كلية الطب
جامعة أسيوط

Faculty of Medicine
Quality Assurance Unit

Medical Doctorate (MD) Degree Program and Courses Specifications for Medical Parasitology

(According to currently applied bylaws)

Medical Parasitology

Faculty of medicine

Assiut University

2022-2023

Contents	
Item	***Page***
Program Specification For Medical Parasitology,2022-2023 **A. Basic Information**	**2**
B. Professional Information **1. Program aims** **2. Intended learning outcomes (ILOs) for the whole program** **3. Program academic standards** **4. Program external references** **5. Program structure and contents** **6. Courses contents and Matrixes (Annex 1)** **7. Admission requirements** **8. Progression and completion requirements** **9. Assessment methods and rules** **10. Program evaluation** **11. Declaration**	**3**
- Annex 1, Courses Specifications and Matrixes	**18**
1- Course 1: Medical statistics.	**19**
2- Course 2 Research methodology	**25**
3- Course 3: Medicolegal Ethics in Medical Practice and Scientific Research	**33**
4- Course 4: Diagnostic parasitology	**38**
5- Course 5: Speciality: Parasitology **Unit 1: Medical Parasitic Helminthology** **Unit 2 : Medical Parasitic Protozoology** **Unit 3 : Medical Entomology** **Unit 4: Immunoparasitology** **Unit 5 : Clinical Parasitology**	**43**
- Annex 2, Program Academic Reference Standards (ARS)	**89**
- Annex 3, Teaching methods	**95**
- Annex 4, Assessment methods	**98**
- Annex 5, Program evaluation tools	**102**
- Annex 6 Matrixes: **I-National Academic reference standards(NARS) for postgraduates versus Program ARS** **II-Program ARS versus Program ILOs** **III- Program Matrix**	**104**
- Annex 7, Additional information.	**125**

M. D. degree of Medical Parasitology

A. Basic Information

- **Program Title: Medical Doctorate (M.D.) in Medical Parasitology**
- **Nature of the program: Single.**
- **Responsible Department: Medical Parasitology**
- **Program Academic Director (Head of the Department): Prof Dr / Doaa Abdel Hafeeze**
- **Coordinator (s):**
  - **Principle coordinator:** Prof Dr / Mohammed Eissa
  - **Assistant coordinator (s)** Dr / Nahed Ahmed Elossly
- **Internal evaluators:** Prof Dr / Fatma Galal
- **External evaluator:** Prof Dr / Nabil Shokrany

Faculty of Medicine, Menia University, Medical Parasitology Department

- **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:** 5 courses+ 2 Elective courses

B. Professional Information

1- Program aims

1 -Develop a systematic understanding and critical awareness of medical parasitology, and skills in diagnosis of parasitic diseases.
2- Develop a critical evaluation of techniques used in parasites detection and diagnosis in any sample, and the acquisition of the ability to provide specialist opinion in parasitology.
3- Develop within the context of Biomedical Sciences, a comprehensive understanding of communication, research and scientific methods
4- Experience of the diagnostic techniques required to become technically competent in practical parasitology work, and to master the underlying analytical and clinical principles.
5- Training in the communication and teaching skills necessary for effective practice
6- The acquisition of life-long habits of reading, literature searches, consultation with colleagues, attendance at scientific meetings, and the presentation of scientific work those are essential for continuing professional development (CPD)
7- Enable to work effectively, in partnership with other health professionals, support staff, patients and service users
8- To provide the candidates with Medical Doctorate (M.D.) master:

- Enabling them to start professional careers as specialists of parasitology in Egypt.
- Making them recognized as parasitologists abroad.
- Enabling them to pursue higher studies and subspecialties.
- Enabling them to understand and get the best of published scientific research and do their own.

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

2/1Knowledge and understanding:

A. Demonstrate in-depth knowledge and understanding of theories, basics and updated biomedical clinical epidemiological and socio behavioral science relevant to medical parasitology as well as the evidence –based application of this knowledge to practice including 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 in the field of medical parasitology .

D. Mention principles and measurements of quality assurance and quality improvement in medical education and in practice of medical parasitology.

E. Mention public health and health policy issues relevant to medical parasitology and principles and methods of system –based improvement of medical parasitology.

2/2 Intellectual outcomes

A. Apply the basic and clinically supportive sciences which are appropriate to medical parasitology related conditions / problem / topics.

B. Demonstrate an investigatory and analytic thinking "problem – solving "approaches to relevant situations related to medical parasitology.

C. Plain research projects.

D. Write scientific paper.

E. Participate in clinical or laboratory risk management activities as a part of clinical governance.

F. Plan for quality improvement in the field of medical education and practice in medical parasitology.

G. Create / innovate plans, systems, and other issues for improvement of performance in medical parasitology.

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 medical parasitology.

2/3 Skills

2/3/1 Practical skills (Patient Care)

A. Master practical skills relevant to medical parasitology for all common techniques and /or experiments including:
Collection, preparation and examination of any sample for detection of any parasites in it.
Identification of parasites.
Fixation of different parasitic materials.
Care of the microscope and calibrating it for measurement.
Concentration techniques.
Permanent staining techniques.
Special techniques for different parasites.
Immunoparasitological techniques.

B. Master practical skills with non-routine, laboratory skills and techniques and under increasingly difficult circumstances, while demonstrating, appropriate and effective competency including:
immunoparasitological techniques.
using of electron microscope.
Special techniques for different parasites.
Application of biostatistics in research field.
Training with computer use on different methods of data entry and analysis.

C. Master proficiency in performing available complex laboratory techniques and handling unexpected complications including:
Create and sustain a effective and ethically sound relationship with different staff.
How to communicate with other members of the parasitology department, other departments and other members of the multidisciplinary team.
Be able to communicate effectively, seek advice if unsure and Recognize own limitations.

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

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

D. Gather essential and accurate information about practical/laboratory skills of medical parasitology related conditions including:

Correlate the clinical data of the patient with provisional diagnosis

Determine the appropriate differential diagnosis for the case.

Know when to resort to special techniques.

Write a final gross and microscopic report with suitable summaries

Interpretation of parasitological cases to reach a final diagnosis.

D. Make informed decisions about diagnostic laboratory tests for medical parasitology related conditions including:

Best choice of the proper diagnostic laboratory tests for different samples .

Using different stains and techniques for blood examination

Identify the different tissues and organs by light and electron microscope for detection of parasites in it.

E. Develop and carry out diagnostic and teaching plans for all medical parasitology related conditions / skills including:

Preparation for teaching using power point presentation.

Experimental infection in lab animals to reach proper diagnosis.

Attendance of lab lectures.

Share in scientific meetings (seminars).

F. Use information technology to support practical decisions and students education in all medical parasitology related practical situations including:

Searching through the internet about what is new in parasitology.

The use of digital camera for light microscope description.

The wide use of computers for preparation of the lectures by power point program or making the statistics for the research purpose.

Electron microscopic studies (TEM &SEM) on different parasites.

Demonstrate competent use of database, word processing and statistics programme.

G. Provide health care or any relevant services aimed at preventing the medical parasitology related health problems (if applied) including:
   Prevention and control of schistosomiasis.
   Prevention and control of entrobiasis
   Prevention and control of capillariasis .
   Prevention and control of ascariasis.

H. Lead other professionals, including those from other disciplines, to provide practical/laboratory-focused care in medical parasitology related conditions including:Work effectively with others as a member or leader of a team or other professional group.Be able to communicate effectively and seek advice.

I. Write competently all forms of professional reports related to medical parasitology (lab reports, experiments reports,) including reports evaluating these charts and sheets.

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 practice including service provision to patients in the different areas of medical parasitology .

B. Appraise scientific evidence.

C. Continuously improve his practice including service provision to patients based on constant self-evaluation and life-long learning.
D. Participate in medical audits and research projects.

E. Practice skills of evidence-based Medicine (EBM).

F. Educate and evaluate students, mentors and other health professionals.

G. Design logbooks.

H. Design guidelines and standard protocols for different techniques and procedures.

J. Apply knowledge of study designs and statistical methods to the appraisal of medical parasitology related studies

K. Use information technology to manage information, access on- line medical information; for the important topics.

Interpersonal and Communication Skills

N- 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.

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

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

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

Professionalism

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

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

T. Demonstrate sensitivity and responsiveness to patients' culture, age, gender, and disabilities.

Systems-Based Practice

U. Work effectively in academic and health care delivery settings and systems related to medical parasitology including good administrative and time management.

V. Practice cost-effective services provision and resource allocation that does not compromise quality.

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

X. Design, monitor and evaluate specification of under and post graduate courses and programs.

Y. 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 Medical Parasitology

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

In preparing these standards, the National Academic Reference Standards for post graduate programs (NARS) 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 3/2010. These standards were revised and approved without changes by the Faculty Council on 23-9-2014. These standards were recently revised and reapproved without changes by the Faculty Council on 27-11-2022.

4- Program External References

1. **ACGME (Accreditation Council for Graduate Medical Education).**
2. **AAMC Policy Guidance on Graduate Medical Education, Assuring Quality Patient Care and Quality Education.**
3. **NAQAA**

4. Student Handbook (for Course approved by Senate of Imperial College~~),~~ ~~Lond~~on: University of London, Imperial College**…(** MSc in **Hygiene & Tropical Medicine**)

- **Comparison of provision to selected external references**.

- Matching goals, duration and ILOs
- Different program structure time table
- The system abroad provides extensive training and skills for a career in human genetics thus facilitate the conversion of graduates from other relevant disciplines to human molecular genetics which is now considered one of the modern medicine because this science may shed light on the underlying molecular pathology of many diseases that are poorly understood at present,.
- Absence of subspeciality programes.

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 (30.8%), practical 83 (69.2%), total 120 CP
Thesis (80) and researches (40): 120 CP (50%)

First part
Didactic 10 (100%), practical 0 (0 %), total 10 CP
Second part
Didactic 24, (22.4 %), practical 83 (77.6 %), total 107 CP
Elective courses: 3 credit points
#Didactic (lectures, seminars, tutorial)

According the currently applied bylaws:

According the currently applied bylaws:
Total courses: 120 credit point
Compulsory courses: 117 credit point (97.5%)
Elective courses: 3 credit point (2.5%)

	Credit points	% from total
▪ Basic science courses	10	4.1%
▪ Humanity and social courses	3	1.2%
▪ Speciality courses	107	44.6%
▪ Others (Computer, …)		
▪ Field training	83	34.8%
Thesis	80	33.4%
2 published researches	40	16.7%
Master degree	180	

C-Program Time Table

A- 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 50%.

