Master (M.Sc.) Degree Program and Courses Specifications for
Infection Control

(According to currently applied Credit point bylaws)

Medical Microbiology & Immunology Department

Faculty of medicine

Assiut University

2021-2022/2022-2023

Contents

Item	*Page*
Program Specification For infection control *2021-20222/2022-2023*	
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	**22**
1-Course 1 Basic and Clinical Medical Microbiology	**23**
2- Course 2 Immunology	**35**
3- Course 3 Epidemiologic Methods for Infection Control	**45**
4- Course 4 Applied Biostatistics	**55**
Speciality courses **5- Course 5 Infection control 1** Basic principles and general guidelines for infection	**64**
6- Course 6 Infection control 2 Advanced infection prevention and control	**76**
- Annex 2, Program Academic Reference Standards (ARS)	**87**
- Annex 3, Teaching methods	**92**
- Annex 4, Assessment methods	**96**
- Annex 5, Program evaluation tools	**101**
- Annex 6 Matrixes: **I-General Academic reference standards(GARS) for postgraduates versus Program ARS** **1-Graduate attributes** **2-Academic Standards** **II-Program ARS versus program ILOs** **III- Program Matrix.**	**103**
- Annex 7, Additional information.	**127**

Master degree of Infection control

A. Basic Information

- **Program Title: Infection control**
- **Nature of the program:** Single.
- **Responsible Department:** Medical Microbiology and Immunology Department.
- **Program Academic Director (Head of the Department):** Prof.Noha Afifi
- **Coordinator (s):**
  - **Course coordinator: Prof. Enas Daef**
  - **Assistant coordinator (s) Prof. Nahla Elsherbiny**

    Dr. Mona Hussein

    Dr. Omnia El-Badawy

    Dr. Shereen Mohamed

    Dr. Asmaa Shaltoot

    Dr. Heba Ismail

- **Internal evaluators:** Prof. Salwa Seif
- **External evaluator: Prof. Ensaf Elazzazi, Faculty of Medicine, Zagazig University**

  -Prof. Abeer Ezzat El-Sayed, Faculty of Medicine, Suez Canal University
- **Date of Approval by the Faculty of Medicine Council of Assiut University: 24/2/2020**
- **Date of most recent approval of program specification by the Faculty of Medicine Council of Assiut University: 27/11/2022**
- **Total number of courses: 6 courses+ one elective course**

B. Professional Information

1- Program aims

1/1 Enhance understanding of the world of infection control on view of Microbiology, which will then enable the candidate to formulate a management strategy to care for infectious patients and prevent further spread of disease. In addition to enhance awareness of the potential impact of emerging and re-emerging diseases and antibiotic resistance and to understand the role of antimicrobial stewardship in infection control and the role of the laboratory in the field of infection control.

1/2 Recognize the benefit to patients and healthcare workers of adhering to scientifically accepted principles and practices of infection prevention and control in all healthcare settings and the consequences of failing to comply. In addition to understanding of health economic aspects of infection prevention and control across the healthcare economy and in resource poor settings.

1/3 Recognize the professional's responsibility to monitor infection prevention and control practices of those medical and ancillary personnel for whom he or she is responsible and intervene as necessary to assure compliance and safety.

1/4 Ensure that candidates have sufficient knowledge, skills and attitudes, essential for leading and managing Infection Prevention and Control programs and are capable of developing, implementing, supervising and auditing a comprehensive infection prevention and control program in different healthcare facilities. All this will enable the student to be more effective in his/her role by maintaining the best practices within the field of infection prevention and control.

1/5 Guarantee that IC professionals are capable of working within the integrated programs of quality assurance and accreditation.

1/6 Promote multi-disciplinary working which will add value to the workplace.

1/7 To endow students with an understanding of the essential principles of research design.

1/8 Develop strategies for surveillance, access, understanding and applying published research evidence as applied to the practice of infection prevention and control and developing the necessary skills to continue their own professional development.

1/9Understand the modes of statistical data analysis pertinent to infection control across the healthcare economy.

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

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

2/1Knowledge and understanding:

A. Explain the essential facts and principles of relevant basic sciences including medical microbiology, immunology, epidemiologic methods for infection control and applied biostatistics

B. Mention essential facts of clinical supportive sciences including hospital acquired infections and occupational diseases related to Infection control.

C. Demonstrate sufficient knowledge of the main subjects related to Infection control.

D. Give the recent and update developments in the most important themes related to Infection control.

E. Mention the basic ethical and medicolegal principles that should be applied in practice and are relevant to the field of Infection control.

F. Mention the basics and standards of quality assurance to ensure good practice in the field of Infection control.

G. Mention the ethical and scientific principles of medical research methodology.

H. State the impact of common problems related to the field of Infection control on the society and how good practice can improve these problems.

2/2 Intellectual outcomes

A. Correlate the relevant facts of relevant basic and clinically supportive sciences with reasoning, diagnosis and management of common problems of the Infection control.

B. Demonstrate an investigatory and analytic thinking approach (problem solving) to common clinical or practical situations related to Infection control.

C. Design and /or present a case or review (through seminars/journal clubs.) in one or more of common themes or problems relevant to the Infection control field.

D. Formulate management plans and alternative decisions in different situations in the field of the Infection control.

2/3 Skills

2/3/1 Practical skills

A. Demonstrate competently relevant laboratory and field skills related to Infection control.

B. Use the up to date technology for the conditions related to Infection control.

C. Develop plans for application of guidelines related to Infection control.

D. Carry out common field training related to Infection control.

E. Counsel and educate students, technicians and junior staff, in the lab and health care settings about conditions related to Infection control; including handling of

samples, devices, safety and maintenance of sterilization and disinfection.

F. Use information technology in some of the situations related to Infection control.

G. Share in providing health care services aimed supporting patient care, solving health problems and better understanding of the normal structure and function.

H. Write competently all forms of professional reports related to the Infection control (lab reports, sterilization reports,).

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. Perform practice-based improvement activities using a systematic methodology (share in audits and risk management activities and use logbooks).

B. Appraises evidence from scientific studies.

C. Conduct epidemiological Studies and surveys.

D. Perform data management including data entry and analysis and using information technology to manage information,

access on-line medical information; and support their own education.

E. Facilitate learning of students, lab technical staff and other health care professionals including their evaluation and assessment.

Interpersonal and Communication Skills

F. Maintain therapeutic and ethically sound relationship with patients, their families, lab technical staff and other health professionals.

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 team or other professional group.

Professionalism

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

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

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

Systems-Based Practice

M. Work effectively in relevant academic and health care delivery settings and systems including good administrative and time management.

N. Adopt cost-effective practice and resource allocation that does not compromise quality of services.

O. Assist patients in dealing with system complexities.

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

Academic standards for master degree in an academic *Infection Control*

Assiut Faculty of Medicine developed master degree programs' academic standards for different clinical specialties.
In preparing these standards, the General Academic Reference Standards for post graduate programs (GARS) were adopted. These standards set out the graduate attributes and academic characteristics that are expected to be achieved by the end of the program.
These standards were approved by the Faculty Council on 17-6-2010. These standards were revised and approved without changes by the Faculty Council on 23-9-2014.

4- Program External References

1. ACGME (Accreditation Council for Graduate Medical Education).
2. Infection Control Diploma and Masters, University of Essex, UK. https://online.essex.ac.uk/courses/msc-infection-control/
3. Oxford Brookes University School of Health and Social Care: MSc, PGDip, PGCert Infection Prevention and Control School of Health and Social Care Oxford Brookes University, Jack Straw's Lane, Marston, Oxford, OX3 0FL, UK.www.brookes.ac.uk/international/courses/postgraduate/apply
4. University of the High Lands and Islands (UHI). MSc Infection Control. UHI's website on www.uhi.ac.uk/policies.
5. Certification Board of Infection Control and Epidemiology (CBIC). Certification Board of Infection Control and

Epidemiology, Inc. (CBIC), 555 E. Wells St., Suite 1100, Milwaukee, WI 53202: Web site: www.cbic.org

6. European core curriculum for training for infection control practicioners www.ecdc.europa.eu/en/training-programmes/training-public-health-professionals/core-competencies

7. Infection Control guidelines of U.S. center for disease control and prevention (CDC) Infection Control guidelines of U.S. center for disease control and prevention (CDC) www.cdc.gov › infectioncontrol › guidelines

8. Association for Professionals in Infection Control and Epidemiology, Inc. (APIC) 1275 K St., NW, Suite 1000, Washington, DC. Washington, DC, apicinfo@apic.org

5. Program Structure and Contents

A. Duration of program: 3 – 5 years

B. Structure of the program:

Total number of points: 180 (20 out of them for thesis)
Didactic 34 (18.9%), practical 126 (70%) thesis 20 (11.1%) Total 180

First part

Didactic 10 (25%), practical 30 (75%). Total 40

Second part

Didactic 24 (20%) practical 96 (80%). Total 120.

