Juvenile idiopathic arthritis (JIA) 3-Sjögren's syndrome. 4-Adult onset still's disease. 5-Seronegative spondylo-arthropathies (psoriatic arthritis, ankylosing spondylitis, reactive and enteropathic arthritis) 6-Gouty and calcium pyrophosphate dehydrate hydroxyapatite and other crystals arthropathies 7-Osteoarthritis and other degenerative arthritis 8-Systemic lupus erythematosus. 9-Antiphospholipid syndrome. 10-Systemic sclerosis. 11- Other connective tissue disorders 12-Idiopathic inflammatory myopathies 13- Metabolic bone disease (osteoporosis, osteomalacia) 14- Systemic vasculitides. 15- Behçet's Disease 16- Pediatric Systemic Lupus Erythematosus, Juvenile Dermatomyositis, Scleroderma, and Vasculitis. 17-Infection and arthritis</p>	<p>Didactic (lectures, seminars, tutorial) -Clinical rounds -Seminars -Clinical rotations -Service teaching</p>	<p>-OSCE at the end of each year -log book & portfolio - One MCQ examination at the second half of the second year and another one in the third year -Written and oral examination</p>
<p>B. Mention the principles of Basic Immunology: T-lymphocyte, B-lymphocytes, fibroblasts & neutrophils. Innate Immunity.</p>	<p>Clinical round with senior staff -Observation</p>	<p>- Procedure presentation - Log book</p>

<p>Adaptive Immunity and Organization of Lymphoid Tissues. Autoimmunity. Metabolic Regulation of Immunity. Genetics of Rheumatic Diseases. Epigenetics of Rheumatic Diseases. Complement System Prostaglandins, Leukotrienes, and Related Compounds. Cell Recruitment and Angiogenesis. Cytokines. Principles of Signaling. Immunity and cell death. Anti-nuclear Antibodies. Autoantibodies in Rheumatoid Arthritis Acute Phase Reactants and the Concept of Inflammation</p>	<p>-Post graduate teaching -Hand on workshops -Perform under supervision of senior staff.</p>	<p>- Chick list</p>
<p>C. Mention Basics of the following Less common diseases and conditions:</p> <ul style="list-style-type: none"> • Periodic syndrome. • Infectious arthritis e.g. rheumatic fever, septic, viral arthritis. • Fibromyalgia • Less common arthropathies e.g. endocrinopathies. • Immunology related to rheumatological diseases • Overlap syndrome • Cardiovascular Risk in Inflammatory Rheumatic Disease. • Cancer Risk in Rheumatic Diseases. • Pregnancy and Rheumatic Diseases. • Skin and Rheumatic Diseases. • The Eye and Rheumatic Diseases. • Synovial Fluid Analyses, Synovial Biopsy, and Synovial Pathology. • Arthrocentesis and Injection of Joints and Soft Tissue. • Osteonecrosis • Relapsing Polychondritis • Heritable Diseases of Connective Tissue. • Amyloidosis • Sarcoidosis 	<p>o</p>	

<ul style="list-style-type: none"> • Hemochromatosis • Hemophilic Arthropathy • Rheumatic Manifestations of Hemoglobinopathies. • IgG4-Related Disease • Arthritis Accompanying Endocrine and Metabolic Disorders. • Tumors and Tumor-like Lesions of Joints and Related Structures • Musculoskeletal disorders with malignancy • Medications used in Rheumatology: <ul style="list-style-type: none"> - Biology and Therapeutic Targeting of Prostanoids - Glucocorticoid Therapy - Traditional DMARDs - Immunosuppressive Drugs - Anti-cytokine Therapies - Cell-Targeted Biologics and Emerging Targets - Novel Intra-cellular Targeting Agents in Rheumatic Disease - Urate-Lowering Therapy. - Analgesic Agents in Rheumatic Disease - Nutrition and Rheumatic Diseases - Musculoskeletal ultrasonography in Rheumatology. 		
<p>D. Explain the facts and principles of the relevant basic and clinically supportive sciences related to Rheumatological and Autoimmune Diseases.</p>		
<p>E. Describe the basic ethical and medicolegal principles relevant to the Rheumatological and Autoimmune Diseases.</p>		
<p>F. Describe the basics and measurements of quality assurance to ensure good clinical care in his field</p>		
<p>G. Explain the ethical and scientific principles of medical research</p>		
<p>H. Explain the impact of common health problems in the field of Rheumatological and Autoimmune Diseases on the society.</p>		

B-Intellectual outcomes

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

C-Practical skills (Patient Care)

ILOs	Methods of teaching/ learning	Methods of Evaluation
<p>A. Take history, examine and clinically diagnose different conditions Rheumatological and Autoimmune Diseases.</p>	<p>-Didactic (lectures, seminars, tutorial) -Clinical rounds Clinical rotations (service teaching)</p>	<p>OSCE at the end of each year -log book & portfolio - One MCQ examination at the second half of the second year and another one in the third year -Clinical exam</p>
<p>B. Order the following non invasive and invasive diagnostic procedures: diagnostic procedures:</p> <ul style="list-style-type: none"> - Laboratory tests as: -Complete blood count (CBC). -Acute phase reactant e.g. ESR, CRP. -Rheumatoid factor and anti-CCP. -ASOT. -ANA and other specific auto antibodies. -Thyroid and Parathyroid functions tests. -Serum lipid profiles and blood sugar tests. -Liver and renal function tests. -Serum electrolytes and serum alkaline phosphatase. -Complete urine and stool analysis. -Synovial fluid analysis. -Synovial biopsy interpretation -Radiography for hands, feet and any other affected joints. -Chest x-ray -Abdominal Ultrasonography -Echocardiography. 	<p>Clinical round with senior staff -Observation -Post graduate teaching -Hand on workshops -Perform under supervision of senior staff</p>	<p>- Procedure presentation - Log book - Chick list</p>

<ul style="list-style-type: none"> -DEXA. -Eye consultation and fundus examination. -Electrophysiological studies. 		
<p>C. Interpret the following non invasive and invasive diagnostic procedures:</p> <ul style="list-style-type: none"> -Radiography for hands, feet and any other affected joints. -Chest x-ray. -DEXA. -Electrophysiological studies. -Synovial fluid examinations by PLM for crystals. -Arthrocentesis and local steroid injection -Plasmapheresis. 	<ul style="list-style-type: none"> -Clinical round with senior staff -Observation -Post graduate teaching -Hand on workshops -Perform under supervision of senior staff 	<ul style="list-style-type: none"> - Procedure presentation - Log book - Chick list
<p>D. Perform the following non invasive and invasive diagnostic procedures:</p> <ul style="list-style-type: none"> -Synovial fluid examinations by PLM for crystals. -Arthrocentesis and local steroid injection -Plasmapheresis. - EMG & NCV -Electrophysiological studies. -Synovial fluid examinations by PLM for crystals. 	<ul style="list-style-type: none"> -Clinical round with senior staff Observation -Post graduate teaching -Hand on workshops -Perform under supervision of senior staff 	<ul style="list-style-type: none"> - Procedure presentation - Log book - Chick list
<p>E. <i>Prescribe</i> the following non invasive& invasive therapeutic procedures.</p> <ul style="list-style-type: none"> - Arthrocentesis and local steroid injection -Plasmapheresis. - DMARDs, Cytotoxic drug regimen in indicated cases 	<ul style="list-style-type: none"> -Clinical round with senior staff Observation -Post graduate teaching -Hand on workshops -Perform under 	<ul style="list-style-type: none"> - Procedure presentation - Log book - Chick list