Practical and oral exams 50%.

D-Curriculum Structure: (Courses):

Levels and courses of the program:

Courses and student work load list	Course Code	Core Credit points		
		didactic #	training	total
First Part				
Basic science courses (10 CP) Course 1: Medical Statistics Course 2: Research Methodology Course 3: Medicolegal Aspects & Ethics in Medical Practice and Scientific Research Course 4 Diagnostic Parasitology	 FAC309A FAC309B FAC310C PAR308A	 **1** **1** **1** 7		 1 1 1 7
Elective courses*	3 CP			
- Elective course 1 - Elective course 2				
Thesis	80CP			
Published researches**	40 CP			
Second Part	Speciality courses 24 CP Speciality Practical Work (log Book) 123 CP			
Speciality Courses Course 5 parasitology	PAR308A	**24**		**24**
Speciality Practical Work (123 CP) parasitology 2	PAR308B		**83**	**83**
Total of second part		**24**	**83**	**107**

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 speciality.**
  - **II. Specific Requirements:**
    - **Fluent in English (study language)**

VACATIONS AND STUDY LEAVE

The current departmental policy is The current departmental policy is to release assistant lecturer from their duties for 15 -30 days prior to the scheduled date for the first and final certifying M.D. degree examination

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 could be set at 6 months from registering to the MD degree.
- Discussion of the MD thesis could be set after 2 years from officially registering the MD subject, after setting the second part exams.
- The maximum duration of the program is 4 years could be extended to 5 in certain conditions.

The students are offered the degree when:

1. Passing the exams of all basic science , elective and sspeciality courses of this program as regulated by the post graduates approved rules by the faculty council.
2. Discussion and acceptance of the MD thesis and publication of at least one scientific paper from the thesis in preferably 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		Degrees			
First Part	**Course Code**	**Written Exam**	**Oral and/or Practical l Exam**		**Total**
Basic science courses:					
Medical Statistics & Research Methodology	FAC309A FAC309B	70 (35+35)	30 (15+15)		100
Medicolegal ethics in medical practice and scientific research	FAC310C	35	15		50
Diagnostic Parasitology	PAR308A	175	80	95	350
Second Part					
	Course code	written	Oral	clinical	Total
Speciality Courses					
1- Helminthology 2- Protozoology 3- medical Entomology 4- clinical parasitology 5- immuno-parasitology	**PAR308B**	125 125 125 125 100	75 75 75 75 100	50 50 50 50	250 250 250 250 200
Total		600	400	200	1200

* 25% of the oral exam for assessment of logbook

500 marks for first part

1200 for second part

Written exam 50% (600 marks)

Clinical /practical and oral exams 50% (600 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 one paper 3 hours for each in Diagnostic parasitology + oral exam + Practical exam
  - **Second part:**
    - Written exam five papers)3 hours for each in Medical Parasitology (Helminthes , Protozoology, Medical Enematology, Clinical parasitology, Immunoparasitology) + Oral exam+ 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.

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 Dr / Mohammed Eissa**		**9/2022**
Head of the Responsible Department (Program Academic Director):	**Prof Dr / Doaa Abdel Hafeeze**		**9/2022**

Annex 1, Specifications for Courses

Annex 1: specifications for courses/ modules

First Part

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 gradute 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 A	Intellectual B	Practical skills C	General Skills 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). EvidenceEvidence 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. CreswellSAGE 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

1. Course data

- **Course Title: Medicolegal Aspects and Ethics in Medical Practice and Scientific Research**
- **Course code: FAC310C**
- **Speciality: All Academic Departments (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)**. Prof. Zaghloul Thabet

- **Date last reviewed: 17/4/2022.**

- **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 academic specialties

3. Intended learning outcomes (ILOs):

A. knowledge and understanding

Competency and Skills	Methods of teaching/ learning	Methods of Evaluation
A. Mention medical ethics.	Lecture and discussion	Oral &Written exam
B. Explain ethics in research.(human and animal)	Lecture and discussion	Oral &Written exam
C. Mention medical laws.	Lecture and discussion	Oral &Written exam
D. List causes of medical responsibilities.	Lecture and discussion	Oral &Written exam

B. intellectual

Competency and Skills	Methods of teaching/ learning	Methods of Evaluation
A-Design and present case , seminars in common problem In medical responsibilities, medical ethics and ethics in research-	Lecture and discussion	Oral &Written exam

C. Practical skills

Competency and Skills	Methods of teaching/ learning	Methods of Evaluation
A. Write medical and legal reports.	Discussion	Discussion
B. Identify ethics in research.	Discussion	Discussion
C. Identify medical laws.	Discussion	Discussion
D. Identify medical responsibilities.	Discussion	Discussion

D. General skills

Practice-Based Learning and Improvement

Competency and Skills	Methods of teaching/ learning	Methods of Evaluation
A. Make timely and legible medical records	Lecture and discussion	Global rating logbook
B. 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. Medical ethics	A,C,D	A	A,C,D	A,B
2. Ethics in research	B,C,D	A	B, ,C,D	A,B

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.

v. others

8. Signatures

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

Course 4: Diagnostic Parasitology

Name of department: Medical Parasitology
Faculty of medicine
Assiut University
2022-2023

1. Course data

- **Course Title: Diagnostic Parasitology**
- **Course code: PAR308A**
- **Speciality: *Medical Parasitology* (1st part).**
- **Number of credit points: 7 credit point**
- **Department (s) delivering the course: *Medical Parasitology***

Coordinator (s):

Course coordinator: Prof Dr / Mohammed Eissa

Assistant coordinator: **Dr / Nahed Ahmed Elossily**

Date last reviewed: 9– 2022.

- **Requirements (prerequisites) if any:**
  - **Completed Master degree.**

2. Course Aims

To be able to describe the basic morphological characters of different parasites. Use and apply different diagnostic techniques for diagnosis of parasitic diseases.

3. Intended learning outcomes (ILOs):

A. knowledge and understanding

Competency and Skills	Methods of teaching/ learning	Methods of Evaluation
E. Mention basic morphological characters of different parasites	Lecture and discussion	Oral &Written& practical exam
F. Perform different diagnostic techniques	Lecture and discussion	Oral &Written& practical exam
G. Mention diagnostic methods of parasitic diseases.	Lecture and discussion	Oral &Written& practical exam
H. List possible treatment of different parasitic diseases.	Lecture and discussion	Oral &Written& practical exam

B. intellectual

Competency and Skills	Methods of teaching/ learning	Methods of Evaluation
A-Design and present case , seminars in basic morphological characters of different parasites,	Lecture and discussion	Oral &Written & practical exam

C. Practical skills

Competency and Skills	Methods of teaching/ learning	Methods of Evaluation
A-Write morphological characters of different parasites.	Discussion	Oral &Written & practical exam
B-Identify different diagnostic techniques.	Discussion	Oral &Written & practical exam
C-Identify diagnostic methods of parasitic diseases.	Discussion	Oral &Written & practical exam
D-Identify treatment of different parasitic diseases.	Discussion	Oral &Written & practical exam

D. General skills

Practice-Based Learning and Improvement

Competency and Skills	Methods of teaching/ Learning	Methods of Evaluation
A-Make timely and legible medical records	Lecture and discussion	Global rating logbook
B-Acquire the team work 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
3. Morphology of parasites	A,C,D	A	A,C,D	A,B
4. Diagnosis of parasites	B,C,D	A	B, ,C,D	A,B

5. Course Methods of teaching/learning:

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

6. Course assessment methods:

i. Assessment tools:

1. Written examination.
2. practical examination.
3. Oral examination.

ii. Time schedule: After one year from applying to the M D degree.

iii. Marks: 350 (175 for written exam, 80 for oral exam and 95 for practical exam).

7. List of references

i. Lectures notes

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

ii. Essential books

- Ruth Leventhal and Russell F. Cheadle (2020). Introduction to Diagnostic Medical Parasitology. A self-instructional text (7th edition). ISBN: 978-0-8036-7579-7. F.A. Davis Co., Philadelphia.
- Lynne Shore Garcia (2016): Diagnostic Medical Parasitology 6th Edition. ASM press ISBN-13: 978-1-555818999 https://www.amazon.com/

iii. Recommended books

- Lynne S. Garcia (2021): Practical Guide to Diagnostic Parasitology, 6th Edition. ASM Press ISBN-13: 978-1-68367-039-1,medical publishing division New York https://www.amazon.com/

iv. Journal and web site

- Journals of all Egyptian Universities of parasitology.
- All International Journals of parasitology which available in the university network at www.sciencedirect.com. As :
  - Parasitology research.
  - International journal of parasitology.

8. Signatures

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

Course 5: Medical Parasitology

- **Name of department: Medical Parasitology**
- **Faculty of medicine**
- **Assiut University**
- **2022-2023**

I. Course data

- **Course Title: … Medical Helminthology**
- **Course code: PAR309A**
- **Speciality: MD Medical Parasitology**
- **Department (s) delivering the course: Medical Parasitology department -Faculty of medicine -Assiut university**
- **Number of credit points:** 107 credit point - didactic 24 credit point (22.4%) - practical 83 credit point (77.6%)
- **Coordinator (s):**
  - **Course coordinator: Prof Dr / Mohammed Eissa**
  - **Assistant coordinator: Dr / Nahed Ahmed Elossily**
- **Date last approved by the Faculty Council: September 2022**
- **Requirements (prerequisites) if any :**
- **- M.D. degree registrars students should had master degree in medical parasitology.**
- **Requirements from the students to achieve course ILOs are clarified in the joining log book.**

Unit 1 Medical helminthology

2. Course Aims

1. To provide students with adequate knowledge about endemic parasitic helminthes in Egypt, national parasitic helminthes problems and common parasitic helminthes worldwide.
2. To provide student with knowledge concerning biological, epidemiological and ecological aspects of helminthes causing diseases to humans.
3. To enable students to understand the pathogenesis, clinical presentations and complications of parasitic helminthes infections.
4. To enable students to know basic diagnostic features, general outline of treatment and prevention and control of these helminthes diseases.