<u>According the currently applied bylaws:</u>

Total courses 160 CP
Compulsory courses: 98.9%
Elective course: 2 credit point: 1.1%

	Points	**% from total**
▪ Basic courses	18	10%
Humanity and social courses	2	1.1%
▪ Specialized courses	140	77.8%
▪ Others (Computer, …)	-	-
▪ Field training	116	64.4%
Thesis	20	11.1%

C. Program Time Table

Duration of program 3 years maximally 5 years divided into

- **Part 1: (One year)**

  Program-related basic science courses and ILOs + elective courses

  - Students are allowed to set the exams of these courses after 12 months from applying to the M Sc degree.
  - One elective course can be set during either the 1st or 2nd parts.

- **Thesis**

  For the M Sc thesis;

  - MSc thesis subject should be officially registered within 6 months from application to the MSc degree,
  - Discussion and acceptance of the thesis could be set after 12 months from registering the MSc subject;
  - It should be discussed and accepted before passing the second part of examination)

- **Part 2 (2 years)**

  - Program –related speciality courses and ILOs
  - Students are not allowed to set the exams of these courses before 3 years from applying to the MSc degree.

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

Total degrees 1600 marks.
400 marks for first part
1200 for second part
Written exam 40% - 70%.
Practical and oral exams 30% - 60%.

D. Curriculum Structure: (Courses):

courses of the program:

Modules/ Units delivering courses and student work load list	Course Code	Core Credit points		
		Didactics	training	total
First Part				
Basic science Courses (8CP) **Course 1: Basic and Clinical Medical Microbiology** **Course 2: Immunology** **Course 3: Epidemiologic Methods for Infection Control** **Course 4: Applied Biostatistics**	**PIC207A** **PIC207B** **PIC209A** **PIC209B**	3 1 2.5 1.5	4 - 3.5 2.5	7 1 6 4
Elective courses*	2CP			
Practical training and scientific activities				
A. Practical training in compulsory academic basic courses (10 CP) **Course 1: Basic and Clinical Medical Microbiology** **Course 2: Immunology** **Course 3: Epidemiologic Methods for Infection Control** **Course 4: Applied Biostatistics**	**PIC207A** **PIC207B** **PIC209A** **PIC209B**	**4** **-** **3.5** **2.5**		
B. Practical training in Speciality course (20 CP)		**20**		
Total of the first part		**10**	**30**	**40**
Second Part	**Speciality courses** **Speciality Clinical Work**			

Speciality Courses **Course 5: Infection Control 1(Basic principles and general guidelines for infection)** **Course 6: Infection Control 2 (Advanced infection , prevention and control)**	**PIC207C** **PIC207D**	**12** **12**		
Training and practical activities in Infection Control (96 CP)	**PIC207D**	**96**		
Total of the second part		**24**	**96**	**120**
Thesis	**20**			
Total of the degree	**180**			

 # Didactic (lectures, seminars, tutorial)

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

Student work load calculation:

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

 # Elective Courses:

- Medical statistics.
- Evidence based medicine.
- Medicolegal Aspects and Ethics in Medical Practice and Scientific Research
- Quality assurance of medical education
- Quality assurance of clinical practice.
- Hospital management

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

Thesis:

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

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:

a. MBBCh Degree from any Egyptian Faculties of Medicine
b. Equivalent Degree from medical schools abroad approved by the Ministry of Higher Education
c. Also, physicians with a post-graduate degree (Master or Doctorate) after MBBch or equivalent degree are eligible to apply for this Infection Control Master. Selection criteria will be established by the Council of the Medical Microbiology and Immunology Department provided that candidates should be exempted from equivalent course(s) they have already passed.

II. Specific Requirements:

- Fluent in English (study language)

VACATIONS AND STUDY LEAVE

The current departmental policy is that the student should attend at least 3 days per week.

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 12 months from registering to the MSc degree.
- Examination of the second part cannot be set before 3 years from registering to the degree.
- Discussion of the MSc thesis could be set after 1 year from officially registering the MSc subject before setting the second part exams.
- The minimum duration of the program is 3 years.

The students are offered the degree when:

1. Passing the exams of all basic science, elective and speciality courses of this program as regulated by the post graduates approved rules by the faculty council.
2. Completing all scheduled CP and log book (minimum 80%).
3. Discussion and acceptance of the MSc thesis.

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			
	Course code	Written Exam	Oral Exam	Practical / Clinical Exam	Total
First Part					
Basic science Courses:					
Course 1: Basic and Clinical Medical Microbiology	**PIC207A**	100	25	25	150
Course 2: Immunology	**PIC207B**	35	15	-	50
Course 3: Epidemiologic Methods for Infection Control	**PIC209A**	60	25	40	125
Course 4: Applied Biostatistics	**PIC209B**	35	15	25	75
Total of the first part		230	80	90	400
Second Part					
Speciality Courses:					
Course 5: Infection Control 1(Basic principles and general guidelines for infection)	**PIC207C**	300 2 papers (3hours for each)	100	200	600
Course 6: Infection Control 2 (Advanced infection , prevention and control)	**PIC207D**	300 2 papers (3hours for each)	100	200	600
Total of the degree		830	280	490	1600
Elective course		50	50		100

* 25% of the oral exam for assessment of logbook

Total degree 1600

400 marks for first part

1200 for second part

Written exam 51.9% (830 marks).

Practical and oral exams 48.1% (770 marks)

- **Examination system:**
- **First part:**
  1. Written exam one paper 2 hours in **Basic and Clinical Medical Microbiology** + Oral & Practical exam
  2. Written exam one paper 1 hour in **Immunology** + Oral exam
  3. Written exam one paper 2 hours in **Epidemiologic Methods for Infection Control** + Oral & Practical exam
  4. Written exam one paper 1 hour in **Applied Biostatistics** + Oral & Practical exam
- **Second part:**
  1. Written exams one paper 3 hours in **Basic infection control principles and Universal infection control guidelines** + Oral & Practical exam.
  2. Written exams one paper 3 hours in **Infection control measures for infectious diseases** + Oral & Practical exam.
  3. Written exams one paper 3 hours in **Infection control in healthcare settings** + Oral & Practical exam.
  4. Written exams one paper 3 hours in **Occupational safety and quality concepts** + Oral & Practical exam.

- **Elective courses**
  1. Written exam one paper 1 hour in Elective course + Oral & Practical exam

10-Program evaluation

By whom	method	sample
Quality Assurance Unit	Reports Field visits	#
Internal evaluators	Report	1
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. Enas Daef**		
▪ Head of the Responsible Department (Program Academic Director):	**Prof. Noha Afifi**		

Annex 1, Specifications for Courses / Modules

Annex 1: specifications for courses

Course 1 Basic and Clinical Medical Microbiology

- **Name of department:** Medical Microbiology and Immunology
- **Faculty of medicine**
- **Assiut University**
- **2020-2021/2021-2022**

I. Course data

- **Course Title:** Basic and Clinical Medical Microbiology

Course code: PIC207A

Specialty: Infection Control

Number of credit points:

Didactic 3 CP (42.9%) Practical 4CP (57.1%) Total :7 CP(100%).

Department (s) delivering the course: Medical Microbiology and Immunology Department.

Coordinator (s):

- **Course coordinator:** Prof. Enas Abdel Mageed Daef
- **Assistant coordinator (s)**
  Prof. Nahla Elsherbiny
  Dr. Mona Hussein
  Dr. Omnia El-Badawy
  Dr. Shereen Mohamed
  Dr. Asmaa Shaltoot
  Dr. Heba Ismail

Date last reviewed: 1-2020

General requirements (prerequisites) if any :

- Candidates must have a Bachelor degree of Medicine and Surgery/ Pharnacy/ Dentistry/ Nursing with at least Grade good in the final exam .
- Completed his intern year after graduation.
- An interest in infectious diseases and the management of infection
- Fluent in English (study language)

Requirements from the students to achieve course ILOs are clarified in the joining log book.