	supervision of senior staff	
<p>F. <i>Perform</i> the following non invasive and invasive therapeutic procedures:</p> <ul style="list-style-type: none"> - Arthrocentesis and local steroid injection -Plasmapheresis. - DMARDs, Cytotoxic drug regimen in indicated cases 	<ul style="list-style-type: none"> -Clinical round with senior staff Observation -Post graduate teaching -Hand on workshops <ul style="list-style-type: none"> -Perform under supervision of senior staff 	<ul style="list-style-type: none"> - Procedure presentation - Log book - Chick list
<p>G. Develop and carry out patient <i>management plans</i> for the following problems</p> <p style="padding-left: 40px;">Diseases mentioned in A.A</p> <p style="padding-left: 40px;">Discharged patients from Rheumatology & Rehabilitation & physical medicine department inpatient</p>	<ul style="list-style-type: none"> -Clinical round with senior staff 	
<p>H. Counsel and educate patients and their family about:</p> <ul style="list-style-type: none"> -Prognosis in different diseases - Symptoms of critical illness -Methods of management 	<ul style="list-style-type: none"> -Clinical round with senior staff 	
<p>I. Use information technology to support patient care decisions and patient education for Rheumatological and Autoimmune Diseases conditions.</p>	<ul style="list-style-type: none"> -Clinical round with senior staff 	
<p>J. Provide health care services aimed at preventing the following conditions:</p> <ul style="list-style-type: none"> -Deformities and disabilities. -Contractures -Relapse of rheumatologic diseases caused by stoppage of medical ttt 	<ul style="list-style-type: none"> -Clinical round with senior staff 	

<p>K. Work with health care professionals, including those from other disciplines, to provide patient-focused care .</p> <ul style="list-style-type: none"> - Side effects of DMARDS how to monitor toxicity - Awareness of adherence to medical ttt . 		
<p>L. Write competently all forms of patient charts and sheets including reports evaluating these charts and sheets.(Write and evaluate a consultation note, Inform patients of a diagnosis and therapeutic plan, completing and evaluating comprehensive, timely and legible medical records).</p>		

D-General Skills

Practice-Based Learning and Improvement

ILOs	Methods of teaching/ learning	Methods of Evaluation
<p>A. Perform practice-based improvement activities using a systematic methodology in the common problems (plan and conduct audit cycles) in previously mentioned rheumatologic diseases</p>	<ul style="list-style-type: none"> -Simulations -Clinical round -Seminars -Lectures -Case presentation -Hand on workshops 	<ul style="list-style-type: none"> - Global rating -Procedure & case presentation -Log book & Portfolios - Chick list
<p>B. Locate, appraises, and assimilates evidence from scientific studies related to patients' health problems.</p> <ul style="list-style-type: none"> - Avoidance Side effects of cytotoxic drugs. - Latest management plans for different diseases 	<ul style="list-style-type: none"> -Simulations -Clinical round -Seminars -Lectures -Case presentation -Hand on workshops 	<ul style="list-style-type: none"> Global rating -Procedure & case presentation -Log book & Portfolios - Chick list
<p>C. Apply knowledge of study designs and statistical methods to the appraisal of clinical studies and other information on diagnostic and therapeutic effectiveness</p>		

D. Use information technology to manage information, access on-line medical information; and support their own education		
E. Lead the learning of students and other health care professionals.		

Interpersonal and Communication Skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
F. Create and sustain a therapeutic and ethically sound relationship with patients	Simulations -Clinical round -Seminars -Lectures -Case presentation -Hand on workshops	Global rating -Procedure & case presentation -Log book & Portfolios - Chick list
G. Perform the following oral communications: - Advise patient for synchrony - Deal with patient relatives - Ordering residents - Ordering nurses		
H. Fill the following reports: - Discharge card with current ttt plan - Follow-up sheet for rheumatology pts		
I. Work effectively with others as a member or leader of a health care team.		

Professionalism

ILOs	Methods of teaching/ Learning	Methods of Evaluation
J. Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society that supersedes self-interest.	- Observation - Senior staff experience - Case taking	1. Objective structured clinical examination 2. Patient survey

K. Demonstrate a commitment to ethical principles pertaining to provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices.		1. 360o global rating
L. Demonstrate sensitivity and responsiveness to patients' culture, age, gender, and disabilities		

Systems-Based Practice

ILOs	Methods of teaching/ learning	Methods of Evaluation
M. Work effectively in different health care delivery settings and systems.	Observation - Senior staff experience -Case taking	1. 360o global rating
N. Practice cost-effective health care and resource allocation that does not compromise quality of care		1. Check list evaluation of live or recorded performance
O. Advocate for quality patient care and assist patients in dealing with system complexities		1. 360o global rating 2. Patient survey
P. Partner with health care managers and health care providers to assess, coordinate, and improve health care and predict how these activities can affect system performance		

**Unit (Module) 2 Physical Medicine, Rehabilitations, Prosthesis, Orthosis,
and Electrophysiology**

A-Knowledge and understanding

ILOs	Methods of teaching/ learning	of	<i>Methods of Evaluation</i>
<p>A. Describe the scientific base, clinical application of the following</p> <p>Section 1: Physical modalities and exercises</p> <p>Therapeutic modalities: -Hydrotherapy. -cryotherapy. -hot packs. -shortwave. -Ultrasound. -Infrared. -electric stimulation. -Extracorporeal shock wave therapy</p> <p>-Therapeutic exercises - Manipulation, Traction and Massage.</p>	<p>-Didactic (lectures, seminars, tutorial) -Clinical rounds -Clinical rotations (service teaching)</p>		<p>-OSCE at the end of each year -log book & portfolio - Two MCQ examination at the second year -Oral and written exam</p>
<p>B. Mention the principles of Rehabilitation of the following conditions</p> <p>Section 2: Rehabilitation Medicine</p> <p>-Physiatric history and physical examination. -Examination of pediatric patients. - Rehabilitation of swallowing disorders. - Quality and outcome measures in Rehabilitation Medicine. - Rehabilitation of Musculoskeletal disorders of the upper limb. - Rehabilitation of Musculoskeletal disorders of the lower limb. - Rehabilitation of Common neck and back painful problems. -Chronic pain. -Sport trauma. - Muscle and Motor neuron diseases. - Orthopedic problems and surgeries. - Upper limb amputee. - Lower limb amputee and gait. -Pulmonary rehabilitation</p>			