3. Course intending learning outcomes (ILOs):

- **Number of credit pointes cp: 5 credit point for didactic (lectures, seminars, tutorial) and 17 point for training .**

A-Knowledge and understanding

ILOs	Methods of teaching/ Learning	Methods of Evaluation
A. Describe different clinical conditions and diseases related to Medical Helminthology	Didactic (lectures, seminars, tutorial) - journal club, -Critically appraised topic, -Educational prescription –Demonstrate of how to process and stain the specimens in a the research laboratory	Written exam Oral exam Log book
B. Mention the details of different diagnostic tools of diseases Medical Helminthology		
State update and evidence based Knowledge related to Medical Helminthology		
Memorize the facts and principles of the other relevant basic and clinically supportive sciences related to Medical Helminthology		
C. Mention the basic ethical and medico legal principles revenant to Medical Helminthology.		
D. Explain the basics of quality assurance to ensure good professional skills in his field.		
E. Mention the ethical and scientific principles of medical research		

B-Intellectual outcomes

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Design / present case , seminars in common problem related to - Medical Helminthology	Didactic (lectures, seminars, tutorial) - journal club, -Critically appraised topic, -Educational prescription –Demonstrate of how to process and stain the specimens in a the research laboratory	Written exam Oral exam Log book
B. Apply the basic and clinically supportive sciences which are appropriate to Medical Helminthology related conditions / problem / topics.		
C. Demonstrate an investigatory and analytic thinking "problem – solving "approaches to clinical situation related to Medical Helminthology		
D. Conduct or share in research projects.		
E. Write scientific papers.		
F. Participate in the management of risky conditions related to Medical Helminthology		
G. Plan for quality improvement in the field of medical education and professional practice in Medical Helminthology.		
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		

C-Practical skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Take history, examine and clinically diagnose different conditions related to Medical Helminthology	Practical sessions Lecture-seminar - Direct observation - of the practical : work as Dissection, processing of the specimens, and Making different types of staining techniques	practical and oral examinations Check list on - steps of sample preparation and practical training of all steps of staining methods
B. order the following non invasive/invasive diagnostic procedures laboratory experiments for stool, urine and blood examination and diagnosis of helminthes infections and different tissues		
C. Interpret the following non invasive/invasive diagnostic procedures laboratory experiments for stool, urine and blood examination and diagnosis of helminthes infections and different tissues		
D. Perform the following non invasive/invasive diagnostic procedures laboratory experiments for stool, urine and blood examination and diagnosis of helminthes infections and different tissues		
E. Prescribe the following non invasive/invasive therapeutic procedures laboratory experiments for stool, urine and blood examination and diagnosis of helminthes infections and different tissues		
F. Develop patient management plans for the following problems		
G. Develop and carry out patient management plans for the following problems		
H. Counsel and educate patients and their family about helminthology related health problems.		
I. Use information technology to support patient care decisions and patient education for Medical Helminthology related conditions.		
J. Provide health care services aimed at preventing the following conditions, helminthology related health problems.		
K. Work with health care professionals, including those from other disciplines, to provide patient-focused care .		

D-General Skills

Practice-Based Learning and Improvement

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. perform the following basic lab skills essential to the course:	Lecture and discussion	Written examination
B. perform the following advanced lab skills essential to the course:	Lecture and discussion	Written examination
C. Use instruments and devices in evaluation of… Medical Helminthology …samples	Lecture and discussion	Written examination
D. Interpret the following non invasive/invasive procedures/ experiments	Lecture and discussion	Written examination
E. Perform the following non invasive/invasive procedures/ experiments	Lecture and discussion	Written examination
F. Write and evaluate of the following reports: in Medical Helminthology	Lecture and discussion	Written examination
G. Perform the following basic experiments in related basic sciences to be utilized in the research work: in Medical Helminthology.	Lecture and discussion	Written examination
H. Use information technology to support decisions in common situations related to Medical Helminthology	Lecture and discussion	Written examination

Interpersonal and Communication Skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Create and sustain a therapeutic and ethically sound relationship with patients	Lecture and discussion	Research assignment
B. Perform the following oral communications: gastroenterologists, and gastroenterology fellows (preparing for boards About the result of the work -	Lecture and discussion	Research assignment
C. Fill the following reports: Final comment on the Pre-experiment sheet, results of the experiment or investigation	Lecture and discussion	Research assignment
D. Work effectively with others as a member or leader of a health care team e.g. in labor ward	Lecture and discussion	Research and audits' assignment

Professionalism

ILOs	Methods of teaching/ Learning	Methods of Evaluation
E. Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society that supersedes self-interest.		1. Objective structured clinical examination 2. Patient survey
F. 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
G. Demonstrate sensitivity and responsiveness to patients' culture, age, gender, and disabilities		

Systems-Based Practice

ILOs	Methods of teaching/ learning	Methods of Evaluation
H. Work effectively in different health care delivery settings and systems.		1. 360o global rating
I. Practice cost-effective health care and resource allocation that does not compromise quality of care		1. Check list evaluation of live or recorded performance
J. Advocate for quality patient care and assist patients in dealing with system complexities		1. 360o global rating 2. Patient survey
K. 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		

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

Time Schedule: Second part

Topic	Covered ILOs			
	Knowledge	Intellectual	Practical skill	General Skills
Introduction to Medical Helminthology	X			
Fascioliasis	X	x	x	x
Schistosomiasis		X	x	x
Taeniasis	X	x	x	x
Cystecercosis	X	x	x	x
Sparganosis		x	x	x
Sparganosis		x		x
, Ascariasis	X		x	x
Capillariasis,	X	x	x	x
, filariasis	X	x	x	x

5. Course Methods of teaching/learning:

1- Lectures
2- Discussion sessions
3- Practical sessions
4- Office hours

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

1- Lectures
2- Discussion sessions
3- Practical sessions
4- Office hours

7. Course assessment methods:

i. Assessment tools: written examination (First paper)50%

practical examination and oral examination 50%

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

iii. Marks: 250

8. List of references

i. Lectures notes

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

ii. Essential books

- Ruth Leventhal and Russell F. Cheadle (2020). Introduction to Diagnostic Medical Parasitology. A self-instructional text (7th edition). ISBN: 978-0-8036-7579-7. F.A. Davis Co., Philadelphia.
- Lynne Shore Garcia (2016): Diagnostic Medical Parasitology 6th Edition. ASM press ISBN-13: 978-1-555818999 https://www.amazon.com/

iii. Recommended books

- Lynne S. Garcia (2021): Practical Guide to Diagnostic Parasitology, 6th Edition. ASM Press ISBN-13: 978-1-68367-039-1,medical publishing division New York https://www.amazon.com/

iv. Journal and web site

- Journals of all Egyptian Universities of parasitology.
- All International Journals of parasitology which available in the university network at www.sciencedirect.com. As :
  - Parasitology research.
  - International journal of parasitology.

9. Signatures

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

Unit (Module) 2: Medical protozoology

- **Name of department: *Medical Parasitology***
- **Faculty of medicine**
- **AssiutUniversity**
- **2022-2023**

I. Course data

- **Course Title: Medical Entomology**
- **Course code: PAR308A**
- **Speciality:Medical Parasitology**

  Number of Credit points: 22 cp (5 credit point for didactic and 17 point for training).
- **Department (s) delivering the course: Medical Parasitology department, Faculty of medicine, Assiut University**
- **Coordinator (s):**
  - **Course coordinator: Prof. Dr / Mohammed Eissa**
  - **Assistant coordinator (s) Dr / Nahed Ahmed Elossily**
- **Date last approved by the Faculty Council:9/2022**
- **Requirements (prerequisites) if any:**
- **- M.D. degree registrars students should had master degree in medical parasitology.**
- **Requirements from the students to achieve course ILOs are clarified in the joining log book.**

2. Course Aims

1) To provide students with adequate knowledge about endemic protozoan parasite in Egypt, national problems and common diseases related to protozoology worldwide.

2) To provide student with knowledge concerning biological, epidemiological and ecological aspects of protozoa.

3) To enable students to understand the pathogenesis, clinical presentations and complications of protozoan parasitic infections.

4) To enable students to know basic diagnostic features, general outline of treatment and prevention and control of diseases caused by protozoa infections.

3. Course intending learning outcomes (ILOs):

A-Knowledge and understanding

ILOs	Methods of teaching/ learning	*Methods of Evaluation*
F. Describe different clinical conditions and diseases related to Medical Protozology.	Didactic (lectures, (seminars, tutorial ,journal club - Critically - ,appraised topic Educational - prescription Demonstrate of – how to process and stain the specimens in a the research laboratory	Written - exam Oral exam - Log book -
G. Mention the details of different diagnostic tools of diseases related to Medical Protozology		
H. State update and evidence based Knowledge related to the course: Medical Protozoology		
I. Memorize the facts and principles of the other relevant basic and clinically supportive sciences related to Medical Protozology		
J. Mention the basic ethical and medico legal principles revenant to the Medical Protozology.		
K. Explain the basics of quality assurance to ensure good professional skills in his field.		
L. Mention the ethical and scientific principles of medical research		

B-Intellectual outcomes

ILOs	Methods of teaching/ learning	Methods of Evaluation
A-Design / present case , seminars in common problem related to - Medical Protozology	Didactic (lectures, (seminars, tutorial ,journal club - Critically - ,appraised topic Educational - prescription Demonstrate of – how to process and stain the specimens in a the research laboratory	Written - exam Oral exam - Log book -
B-Apply the basic and clinically supportive sciences which are appropriate to Medical Protozology related conditions / problem / topics.		
C-Demonstrate an investigatory and analytic thinking "problem – solving "approaches to clinical situation related to Medical Protozology		
D-Conduct or share in research projects.		
E-Write scientific papers.		
F-Participate inthe management of risky conditions related to Medical Protozology.		
G-Plan for quality improvement in the field of medical education and professional practice in Medical Protozology.		
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		

C-Practical skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
A-Take history, examine and clinically diagnose different conditions related to Medical Protozology		
B-order the following non invasive/invasive diagnostic procedures laboratory experiments for identification classification of different samples		
C-Interpret the following non invasive/invasive diagnostic procedures laboratory experiments for identification classification of different protozoan samples		
D-Perform the following non invasive/invasive diagnostic laboratory experiments for identification classification of different protozoan samples		
E-Prescribe the following non invasive/invasive therapeutic laboratory experiments for identification classification of different protozoan samples		
F-Perform the following non invasive/invasive therapeutic laboratory experiments for identification classification of different protozoan samples		
G-Develop patient management plans for the following problems of different protozoal infections		
H-Develop and carry out patient management plans for the following problems of different protozoan infections		
I-Counsel and educate patients and their family about different protozoan infections		
J-Use information technology to support patient care decisions and patient education for of different protozoan infections related conditions.		
K-Provide health care services aimed at preventing the following conditions of different protozoan infections		
L-Work with health care professionals, including those from other disciplines, to provide patient-focused care		