2. Course Aims

The candidate is able to acquire the basic knowledge and skills that are essential and appropriate to Basic and Clinical Medical Microbiology conditions and situations in different aspects of related areas in practice of infection control as follows:

1) Types of host-parasite relationships.
2) General microbiology
3) Epidemiology, Pathogenesis, laboratory diagnosis and management of infections caused by bacteria, viruses and medically important fungi.
4) Infectious diseases and their management.
5) Antimicrobial drugs.
6) Laboratory safety

3. Course intending learning outcomes (ILOs):

A-Knowledge and understanding

ILOs	*Methods of teaching/ Learning*	*Methods of Evaluation*
A. Describe common clinical conditions and diseases related to Basic and Clinical Medical Microbiology/ Infection Control: • Respiratory tract infection • Urinary tract infection • Gastrointestinal infections • Skin and soft tissue infection • Encephalitis/Meningitis	Didactic (lectures, seminars, tutorial) -Journal club, -Critically appraised topic, Educational prescription.	Written exam Portfolios Log book Oral exam

• Deep infection (e.g. septicemia, endocarditis, bone infection) • Genitourinary tract, sexually transmitted infections (STIs). • Infectious disease in pregnancy and children. • Infections in immunocompromised hosts		
B. Mention the following factual basics and principles essential for Basic and Clinical Medical Microbiology/ Infection Control: • The main pathogenic bacteria, viruses and fungi causing human infections. • The mechanism of infectious disease development and the basic lines of their management. • Antimicrobial drugs. • Laboratory safety		
C. State update and evidence based Knowledge related to Basic and Clinical Medical Microbiology/ Infection Control.		
D. Memorize the facts and principles of the other relevant basic and clinically supportive sciences related to Basic and Clinical Medical Microbiology/ Infection Control: • Bacteriology: Gram positive		

bacteria , Gram negative bacteria , Anaerobic bacteria , Mycobacteria , Atypical bacteria (Chlamydia, mycoplasma, Rickettsia) • Virology: (DNA viruses, RNA viruses , Hepatitis viruses, Oncogenic viruses , Slow viruses and Prions) • Mycology: (Systemic mycosis, subcutaneous mycosis, superficial mycosis and opportunistic mycosis).		
E. Mention the basic ethical and medicolegal principles relevant to Basic and Clinical Medical Microbiology/ Infection Control.		
F. Mention the basics of quality assurance to ensure good professional skills in Basic and Clinical Medical Microbiology/ Infection Control field.		
G. Mention the ethical and scientific principles of medical research.		
H. State the impact of common problems related to the field of Basic and Clinical Medical Microbiology / Infection Control 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 of relevance to Basic and Clinical Medical Microbiology/ Infection Control.	Didactic (lectures, seminars, tutorial) -Journal club, -Critically appraised topic, Educational prescription	Written exam Portfolios Log book Oral exam
B. Demonstrate an investigatory and analytic thinking (problem solving) approaches to conditions relevance to Basic and Clinical Medical Microbiology/ Infection Control.		
C. Design and present audits, cases, seminars in common problems related to Basic and Clinical Medical Microbiology/ Infection Control.		
D. Formulate management plans and alternative decisions in different situations in the field of the Basic and Clinical Medical Microbiology/ Infection Control.		

C. Practical skills

ILOs	**Methods of teaching/ learning**	**Methods of Evaluation**
A. Perform the following basic lab skills essential to the Basic and Clinical Medical Microbiology course: • Standards of Practice • Sample collection and processing (Clinical & Environmental) • Staining and culture techniques	seminar Direct observation of the practical work	log book Objective structure

• Diagnostic and Identification tests of common bacterial pathogens. • Serological and antigen based techniques • Typing methods		
B. Use instruments and devices as autoclaves, incubators, and centrifuge for identification of nosocomial pathogens.		
C. Perform the following noninvasive/ experiments • Smear preparation and staining. • Culture on suitable media • Antibiotic susceptibility testing		
D. Interpret the following noninvasive experiments • Smear examination • Culture on suitable media • Antibiotic susceptibility tests		
E. Write and evaluate of the following reports: • Antimicrobial susceptibility reports		
F. Perform the following basic experiments in related basic sciences to be utilized in the research work: • Culture on different selective media • Preparation of different biochemical reactions		
G. Use information technology to support decisions in common situations related to health care associated infections.		
H. Develop and carry out plans for performing procedures related to health care associated infections: • Definitions of biohazards • Levels of Biosafety • Components of each level		
I. Counsel and educate students, technicians and		

junior staff, in the lab about conditions related to identification of nosocomial pathogens; including handling of samples, devices, safety and maintenance of laboratory equipment.		
J. Share in providing health care services aimed solving health problems and better understanding of the normal structure and function.		

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) for identification of the common nosocomial pathogens	Log book and supervision Written & oral communication	Log book Portfolios Procedure/case presentation
B. Appraises evidence from scientific studies as researches, evidence based practice and internet updates.	Journal clubs Discussions in seminars	
C. Participate in one audit or survey related to the health care associated infections.	Scientific meetings participate in seminars	
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 senior staff, colleagues and technicians.	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 a common infectious disease representing a major health concern.		
K. Write a report of antimicrobial susceptibility test.		

Professionalism

ILOs	*Methods of teaching/ learning*	*Methods of Evaluation*
L. Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society	Observation & supervision	Objective structured practical examination 2.Student survey
M. Demonstrate a commitment to ethical principles including provision or withholding of clinical care, confidentiality of patient information, informed consent, business practices		
N. Demonstrate sensitivity and responsiveness to patients' culture, age, gender, and disabilities		

Systems-Based Practice

ILOs	**Methods of teaching/ learning**	**Methods of Evaluation**
O. Work effectively in relevant health care delivery settings and systems for diagnosis and management of health care associated infections.	Observation & supervision Educational	1-student survey 2.portfolios

	prescription	
P. Practice cost-effective identification tests and resource allocation that does not compromise quality of care.	Didactic (lectures, seminars, tutorial	
Q. Assist patients in dealing with system complexities.		

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

Time Schedule: First Part

Topic	Covered ILOs			
	Knowledge	Intellectual	Practical skill	General Skills
1) General Microbiology	**A-H**	**A-D**	**A-J**	**A-Q**
2) Types of host-parasite relationships	**A-H**	**A-D**	**A-J**	**A-Q**
3) Epidemiology, Pathogenesis, laboratory diagnosis and management of infections caused by bacteria, viruses and common pathogenic fungi.	**A-H**	**A-D**	**A-J**	**A-Q**
4) Infectious Diseases and their management.	**A-H**	**A-D**	**A-J**	**A-Q**
5) **Antimicrobial Medications (Antibacterial, Antifungal and Antiviral).**	**A-H**	**A-D**	**A-J**	**A-Q**
6) Laboratory Safety	**A-H**	**A-D**	**A-J**	**A-Q**

5. Course Methods of teaching/learning:

1. Didactics: Lectures, tutorial,
2. Practical training in Medical Microbiology & Immunology Dept.
3. Case studies (problem solving).
4. Seminars, scientific meeting.
5. Journal club.
6. Educational prescription.
7. Critical appraisal topics.
8. Observation & supervision
9. Discussion
10. Written and oral communication.

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

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

7. Course assessment methods:

i. Assessment tools:

- Written Examination; including 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.
- Case /problems – assess use of knowledge in diagnosing or treating patients or evaluate procedural skills**.**
- Logbook**.**
- Portfolio**.**

- Simulation.
- Record, review reports.
- Check list on steps of practical training of all steps.
- Practical exam.

ii. Time schedule: one year

iii. Marks: 150 marks (100 for written +25 for oral +25 for practical)

8. List of references

i. Lectures notes

ii. Essential books.

1. Kaplan Medical USMLE Step 1, Lecture Notes 2019: Immunology and Microbiology
2. Lippincott's Illustrated Review: Microbiology, 2019

iii. Recommended books

1. Mim's Medical Microbiology and Immunology, Philadelphia, PA, Mosby Elsevier, 6th edition , 2019

iv. Periodicals, Web sites, … etc

- Indian journal of Medical Microbiology
- Journal of infectious Diseases
- American Journal of Clinical Microbiology
- Indian Journal of Pathology & Microbiology.
- Annual Review of Microbiology.
- Indian Journal of Medical Research.
- Indian Journal of Immunology.

- American Journal of Epidemiology.
- Clinical Microbiology Reviews.
- Journal of Hospital infection.

9. Signatures

Course Coordinator: Prof. Enas Abdel Mageed Daef	**Head of the Department:** Prof. Noha Afifi
Date: ……	**Date:** ……

Course 2 Immunology

- **Name of department:** Medical Microbiology &Immunology
- **Faculty of medicine**
- **Assiut University**
- **2020-2021/2021-2022**

I. Course data

- **Course Title:** Immunology
- **Course code: PIC207B**
- **Specialty:** Infection Control
- **Number of credit points:**

  Didactic 1CP (100%) practical: 0 CP - , total 1 CP(100%)

- **Department (s) delivering the course:** Medical Microbiology and Immunology.
- **Coordinator (s):**
  - **Course coordinator:** Prof. Enas Abdel Mageed Daef
  - **Assistant coordinator (s)**

    Prof. Nahla Elsherbiny

    Dr. Mona Hussein

    Dr. Omnia El-Badawy

    Dr. Shereen Mohamed

    Dr. Asmaa Shaltoot

    Dr. Heba Ismail

- **Date last reviewed: 1-2020**
- **General requirements (prerequisites) if any :**
  - Candidates must have a Bachelor degree of Medicine and Surgery/ Pharmacy/ Dentistry/ Nursing with at least Grade good in the final exam .
  - Completed his intern year after graduation.
  - An interest in infectious diseases and the management of infection.
  - Fluent in English (study language)
- **Requirements from the students to achieve course ILOs are clarified in the joining log book.**

2. Course Aims

2/1 -The candidate is able to acquire the basic knowledge and skills that are essential and appropriate to common immunology conditions to understand infection control situations in different aspects of related areas in practice as follows:

- Innate and acquired immune response
- Immune response to various infections
- Vaccines and schedules of immunization.
- Hypersensitivity reactions
- Immunodeficiency disorders
- Immunosuppressives and Immunomodulators
- Principles of Immunological testing