<ul style="list-style-type: none"> -Cardiac rehabilitation. - patients with rheumatic diseases. - Patients with neuropathies. - Stroke syndromes - Cerebral palsy. - Spinal cord injuries. -Traumatic brain injury -Burns. - Osteoporosis. - Pelvic floor disorders. -Vascular disorders. -Spinal rehabilitation. - Neurorehabilitation - Myopathies. - Multiple sclerosis -Pediatric Rehabilitation. - Geriatric Rehabilitation. - Neurodegenerative disorders. - Cancer Rehabilitation - Medical Emergencies in Rehabilitation Medicine - Rehabilitation of Speech , Language and swallowing disorders - Myelomeningocele and other spinal dysraphism - Auditory,vistebular and visual impairment. <p style="text-align: center;">Section 3: Assistive aids</p> <ul style="list-style-type: none"> -Walking aids and gait analysis. - Wheelchairs and seating systems. -Upper limb orthotic devices, -Lower limb orthoses. -Upper limb prostheses, -Lower limb porthoses. -Spinal orthoses <p>Section 4: Electrodiagnostic medicine</p>		
<p>C. State update and evidence based Knowledge in rehabilitation of :</p> <ul style="list-style-type: none"> - orthopedic cases - nerve grafts <p>Spinal cord injuries</p>		
<p>D. Memorize the facts and principles of the relevant basic and clinically supportive sciences related to Physical Medicine,</p>		

Rehabilitations, Prosthesis, Orthosis, and Electrophysiology.		
E. Mention the basic ethical and medicolegal principles relevant to the Physical Medicine, Rehabilitations, Prosthesis, Orthosis, and Electrophysiology.		
F. Mention the basics of quality assurance to ensure good clinical care in Physical Medicine, Rehabilitations, Prosthesis, Orthosis, and Electrophysiology.		
G. Mention the ethical and scientific principles of medical research		
H. State the impact of common health problems in the field of Physical Medicine, Rehabilitations, Prosthesis, Orthosis, and Electrophysiology on the society.		

B-Intellectual outcomes

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Correlates the facts of relevant basic and clinically supportive sciences with clinical reasoning, diagnosis and management of common diseases related to Physical Medicine, Rehabilitations, Prosthesis, Orthosis, and Electrophysiology.	-Clinical rounds -Senior staff experience	-Procedure & case presentation -log book & portfolio
B. Demonstrate an investigatory and analytic thinking (problem solving) approaches to common clinical situations related to Physical Medicine, Rehabilitations, Prosthesis, Orthosis, and Electrophysiology.		
C. Design and present cases, seminars in common problem.		
D-Formulate management plans and alternative decisions in different situations in the field of the Physical Medicine, Rehabilitations, Prosthesis, Orthosis, and Electrophysiology.		

C-Practical skills (Patient Care)

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Obtain proper history and examine patients in caring and respectful behaviors.	-Didactic (lectures, seminars, tutorial) -Clinical rounds -Clinical rotations (service teaching)	-OSCE at the end of each year -log book & portfolio - One MCQ examination at the second half of the second year and another one in the third year
B. Order the following non invasive and invasive diagnostic procedures <ul style="list-style-type: none"> • Radiography for hands, feet and any other affected joints for post traumatic injuries • Electrophysiological studies. • DEXA. 	-Clinical round with senior staff Observation -Post graduate teaching -Hand on workshops	-Procedure presentation - Log book - Chick list
C. Interpret the following non invasive and invasive diagnostic procedures <ul style="list-style-type: none"> • Radiography for hands, feet and any other affected joints for post traumatic injuries • Electrophysiological studies. • DEXA 	-Clinical round with senior staff Observation - Post graduate teaching -Hand on workshops	
D. Perform the following non invasive and invasive diagnostic and therapeutic procedures: <ul style="list-style-type: none"> • Electrophysiological studies. • Arthrocentesis and local steroid injection 	-Clinical round with senior staff Observation Post graduate teaching -Hand on workshops	

<p>E. Prescribe the following non invasive and invasive therapeutic procedures :</p> <ul style="list-style-type: none"> • Arthrocentesis and local steroid injection • <i>Rehabilitation plan with various physical modalities</i> • <i>Medical ttt when indicated</i> 	<p>-Clinical round with senior staff -Perform under supervision of senior staff</p>	<p>- Procedure presentation - Log book - Chick list</p>
<p>F. Develop & Carry out patient management plans for common conditions related to Physical Medicine, Rehabilitations, Prosthesis, Orthosis, and Electrophysiology.</p>	<p>- Clinical round with senior staff - Perform under supervision of senior staff</p>	
<p>G. Use information technology to support patient care decisions and patient education in common clinical situations related to Physical Medicine, Rehabilitations, Prosthesis, Orthosis, and Electrophysiology.</p>		
<p>H. Provide health care services aimed at preventing health problems related to Physical Medicine, Rehabilitations, Prosthesis, Orthosis, and Electrophysiology.</p>		
<p>I. Provide patient-focused care in common conditions related to Physical Medicine, Rehabilitations, Prosthesis, Orthosis, and Electrophysiology., while working with health care professionals, including those from other disciplines like:</p> <ul style="list-style-type: none"> • Conditions mentioned in A.A 		
<p>J. Work with health care professionals, including those from other disciplines, to provide patient-focused care for the following</p> <ul style="list-style-type: none"> • When to refer to orthopedic. • When and how to treat via different treatment option • Weight reduction 		
<p>K. Provide health care services aimed at preventing the following conditions</p> <ul style="list-style-type: none"> • Motor car accidents • Complications of fracture 		
<p>L. Write competently all forms of patient charts and sheets including reports evaluating these charts and sheets.(Write and evaluate a consultation note, Inform patients of a diagnosis and therapeutic plan, completing and evaluating comprehensive, timely and legible medical records)</p>		

D-General Skills
Practice-Based Learning and Improvement

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Perform practice-based improvement activities using a systematic methodology(audit, logbook)	-Case log -Observation and supervision -Written & oral communication	--Log book & portfolio -Procedure & case presentation
B. Appraises evidence from scientific studies(journal club) * Researches and evidence based practice and internet updates about the conditions mentioned above in A.A	- Case log - Observation and supervision - Written & oral communication - Journal clubs - Discussions in seminars and clinical rounds	--Log book & portfolio -Procedure & case presentation
C. Conduct epidemiological Studies and surveys.		
D. Perform data management including data entry and analysis.		
E. Facilitate learning of junior students and other health care professionals.	-Clinical rounds -Senior staff experience	

Interpersonal and Communication Skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
F. Maintain therapeutic and ethically sound relationship with patients.	-Simulations -Clinical round -Seminars -Lectures -Case presentation -Hand on workshops	-Global rating -Procedure & case presentation -Log book & portfolio -Chick list
G. Elicit information using effective nonverbal, explanatory, questioning, and writing skills.		
H. Provide information using effective nonverbal, explanatory, questioning, and writing skills.		
I. Work effectively with others as a member of a health care team or other professional group as regard diagnosis and treatment of the above mentioned conditions in A.A		
J. Present a case in <ul style="list-style-type: none"> • Common problems of Physical Medicine, Rehabilitations, Prosthesis, Orthosis, and Electrophysiology. 		
K .Write a report <ul style="list-style-type: none"> • Rehabilitation program • Patients' medical reports 	-Senior staff experience	
L. Council patients and families about <ul style="list-style-type: none"> • Traumatic Brain injury • Spinal cord injuries • Geriatric cases 	-Perform under supervision of senior staff	