D-General Skills

Practice-Based Learning and Improvement

ILOs	Methods of teaching/ learning	Methods of Evaluation
A-perform the following basic lab skills essential to the course: of different protozoan infections		
B-perform the following advanced lab skills essential to the course: of different protozoan infections		
C-Use instruments and devices in evaluation of different protozoan infections		
D-Interpret the following non invasive/invasive procedures/ experiments of different protozoan infections		
E-Perform the following non invasive/invasive procedures/ experiments of different protozoan infections		
F-Write and evaluate of the following reports: of different protozoan infections		
G-Perform the following basic experiments in related basic sciences to be utilized in the research work:		
H-Use information technology to support decisions in common situations related to medical protozoology		

Interpersonal and Communication Skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
A-Create and sustain a therapeutic and ethically sound relationship with patients		
B-Perform the following oral communications: gastroenterologists, and gastroenterology fellows :(preparing for boards) About the result of the work --		
C-Fill the following reports: ---- Pre-experiment sheet Final comment on the results of the experiment or investigation		
D-Work effectively with others as a member or leader of a health care team e.g. in labor ward		

Professionalism

ILOs	Methods of teaching/ Learning	Methods of Evaluation
E-Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society that supersedes self-interest.		1. Objective structured clinical examination 2. Patient survey
F-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
G-Demonstrate sensitivity and responsiveness to patients' culture, age, gender, and disabilities		

Systems-Based Practice

ILOs	Methods of teaching/ learning	Methods of Evaluation
H-Work effectively in different health care delivery settings and systems.		1. 360o global rating
I-Practice cost-effective health care and resource allocation that does not compromise quality of care		1. Check list evaluation of live or recorded performance
J-Advocate for quality patient care and assist patients in dealing with system complexities		1. 360o global rating 2. Patient survey
K-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		

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

Time Schedule: Second part

Topic	Covered ILOs			
	Knowledge	Intellectual	Practical skill	General Skills
Introduction to medical protozoology	x			
Amoebic induced diseases	x	x	x	x
Flagellates induced diseases		X	x	x
Apicomplexan induced disease	x	x	x	x
Coccidian induced disease	x	x	x	x
Microspora spp		x	x	x
Isospora spp		x		x
Balantidium coli	x		x	x

5. Course Methods of teaching/learning:

1- Lectures
2- Discussion sessions
3- Practical sessions
4- Office hours

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

1- Lectures
2- Discussion sessions
3- Practical sessions
4- Office hours

7. Course assessment methods:

i. Assessment tools: written examination (First paper) 50%
practical examination and oral examination 50%

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

iii. Marks: 250

8. List of references

i. Lectures notes

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

ii. Essential books

- Ruth Leventhal and Russell F. Cheadle (2020). Introduction to Diagnostic Medical Parasitology. A self-instructional text (7th edition). ISBN: 978-0-8036-7579-7. F.A. Davis Co., Philadelphia.
- Lynne Shore Garcia (2016): Diagnostic Medical Parasitology 6th Edition. ASM press ISBN-13: 978-1-555818999 https://www.amazon.com/

iii. Recommended books

- Lynne S. Garcia (2021): Practical Guide to Diagnostic Parasitology, 6th Edition. ASM Press ISBN-13: 978-1-68367-039-1,medical publishing division New York https://www.amazon.com/

iv. Journal and web site

- Journals of all Egyptian Universities of parasitology.
- All International Journals of parasitology which available in the university network at www.sciencedirect.com. As :
  - Parasitology research.
  - International journal of parasitology.

9. Signatures

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

Unit (Module) 3: Medical Entomology

- **Name of department: *Medical Parasitology***
- **Faculty of medicine**
- **Assiut University**
- **2022-2023**

I. Course data

- **Course Title: Medical Entomology**
- **Course code: PAR308A**
- **Speciality:Medical Parasitology**

  Number of Credit points: 22 cp (5 credit point for didactic and 17 point for training).
- **Department (s) delivering the course: Medical Parasitology department, Faculty of medicine, Assiut University**
- **Coordinator (s):**
  - **Course coordinator: Prof. Dr / Mohammed Eissa**
  - **Assistant coordinator (s) Dr / Nahed Ahmed Elossily**
- **Date last approved by the Faculty Council:9/2022**
- **Requirements (prerequisites) if any :**
- **- M.D. degree registrars students should had master degree in medical parasitology.**
- **Requirements from the students to achieve course ILOs are clarified in the joining log book.**

2. Course Aims

1) To provide students with adequate knowledge about endemic arthropods in Egypt, national entomological problems and common arthropods worldwide.

2)To provide student with knowledge concerning biological, epidemiological and ecological aspects of arthropods causing and/or transmitting diseases to humans.

3)To enable students to understand the pathogenesis, clinical presentations and complications of arthropod borne infections.

4)To enable students to know basic diagnostic features, general outline of treatment and prevention and control of these arthropod borne infections.

3. Course intending learning outcomes (ILOs):

A-Knowledge and understanding

ILOs	**Methods of teaching/ learning**	***Methods of Evaluation***
A-Describe different clinical conditions and diseases related to Medical Entomology	Didactic (lectures, (seminars, tutorial ,journal club - Critically - ,appraised topic Educational - prescription Demonstrate of – how to process and stain the specimens in a the research laboratory	Written - exam Oral exam - Log book -
B-Mention the details of different diagnostic tools of diseases related to Medical Entomology		
C-State update and evidence based Knowledge related to the course: Medical Entomology		
D-Memorize the facts and principles of the other relevant basic and clinically supportive sciences related to Medical Entomology		
E-Mention the basic ethical and medico legal principles revenant to the Medical Entomology .		
F-Explain the basics of quality assurance to ensure good professional skills in his field.		
G-Mention the ethical and scientific principles of medical research		

B-Intellectual outcomes

ILOs	Methods of teaching/ learning	Methods of Evaluation
A-Design / present case , seminars in common problem related to - Medical Entomology	Didactic (lectures, (seminars, tutorial ,journal club - Critically - ,appraised topic Educational - prescription Demonstrate of – how to process and stain the specimens in a the research laboratory	Written - exam Oral exam - Log book -
B-Apply the basic and clinically supportive sciences which are appropriate to Medical Entomology related conditions / problem / topics.		
C-Demonstrate an investigatory and analytic thinking "problem – solving "approaches to clinical situation related to Medical Entomology		
D-Conduct or share in research projects.		
E-Write scientific papers.		
F-Participate in the management of risky conditions related to Medical Entomology.		
G-Plan for quality improvement in the field of medical education and professional practice in Medical Entomology .		
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		

C-Practical skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
A-Take history, examine and clinically diagnose different conditions related to Medical Entomology		
B-order the following noninvasive/invasive diagnostic procedures laboratory experiments for identification classification of different entomological samples		
C-Interpret the following noninvasive/invasive diagnostic procedures laboratory experiments for identification classification of different entomological samples		
D-Perform the following noninvasive/invasive diagnostic laboratory experiments for identification classification of different entomological samples		
E-Prescribe the following noninvasive/invasive therapeutic laboratory experiments for identification classification of different entomological samples		
F-Perform the following noninvasive/invasive therapeutic laboratory experiments for identification classification of different entomological samples		
G-Develop patient management plans for the following problems of different protozoal infections		
H-Develop and carry out patient management plans for the following problems of different entomological infections		
I-Counsel and educate patients and their family about different entomological infections		
J-Use information technology to support patient care decisions and patient education for of different entomological infections related conditions.		
K-Provide health care services aimed at preventing the following conditions of different entomological infections		
L. Work with health care professionals, including those from other disciplines, to provide patient-focused care		

D-General Skills

Practice-Based Learning and Improvement

ILOs	Methods of teaching/ learning	Methods of Evaluation
A-perform the following basic lab skills essential to the course: of different entomological infections		
B-perform the following advanced lab skills essential to the course: of different entomological infections		
C-Use instruments and devices in evaluation of different entomological infections		
D-Interpret the following noninvasive/invasive procedures/ experiments of different entomological infections		
E-Perform the following noninvasive/invasive procedures/ experiments of different entomological infections		
F-Write and evaluate of the following reports: of different entomological infections		
G-Perform the following basic experiments in related basic sciences to be utilized in the research work:		
H-Use information technology to support decisions in common situations related to medical entomology		

Interpersonal and Communication Skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
A-Create and sustain a therapeutic and ethically sound relationship with patients		
B-Perform the following oral communications: gastroenterologists, and gastroenterology fellows :(preparing for boards About the result of the work --		
C-Fill the following reports: ---- Pre-experiment sheet Final comment on the results of the experiment or investigation		
D-Work effectively with others as a member or leader of a health care team e.g. in labor ward		

Professionalism

ILOs	Methods of teaching/ Learning	Methods of Evaluation
A-Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society that supersedes self-interest.		1. Objective structured clinical examination 2. Patient survey
B-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
C-Demonstrate sensitivity and responsiveness to patients' culture, age, gender, and disabilities		

Systems-Based Practice

ILOs	Methods of teaching/ learning	Methods of Evaluation
D-Work effectively in different health care delivery settings and systems.		1. 360o global rating
E-Practice cost-effective health care and resource allocation that does not compromise quality of care		1. Check list evaluation of live or recorded performance
F-Advocate for quality patient care and assist patients in dealing with system complexities		1. 360o global rating 2. Patient survey
G-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		

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

Time Schedule: Second part

Topic	Covered ILOs			
	Knowledge	Intellectual	Practical skill	General Skills
Introduction to medical entomologiy	x			
Mosqitoes	x	X	x	x
Flies		X	x	x
Feas	x	X	x	x
Lice	x	X	x	x
Bugs		X	x	x
Ticks		X		x
Mites	x		x	x

5. Course Methods of teaching/learning:

1- Lectures
2- Discussion sessions
3- Practical sessions
4- Office hours

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

1- Lectures
2- Discussion sessions
3- Practical sessions
4- Office hours

7. Course assessment methods:

i. Assessment tools: written examination (First paper)40%

practical examination and oral examination 60%

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

iii. Marks: 400

8. List of references

i. Lectures notes

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

ii. Essential books

- Ruth Leventhal and Russell F. Cheadle (2020). Introduction to Diagnostic Medical Parasitology. A self-instructional text (7th edition). ISBN: 978-0-8036-7579-7. F.A. Davis Co., Philadelphia.
- Lynne Shore Garcia (2016): Diagnostic Medical Parasitology 6th Edition. ASM press ISBN-13: 978-1-555818999 https://www.amazon.com/

iii. Recommended books

- Lynne S. Garcia (2021): Practical Guide to Diagnostic Parasitology, 6th Edition. ASM Press ISBN-13: 978-1-68367-039-1,medical publishing division New York https://www.amazon.com/

iv. Journal and web site

- Journals of all Egyptian Universities of parasitology.
- All International Journals of parasitology which available in the university network at www.sciencedirect.com. As :
  - Parasitology research.
  - International journal of parasitology.