3. Course intending learning outcomes (ILOs):

A-Knowledge and understanding

ILOs	*Methods of teaching/ Learning*	*Methods of Evaluation*
A. Describe common clinical conditions and diseases related to immunology: • Hypersensitivity reactions • Immunodeficiency disorders • Immunosuppressives and Immunomodulators. • Autoimmune diseases.	Didactic (lectures, seminars, tutorial) -Journal club, -Critically appraised topic, Educational prescription	Written exam Portfolios Log book Oral exam
B. Mention the following factual basics and principles essential to immunology:		

• Difference between natural immunity and acquired immunity. • The two limbs of the immune response (antibody mediated and cell mediated). • The cellular cooperation and interaction in an immune response.		
C. State update and evidence based Knowledge related to the immunology course: • Vaccines and schedules of immunization. • Principles of Immunological testing		
D. Memorize the facts and principles of the other relevant basic and clinically supportive sciences related to infection control includingdiseases. • Immune response to various infections		
E. Mention the basic ethical and medicolegal principles relevant to the immunology.		
F. Mention the basics of quality assurance to ensure good professional skills the field of immunology: • Standard serological tests in immunology. • Standard and evidence based guidelines for infection control measures applied during immunological lab tests.		
G. Mention the ethical and scientific principles of medical research		

H. State the impact of common problems related to the field of infection control 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 of relevance to immunology: -Hypersensitivity reactions - Immunodeficiency disorders -Immunosuppressives and Immunomodulators. -Autoimmune diseases.	Didactic (lectures, seminars, tutorial) -Journal club, -Critically appraised topic, Educational prescription	Written exam Portfolios Log book Oral exam
B. Demonstrate an investigatory and analytic thinking (problem solving) approaches to conditions relevance to immunolgy.		
C. Design and present audits, cases, seminars in common problems related to immunology.		
D. Formulate management plans and alternative decisions in different situations in the field of the immunology.		

C- Practical skills =0 CP

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) for understanding immunological principals of diseases	Log book and supervision Written & oral communication	Log book Portfolios Procedure/case presentation
B. Appraises evidence from scientific studies as researches, evidence based practice and internet updates.	Journal clubs Discussions in seminars	
C. Participate in one audit or survey related to the health care associated infections.	Scientific meetings participate in seminars	
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 senior staff, colleagues and technicians.	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 a common immunological disease representing a major health concern.		
K. Write a report of serological diagnostic tests.		

Professionalism

ILOs	*Methods of teaching/ learning*	*Methods of Evaluation*
L. Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society	Observation & supervision	Objective structured practical examination 2.Student survey
M. Demonstrate a commitment to ethical principles including provision or withholding of clinical care, confidentiality of patient information, informed consent, business practices		
N. Demonstrate sensitivity and responsiveness to patients' culture, age, gender, and disabilities		

Systems-Based Practice

ILOs	**Methods of teaching/ learning**	**Methods of Evaluation**
O. Work effectively in relevant health care delivery settings and systems for diagnosis and management of health care associated infections.	Observation & supervision Educational prescription	1-student survey 2.portfolios
P. Practice cost-effective identification tests and resource allocation that does not compromise quality of care.	Didactic (lectures, seminars, tutorial	
Q. Assist patients in dealing with system complexities.		

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

Time Schedule: First year

Topic	Covered ILOs			
	Knowledge	Intellectual	Practical skill	General Skills
1) Innate and acquired immune response	**A-H**	**A-D**	**-**	**A-Q**
2) Immune response to various infections	**A-H**	**A-D**	**-**	**A-Q**
3) Vaccines and schedules of immunization.	**A-H**	**A-D**	**-**	**A-Q**
4) Hypersensitivity reactions.	**A-H**	**A-D**	**-**	**A-Q**
5) Immunodeficiency disorders	**A-H**	**A-D**	**-**	**A-Q**
6) Immunosuppressives and Immunomodulators	**A-H**	**A-D**	**-**	**A-Q**
7) Principles of Immunological testing	**A-H**	**A-D**	**-**	**A-Q**

5. Course Methods of teaching/learning:

1. Didactics: Lectures, tutorial,
2. Practical training in Medical Microbiology & Immunology Dep.
3. Practical training in Microbiology Infection Control laboratory of Assiut University Hospitals.

4. Case studies (problem solving).
5. Seminars, scientific meeting.
6. Journal club.
7. Educational prescription.
8. Critical appraisal topics.
9. Observation & supervision
10. Discussion
11. Written and oral communication.

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

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

7. Course assessment methods:

i. Assessment tools

- Written Examination; including 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.
- Case /problems – assess use of knowledge in diagnosing or treating patients or evaluate procedural skills**.**
- Logbook**.**
- Portfolio**.**
- Simulation.
- Record, review reports.
- Check list on steps of practical training of all steps.
- Practical exam.

ii. Time schedule: First year

iii. Marks: 50 marks (35 for written +15 for oral)

i. Lectures notes

ii. Essential books

1) Basic immunology: functions and disorders of the immune system by Abul K. Abbas and Andrew H. Lichtman, 2019.

iii. Recommended books

1) Lippincott's illustrated Review: Immunology , 2019

iv. Periodicals, Web sites, … etc

- Indian journal of Medical Microbiology
- Journal of infectious Diseases
- American Journal of Clinical Microbiology
- Indian Journal of Pathology & Microbiology.
- Annual Review of Microbiology.
- Indian Journal of Medical Research.
- Indian Journal of Immunology.
- American Journal of Epidemiology.
- Clinical Microbiology Reviews.
- Journal of Hospital infection.

9. Signatures

Course Coordinator: Prof. Enas Abdel Mageed Daef	**Head of the Department:** Prof. Noha Afifi
Date: ……	**Date:** ……

Course 3: Epidemiologic Methods for Infection Control

- **Name of department: Public Health in conjunction with Medical Microbiology and Immunology.**
- **Faculty of medicine**
- **Assiut University**
- **2020-2021/2021-2022**

I. Course data

- **Course Title: Epidemiologic Methods for Infection Control**
- **Course code: PIC209A**
- **Specialty : Infection Control.**
- **Number of credit points: Didactic 2.5 CP (41.7%) practical 3.5CP (58.3%) total :6 CP(100%)**
- **Department (s) delivering the course: Public Health in conjunction with Medical Microbiology and Immunology.**
- **Coordinator (s):**
  - **Course coordinator:** Prof. Enas Abdel Mageed Daef
  - **Assistant coordinator (s)**

    Prof. Nahla Elsherbiny

    Dr. Mona Hussein

    Dr. Omnia El-Badawy

    Dr. Shereen Mohamed

    Dr. Asmaa Shaltoot

    Dr. Heba Ismail

- **Date last reviewed: 1-2020**
  - **General requirements (prerequisites) if any :**
  - Candidates must have a Bachelor degree of Medicine and Surgery/ Pharmacy/ Dentistry/ Nursing with at least Grade good in the final exam .
  - Completed his intern year after graduation.
  - An interest in infectious diseases and the management of infection
  - Fluent in English (study language)

- **Requirements from the students to achieve course ILOs are clarified in the joining log book.**

2. Course Aims

The candidate is able to acquire the basic knowledge and skills that are essential and appropriate to common conditions and situations in different aspects of related areas in practice as follows:

1. **To understand the general principles of Epidemiology**
2. **To understand the principles and methods of Surveillance**
3. **To understand the research study design**
4. **To apply different qualitative research methods**

3. Course intending learning outcomes (ILOs):

A-Knowledge and understanding

ILOs	*Methods of teaching/ Learning*	*Methods of Evaluation*
A Describe general principles of Epidemiology / Infection Control.	Didactic (lectures, seminars, tutorial) -Journal club, -Critically appraised topic, Educational prescription	Written exam Portfolios Log book Oral exam
B. Mention the factual basics and principles essential to surveillance and Research Methodology/ Infection Control.		
C. Memorize the facts and principles relevant to the general principals of epidemiology/ Infection Control.		
D. State update and evidence based Knowledge related to research study design/ Infection Control.		
E. Mention the basic ethical and medicolegal principles revenant to Epidemiology, Surveillance and Research Methodology/ Infection Control.		

F. Mention the basics of quality assurance to ensure good professional skills in Epidemiology, Surveillance and Research Methodology/ Infection Control field.		
G. Mention the ethical and scientific principles of medical research		
H. State the impact of common problems related to the field of Epidemiology, Surveillance and Research Methodology/ Infection Control 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 related to Epidemiology, Surveillance and Research Methodology/ Infection Control.	Didactic (lectures, seminars, tutorial) -Journal club, -Critically appraised topic, Educational prescription	Written exam Portfolios Log book Oral exam
B. Demonstrate an investigatory and analytic thinking (problem solving) approaches to conditions relevant to Epidemiology, Surveillance and Research Methodology/ Infection Control.		
C. Design and present audits, cases, seminars in common problems related to Epidemiology, Surveillance and Research Methodology/ Infection Control.		
D. Formulate management plans and alternative decisions in different situations in the field of the Epidemiology, Surveillance and Research Methodology/ Infection Control.		