Professionalism

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

Systems-Based Practice

ILOs	Methods of teaching/ learning	Methods of Evaluation
P. Work effectively in relevant health care delivery settings and systems.	-Observation -Senior staff experience	-360o global rating
Q. Practice cost-effective health care and resource allocation that does not compromise quality of care.		-Check list evaluation of live or recorded performance
R. Assist patients in dealing with system complexities.		-360o global rating - Patient survey

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

Time Schedule: Second part

Topic	Covered ILOs			
	Knowledge A	Intellectual B	Practical skills C	General Skills D
Unit (Module) 1 Rheumatological and Autoimmune Diseases				
Section 1: Immunology				
Autoimmunity	B,D	B,D,E,I	-	D,E
Innate immunity Adaptive immunity	B,D	B,D,E,I	-	D,E
Genetics of rheumatic diseases	B,D	B,D,E,I	-	D,E
Complement system	B,D	B,D,E,I	-	D,E
Signal transduction	B,D	B,D,E,I	-	D,E
Cytokines	B,D	B,D,E,I	-	D,E
Cell survival & death in rheumatic diseases	B,D	B,D,E,I	-	D,E
Cells involved in auto immune diseases & inflammation	B,D	B,D,E,I	-	D,E
T- cells	B,D	B,D,E,I	-	D,E
B-cells	B,D	B,D,E,I	-	D,E
Fibroblasts	B,D	B,D,E,I	-	D,E
Neutrophils & eosinophils	B,D	B,D,E,I	-	D,E
Mast cells & platelets	B,D	B,D,E,I	-	D,E
Section 2: Rheumatologic diseases				
1-Rheumatoid arthritis	A-H	A-J	A-L	A-P
2-Juvenile idiopathic arthritis (JIA)	A-H	A-J	A-L	A-P
3-Sjögren's syndrome	A-H	A-J	A-L	A-P
4-Adult onset still's disease	A-H	A-J	A-L	A-P
5-Seronegative spondylo-arthropathies (psoriatic arthritis, ankylosing spond-ylitis, reactive and enteropathic arthritis)	A-H	A-J	A-L	A-P
6-Crystal arthropathy	A-H	A-J	A-L	A-P

7-Osteoarthritis and other degenerative arthritis	A-H	A-J	A-L	A-P
8-Systemic lupus erythematosus	A-H	A-J	A-L	A-P
9-Antiphospholipid syndrome	A-H	A-J	A-L	A-P
10-Systemic sclerosis	A-H	A-J	A-L	A-P
11-Other connective tissue disorders	A-H	A-J	A-L	A-P
12-Idiopathic inflammatory myopathy	A-H	A-J	A-L	A-P
13-Periodic syndrome	A-H	A-J	A-L	A-P
14-Infectious arthritis e.g. rheumatic fever, septic, viral arthritis	A-H	A-J	A-L	A-P
15-Fibromyalgia	A-H	A-L	A-L	A-P
16-Less common arthropathies e.g. endocrinopathies	A-H	A-L	A-L	A-P
17- Metabolic bone disease (osteoporosis, osteomalcia)	A-H	A-L	A-L	A-P
18- Vasculitis	A-H	A-L	A-L	A-P

Unit (Module) 2 Physical Medicine, Rehabilitations, Prosthesis, Orthosis, and Electrophysiology

<p>Section 1:Physical modalities</p> <ul style="list-style-type: none"> -Hydrotherapy. -cryotherapy. -hot packs. -shortwave. -Ultrasound. -Infrared. -electric stimulation. -biofeed back -TENS. 	B,D	B,D,E,I	-	D,E
<p>Section 2: rehabilitation of following conditions</p> <ul style="list-style-type: none"> -Physiatric history and physical examination. -Musculoskeletal disorders of the upper limb. - Musculoskeletal disorders of the lower limb. -Common neck and back painful 	A-H	A-D	A-L	A-R

problems. -Chronic pain.				
-Sport trauma. -Muscle and Motor neuron diseases. -related orthopedic problems -Upper limb amputee rehabilitation. -Lower limb amputee rehabilitation. -Pulmonary rehabilitation. -Cardiac rehabilitation. -Rehabilitation of patients with rheumatic diseases. -Patients with neuropathies. -Traumatic brain injury rehabilitation -Stroke syndromes	A-H	A-D	A-L	A-R
-Cerebral palsy. -Spinal cord injuries. -Burns.	A-H	A-D	A-L	A-R
Section 3: assistive aids -Walking aids, wheelchairs and seating systems. -Upper limb orthotic devices, -Lower limb orthoses. -Upper limb prostheses, -Lower limb prostheses. -Spinal orthoses.	B,D	B,D,E,I	A-L	A-R

5. Course Methods of teaching/learning:

1. Didactic (lectures, seminars, tutorial)
2. Outpatient
3. Inpatient
4. Clinical rounds
5. Clinical rotations
6. Service teaching
1. Direct observation
2. Post graduate teaching
3. Hand on workshops

4. Perform under supervision of senior staff
5. Simulations
6. Present a case (true or simulated) in a grand round
7. Case Taking
8. journal club,
9. Critically appraised topic,
10. Educational prescription
11. Observation & supervision
12. Written & oral communications

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

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

7. Course assessment methods:

i. Assessment tools:

- Clinical examination
- Written
- Oral examination
- Check list
- log book & portfolio
- Procedure/case presentation
- One MCQ examination in f the second year and one in the third year
- Objective structured clinical examination
- Check list evaluation of live or recorded performance
- Record review (report)
- Patient survey
- 360o global rating

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

iii. Marks: 1200 marks

8. List of references

i. Lectures notes

- Course notes
- Staff members print out of lectures and/or CD copies
- Principles of Rheumatology & Rehabilitation Diseases Book by Staff Members of the Department of Rheumatology & Rehabilitation & Physical medicine -Assiut University

ii. Essential books:

- Primer's text book of Rheumatology 2008
- Kelly's text book of Rheumatology 2021

iii. Recommended books

- Current Diagnosis & Treatment in Rheumatology 2020
- Bradom textbook of Rehabilitation & Physical medicine 2018

iv. Periodicals, Web sites, ... etc

- American Journal of physical medicine
- Egyptian Journal of Rheumatology & Rehabilitation
- Journal of The Egyptian Society of Joint Diseases & Arthritis

v. Others : none

9. Signatures

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

ANNEX 2

Program Academic Reference Standards (ARS)

1- Graduate attributes for medical doctorate in Rheumatology and Rehabilitation

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

- 1- Demonstrate competency and mastery of basics, methods and tools of scientific research and clinical audit in *Rheumatology and Rehabilitation*.
- 2- Have continuous ability to add knowledge to *Rheumatology and Rehabilitation* through research and publication.
- 3- Appraise and utilise relevant scientific knowledge to continuously update and improve clinical practice.
- 4- Acquire excellent level of medical knowledge in the basic biomedical, behavioural and clinical sciences, medical ethics and medical jurisprudence and apply such knowledge in patient care and scientific research.
- 5- Function as a leader of a team to provide patient care that is appropriate, effective and compassionate for dealing with health problems and health promotion.
- 6- Identify and create solutions for health problems in *Rheumatology and Rehabilitation*.
- 7- Acquire an in depth understanding of common areas of *Rheumatology and Rehabilitation*, from basic clinical care to evidence based clinical application, and possession of required skills to manage independently all problems in these areas.
- 8- Demonstrate leadership competencies including interpersonal and communication skills that ensure effective information exchange with individual patients and their families and teamwork with other health professions, the scientific community and the public.
- 9- Function as teacher in relation to colleagues, medical students and other health professions.
- 10- Master decision making capabilities in different situations related to *Rheumatology and Rehabilitation*.