9. Signatures

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

Unit 4: Immunoparasitology

- **Name of department: Medical Parasitology**
- **Faculty of medicine**
- **Assiut University**
- **2022-2023**

I. Course data

- **Course Title: Immunoparasitology**
- **Course code: PAR308A**
- **Speciality: Medical Parasitology**

  Number Credit points: 22 cp (5 credit point for didactic and 17 point for training).
- **Department (s) delivering the course: Medical Parasitology department -Faculty of medicine -Assiut university**

- **Coordinator (s):**
  - **Course coordinator: Prof Dr / Mohammed Eissa**
  - **Assistant coordinator (s) Dr / Nahed Ahmed Elossily**

- **Date last approved by the Faculty Council: 9 / 2022**
- **Requirements (prerequisites) if any :**
- **- M.D. degree registrars students should had master degree in medical parasitology.**
- **Requirements from the students to achieve course ILOs are clarified in the joining log book.**
- **Requirements from the students to achieve course ILOs are clarified in the joining log book.**

2. Course Aims

1) provide students with adequate knowledge about Principles of immunology and Immunology of different parasites.
2) provide student with knowledge concerning Immunogenetics prerequestes.
3) enable students to understand the advances in immunochemistry in parasitology .

4) enable students to know basic diagnostic features, general outline of Immunodiagnosis of different parasites (techniques in immunology).
5) provide student with knowledge concerning Applied immunology and vaccinology in parasitology.

3. Course intending learning outcomes (ILOs):

A-Knowledge and understanding

ILOs	Methods of teaching/ learning	Methods of Evaluation
A-Describe different clinical conditions and diseases related to Immunoparasitology.	Didactic (lectures, seminars, (tutorial ,journal club - Critically - ,appraised topic Educational - prescription Demonstrate of– how to process and stain the specimens in a the research laboratory	Written - exam Oral exam - Log book -
B-Mention the details of different diagnostic tools of diseases related to Immunoparasitology..		
C-State update and evidence based Knowledge related to Immunoparasitology.		
C-Memorize the facts and principles of the other relevant basic and clinically supportive sciences related to Immunoparasitology.		
D-Mention the basic ethical and medico legal principles revenant to the Immunoparasitology.		
E-Explain the basics of quality assurance to ensure good professional skills in his field.		
F-Mention the ethical and scientific principles of medical research		

B-Intellectual outcomes

ILOs	Methods of teaching/ learning	Methods of Evaluation
A-Design / present case , seminars in common problem related to Immunoparasitology. ----	Didactic (lectures, (seminars, tutorial ,journal club - Critically - ,appraised topic Educational - prescription Demonstrate of – how to process and stain the specimens in a the research laboratory	Written - exam Oral exam - Log book -
B-Apply the basic and clinically supportive sciences which are appropriate to Immunoparasitology related conditions / problem / topics.		
C-Demonstrate an investigatory and analytic thinking "problem – solving "approaches to clinical situation related to Immunoparasitology.		
D-Conduct or share in research projects.		
E-Write scientific papers.		
F-Participate in the management of risky conditions related to Immunoparasitology.		
G-Plan for quality improvement in the field of medical education and professional practice in Immunoparasitology.		
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		

C-Practical skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
A-Take history, examine and clinically diagnose different conditions related to Immunoparasitology.	Didactic (lectures, (seminars, tutorial ,journal club - Critically appraised - ,topic Educational - prescription Demonstrate of – how to process and stain the specimens in a the research laboratory	Written - exam Oral - exam Log book -
B-order the following noninvasive/invasive diagnostic procedures related to Immunoparasitology		
C-Interpret the following noninvasive/invasive diagnostic procedures related to Immunoparasitology		
D-Perform the following noninvasive/invasive diagnostic procedures related to Immunoparasitology		
E-Prescribe the following noninvasive/invasive therapeutic procedures. related to Immunoparasitology		
F-Perform the following noninvasive/invasive therapeutic procedures.		

G-Develop patient management plans for the following Immunoparasitology related conditions. problems		
H-Develop and carry out patient management plans for the following problems Immunoparasitology related conditions.		
I-Counsel and educate patients and their family about Immunoparasitology related conditions.		
J-Use information technology to support patient care decisions and patient education for Immunoparasitology related conditions.		
K-Provide health care services aimed at preventing the Immunoparasitology related conditions.		
L-Work with health care professionals, including those from other disciplines, to provide patient-focused care .		

D-General Skills

Practice-Based Learning and Improvement

ILOs	Methods of teaching/ learning	Methods of Evaluation
A-perform the following basic lab skills essential to Immunoparasitology course:	Didactic (lectures, seminars, (tutorial ,journal club - Critically - appraised ,topic Educational - prescription –Demonstrate of how to process and examine the specimens in a the research laboratory	Written exam Oral exam - -Log book
B-perform the following advanced lab skills essential to Immunoparasitology course		
C-Use instruments and devices in evaluation of… Immunoparasitology course		
D-Interpret the following noninvasive/invasive procedures/ experiments Immunoparasitology		
E-Perform the following noninvasive/invasive procedures/ experiments essential to Immunoparasitology course		
F-Write and evaluate of the following reports: essential to Immunoparasitology course:		
G-Perform the following basic experiments in related basic sciences to be utilized in the research work: essential to Immunoparasitology course:		
H-Use information technology to support decisions in common situations related to Immunoparasitology		

Interpersonal and Communication Skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
I-Create and sustain a therapeutic and ethically sound relationship with patients		
J-Perform the following oral communications: with students and others as a member of Research work team		
K-Fill the following reports: related to Immunoparasitology		
L. Work effectively with others as a member or leader of a health care team e.g. in labor ward		

Professionalism

ILOs	Methods of teaching/ Learning	Methods of Evaluation
M. Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society that supersedes self-interest.		1. Objective structured clinical examination 2. Patient survey
N. 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
O. Demonstrate sensitivity and responsiveness to patients' culture, age, gender, and disabilities		

Systems-Based Practice

ILOs	Methods of teaching/ learning	Methods of Evaluation
P. Work effectively in different health care delivery settings and systems.		1. 360o global rating
Q. Practice cost-effective health care and resource allocation that does not compromise quality of care		1. Check list evaluation of live or recorded performance
R. Advocate for quality patient care and assist patients in dealing with system complexities		1. 360o global rating 2. Patient survey
S. 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		

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

Time Schedule: Second part

Topic	Covered ILOs			
	Knowledge	Intellectual	Practical skill	General Skills
Principles of immunology	X	X	X	X
Immunobiology of different parasites		X	X	
Immunogenetics prerequestes	X	X		X
advances in immunochemistry in parasitology	X		X	
Immunodiagnosis of different parasites (techniques in immunology	X	X	X	X
Applied immunology and vaccinology in parasitology	X	X	X	X

Course Methods of teaching/learning:

1- Lectures
2- Discussion sessions
3- Practical sessions
4- Office hours

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

1- Lectures
2- Discussion sessions
3- Practical sessions
4- Office hours

7. Course assessment methods:

i. Assessment tools: written examination (First paper) 50%

practical examination and oral examination 50%

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

iii. Marks: 250

8. List of references

i. Lectures notes

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

ii. Essential books

- Ruth Leventhal and Russell F. Cheadle (2020). Introduction to Diagnostic Medical Parasitology. A self-instructional text (7th edition). ISBN: 978-0-8036-7579-7. F.A. Davis Co., Philadelphia.
- Lynne Shore Garcia (2016): Diagnostic Medical Parasitology 6th Edition. ASM press ISBN-13: 978-1-555818999 https://www.amazon.com/

iii. Recommended books

- Lynne S. Garcia (2021): Practical Guide to Diagnostic Parasitology, 6th Edition. ASM Press ISBN-13: 978-1-68367-039-1,medical publishing division New York https://www.amazon.com/

iv. Journal and web site

- Journals of all Egyptian Universities of parasitology.
- All International Journals of parasitology which available in the university network at www.sciencedirect.com. As :
  - Parasitology research.
  - International journal of parasitology.

9. Signatures

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

Unit (Module) 5: Clinical parasitology

- **Name of department: *Medical Parasitology***
- **Faculty of medicine**
- **AssiutUniversity**
- **2022-2023**

I. Course data

- **Course Title: Diagnostic Parasitology**
- **Course code: PAR308A**

- **Speciality: Medical Parasitology**

  Number of Credit points: 19 cp (4 credit point for didacticand 15 point for training).

- **Department (s) delivering the course: Medical Parasitology department,Faculty of medicine,Assiut University**

- **Coordinator (s):**
  - **Course coordinator: Prof. Dr / Mohammed Eissa**
  - **Assistant coordinator (s) Dr / Nahed Ahmed Elossily**

- **Date last approved by the Faculty Council: 9/2022**
- **Requirements (prerequisites) if any :**
- **- M.D. degree registrars students should had master degree in medical parasitology.**
- **Requirements from the students to achieve course ILOs are clarified in the joining log book.**

2. Course Aims

1) To provide students with adequate knowledge about endemic parasites in Egypt.

2) To provide student with knowledge concerning different techniques used in diagnosis of parasitic infection

3) To enable students to understand the pathogenesis, clinical presentations, complications and diagnosis of different parasitic infection

4) To enable students to know basic diagnostic methods and different techniques for detection of parasitic infections.