C. Practical skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Apply basic principles related to epidemiology and research methodology: -Use of epidemiology in healthcare. -Using information technologies. -Device associated infections and laboratory identified events. -Research methods	Seminar Direct observation of the practical work	Use of epidemiology in healthcare
B. Apply surveillance programs for healthcare associated infections, outbreaks and emerging infectious diseases and bioterrorism.		
C. Apply surveillance programs for multidrug resistant organisms.		
D. Acquire the ability to determine the common source and propagated source outbreak.		
E. Acquire ability of surveillance program evaluation.		
F. Acquire the ability to analyze the epidemic curve.		

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) for identification of the common nosocomial pathogens	Log book and supervision Written & oral communication	Log book Portfolios Procedure/case presentation
B. Appraises evidence from scientific studies as researches, evidence based practice and internet updates.	Journal clubs Discussions in seminars	
C. Participate in one audit or survey related to the health care associated infections.	Scientific meetings participate in seminars	
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 senior staff, colleagues and technicians.	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 a common immunological disease representing a major health concern.		
K. Write a report of serological diagnostic tests.		

Professionalism

ILOs	*Methods of teaching/ learning*	*Methods of Evaluation*
L. Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society	Observation & supervision	Objective structured practical examination 2.Student survey
M. Demonstrate a commitment to ethical principles including provision or withholding of clinical care, confidentiality of patient information, informed consent, business practices		
N. Demonstrate sensitivity and responsiveness to patients' culture, age, gender, and disabilities		

Systems-Based Practice

ILOs	**Methods of teaching/ learning**	**Methods of Evaluation**
O. Work effectively in relevant health care delivery settings and systems for diagnosis and management of health care associated infections.	Observation & supervision Educational prescription	1-student survey 2.portfolios
P. Practice cost-effective identification tests and resource allocation that does not compromise quality of care.	Didactic (lectures, seminars, tutorial	
Q. Assist patients in dealing with system complexities.		

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

Time Schedule: First year

Topic	Covered ILOs			
	Knowledge	Intellectual	Practical skill	General Skills
1) General principles of Epidemiology	A, E, F, G & H	A-D	A-F	A-Q
2) Surveillance	B	A-D	B-E	A-Q
3) Qualitative research methods	A-H	A-D	A-F	A-Q
4) Research study design	A-H	A-D	A-F	A-Q

5. Course Methods of teaching/learning:

1. Didactics: Lectures, tutorial,
2. Practical training in Medical Microbiology & Immunology Dep.
3. Practical training in Microbiology Infection Control laboratory of Assiut University Hospitals.
4. Case studies (problem solving).
5. Seminars, scientific meeting.
6. Journal club.
7. Educational prescription.
8. Critical appraisal topics.
9. Observation & supervision
10. Discussion
11. Written and oral communication.

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

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

7. Course assessment methods:

i. Assessment tools

- Written Examination; including 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.
- Case /problems – assess use of knowledge in diagnosing or treating patients or evaluate procedural skills**.**
- Logbook**.**
- Portfolio**.**
- Simulation.
- Record, review reports.
- Check list on steps of practical training of all steps.
- Practical exam.

ii. Time schedule: First year

iii. Marks: 125 marks (60 for written +25 for oral +40 for practical)

8. List of references

i. Lectures notes

ii. Essential books

- ABCs of infection prevention and control 2018
- An epidemiologic Approach to Reproductive Health,CDC,FHI, and WHO Phyllis A. wingo, James E.Higgens, Goerge L. Rubin, and S.Christine Zahniser, 2011.

iii. Recommended books

- Evidence Based Medicine How to practice and teach 2009.
- APIC textbook, 4th edition

iv. Periodicals,Web sites, … etc

- Dissertation workshop open courseware JHSPH.

9. Signatures

Course Coordinator: Prof. Enas Abdel Mageed Daef	**Head of the Department:** Prof. Noha Afifi
Date: ……	**Date:** ……

Course 4: Applied Biostatistics

- **Name of department: Public Health in conjunction with Medical Microbiology and Immunology.**
- **Faculty of medicine**
- **Assiut University**
- **2020-2021/2021-2022**

I. Course data

- **Course Title: Applied Biostatistics.**
- **Course code: PIC209B**
- **Specialty : Infection Control.**
- **Number of credit points: Didactic 1.5CP (37.5%) practical 2.5CP (62.5%) total :4 CP(100%)**
- **Department (s) delivering the course: Public Health in conjunction with Medical Microbiology and Immunology.**
- **Coordinator (s):**
  - **Course coordinator:** Prof. Enas Abdel Mageed Daef
  - **Assistant coordinator (s)**

    Prof. Nahla Elsherbiny

    Dr. Mona Hussein

    Dr. Omnia El-Badawy

    Dr. Shereen Mohamed

    Dr. Asmaa Shaltoot

    Dr. Heba Ismail

- **Date last reviewed: 1-2020**
  - **General requirements (prerequisites) if any :**
  - Candidates must have a Bachelor degree of Medicine and Surgery/ Pharmacy/Dentistry/ Nursing with at least Grade good in the final exam .
  - Completed his intern year after graduation.
  - An interest in infectious diseases and the management of infection
  - Fluent in English (study language)

- **Requirements from the students to achieve course ILOs are clarified in the joining log book.**

2. Course Aims

-The candidate is able to acquire the basic knowledge and skills that are essential and appropriate to common conditions and situations in different aspects of related areas in practice as follows:

1. **To understand the general principles of biostatistics.**

2. **To use statistics in infection prevention**

   - Graphic display of data.
   - Descriptive statistics.
   - Inferential statistics

3. **To use of statistics in risk adjustment comparisons**
   Devise associated infections and laboratory identified events

4. **To understand methods of outbreak investigation (e.g epidemic curve)**

3. Course intending learning outcomes (ILOs):

A-Knowledge and understanding

ILOs	*Methods of teaching/ Learning*	*Methods of Evaluation*
A. Mention the factual basics and principles essential to applied biostatistics/ Infection Control.	Didactic (lectures, seminars, tutorial) -Journal club, -Critically	Written exam Portfolios Log book Oral exam
B. State update and evidence based Knowledge related to the applied biostatistics/ Infection Control.		

C. Mention the basics of Use of statistics in infection prevention , risk adjustment comparisons and outbreak investigation.	appraised topic, Educational prescription	
D. State the different methods in applied biostatistics: • Descriptive statistics • Inferential statistics • Graphic display data		

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 of relevance to applied biostatistics/ Infection Control.	Didactic (lectures, seminars, tutorial) -Journal club, -Critically appraised topic, Educational prescription	Written exam Portfolios Log book Oral exam
B. Demonstrate an investigatory and analytic thinking (problem solving) approaches to conditions relevance to applied biostatistics/ Infection Control.		
C. Design and present audits, cases, seminars in common problems related to applied biostatistics/ Infection Control.		
D. Formulate management plans and alternative decisions in different situations in the field of the applied biostatistics/ Infection Control.		

C. Practical skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Apply basic principles related to estimation of the risks of device associated infections and laboratory identified events	Seminar Direct observation of the practical work	Use of epidemiology in healthcare
B. Apply basic statistical measures used for outbreak investigation.		
C. Acquire the ability of: -Graphic display of data. -Descriptive statistics. -Inferential statistics.		
D. Acquire the ability to analyze the epidemic curve.		

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) for identification of the common nosocomial pathogens	Log book and supervision Written & oral communication	Log book Portfolios Procedure/case presentation
B. Appraises evidence from scientific studies as researches, evidence based practice and internet updates.	Journal clubs Discussions in seminars	
C. Participate in one audit or survey related to the health care associated infections.	Scientific meetings	

D. Perform data management including data entry and analysis.	participate in seminars	
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 senior staff, colleagues and technicians.	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 a common immunological disease representing a major health concern.		
K. Write a report of serological diagnostic tests.		

Professionalism

ILOs	***Methods of teaching/ Learning***	***Methods of Evaluation***
L. Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society	Observation & supervision	Objective structured practical examination 2.Student survey
M. Demonstrate a commitment to ethical principles including provision or withholding of clinical care, confidentiality of patient information, informed consent, business practices		
N. Demonstrate sensitivity and responsiveness to patients' culture, age, gender, and disabilities		

Systems-Based Practice

ILOs	Methods of teaching/ Learning	Methods of Evaluation
O. Work effectively in relevant health care delivery settings and systems for diagnosis and management of health care associated infections.	Observation & supervision Educational prescription	1-student survey 2.portfolios
P. Practice cost-effective identification tests and resource allocation that does not compromise quality of care.	Didactic (lectures, seminars, tutorial	
Q. Assist patients in dealing with system complexities.		

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

Time Schedule: First year

Topic	Covered ILOs			
	Knowledge	Intellectual	Practical skill	General Skills
1. General principles of biostatistics.	**A-C**	**A**	**A & D**	**A-Q**
2. Use of statistics in infection prevention	**A-D**	**A-D**	**A-D**	**A-Q**
3. Outbreak investigations	**C**	**A-D**	**A-D**	**A-Q**
4. **Risk adjustment comparison**	**D**	**A-D**	**A-D**	**A-Q**

5. Course Methods of teaching/learning:

1. Didactics: Lectures, tutorial,
2. Practical training in Medical Microbiology & Immunology Dep.
3. Practical training in Microbiology Infection Control laboratory of Assiut University Hospitals.
4. Case studies (problem solving).
5. Seminars, scientific meeting.
6. Journal club.
7. Educational prescription.
8. Critical appraisal topics.
9. Observation & supervision
10. Discussion
11. Written and oral communication.