- 11- Show leadership responsiveness to the larger context of the health care system, including e.g. the organisation of health care, partnership with health care providers and managers, practice of cost-effective health care, health economics, and resource allocations.
- 12- Demonstrate in depth awareness of public health and health policy issues including independent ability to improve health care, and identify and carryout system-based improvement of care.
- 13- Show model attitudes and professionalism.
- 14- Demonstrate commitment for lifelong learning and maintenance of competence and ability for continuous medical education and learning in subsequent stages and in *Rheumatology and Rehabilitation* or one of its subspecialties.
- 15- Use recent technologies to improve his practice in *Rheumatology and Rehabilitation*.
- 16- Share in updating and improving clinical practice in *Rheumatology and Rehabilitation*.

2- Competency based Standards for medical doctorate in Rheumatology and Rehabilitation

22.1- Knowledge and understanding

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

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

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

2-1-C- Ethical and medicolegal principles of medical practice related to *Rheumatology and Rehabilitation*.

2-1-D- Principles and measurements of quality in *Rheumatology and Rehabilitation*.

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

2- Intellectual skills

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

2-2-A- Application of basic and other relevant science to solve *Rheumatology and Rehabilitation* related Problems.

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

2-2-C- Involvement in research studies related to *Rheumatology and Rehabilitation*.

2-2-D- Writing scientific papers.

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

2-2-F- Planning for performance improvement in *Rheumatology and Rehabilitation*.

2-2-G- Creation and innovation in *Rheumatology and Rehabilitation*.

2-2-H- Evidence – based discussion.

2-2-I- Decision making in different situations related to *Rheumatology and Rehabilitation*.

2.3- Clinical skills

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

 *Competency-based outcomes for Patient Care:-*

2-3-A- MD students must be able to provide extensive level of patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health extensive level means in depth understanding and from basic

science to evidence – based clinical application and possession of skills to manage independently all problems in *Rheumatology and Rehabilitation*.

2-3-B- Master patient care skills relevant to *Rheumatology and Rehabilitation* for patients with all diagnoses and procedures.

2-3-C- Write and evaluate reports for situations related to the *Rheumatology and Rehabilitation*.

2.4- General skills

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

Competency-based outcomes for Practice-based Learning and Improvement

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

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

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

Competency-based objectives for Interpersonal and Communication Skills

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

Competency-based objectives for Professionalism

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

Competency-based objectives for Systems-based Practice:

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

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

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

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

Annex 3, Methods of teaching/learning

Annex 3, Methods of teaching/learning

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

Teaching methods for knowledge

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

Teaching methods for patient care

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

Teaching methods for other skills

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

Annex 4, Assessment methods

Annex 4, ILOs evaluation methods for MD students.

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

Annex 4, Glossary of MD students assessment methods

- ❖ Record Review – Abstraction of information from patient records, such as medications or tests ordered and comparison of findings against accepted patient care standards.
- ❖ Chart Stimulated Recall – Uses the MD doctor’s patient records in an oral examination to assess clinical decision-making.
- ❖ Mini clinical evaluation: Evaluation of Live/Recorded Performance (single event) – A single resident interaction with a patient is evaluated using a checklist. The encounter may be videotaped for later evaluation.
- ❖ Standardized Patients (SP) – Simulated patients are trained to respond in a manner similar to real patients. The standardized patient can be trained to rate MD doctor’s performance on checklists and provide feedback for history taking, physical examination, and communication skills. Physicians may also rate the MD doctor’s performance.
- ❖ Objective Structured Clinical Examination (OSCE) – A series of stations with standardized tasks for the MD doctors to perform. Standardized patients and other assessment methods often are combined in an OSCE. An observer or the standardized patient may evaluate the MD doctors.
- ❖ Procedure or Case Logs – MD doctors prepare summaries of clinical experiences including clinical data. Logs are useful to document educational experiences and deficiencies.
- ❖ PSQs – Patients fill out Patient Survey questionnaires (PSQs) evaluating the quality of care provided by MD doctors.
- ❖ Case /problems – assess use of knowledge in diagnosing or treating patients or evaluate procedural skills.
- ❖ Models: are simulations using mannequins or various anatomic structures to assess procedural skills and interpret clinical findings. Both are useful to assess practice performance and provide constructive feedback.

- ❖ 360 Global Rating Evaluations – MD doctors, faculty, nurses, clerks, and other clinical staff evaluate MD doctors from different perspectives using similar rating forms.
- ❖ Portfolios – A portfolio is a set of project reports that are prepared by the MD doctors to document projects completed during the MD study years. For each type of project standards of performance are set. Example projects are summarizing the research literature for selecting a treatment option, implementing a quality improvement program, revising a medical student clerkship elective, and creating a computer program to track patient care and outcomes.
- ❖ Examination MCQ – A standardized examination using multiple-choice questions (MCQ). The in-training examination and written board examinations are examples.
- ❖ Examination Oral – Uses structured realistic cases and patient case protocols in an oral examination to assess clinical decision-making.
- ❖ Procedure or Case Logs – MD doctors prepare summaries of clinical experiences including clinical data. Logs are useful to document educational experiences and deficiencies.
- ❖ PSQs – Patients fill out Patient Survey questionnaires (PSQs) evaluating the quality of care provided by MD doctors.

Annex 5, Program evaluation tools

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

Annex 6, Program Correlations:

مصفوفة توافق المعايير القومية القياسية العامة لبرامج الدكتوراه مع المعايير الأكاديمية المعتمدة من كلية الطب –
جامعة أسيوط لدرجة الدكتوراه في الروماتيزم والتأهيل

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

1- Graduate attributes

Faculty ARS	NAQAAE General ARS for Postgraduate Programs
1- Demonstrate competency and mastery of basics, methods and tools of scientific research and clinical audit in Rheumatology and Rehabilitation.	1- إتقان أساسيات و منهجيات البحث العلمي
2- Have continuous ability to add knowledge new developments to Rheumatology and Rehabilitation through research and publication.	2- العمل المستمر علي الإضافة للمعارف في مجال التخصص
3- Appraise and utilise scientific knowledge to continuously update and improve clinical practice and relevant basic sciences.	3- تطبيق المنهج التحليلي والناقد للمعارف في مجال التخصص و المجالات ذات العلاقة
4- Acquire excellent level of medical knowledge in the basic biomedical, clinical, behavioural and clinical sciences, medical ethics and medical jurisprudence and apply such knowledge in patient care and scientific	4- دمج المعارف المتخصصة مع المعارف ذات العلاقة مستنبطا و مطورا للعلاقات البينية بينها
5- Function as a leader of a team to provide patient care that is appropriate, effective compassionate for dealing with health and Problems and health promotion. 7- Acquire an in depth understanding of common areas of speciality, from basic clinical care to evidence based clinical application, and possession of skills to manage independently all problems in these areas.	5- إظهار وعيا عميقا بالمشاكل الجارية و النظريات الحديثة في مجال التخصص
6- Identify and create solutions for health problems in <i>Rheuma</i> Rheumatology and Rehabilitation.	6- تحديد المشكلات المهنية و إيجاد حلولاً مبتكرة لحلها
5- Function as a leader of a team to provide patient care that is appropriate, effective and compassionate for dealing with health problems and health promotion. 7- Acquire an in depth understanding of common areas of Rheumatology and Rehabilitation, from basic clinical care to evidence based clinical application, and possession of skills to manage independently all problems in these areas.	7- إتقان نطاقاً واسعاً من المهارات المهنية في مجال التخصص
16- Share in updating and improving clinical practice in Rheumatology and Rehabilitation.	8- التوجه نحو تطوير طرق و أدوات و أساليب جديدة للمزاولة المهنية