3. Course intending learning outcomes (ILOs):

A-Knowledge and understanding

ILOs	Methods of teaching/ learning	*Methods of Evaluation*
A. Describe different clinical conditions and diseases related to Diagnostic Medical Parasitology	Senior staff Experience Didactic (lectures, (seminars, tutorial ,journal club - Critically - ,appraised topic Educational - prescription Demonstrate of – how to process and stain the specimens in a the research laboratory	Written - exam Oral exam - Log book -
B. Mention the details of different diagnostic tools of diseases related to Diagnostic Medical Parasitology		
C. State update and evidence based Knowledge related to the course: Diagnostic Medical Parasitology		
D. Memorize the facts and principles of the other relevant basic and clinically supportive sciences related to Diagnostic Medical Parasitology		
E. Mention the basic ethical and medico legal principles revenant to the Diagnostic Medical Parasitology.		
F. Explain the basics of quality assurance to ensure good professional skills in his field.		
G. Mention the ethical and scientific principles of medical research		
H. State the impact of common problems related to the field of Parasitology on the society and how good practice can improve these problems.		

B-Intellectual outcomes

ILOs	Methods of teaching/ learning	Methods of Evaluation
A-Correlates the facts of relevant basic and clinically supportive sciences with conditions and diseases appropriate to Parasitology in clinical reasoning, diagnosis and management of various diseases and as ability to generate a differential diagnosis, explain clinical-pathologic correlations, and evaluate scientific and clinical laboratory data.	Didactic (lectures, (seminars, tutorial ,journal club - Critically - ,appraised topic Educational - prescription Demonstrate of – how to process and stain the specimens in a the research laboratory	
B-Design / present case , seminars in common problem related to - Diagnostic Medical Parasitology		Written - exam Oral exam - Log book -
C-Apply the basic and clinically supportive sciences which are appropriate to Diagnostic Medical Parasitology related conditions / problem / topics.		
D-Demonstrate an investigatory and analytic thinking "problem – solving "approaches to clinical situation related to Diagnostic Medical Parasitology		
E-Conduct or share in research projects.		
F-Write scientific papers.		
G-Participate inthe management of risky conditions related to Diagnostic Medical Parasitology.		
H-Plan for quality improvement in the field of medical education and professional practice in Diagnostic Medical Parasitology		
I-Create / innovate plans, systems, and other issues for improvement of performance in his practice.		
J. Present and defend his / her data in front of a panel of experts		

C-Practical skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
A-Perform the following basic lab skills essential to the course: - possessing Sufficient manual dexterity to perform dissection safely and accurately, without damage to parasite's tissues. - Principles of macroscopic description. - Principles of microscopic description. - Special techniques. -Recognizing histological features of of different parasites - Preparation and staining techniques for common specimen types - Correct specimen orientation. - Open fresh specimen. - Obtaining fresh tissue for touch preparation, freezing, electron microscopy etc. -	supervision Written & oral communication. Discussions in seminars Scientific meetings participate in seminars Routine work: The most important learning experience will be day-to-day work. Trainees will be closely supervised during training. This close supervision allows for frequent short episodes of teaching.	Log book Practical and oral examination
B-Use instruments and devices in evaluation of - Setting up a microscope with ergonomic safety and operate it effectively. - Digital camera and photography - The use of departmental protocols for the handling; of specimens including identification, documentation, entering patient data on to computer and measures to prevent specimen mix-ups. - Training in the Laboratory aspects of the Fixation, preparation, staining description of specimens	Routine work: The most important learning experience will be day-to-day work. Trainees will be closely supervised during training. This close supervision allows for frequent short episodes of teaching.	Log book Practical and oral examination
C-Interpret the following non invasive/invasive procedures/ experiments		

- Correct interpretation of parasitological features in the context of available clinical information and other laboratory findings. - Data from molecular analyses in the context of the clinical situation and morphological appearances when undertaking diagnostic parasitology - Ability to source and request appropriate molecular tests, as clinically required. - Developing the practice of integrating clinical, radiological and pathological data in formulating accurate parasitological diagnoses		
D-Perform the following non invasive/invasive procedures/ experiments Training in the Laboratory aspects of the Fixation, preparation, staining of specimens - macroscopic and microscopic examination of various samples and specimens - Recognizing and accurately diagnose a broad range of common parasitic conditions on both stool and tissues materials . - Providing appropriate strategies for biopsy (histological and cytological), tissue handling, and reporting to include the features of prognostic and therapeutic importance.	Routine work: The most important learning experience will be day-to-day work. Trainees will be closely supervised during training. This close supervision allows for frequent short episodes of teaching.	Log book Practical and oral examination
E. Write and evaluate competently all forms of professional reports related to parasitology as - Final gross and microscopic report with suitable summaries - Creating a final report that incorporates both morphological and molecular data where appropriate	Senior staff experience -Cases presentation participate in cases multi-header microscope seminars	Log book Practical and oral examination
F. Perform the following basic experiments in related basic sciences to be utilized in the research work: - Routine tissue processing: fixation and staining.	Senior staff experience -Cases presentation participate in cases multi-header microscope seminars	Log book Practical and oral examination

G. Use information technology to support decisions in common situations related to parasitology	-Cases presentation participate in cases multi-header microscope seminars	Log book Practical and oral examination
H. Develop and carry out plans for performing experiments related to Parasitological diagnosis	participate in cases multi-header microscope seminars	Log book Practical and oral examination
I. Counsel and educate students, technicians and junior staff, in the lab about conditions related to Parasitology including handling of samples, devices, safety and maintenance of laboratory equipment.	participate in cases multi-header microscope seminars	Log book Practical examination
J. Share in providing health care services aimed solving health problems and better understanding of the normal structure and function.	Senior staff experience seminars	Log book

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): Sample processing, microscopic examination,	Log book and supervision Written & oral communication Journal clubs	Log book Portfolios Procedure/case presentation
B. Appraises evidence from scientific studies: Researches and evidence based practice and internet updates.	Discussions in seminars Scientific meetings	
C. Participate in one audit or survey related to the course		
D. Perform data management including data entry and analysis.		
E. Facilitate learning of junior students and other health care professionals.		

Interpersonal and Communication Skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
F. Maintain ethically sound relationship with others.	Observation & supervision	Simulation Record review (report
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.		
J. Present a case in seminars and scientific meetings…		
K. Write a report in gross, microscopic immunohistochemical and final diagnostic report…		

ILOs	Methods of teaching/ learning	Methods of Evaluation
L-Create and sustain a diagnostic, therapeutic and ethically sound relationship with patients		
M-Perform the following oral communications: gastroenterologists, and gastroenterology fellows :(preparing for boards About the result of the work --		
N-Fill the following reports: ---- Pre-experiment sheet Final comment on the results of the experiment or investigation		
O-Work effectively with others as a member or leader of a health care team e.g. in labor ward		

Professionalism

ILOs	*Methods of teaching/ learning*	*Methods of Evaluation*
P-Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society	Observation & supervision Educational prescription	Objective structured practical examination 2.Student survey
Q- Demonstrate a commitment to ethical principles including provision or withholding of clinical care, confidentiality of patient information, informed consent, business practices	Didactic (lectures, seminars, tutorial	
R- Demonstrate sensitivity and responsiveness to others' culture, age, gender, and disabilities		

Systems-Based Practice

ILOs	Methods of teaching/ learning	Methods of Evaluation
S- Work effectively in relevant health care delivery settings and systems.	Observation & supervision Didactic Didactic (lectures, seminars, tutorial Educational prescription	1-student survey 2.portfolios
T- Practice cost-effective health care and resource allocation that does not compromise quality of care.		
U-Assist patients in dealing with system complexities.		

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

Time Schedule: Second part

Topic	Covered ILOs			
	Knowledge	Intellectual	Practical skill	General Skills
Introduction to General Laboratory techniques	x			
Different Laboratory techniques used in diagnosis of helminthes	x	x	x	x
• **Laboratory techniques** used in diagnosis of protozoa		X	x	x
• **Laboratory techniques** used in identification and diagnosis of entomology	x	x	x	x

5. Course Methods of teaching/learning:

1. Lectures
2. Discussion sessions
3. Practical sessions
4. Office hours
5. Multihead microscopic slide seminars

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

1- Lectures
2- Discussion sessions
3- Practical sessions
4- Office hours

7. Course assessment methods:

i. Assessment tools: written examination (First paper) 50%
practical examination and oral examination 50%
ii. Time schedule: As regulated by the postgraduate studies rules and approved by the faculty vice dean of post graduate studies and the faculty and university councils.
iii. Marks: 250

8. List of references

i. Lectures notes

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

ii. Essential books

- Ruth Leventhal and Russell F. Cheadle (2020). Introduction to Diagnostic Medical Parasitology. A self-instructional text (7th edition). ISBN: 978-0-8036-7579-7. F.A. Davis Co., Philadelphia.
- Lynne Shore Garcia (2016): Diagnostic Medical Parasitology 6th Edition. ASM press ISBN-13: 978-1-555818999 https://www.amazon.com/

iii. Recommended books

- Lynne S. Garcia (2021): Practical Guide to Diagnostic Parasitology, 6th Edition. ASM Press ISBN-13: 978-1-68367-039-1,medical publishing division New York https://www.amazon.com/

iv. Journal and web site

- Journals of all Egyptian Universities of parasitology.
- All International Journals of parasitology which available in the university network at www.sciencedirect.com. As :
  - Parasitology research.
  - International journal of parasitology.

9. Signatures

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

Annex 2,
Program Academic Standards

ANNEX 2
Program Academic Reference Standards (ARS)

1- Graduate attributes for medical doctorate in Anatomy

***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 medical audit in the chosen field of Anatomy.

2- Have continuous ability to add knowledge to the Anatomy through research and publication.

3- Appraise and utilise relevant scientific knowledge to continuously update and improve practical skills.

4- Acquire excellent level of medical knowledge in the basic biomedical, behavioural and related clinical sciences, medical ethics and medical jurisprudence and apply such knowledge in practical skills and scientific research.

5- Function as a leader of a team to provide appropriate, effective and compassionate reaction when dealing with problems related to Anatomy.

6- Identify and create solutions for health problems related to his speciality.

7- Acquire an in depth understanding of common areas of speciality, from basic practice and related clinical care to 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 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 his field of practice.