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

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

7. Course assessment methods:

i. Assessment tools

- Written Examination; including 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.
- Case /problems – assess use of knowledge in diagnosing or treating patients or evaluate procedural skills**.**

- Logbook.
- Portfolio.
- Simulation.
- Record, review reports.
- Check list on steps of practical training of all steps.
- Practical exam.

ii. Time schedule: First year

iii. Marks: 75 marks (35 for written +15 for oral +25 for practical)

8. List of references

i. Lectures notes

ii. Essential books

- ABCs of infection prevention and control 2018
- An epidemiologic Approach to Reproductive Health,CDC,FHI, and WHO Phyllis A. wingo, James E.Higgens, Goerge L. Rubin, and S.Christine Zahniser, 2011.

iii. Recommended books

- Evidence Based Medicine How to practice and teach 2009.
- APIC textbook, 4th edition

iv. Periodicals,Web sites, … etc

- Dissertation workshop open courseware JHSPH.

9. Signatures

Course Coordinator: Prof. Enas Abdel Mageed Daef	**Head of the Department:** Prof. Noha Afifi
Date: ……	**Date:** ……

Speciality courses

Course 5: Infection Control 1 (Basic principles and general guidelines for infection prevention and control)

- **Name of department: Medical Microbiology & Immunology**
- **Faculty of medicine**
- **Assiut University**
- **2020-2021/2021-2022**

I. Course data

- **Course Title: Infection control 1(Basic principles and general guidelines for infection prevention and control)**
- **Course code: PIC207C**
- **Speciality: Infection control**
- **Number of credit points: Didactic 12 CP (37.5 %) practical 20 CP (62.5%). Total 32 CP(100%)**
- **Department (s) delivering the course: Medical Microbiology & Immunology**
- **Coordinator (s):**
  - **Course coordinator: Prof. Enas Daef**
  - **Assistant coordinator (s) Prof. Nahla Elsherbiny**

Dr. Mona Hussein

Dr. Omnia El-Badawy

Dr. Shereen Mohamed

Dr. Asmaa Shaltoot

Dr. Heba Ismail

- **Date last reviewed: 1-2020**
- **General requirements (prerequisites) if any :**
  - Candidates must have a Bachelor degree of Medicine and Surgery/ Pharmacy/ Dentistry/ Nursing with at least Grade good in the final exam .
  - Completed his intern year after graduation.
  - An interest in infectious diseases and the management of infection
  - Fluent in English (study language)

- **Requirements from the students to achieve course ILOs are clarified in the joining log book.**

2. Course Aims

At the end of this course the candidates **master the knowledge and practical skills and** will be able to

2/1 Understand the Basic concepts and definitions of infection control and Outbreak investigations and management

2/2 Prepare infection control policies and measures according to national and local standard operating procedures-prepared to lead infection prevention and control services

2/3 Aid in the implementation of the infection control procedures for communicable diseases within the health care organization

2/4 Orientation of the dangers of multidrug resistant organisms and preparation of antibiotic stewardship program.

3. Course intending learning outcomes (ILOs):

A-Knowledge and understanding

ILOs	*Methods of teaching/ Learning*	*Methods of Evaluation*
A. Describe common clinical conditions related to basic principles and general guidelines for infection prevention and control.	Didactic (lectures, seminars, tutorial) -Journal club, -Critically appraised topic, Educational prescription	Written exam Portfolios Log book Oral exam
B. Mention the following factual basics and principles essential to the basic principles and general guidelines for infection prevention and control.		
C. State update and evidence based Knowledge related to basic principles and general guidelines for infection prevention and control		

D. Memorize the facts and principles of the other relevant basic and clinically supportive sciences related to basic principles and general guidelines for infection prevention and control including: • CDC definitions of HAIs. • The IC programme • Outbreak investigations and management. • Auditing • Infectious process • Standard infection control guidelines and measures. • Isolation precautions. • IC guidelines for support services • Environment care IC issues: • Prevention and management of sharps injury. • Policy for central sterile supply Department . • Infection control measures for communicable diseases • Infectious diseases regulations • Antibiotic stewardship • Infection control strategies for antibiotic resistant organisms		
E. Mention the basic ethical and medicolegal principles revenant to the basic principles and general		

guidelines for infection prevention and control.		
F. Mention 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 specialty 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 of relevance to the basic principles and general guidelines for infection prevention and control.	Didactic (lectures, seminars, tutorial) -Journal club, -Critically appraised topic, Educational prescription	Written exam Portfolios Log book Oral exam
B. Demonstrate an investigatory and analytic thinking (problem solving) approaches to conditions relevance to the basic principles and general guidelines for infection prevention and control.		
C. Design and present audits, cases, seminars in common problems related to the basic principles and general guidelines for infection prevention and control.		
D. Formulate management plans and alternative decisions in different situations in the field of the basic principles and general guidelines for infection prevention and control.		

C. Practical skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Perform Practical Field Training Essential To The basic principles and general guidelines for infection prevention and control	- seminar -Direct observation of the practical work	log book - Objective structure
B. Interpret the proper implementation of the infection control measures.		
C. Perform the following auditing, Hand Hygiene and Donning and doffing of Personal Protective Equipments		
D. Write and evaluate of the reports of Disinfection & Sterilization		
E. Perform the basic measures related to basic infection control to be utilized in the research		
F. Use information technology to support decisions in common situations related to the basic principles and general guidelines for infection prevention and control		
G. Develop and carry out plans for application of infection control services in hospital environment (Laundry, Kitchen, Air conditioning, Ventilation System, Water Services and Maintenance) .		
H. Counsel and educate students, technicians and junior staff, in the hospital environment about conditions related to the Basic principles and general guidelines for infection prevention and control including handling of samples, devices, safety and implementation of infection control policies		

and antibiotic stewerdship.		
I. Share in providing health care services aimed solving health problems and better understanding of the normal structure and function.		

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)	Log book and supervision Written & oral communication Journal clubs Discussions in seminars Scientific meetings participate in seminars	Log book Portfolios Procedure/case presentation
B. Appraises evidence from scientific studies.		
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 model of a proper infection control practice		
K. Write a report in the evaluation of the sterilization process and in the proper management of hospital waste		

Professionalism

ILOs	*Methods of teaching/ learning*	*Methods of Evaluation*
L. Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society	Observation & supervision	Objective structured practical examination Student survey
M. Demonstrate a commitment to ethical principles including provision or withholding of clinical care, confidentiality of patient information, informed consent, business practices		
N. Demonstrate sensitivity and responsiveness to patients' culture, age, gender, and disabilities		

Systems-Based Practice

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

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

Time Schedule: Second part

Topic	Covered ILOs			
	Knowledge	Intellectual	Practical skill	General Skills
Basic concepts and definitions of infection control.	A-D	A	-	A-Q
CDC definitions of HAIs.	A, D	A,B	-	A-Q
The IC programme	B-G	A-D	-	A-Q
Outbreak investigations and management.	A-H	A-D	A-I	A-Q
Auditing	A,C-H	B-D	A-D	A-Q
Infectious process	A-H	-	-	A-Q
Standard infection control guidelines and measures.	A-H	A-D	A-I	A-Q
Isolation precautions.	A-H	A-D	A,B, E-I	A-Q
IC guidelines for support services	B-H	A-D	-	A-Q
Environment care IC	B-H	A-D	A-I	A-Q

issues				
Prevention and management of sharps injury.	A-D	A-D	A-I	A-Q
Policy for Central Sterile Supply Department .	A-D	A-D	A-I	A-Q
Infection control measures for communicable diseases	A-H	A-D	A-I	A-Q
Infectious Diseases Regulations	A-H	A-D	-	A-Q
Antibiotic stewardship	A-H	A-D	H,I	A-Q
Infection control strategies for antibiotic resistant organisms	A-D	A-D	H,I	A-Q

5. Course Methods of teaching/learning:

1. Didactics: Lectures, tutorial,
2. Practical field training in hospitals.
3. Case studies (problem solving).
4. Seminars, scientific meeting.
5. Journal club.
6. Educational prescription.
7. Critical appraisal topics.
8. Observation & supervision
9. Discussion
10. Written and oral communication

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

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

7. Course assessment methods:

i. Assessment tools:

- Written Examination; including 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.
- Case /problems – assess use of knowledge in evaluation of the proper implementation of the infection control policies**.**
- Logbook**.**
- Portfolio**.**
- Simulation.
- Record, review reports.
- Check list on steps of practical training of all steps.
- Practical exam.

ii. Time schedule: 2nd part

iii. Marks: 600 marks (300 for written+100 for oral + 200 for practical)