9- Function as teacher in relation to colleagues, medical students and other health professions.	
15- Use recent technologies to improve his practice in Rheumatology and Rehabilitation.	9-استخدام الوسائل التكنولوجية المناسبة بما يخدم ممارسته المهنية
8- Demonstrate leadership competencies including interpersonal and communication skills that ensure effective information exchange with individual patients and their families and teamwork with other health professions, the scientific community and the public. 5- Function as a leader of a team to provide patient care that is appropriate, effective and compassionate for dealing with health problems and health promotion.	10-التواصل بفاعلية و قيادة فريق عمل في سياقات مهنية مختلفة
10- Master decision making capabilities in different situations related to Rheumatology and Rehabilitation.	11-اتخاذ القرار في ظل المعلومات المتاحة
11- Show leadership responsiveness to the larger context of the health care system, including e.g. the organisation of health care, partnership with health care providers and managers, practice of cost-effective health care, health economics, and resource allocations.	12-توظيف الموارد المتاحة بكفاءة و تنميتها والعمل على إيجاد موارد جديدة
12- Demonstrate in depth awareness of public health and health policy issues including independent ability to improve health care, and identify and carryout system-based improvement of care.	13-الوعي بدوره في تنمية المجتمع والحفاظ على البيئة
13- Show model attitudes and professionalism.	14-التصرف بما يعكس الالتزام بالنزاهة و المصداقية و قواعد المهنة
14- Demonstrate commitment for lifelong learning and maintenance of competence and ability for continuous medical education and learning in subsequent stages and in Rheumatology and Rehabilitation or one of its subspecialties. 15- Use recent technologies to improve his practice in Rheumatology and Rehabilitation.	15-الالتزام بالتنمية الذاتية المستمرة و نقل علمه و خبراته للآخرين

2- Academic standards

Faculty ARS	NAQAAE General ARS for Postgraduate Programs
2.1. A- Established, updated and evidence- based theories, basics and developments of Rheumatology and Rehabilitation and relevant sciences.	1-2-أ- النظريات و الأساسيات والحديث من المعارف في مجال التخصص والمجالات ذات العلاقة
2.1. B- Basic, methods and ethics of medical research.	1-2-ب- أساسيات و منهجيات و أخلاقيات البحث العلمي و أدواته المختلفة
2.1. C- Ethical and medicological principles of medical practice related to Rheumatology and Rehabilitation.	1-2-ج- المبادئ الأخلاقية و القانونية للممارسة المهنية في مجال التخصص
2.1. D- Principles and measurements of quality in Rheumatology and Rehabilitation.	1-2-د- مبادئ و أساسيات الجودة في الممارسة المهنية في مجال التخصص
2.1. E- Principles and efforts for maintains and improvements of public health.	1-2-هـ - المعارف المتعلقة بآثار ممارسته المهنية على البيئة وطرق تنمية البيئة وصيانتها
2.2. A- Application of basic and other relevant science to solve Rheumatology and Rehabilitation related problems.	2-2-أ- تحليل و تقييم المعلومات في مجال التخصص و القياس عليها و الاستنباط منها
2.2.B- Problem solving based on available data.	2-2-ب - حل المشاكل المتخصصة استنادا علي المعطيات المتاحة
2.2.C- Involvement in research studies related to Rheumatology and Rehabilitation.	2-2-ج -إجراء دراسات بحثية تضيف إلى المعارف
2.2. D- Writing scientific papers.	2-2-د- صياغة أوراق علمية
2.2. E- Risk evaluation in the related clinical practice.	2-2-هـ- تقييم المخاطر في الممارسات المهنية
2.2.F- Planning for performance improvement in Rheumatology and Rehabilitation.	2-2-و- التخطيط لتطوير الأداء في مجال التخصص
2-2-G- Creation and innovation in the Rheumatology and Rehabilitation.	2-2-ز- الابتكار /الإبداع
2.2. H- Evidence – based discussion.	2-2-ح- الحوار والنقاش المبني على البراهين والأدلة
2.2.I- Discussion making in different situations related to Rheumatology and Rehabilitation.	2-2-ط- اتخاذ القرارات المهنية في سياقات مهنية مختلفة
2.3. A- MD students must be able to provide extensive level of patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health extensive level means in depth understanding and from basic science to evidence – based clinical application and possession of skills to manage independently all problems in Rheumatology and Rehabilitation.	2-3-أ - إتقان المهارات المهنية الأساسية و الحديثة في مجال التخصص
2.3. B- Master patient care skills relevant to Rheumatology and Rehabilitation or patients with all diagnoses and procedures.	
2.3. C- Write and evaluate reports for situations related to	2-3-ب- كتابة و تقييم التقارير المهنية.

the field of Rheumatology and Rehabilitation.	
2.4.A-Master practice-based learning and improvement skills that involves investigation and evaluation of their own patient care, appraisal and assimilation of scientific evidence, improvements in patient care and risk management	ج-3-2-تقييم و تطوير الطرق و الأدوات القائمة في مجال التخصص
2.4.B- Use competently all information sources and technology to improve his practice.	د-3-2- استخدام الوسائل التكنولوجية بما يخدم الممارسة المهنية
2.4.A-Master practice-based learning and improvement skills that involves investigation and evaluation of their own patient care, appraisal and assimilation of scientific evidence, improvements in patient care and risk management 2.4.G- Participate in improvement of the education system.	هـ-3-2-التخطيط لتطوير الممارسة المهنية وتنمية أداء الآخرين

II-Program ARS versus program ILOs

Comparison between ARS- ILOS for medical doctorate for Rheumatology, Rehabilitation & Physical Medicine

(ARS)	(ILOs)
<u>2-1- Knowledge and understanding</u>	<u>2-1- Knowledge and understanding</u>
2-1-A- Established, updated and evidence-based Theories, Basics and developments of Rheumatology and Rehabilitation and relevant sciences.	2-1-A- Demonstrate in-depth knowledge and understanding of theories, basics and updated biomedical, clinical epidemiological and socio behavioral science relevant to his speciality as well as the evidence – based application of this knowledge to patient care.
2-1-B Basic, methods and ethics of medical research.	2-1-B- Explain basics, methodology, tools and ethics of scientific medical, clinical research.
2-1-C- Ethical and medicological principles of medical practice related to Rheumatology and Rehabilitation field.	2-1-C- Mention ethical, medico logical principles and bylaws relevant to his practice in the field of Rheumatology and Rehabilitation.
2-1-D- Principles and measurements of quality in the Rheumatology and Rehabilitation field.	2-1-D- Mention principles and measurements of quality assurance and quality improvement in medical education and in clinical practice of Rheumatology and Rehabilitation.
2-1-E-Principles and efforts for maintains and improvements of public health.	2-1-E- Mention health care system, public health and health policy, issues relevant to this speciality and principles and methods of system – based improvement of patient care in common health problems of the field of Rheumatology and Rehabilitation.
<u>2-2- Intellectual skills:</u>	<u>2-2- Intellectual skills:</u>
2-2-A-Application of basic and other relevant science to solve Rheumatology and Rehabilitation related problems.	2-2-A- Apply the basic and clinically supportive sciences which are appropriate to Rheumatology and Rehabilitation related conditions / problem / topics.
2-2-B-Problem solving based on available data.	2-2-B- Demonstrate an investigatory and analytic thinking “problem – solving “approaches to clinical situation related to Rheumatology and Rehabilitation.