11- Show leadership responsiveness to the larger context of the related health care systems, including the organisation, partnership with health care providers and managers, and resource allocations.

12- Demonstrate in depth awareness of public health and related 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 the Anatomy or one of its subspecialties.

15- Use recent technologies to improve his practice in the speciality field.

16- Share in updating and improving practical practice in the Anatomy field.

2- Competency based Standards for medical doctorate in Anatomy

2.1- 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 Anatomy and relevant sciences.

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

2-1-C- Ethical and medicologal principles of medical practice related to Anatomy field.

2-1-D- Principles and measurements of quality in the Anatomy field.

2-1-E- Principles and efforts for maintaining 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 speciality related problems.

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

2-2-C- Involvement in research studies related to the speciality.

2-2-D- Writing scientific papers.

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

2-2-F- Planning for performance improvement in the speciality field.

2-2-G- Creation and innovation in the Anatomy field.

2-2-H- Evidence – based discussion.

2-2-I- Decision making in different situations related to the Anatomy fields.

2.3- Clinical skills/Practical skills

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

- ***Competency-based outcomes for Patient Care:-***

2-3-A- Provide extensive level of practical and or laboratory services that can help patient care ,solving health problems and better understanding of the normal structure and function extensive level means in depth understanding from basic science to evidence – based clinical application and possession of skills to manage independently all problems in his field of practice.

2-3-B- Master practical / laboratory skills relevant to that Anatomy.

2-3-C- Write and evaluate reports for situations related to the field of Anatomy.

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 and improvements of their own practice, appraisal and assimilation of scientific evidence 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, technicians 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 the ability to effectively use system resources to provide relevant services and 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.

Annex 3, Methods of teaching/learning

Annex 2, 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					

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

Annex 6, Program Correlations:

مصفوفة توافق المعايير القومية القياسية العامة لبرامج الدكتوراة مع المعايير الأكاديمية المعتمدة من كلية الطب □ جامعة أسيوط لدرجة الدكتوراة فى التشريح الآدمى وعلم الأجنة

I-General Academic reference standards (GARS) for postgraduates versus Program ARS *for MD degree in* ANATOMY

Faculty ARS	NAQAAE General ARS for Postgraduate Programs
1- Demonstrate competency and mastery of basics, methods and tools of scientific research and medical audit in Anatomy.	1-إتقان أساسيات و منهجيات البحث العلمي
2- Have continuous ability to add knowledge new developments to the speciality through research and publication.	2-العمل المستمر علي الإضافة للمعارف في مجال التخصص
3- Appraise and utilise scientific knowledge to continuously update and improve practical skills	3-تطبيق المنهج التحليلي والناقد للمعارف في مجال التخصص و المجالات ذات العلاقة
4- Acquire excellent level of medical knowledge in the basic biomedical, related clinical, behavioural and clinical sciences, medical ethics and medical jurisprudence and apply such knowledge in practical skills and scientific research.	4-دمج المعارف المتخصصة مع المعارف ذات العلاقة مستنبطا و مطورا للعلاقات البينية بينها
5- Function as a leader of a team to provide appropriate, effective and compassionate reaction when dealing with problems related to Anatomy. 7- Acquire an in depth understanding of common areas of Anatomy, from basic practice and related clinical care to 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 related to his Anatomy.	6-تحديد المشكلات المهنية و إيجاد حلولا مبتكرة لحلها
5- Function as a leader of a team to provide appropriate, effective and compassionate reaction when dealing with problems related to Anatomy. 7- Acquire an in depth understanding of common areas of speciality, from basic practice and related clinical care to application, and possession of skills to manage independently all problems in these areas.	7-إتقان نطاقا واسعا من المهارات المهنية في مجال اتخصص

1- Graduate attributes (Continuous)

Faculty ARS	NAQAAE General ARS for Postgraduate Programs
16- Share in updating and improving practical practice in the anatomy field. 9- Function as teacher in relation to colleagues, medical students and other health professions.	8- التوجه نحو تطوير طرق و أدوات و أساليب جديدة للمزاولة المهنية
15- Use recent technologies to improve his practice in the anatomy field.	9-استخدام الوسائل التكنولوجية المناسبة بما يخدم ممارسته المهنية
8- Demonstrate leadership competencies including interpersonal and communication skills that ensure effective information exchange with other health professions, the scientific community and the public. 5- Function as a leader of a team to provide appropriate, effective and compassionate reaction when dealing with problems related to anatomy	10-التواصل بفاعلية و قيادة فريق عمل في سياقات مهنية مختلفة
10- Master decision making capabilities in different situations related to anatomy practice.	11-اتخاذ القرار في ظل المعلومات المتاحة
11- Show leadership responsiveness to the larger context of the related health care system, including the organisation, partnership with health care providers and managers, and resource allocations.	12-توظيف الموارد المتاحة بكفاءة و تنميتها والعمل على إيجاد موارد جديدة
12- Demonstrate in depth awareness of public health and related health policy issues including independent	13-الوعي بدوره في تنمية المجتمع و الحفاظ على البيئة

ability to improve health care, and identify and carryout system-based improvement of care.	
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 in the anatomy. 15- Use recent technologies to improve his practice in the anatomy field.	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 anatomy and relevant sciences.	2-1-أ- النظريات و الأساسيات والحديث من المعارف في مجال التخصص والمجالات ذات العلاقة
2.1. B- Basic, methods and ethics of medical research.	2-1-ب - أساسيات و منهجيات و أخلاقيات البحث العلمي و أدواته المختلفة
2.1. C- Ethical and medicologal principles of medical practice related to anatomy field.	2-1-ج- المبادئ الأخلاقية و القانونية للممارسة المهنية في مجال التخصص
2.1. D- Principles and measurements of quality in the anatomy field.	2-1-د مبادئ و أساسيات الجودة في الممارسة المهنية في مجال التخصص
2.1. E- Principles and efforts for maintaining and improvements of public health.	2-1-هـ - المعارف المتعلقة بآثار ممارسته المهنية على البيئة وطرق تنمية البيئة وصيانتها
2.2. A- Application of basic and 2 other relevant science to solve anatomy related problems.	2-2-أ -- مجال في المعلومات تقييم و تحليل الاستنباط و عليها القياس و التخصص 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 the anatomy	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 relate anatomy practice.	2-2—هـ تقييم المخاطر في الممارسات المهنية
2.2. F- Planning for performance improvement in the anatomy field.	2-2-و -التخطيط لتطوير الأداء في مجال التخصص
2-2-G- Creation and innovation in the anatomy field.	2-2-ز- الابتكار /الإبداع
2.2. H- Evidence – based	2-2-ح- الحوار والنقاش المبني علي البراهين

discussion.	والأدلة
2.2. I- Decision making in different situations related to the anatomy field.	2-2-ط -اتخاذ القرارات المهنية في سياقات مهنية مختلفة
2.3. A- Provide extensive level of practical and or laboratory services that can help solving health problems and better understanding of the normal structure and function extensive level means in depth understanding from basic science to evidence – based clinical application and possession of skills to manage independently all problems in anatomy practice. 2.3. B- Master practical / laboratory skills relevant to anatomy.	2-3-أ -إتقان المهارات المهنية الأساسية و الحديثة في مجال التخصص
2.3. C- Write and evaluate reports for situations related to the anatomy.	2-3-ب- كتابة و تقييم التقارير المهنية.

2- Academic standards <u>(Continues)</u>

Faculty ARS	NAQAAE General ARS for Postgraduate Programs
2.4. A-Master practice-based learning and improvement skills that involves investigation and evaluation and improvements of histology practice, appraisal and assimilation of scientific evidence and risk management.	2-3-ج -تقييم و تطوير الطرق و الأدوات القائمة في مجال التخصص
2.4. B- Use competently all information sources and technology to improve anatomy practice.	2-3-د – استخدام الوسائل التكنولوجية بما يخدم الممارسة المهنية
2.4. A-Master practice-based learning and improvement skills that involves investigation and evaluation and improvements of histology practice, appraisal and assimilation of scientific evidence and risk management. 2.4. G- Participate in improvement of the education system.	2-3-هـ -التخطيط لتطوير الممارسة المهنية وتنمية أداء الآخرين

2- Academic standards (Continues)

Faculty ARS	NAQAAE General ARS for Postgraduate Programs
2.4. D- Master interpersonal and communication skills that result in effective information exchange and teaming with health professionals.	2-4-أ التواصل الفعال بأنواعه المختلفة
2.4. B- Use competently all information sources and technology to improve anatomy practice.	2-4-ب - استخدام تكنولوجيا المعلومات بما يخدم تطوير الممارسة المهنية
2.4. C- Master skills of teaching and evaluating others. 2.4.G- Participate in improvement of the education system.	2-4-ج - تعليم الآخرين وتقييم أداءهم
2.4. E- Master professionalism behavior, as manifested through a commitment to carrying out professional responsibilities, adherence to ethical principles. 2.4.0- Demonstrate skills of self and continuous learning.	2-4-د - التقييم الذاتي والتعلم المستمر
2.4. C- Master skills of teaching and evaluating others.	2-4-هـ - استخدام المصادر المختلفة للحصول على المعلومات و المعارف
2.4. F- Demonstrate the ability to effectively use system resources to provide relevant services and care that is of optimal value.	2-4-و - العمل في فريق وقيادة فرق العمل
2.4.H- Demonstrate skills of leading scientific meetings including time management	2-4-ز - إدارة اللقاءات العلمية والقدرة علي إدارة الوقت

Comparison between ARS and ILOS for master degree in Anatomy

(ARS)	(ILOs)
2-1- Knowledge and understanding	***2-1- Knowledge and understanding***
2-1-A- Established, updated and evidence-based theories, basics and developments of anatomy 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 Anatomy as well as the evidence – based application of this knowledge to anatomy practice.
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 medicologal principles of medical practice related to anatomy field.	**2-1-C-** Mention ethical, medico logical principles and bylaws relevant to anatomy practice.
2-1-D- Principles and measurements of quality in anatomy field.	**2-1-D-** Mention principles and measurements of quality assurance and quality improvement in medical education and in anatomy practice.
2-1-E-Principles and efforts for maintaining and improvements of public health.	**2-1-E-** Mention public health and health policy issues relevant to histology and principles and methods of system –based improvement of anatomy practice.