8. List of references

i. Lectures notes

ii. Essential books

- ABCs of infection prevention and control 2018
- International federation of infection control book (IFIC), 2011

iii. Recommended books

- **APIC textbook of infection control and epidemiology**
- National infection control guidelines, 2018

iv. Periodicals, Web sites, … etc

- **CDC: www.cdc.gov**
- **APIC : www. APIC.org**
- **IFIC: www.theific.org**
- **International journal of infection control**
- **American journal of infection control**

9. Signatures

Course Coordinator: Prof. Enas Daef	**Head of the Department: Prof. Noha Afifi**
Date: ……	**Date:** ……

Course 6: Infection control 2 (Advanced infection , prevention and control)

- Name of department: Medical Microbiology & Immunology
- Faculty of medicine
- Assiut University
- 2020-2021/2021-2022

I. Course data

- Course Title: Infection control 2 (Advanced infection , prevention and control)
- Course code: PIC207D
- Speciality: Infection control
- Number of credit points: Didactic 12 CP (11.1%) practical 96 CP (88.9%). total 108 CP(100%)
- Department (s) delivering the course: Medical Microbiology & Immunology
- Coordinator (s):
  - Course coordinator: Prof. Enas Daef
  - Assistant coordinator (s) Prof. Nahla Elsherbiny

    Dr. Mona Hussein

    Dr. Omnia El-Badawy

    Dr. Shereen Mohamed

    Dr. Asmaa Shaltoot

- **Date last reviewed: 1-2020**
- **General requirements (prerequisites) if any :**
  - Candidates must have a Bachelor degree of Medicine and Surgery/ Dentistry/ Pharmacy/ Nursing with at least Grade good in the final exam .
  - Completed his intern year after graduation.
  - An interest in infectious diseases and the management of infection
  - Fluent in English (study language)

- **Requirements from the students to achieve course ILOs are clarified in the joining log book.**

2. Course Aims

At the end of this course the candidates master the knowledge and practical skills and will be able to

2/1 Apply evidence based guidelines to prevent device related infections in specific inpatient and outpatient healthcare settings

2/2 Work within the integrated programs of quality management and accreditation.

2/3 Apply guidelines and standards in relation to occupational safety

2/4 Able to develop, implement, supervise and audit a comprehensive infection prevention and control program.

3. Course intending learning outcomes (ILOs):

A-Knowledge and understanding

ILOs	*Methods of teaching/ Learning*	*Methods of Evaluation*
A. Describe common clinical conditions related to advanced infection , prevention and control.	Didactic (lectures, seminars, tutorial) -Journal club, -Critically appraised topic, Educational prescription	Written exam Portfolios Log book Oral exam
B. Mention the following factual basics and principles essential to advanced infection, prevention and control.		
C. State update and evidence based Knowledge related to the advanced infection , prevention and control.		
D. Memorize the facts and principles of the other relevant basic and clinically supportive sciences related to advanced infection , prevention and control including: • **Infection control in specific patient**		

care settings • **Prevention of procedure/device related infections** • **Infection control practices in out-patient healthcare settings** • **Advanced occupational safety issues** • **Quality concepts of IC**		
E. Mention the basic ethical and medicolegal principles revenant to the advanced infection , prevention and control.		
F. Mention 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 speciality 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 of relevance to advanced infection , prevention and control.	Didactic (lectures, seminars, tutorial) -Journal club, -Critically	Written exam Portfolios Log book Oral exam
B. Demonstrate an investigatory and analytic thinking (problem solving) approaches to		

conditions relevance to advanced infection , prevention and control.	appraised topic, Educational prescription	
C. Design and present audits, cases, seminars in common problems related to advanced infection , prevention and control.		
D. Formulate management plans and alternative decisions in different situations in the field of the advanced infection , prevention and control.		

C. Practical skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. perform field training essential to the advanced infection , prevention and control in the following patient care units: -Intensive care unit -Neonatal intensive care unit -Operating room -Burn unit -Dentistry unit -Renal dialysis units -Endoscopy unit -Transplantation unit -dentistry unit -maging services & radiation -Post mortem care -out-patient healthcare settings	- seminar -Direct observation of the practical work	log book - Objective structure
B. applying guidelines to prevent procedure/**device related infections** -Urinary catheter related infections -Intravascular device related infections		

-Surgical site related infections -Ventilator associated pneumonia		
C. Use and Interpret the graphic tools (e.g "fishbone" diagram)		
D. Perform improvement activities related to infection control		
E. Write and evaluate of the following reports: a. Needle stick incident management follow up		
F. Use information technology to support decisions in common situations related to advanced infection , prevention and control		
G. Develop and carry out plans for occupational safety issues		
H. Counsel and educate students, technicians and junior staff, in the lab about conditions related to **Advanced occupational safety issues:** -Screening programs for health care workers -Adult immunization programs -Work restrictions -Needlestick incident management follow-up for health care workers		
I. Share in providing health care services aimed solving health problems and better understanding of the normal structure and function.		

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)	Log book and supervision Written & oral communication Journal clubs Discussions in seminars Scientific meetings	Log book Portfolios Procedure/case presentation
B. Appraises evidence from scientific studies.		
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 model of a proper infection control practice to prevent procedure/device related infections in different inpatients and outpatients settings		
K. Write a report in needle stick incident management		

Professionalism

ILOs	*Methods of teaching/ learning*	*Methods of Evaluation*
L. Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society	Observation & supervision	Objective structured practical examination Student survey
M. Demonstrate a commitment to ethical principles including provision or withholding of clinical care, confidentiality of patient information, informed consent, business practices		
N. Demonstrate sensitivity and responsiveness to patients' culture, age, gender, and disabilities		

Systems-Based Practice

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

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

Time Schedule: Second part

Topic	Covered ILOs			
	Knowledge	Intellectual	Practical skill	General Skills
Infection control in specific patient care settings	A-H	A-D	A-I	A-Q
Prevention of procedure/device related infections	A-H	A-D	A-I	A-Q
Infection control practices in out-patient healthcare settings	A-H	A-D	A-I	A-Q
Advanced occupational safety issues	A-H	A-D	A-I	A-Q
Quality concepts of IC	A-H	A, D	-	A-Q

5. Course Methods of teaching/learning:

1. Didactics: Lectures, tutorial,
2. Practical field training in hospitals.
3. Case studies (problem solving).
4. Seminars, scientific meeting.
5. Journal club.
6. Educational prescription.
7. Critical appraisal topics.
8. Observation & supervision
9. Discussion
10. Written and oral communication

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

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

7. Course assessment methods:

Assessment tools:

- Written Examination; including 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.
- Case /problems – assess use of knowledge in evaluation of the proper implementation of the infection control policies**.**
- Logbook**.**
- Portfolio**.**
- Simulation.
- Record, review reports.
- Check list on steps of practical training of all steps.
- Practical exam.

ii. Time schedule: 2nd part

iii. Marks: 600 marks (300 for written+100 for oral + 200 for practical)

8. List of references

i. Lectures notes

ii. Essential books

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iii. Recommended books

- **APIC textbook of infection control and epidemiology**
- National infection control guidelines, 2018

https://www.moh.gov.sg › librariesprovider5 › resources-statistics › guidelines

iv. Periodicals, Web sites, … etc

- **CDC: www.cdc.gov**
- **APIC : www. APIC.org**
- **IFIC: www.theific.org**
- **International journal of infection control**
- **American journal of infection control**

9. Signatures

Course Coordinator: Prof. Enas Abdel Mageed Daef	**Head of the Department:** Prof. Noha Afifi
Date: ……	**Date:** ……

Annex 2, program academic reference standards

1- Graduate attributes for master degree in Infection Control

***The Graduate (after residence training and master degree years of study) must*:**

1- Have the capability to be a scholar, understanding and applying basics, methods and tools of scientific research and medical audit in Infection Control.

2- Appraise and utilise scientific knowledge to continuously update and improve clinical practice in Infection Control.

3- Acquire sufficient medical knowledge in the basic biomedical, clinical, behavioural and clinical sciences, medical ethics and medical jurisprudence and apply such knowledge in patient care in the field of Infection Control.

4- Dealing with common problems and health promotion using updated information in the field of Infection Control.

5- Identify and share to solve health problems in Infection Control.

6- Acquire all competencies –including the use of recent technologies- that enable him to provide safe, scientific, and ethical care including update use of new technology in the Infection Control field.

7- Demonstrate interpersonal and communication skills that ensure effective information exchange with other health professions, the scientific community, junior students and the public.

8- Function as supervisor, and trainer in relation to colleagues, medical students and other health professions.

9- Acquire decision making capabilities in different situations related to Infection Control practice.

10- Show responsiveness to the larger context of the related health care system, including e.g. the

organisation of health care, partnership with health care providers and managers, practice of cost-effective health care, health economics, and resource allocations.

11- Be aware of public health and health policy issues and share in system-based improvement of his practice and related health care.

12- Show appropriate attitudes and professionalism.

13- Demonstrate skills of lifelong learning and maintenance of competence and ability for continuous medical education and learning in subsequent stages in the Infection Control or one of its subspecialties.