2-2-C- Involvement in research studies related to the Rheumatology and Rehabilitation.	2-2-C- Plan research projects.
2-2-D Writing scientific papers.	2-2-D- Write scientific paper.
2-2-E-Risk evaluation in the related clinical practice.	2-2-E- Participate in clinical risk management as a part of clinical governance.
2-2-F-Planning for performance improvement in the Rheumatology and Rehabilitation field.	2-2-F- Plan for quality improvement in the field of medical education and clinical practice in Rheumatology and Rehabilitation.
2-2-G-Creation and innovation in the speciality field.	2-2-G- Create / innovate plans, systems, and other issues for improvement of performance in his practice.
2-2-H-Evidence – based discussion.	2-2-H- Present and defend his / her data in front of a panel of experts.
2-2-I-Decision making in different situations related to Rheumatology and Rehabilitation fields.	2-2-I- Formulate management plans and alternative decisions in different situations in the field of the Rheumatology and Rehabilitation.

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

	<p>patient information and preferences, up-to-date scientific evidence and clinical judgment for the Rheumatology and Rehabilitation related conditions.</p> <p>2-3-1-I- Develop and carry out patient management plans for Rheumatology and Rehabilitation related conditions.</p> <p>2-3-1-J- Counsel and educate patients and their families about Rheumatology and Rehabilitation related conditions.</p> <p>2-3-1-K- Use information technology to support patient care decisions and patient education in all Rheumatology and Rehabilitation related clinical situations.</p> <p>2-3-1-L- Perform competently all medical and invasive procedures considered essential for the Rheumatology and Rehabilitation related conditions / area of practices.</p> <p>2-3-1-M- Provide health care services aimed at preventing the Rheumatology and Rehabilitation related health problems.</p> <p>2-3-1-N- Lead health care professionals, including those from other disciplines, to provide patient-focused care in Rheumatology and Rehabilitation related conditions.</p>
<p>2-3-C- Write and evaluate reports for situations related to the field of Rheumatology and Rehabilitation.</p>	<p>2-3-1-O- Write competently all forms of patient charts and sheets including reports evaluating these charts and sheets.(Write and evaluate a consultation note, Inform patients of a diagnosis and therapeutic plan, completing and evaluating comprehensive timely and legible medical records).</p>
<p><u>2-4- General skills</u></p> <p>2-4-A- Master practice-based learning and improvement skills that involves investigation and evaluation of their own patient care, appraisal and assimilation of scientific evidence, improvements in</p>	<p><u>2/3/2 General skills</u></p> <p>2-3-2-A- Demonstrate the competency of continuous evaluation of different types of care provision to patients in the different area of Rheumatology and Rehabilitation.</p>

<p>patient care and risk management</p>	<p>2-3-2-B- Appraise scientific evidence.</p> <p>2-3-2-C- Continuously improve patient care based on constant self-evaluation and <u>life-long learning</u>.</p> <p>2-3-2-D. Participate in clinical audit and research projects.</p> <p>2-3-2-E- Practice skills of evidence-based Medicine (EBM).</p> <p>2-3-2-G- Design logbooks.</p> <p>2-3-2-H- Design clinical guidelines and standard protocols of management.</p> <p>2-3-2-I- Appraise evidence from scientific studies related to the patients' health problems.</p>
<p>2-4-B- Use competently all information sources and technology to improve his practice.</p>	<p>2-3-2-J- Apply knowledge of study designs and statistical methods to the appraisal of clinical studies.</p> <p>2-3-2-K- Use information technology to manage information, access on-line medical information; for the important topics.</p>
<p>2-4-C- Master skills of teaching and evaluating others.</p>	<p>2-3-2-F- Educate and evaluate students, residents and other health professionals.</p>
<p>2-4-D- Master interpersonal and communication Skills that result in effective information exchange and teaming with patients, their families, and other health professionals.</p>	<p>2-3-2-L- Master interpersonal and communication skills that result in the effective <u>exchange of information and collaboration</u> with patients, their families, and health professionals, including:-</p> <ul style="list-style-type: none"> • <u>Present</u> a case. • <u>Write</u> a consultation note. • <u>Inform patients</u> of a diagnosis and therapeutic plan Completing and maintaining comprehensive. • Timely and legible <u>medical records</u>. • Teamwork skills.

	<p>2-3-2-M- Create and sustain a therapeutic and ethically sound relationship with patients.</p> <p>2-3-2-N- Elicit and provide information using effective nonverbal, explanatory, questioning, and writing skills.</p> <p>2-3-2-O- Work effectively with others as a member or leader of a health care team or other professional group.</p>
<p>2-4-E- Master Professionalism behavior, as manifested through a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population.</p>	<p>2-3-2-P- Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society.</p> <p>2-3-2-Q- Demonstrate a commitment to ethical principles including provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices.</p> <p>2-3-2-R- Demonstrate sensitivity and responsiveness to patients' culture, age, gender, and disabilities.</p>
<p>2-4-F- Demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively use system resources to provide care that is of optimal value.</p> <p>2-4-G- Participate in improvement of the education system.</p>	<p>2-3-2-S- Work effectively in health care delivery settings and systems related to Rheumatology and Rehabilitation including good administrative and time management.</p> <p>2-3-2-T- Practice cost-effective health care and resource allocation that does not compromise quality of care.</p> <p>2-3-2-U- Advocate for quality patient care and assist patients in dealing with system complexities.</p> <p>2-3-2-V- Design, monitor and evaluate specification of under and post graduate courses and programs.</p>

<p>2-4-H- Demonstrate skills of leading scientific meetings including time management</p>	<p>2-3-2-W- Act as a chair man for scientific meetings including time management 2-3-2-S- Work effectively in health care delivery settings and systems related to Rheumatology and Rehabilitation including good administrative and time management.</p>
<p>2-4-O- Demonstrate skills of self and continuous learning.</p>	<p>From A to H</p>

**III-Program matrix
Knowledge and understanding**

Course	Program covered ILOs				
	2/1/A	2/1/B	2/1/C	2/1/D	2/1/E
Course 1 : Medical statistics		✓			
Course 2 : Research Methodology		✓			
Course 3 : Medicolegal Aspects and Ethics in Medical Practice and Scientific Research			✓		
Course 4 : Immunology in Rheumatological Diseases	✓				
Course 5 : Applied anatomy and Applied physiology	✓				
Course 6 : Physical Medicine, Rheumatology and Rehabilitation	✓	✓	✓	✓	✓