continuous (ARS)	**Continuous** (ILOs)
***2-2- Intellectual skills*:**	***2-2- Intellectual skills:***
2-2-A-Application of basic and other relevant science to solve anatomy related problems.	**2-2-A-** Apply the basic and clinically supportive sciences which are appropriate to the anatomy 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 relevant situations related to anatomy.
2-2-C- Involvement in research studies related to the anatomy	**2-2-C-** Plain research projects.
2-2-D Writing scientific papers.	**2-2-D-** Write scientific paper.
2-2-E-Risk evaluation in the related practice.	**2-2-E-** Participate in laboratory risk management activities as a part of clinical governance.
2-2-F-Planning for performance improvement in the anatomy field.	**2-2-F-** Plan for quality improvement in the field of medical education and practice in anatomy.
2-2-G-Creation and innovation in the anatomy field.	**2-2-G-** Create / innovate plans, systems, and other issues for improvement of performance in anatomy 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 the anatomy field.	**2-2-I-** Formulate management plans and alternative decisions in different situations in the field of the anatomy

continuous (ARS)	continuous (ILOs)
2-3- Clinical skills/Practical skills	***2/3/1/Practical skills (Patient care :)***
2-3-A- provide extensive level of practical and or laboratory services that can help solving health problems and better understanding of the normal structure and function extensive level means in depth understanding from basic science to evidence – based clinical application and possession of skills to manage independently all problems in histology field of practice. **2-3-B-** Master practical/laboratory skills relevant to anatomy	**2-3-1-A**- Master practical skills relevant to anatomy for all common techniques and /or experiments including. **2-3-1-B-** Master practical skills with non-routine, laboratory skills and techniques and under increasingly difficult circumstances, while demonstrating, appropriate and effective competency including. **2-3-1-C-** Master proficiency in performing available complex laboratory techniques including immunoassaying. **2-3-1-D-** Gather essential and accurate information about practical/laboratory skills related of the anatomy including usage of different stains. **2-3-1-F-** Develop and carry out diagnostic and teaching plans for all anatomy skills including slide projector, data show and monitors. **2-3-1-G-** Use information technology to support practical decisions and students education in all anatomy practice including power point presentations. **2-3-1-I-** Lead other professionals, including those from other disciplines, to provide practical/laboratory-focused care in anatomy related conditions including.

2-3-C- Write and evaluate reports for situations related to the anatomy	**2-3-1-J-** Write competently all forms of professional reports related to the anatomy (lab reports, experiments reports,) including reports evaluating these charts and sheets.
2-4- General skills	***2/3/2 General skills***
2-4-A- Master Practice-Based Learning and Improvement skills that involves investigation and evaluation and improvements of their own practice, appraisal and assimilation of scientific evidence and risk management.	**2-3-2-A-** Demonstrate the competency of continuous evaluation of different types of anatomy practice including sectioning and processing of specimens. **2-3-2-B-** Appraise scientific evidence. **2-3-2-C-** Continuously improve his practice based on constant self-evaluation and life-long learning. **2-3-2-D-** Participate in medical audits and research projects. **2-3-2-E-** Practice skills of evidence-based Medicine (EBM). **2-3-2-G-** Design logbooks. **2-3-2-H-** Design guidelines and standard protocols for different techniques and procedures.
2-4-B- Use competently all information sources and technology to improve anatomy practice.	**2-3-2-I-** Apply knowledge of study designs and statistical methods to the appraisal of anatomy related studies. **2-3-2-J-** Use information technology to manage information, access on-line medical information; for the important topics.
2-4-C- Master skills of teaching and evaluating others.	**2-3-2-F-** Educate and evaluate students.
2-4-D- Master interpersonal and communication Skills that result in effective information exchange and teaming with other health professionals.	**2-3-2-K-** Master interpersonal and communication skills that result in the effective exchange of information and collaboration with students including:- share in teaching small groups of students.

	• Present a seminar. • Write a paper. • Teamwork skills. **2-3-2-L-** Create and sustain an ethically sound relationships with students. **2-3-2-M-** Elicit and provide information using effective nonverbal, explanatory, questioning, and writing skills. **2-3-2-N-** Work effectively with others as a member or leader of a health care team or other professional group.
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 student population.	**2-3-2-O-** Demonstrate respect, compassion, and integrity; a responsiveness to the needs of students and society. **2-3-2-P-** Demonstrate a commitment to ethical principles including provision or withholding of student information. **2-3-2-Q-** Demonstrate sensitivity and responsiveness to Others' culture, gender, and disabilities.
2-4-F- Demonstrate the ability to effectively use system resources to provide relevant services and care that is of optimal value. **2-4-G-** Participate in improvement of the education system.	**2-3-2-R-** Work effectively in academic and health care delivery settings and systems related to anatomy including good administer and time management. **2-3-2-S-** Practice cost-effective services provision and resource allocation that does not compromise quality. **2-3-2-T-** Advocate for quality student care. **2-3-2-U-** Design, monitor and evaluate specification of under and post graduate courses and programs.

2-4-H- Demonstrate skills of leading scientific meetings including time management	**2-3-2-V-** Act as a chair man for scientific meetings including time management **2-3-2-R-** Work effectively in academic and health care delivery settings and systems related to anatomy including good administrative and time management.
0- Demonstrate skills of self and continuous learning.	From A to H**.**

II-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: Diagnostic parasitology	✓				
Course 5: parasitology	✓	✓	✓	✓	✓

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: Diagnostic parasitology	✓	✓							
Course 5: parasitology	✓	✓	✓	✓	✓	✓	✓	✓	✓

Practical Skills

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	2/3/1 /I	2/3/1 /J
Course 1: Medical Statistics		✓	✓				✓	✓		
Course 2: Research methodology			✓			✓			✓	
Course 3 : Medicolegal Aspects and Ethics in Medical Practice and Scientific Research				✓						✓
Course 4: Diagnostic parasitology		✓		✓			✓		✓	
Course 5: parasitology	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

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	2/3/2/I
Course 1: Medical Statistics		✓			✓				
Course 2: Research methodology		✓		✓					✓
Course 3 : Medicolegal Aspects and Ethics in Medical Practice and Scientific Research		✓				✓	✓		
Course 4: Diagnostic parasitology									
Course 5: parasitology	✓	✓	✓	✓	✓	✓	✓	✓	✓

General Skills

Course	Program Covered ILOs						
	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: Diagnostic parasitology	✓	✓				✓	
Course 5: parasitology	✓	✓	✓	✓	✓	✓	✓

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
Course 1: Medical Statistics		✓				✓
Course 2: Research methodology		✓		✓		
Course 3 : Medicolegal Aspects and Ethics in Medical Practice and Scientific Research	✓			✓	✓	
Course 4: Diagnostic parasitology		✓	✓		✓	
Course 5: parasitology	✓	✓	✓	✓	✓	✓

Annex 7, Additional information:

Department information:

Mission

Clinical Diagnostic services, Educational services, Research Services

Affiliated Institutions:

1- Department of Parasitology, Ain Shams University, Faculty of Medicine.
2- Department of Parasitology, Sohag University
3- Department of Parasitology, Minia University.

Research Services:

The main interest of research in our department is the application of recent parasitological research methodologies and discoveries to improving the diagnosis of human parasitic disease.

The department provides research opportunities for postgraduates and staff from the department and from any other discipline both from Egypt and abroad.

Staff members:

1. Prof.Dr / Doaa Abdel Hafeez Yones head of the department
2. Prof. Dr/ Riffaat M. Ahmed Kalifa
3. Prof. Dr/ Ahmed Mohamed Ahmed Mandour
4. Prof. Dr/ Atef Attalla sakalla
5. Prof. Dr/ Mahmoud ELhady M. Monib
6. Prof.Dr/ Abd-Allah Abdel-Sameeaa Hassan
7. Prof.Dr/ Fatma Galal Said
8. Prof. Dr/ Magda Attia Elnazer
Prof. Dr/ Ahmed Kamal Dyab
9. Prof.Dr/ Amany Ibrahim Hamza
10. Prof.Dr/ Salma Mohamed Abdel Rahman
11. Prof.Dr/ Mohamed Elsalahy M. Monib
12. Prof.Dr / Abeer El said Mahmoud
13. Prof.Dr / Lamia Ahmed A. Galal
14. Prof.Dr / Doaa Abdel Hafeez Yones
15. Prof.Dr / Rasha Abdel Mouniem Hassan
16. Prof.Dr / Hanaa Yousef Abdel Hakeem
17. Prof.Dr / Mohamed Eissa Marghany
18. Dr/ Hanan Eldeek M. ELsaid
19. Dr/Ragaa Ali Mohammed Othman
20. Dr / Enas Abdel-Hameed Mahmoud Huseein
21. Dr / Nahed Ahmed Abdel-Moneim Ahmed Elesaliy
22. Dr / Yasser Mokhtar Mohamed Hasanein
23. Dr / Mona Gaber Mostafa Sayed
24. Dr / Tasneem Ismail Mohamed
25. Dr / Alzahraa Abdelraoof Ahmed

Assistant lecturers
Sara abdel aal Mohamed
Mervat moustafa khalifa
Asmaa hosny Deeb
Radwa yassin Ibrahim
Salwa mahmoud abdel Rahman
Demonstrators
Mai abo- baker abo- zaid
Martina mohsen nageeb
Rokaya abdel Naiem ahmed
Alaa hussien aziz
Maria nagged mourice

Opportunities within the department:

Parasitology is a discipline that dedicated to understanding human parasitic diseases. Parasitology has deep roots in research that provides the scientific foundation for all medical practice. The pathologist works with all other medical specialties, using the tools of laboratory medicine to provide information essential to problem solving in clinical practice. All of the diagnostic methods that parasitologists now use routinely for patient care our Parasitology Department continues in this tradition of advancing health through basic research and through continually applying the newest knowledge and technologies in order to find better ways of diagnosing, preventing, and treating disease.
Parasitology offers numerous opportunities for training in biomedical research. Intensive researches are available in collaboration with all clinical and basic departments
Experimental parasitology also is available to cover spectrum of basic researches.

- **Department quality control insurance for completing the program:**

We believe that a diverse range of material seen under the appropriate supervision and guidance of an educational supervisor is a superior method of working, towards achieving the required competencies, than the indicative figures below. The College intends to monitor and gather evidence about the optimal workload figures and training periods required to achieve the desired competencies, in conjunction with the relevant methods of assessment for training

(End of the program specification)