Intellectual

Course	Program covered ILOs								
	2/2/A	2/2/B	2/2/C	2/2/D	2/2/E	2/2/F	2/2/G	2/2/H	2/2/I
Course 1 : Medical statistics			✓	✓				✓	
Course 2 : Research Methodology			✓	✓				✓	
Course 3 : Medicolegal Aspects and Ethics in Medical Practice and Scientific Research								✓	
Course 4 : Immunology in Rheumatological Diseases	✓	✓							
Course 5 : Applied anatomy and Applied physiology	✓	✓							
Course 6 : Physical Medicine, Rheumatology and Rehabilitation	✓	✓	✓	✓	✓	✓	✓	✓	✓

Practical Skills (Patient Care)

Course	Program covered ILOs							
	2/3/1/A	2/3/1/B	2/3/1/C	2/3/1/D	2/3/1/E	2/3/1/F	2/3/1/G	2/3/1/H
Course 1 : Medical statistics								
Course 2 : Research Methodology								
Course 3 : Medicolegal Aspects and Ethics in Medical Practice and Scientific Research				✓				✓
Course 4 : Immunology in Rheumatological Diseases								
Course 5 : Applied anatomy and Applied physiology								
Course 6 : Physical Medicine, Rheumatology and Rehabilitation	✓	✓	✓	✓	✓	✓	✓	✓

Practical Skills (Patient Care)

Course	Program covered ILOs						
	2/3/1/I	2/3/1/J	2/3/1/K	2/3/1/L	2/3/1/M	2/3/1/N	2/3/1/O
Course 1 : Medical statistics							
Course 2 : Research Methodology							
Course 3 : Medicolegal Aspects and Ethics in Medical Practice and Scientific Research	✓						✓
Course 4 : Immunology in Rheumatological Diseases							
Course 5 : Applied anatomy and Applied physiology							
Course 6 : Physical Medicine, Rheumatology and Rehabilitation	✓	✓	✓	✓	✓	✓	✓

General Skills

Course	Program covered ILOs							
	2/3/2/A	2/3/2/B	2/3/2/C	2/3/2/D	2/3/2/E	2/3/2/F	2/3/2/G	2/3/2/H
Course 1 : Medical statistics		✓						
Course 2 : Research Methodology		✓		✓	✓			
Course 3 : Medicolegal Aspects and Ethics in Medical Practice and Scientific Research								
Course 4 : Immunology in Rheumatological Diseases								
Course 5 : Applied anatomy and Applied physiology								
Course 6 : Physical Medicine, Rheumatology and Rehabilitation	✓	✓	✓	✓	✓	✓	✓	✓

General Skills

Course	Program covered ILOs							
	2/3/2/I	2/3/2/J	2/3/2/K	2/3/2/L	2/3/2/M	2/3/2/N	2/3/2/O	2/3/2/P
Course 1 : Medical statistics		✓	✓					
Course 2 : Research Methodology	✓	✓						
Course 3 : Medicolegal Aspects and Ethics in Medical Practice and Scientific Research				✓				
Course 4 : Immunology in Rheumatological Diseases			✓	✓				
Course 5 : Applied anatomy and Applied physiology			✓	✓				
Course 6 : Physical Medicine, Rheumatology and Rehabilitation	✓	✓	✓	✓	✓	✓	✓	✓

General Skills

Course	Program covered ILOs						
	2/3/2/Q	2/3/2/R	2/3/2/S	2/3/2/T	2/3/2/U	2/3/2/V	2/3/2/W
Course 1 : Medical statistics							
Course 2 : Research Methodology							
Course 3 : Medicolegal Aspects and Ethics in Medical Practice and Scientific Research							
Course 4 : Immunology in Rheumatological Diseases	✓		✓				
Course 5 : Applied anatomy and Applied physiology	✓		✓				
Course 6 : Physical Medicine, Rheumatology and Rehabilitation	✓	✓	✓	✓	✓	✓	✓

Annex 7,
Additional information:

Department information

Equipments and Specialized Units:

- Rheumatology patient' wards: 20 beds.
- Daily 2 Rheumatology out patients' clinics (new patients, follow up post discharge appointments).
- Muskeloskeletal ultrasonography unit.
- Polarized light microscopy unit.
- Neurophysiological study unit.
- plasmapheresis unit.
- Rehabilitation unit.
- Scientific Library (Rheumatology & Rehabilitation Text Books and periodicals), MD, MSc thesis,
- Seminar room with data show
- Electronic Library of Scientific Seminars, case presentations.
- Data base filing of all the cases, procedures and out patient clinic data.

- **Head of the Department:**

Prof. Essam Ahmad Abda.

- **Staff members:**

Prof. Fatma Elzahraa Abdallah

Prof. Tayseer Mohamed Mahmoud khedr

Prof. Naema Mohammad Mostafa

Prof. Nehal Ahmed Fathi

Prof. Eman Ahmed Hamed Omran

Prof. Eman Abbas Mahmoud

Prof. Zahraa Ibrahim Abo Eloyoun

Prof. Rania Mohamed Gamal El-Deen

Prof. Safaa Ali Gamal Eldeen

Assistant Prof. Nadya Mohamed Esmail

Assistant Prof. Samar Hasanen Goma.

Assistant Prof. Gehan Ibrahim Salem

Assistant Prof. Eman Mohamed Hussin Elhakem

Assistant Prof. Abeer Mahmoud Aly Ghandor

Assistant Prof. Marwa mahmoud Abdelaziz

Assistant Prof. Marwa Ahmed Abd Elaziz
Assistant Prof. Manal Mohamed Ahmed Hassanin
Assistant Prof. Mohamed Raouf Abd El-Razek.
Assistant Prof. Fatma Elnouby
Assistant Prof. Nevien Hammam
Assistant Prof. Noha Abdelwahab
Assistant Prof. Nada Mohamad Gamal
Assistant Prof. Yasmin Saad Makarem
Dr. Ramzy Eltahlawy.
Dr. Mona Abdesamea
Dr. Alaa AbdelKhaleq
Dr. Yosra Atif Elsherief
Dr. Esraa Ahmad Talaat
Dr. Sara Farrag
Dr. Amira Moustafa Elsonbati
Dr. Maha
Dr. Reem Hasem

Opportunities within the department

- Rheumatology patient' wards: 40 beds.
- Daily 2 Rheumatology out patients' clinics (new patients, follow up post discharge appointments).
- Musculoskeletal ultrasonography unit.
- Polarized light microscopy unit.
- Neurophysiological study unit.
- plasmapheresis unit.
- Rehabilitation unit.
- Scientific Library
- Seminar room with data show
- Electronic Library of Scientific Seminars, case presentations.
- Data base filing of all the cases, procedures and out patient clinic data.

Department quality control insurance for completing the program

- ✚ Evaluation by the Department head and staff members.
- ✚ Regular assessments.
- ✚ Log book monitoring.
- ✚ Recent equipments and Specialized Units.

(End of the program specifications)