2- Competency based Standards for basic master degree graduates

2.1- Knowledge and understanding

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

2-1-A- Established basic, biomedical, clinical, epidemiological and behavioral sciences related to the Infection Control.

2-1-B- The relation between practice in the Infection Control and the welfare of society.

2-1-C- Up to date and recent developments in common problems related to the field of Infection Control.

2-1-D- Ethical and medicolegal principles relevant to practice in the Infection Control field.

2-1-E -Quality assurance principles related to the good medical practice in the Infection Control field.

2-1-F- Ethical and scientific basics of medical research.

2.2- Intellectual skills:

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

2-2-A- Correlation of different relevant sciences in the problem solving and management of common problems of the Infection Control.

2-2-B- Problem solving skills based on data analysis and evaluation (even in the absence of some) for common situations related to Infection Control.

2.2- C- Demonstrating systematic approach in studding common themes or problems relevant to the Infection Control field.

2-2-D- Making alternative decisions in different situations in the field of the Infection Control.

2.3- Clinical skills

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

2-3-A - Provide practical and or laboratory services that can help patient care, solving health problems and better understanding of the normal structure and function.

2-3-B- Demonstrate practical / laboratory skills relevant to Infection Control.

2-3- C- Write and comment on reports for situations related to the field of Infection Control.

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- Demonstrate practice-based learning and improvement skills that involves investigation and evaluation of their own practice, appraisal and assimilation of scientific evidence, improvements in provided services and risk management.

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

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

- ***Competency-based objectives for interpersonal and communication Skills***

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

- ***Competency-based objectives for Professionalism***

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

- ***Competency-based objectives for Systems-based Practice***

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

2-4-G- Demonstrate skills of effective time management.

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

Annex 3, Methods of teaching/learning

Annex 3, Methods of teaching/learning

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

Teaching methods for knowledge

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

Teaching methods for patient care

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

Teaching methods for other skills

- ❖ Written communication (e.g., orders, progress note, transfer note, discharge summary, operative reports, and diagnostic reports).

- ❖ Oral communication (e.g., presentations, transfer of care, interactions with patients, families, colleagues, members of the health care team) and/or non verbal skills (e.g., listening, team skills)

- ❖ Professionalism, including medical ethics, may be included as a theme throughout the program curriculum that includes both didactic and experiential components (e.g., may be integrated into already existing small group

discussions of vignettes or case studies and role plays, computer-based modules) and may be modeled by the faculty in clinical practice and discussed with the resident as issues arise during their clinical practice.

Annex 4, Assessment methods

Annex 4, ILOs evaluation methods for Master Degree 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 Master Degree doctors 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 MSc 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 MSc doctor's performance on checklists and provide feedback for history taking, physical examination, and communication skills. Physicians may also rate the MSc doctor's performance.

- Objective Structured Clinical Examination (OSCE) – A series of stations with standardized tasks for the MSc doctors to perform. Standardized patients and other assessment methods often are combined in an OSCE. An observer or the standardized patient may evaluate the MSc doctors.

- Procedure or Case Logs – MSc 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 a MSc 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 – MSc doctors, faculty, nurses, clerks, and other clinical staff evaluate MSc doctors from different perspectives using similar rating forms.

- Portfolios – A portfolio is a set of project reports that are prepared by the MSc doctors to document projects completed during the MSc 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 – MSc 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 MSc doctors.

Annex 5,
Program evaluation tools

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

Annex 6, Program Correlations:

مصفوفة توافق المعايير القومية القياسية العامة لبرامج الماجستير مع المعايير الأكاديمية المعتمدة من كلية الطب – جامعة أسيوط لدرجة الماجستير في مكافحة العدوى

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

1- Graduate attributes

NAQAAE General ARS for Postgraduate Programs	Faculty ARS
البحث منهجيات و أساسيات تطبيق ١- إجادة المختلفة أدواته واستخدام العلمي	1- Have the capability to be a scholar, understanding and applying basics, methods and tools of scientific research and medical audit in the Infection Control
مجال في واستخدامه التحليلي المنهج ٢-تطبيق مكافحة العدوى	2- Appraise and utilise scientific knowledge to continuously update and improve clinical practice in the related Infection Control.
مع دمجها و المتخصصة المعارف ٣-تطبيق المهنية ممارسته في العلاقة ذات المعارف	3- Acquire sufficient medical knowledge in the basic biomedical, clinical, behavioural and clinical sciences, medical ethics and medical jurisprudence and apply such knowledge in patient care in the field of Infection Control.
الرؤى و الجارية بالمشاكل وعيا ٤-إظهار مكافحة العدوى مجال في الحديثة	4- Dealing with common problems and health promotion using updated information in the field of Infection Control.
لها حلولا إيجاد و المهنية المشكلات ٥-تحديد	5- Identify and share to solve health problems in his Infection Control.
المهنية المهارات من مناسب نطاق ٦-إتقان الوسائل واستخدام المتخصصة،	6- Acquire all competencies that enable

المهنية ممارسته يخدم بما التكنولوجيةالمناسبة	him to provide safe, scientific, ethical care including update use of new technology in the Infection Control field.

1- Graduate attributes (Continuous)

NAQAAE General ARS for Postgraduate Programs	Faculty ARS
٧-التواصل بفاعلية و القدرة على قيادة فرق العمل	7- Demonstrate interpersonal and communication skills that ensure effective information exchange with other health professions, the scientific community, junior students and the public. 8- Function as supervisor, and trainer in relation to colleagues, medical students and other health professions.
٨-اتخاذ القرار في سياقات مهنية مختلفة	9- Acquire decision making capabilities in different situations related to Infection Control practice.
٩- توظيف الموارد المتاحة بما يحقق أعلي استفادة و الحفاظ عليها	10- Show responsiveness to the larger context of the related health care system, including e.g. the organisation of health care, partnership with health care providers and managers, practice of cost-effective health care, health economics, and resource allocations.
١٠-إظهار الوعي بدوره في تنمية المجتمع و الحفاظ على البيئة في ضوء المتغيرات العالمية و الإقليمية	11- Be aware of public health and health policy issues and share in system-based improvement of his practice and related health care.
١١-التصرف بما يعكس الالتزام بالنزاهة و	12- Show appropriate attitudes and

المصداقية و الالتزام بقواعد المهنة	professionalism.
١٢-تنمية ذاته أكاديميا و مهنيا و قادرا علي التعلم المستمر	13- Demonstrate skills of lifelong learning and maintenance of competence and ability for continuous medical education and learning in subsequent stages in the Infection Control or one of its subspecialties.

2-Academic standards

NAQAAE General ARS for Postgraduate Programs	Faculty ARS
٢-١-أ-النظريات و الأساسيات المتعلقة بمجال التعلم وكذا في المجالات ذات العلاقة.	2.1. A - Established basic, biomedical, clinical, epidemiological and behavioral sciences related to the Infection Control.
٢-١-ب-التأثير المتبادل بين الممارسة المهنية وانعكاسها علي البيئة.	2.1. B- The relation between practice in the Infection Control and the welfare of society.
٢-١-ج-التطورات العلمية في مجال مكافحة العدوى.	2.1. C- Up to date and recent developments in common problems related to the field of Infection Control.
٢-١-د-المبادئ الأخلاقية و القانونية للممارسة المهنية في مجال مكافحة العدوى.	2.1. D- Ethical and medicolegal principles relevant to practice in the Infection Control field.
٢-١-هـ- مبادئ و أساسيات الجودة في الممارسة المهنية في مجال مكافحة العدوى	2.1. E- Quality assurance principle related to the good medical practice in the Infection Control field.
٢-١-و- أساسيات وأخلاقيات البحث العلمي	2.1. F- Ethical and scientific basics of medical research.

NAQAAE General ARS for Postgraduate Programs	Faculty ARS
٢-٢-أ- تحليل و تقييم المعلومات في مجال مكافحة العدوى والقياس عليها لحل المشاكل	2.2. A- Correlation of different relevant sciences in the problem solving and management of common problems of the Infection Control. 2.2. B- Problem solving skills based on data analysis and evaluation (even in the absence of some) for common situations related to Infection Control.
٢-٢-ب- حل المشاكل المتخصصة مع عدم توافر بعض المعطيات	2.2. B- Problem solving skills based on data analysis and evaluation (even in the absence of some) for common situations related to Infection Control.
٢-٢-ج- الربط بين المعارف المختلفة لحل المشاكل المهنية	2.2. A- Correlation of different relevant sciences in the problem solving and management of common problems of the Infection Control.
٢-٢-د- إجراء دراسة بحثية و /أو كتابة دراسة علمية منهجية حول مشكلة بحثية	2.2. C- Demonstrating systematic approach in studding common themes or problems relevant to the Infection Control field.
٢-٢هـ- تقييم المخاطر في الممارسات المهنية في مجال مكافحة العدوى	2.4. A- Demonstrate practice-based learning and improvement skills that involves investigation and evaluation of their own practice, appraisal and assimilation of scientific evidence, improvements in provided services

and risk management.	
2.4. A- Demonstrate practice-based learning and improvement skills that involves investigation and evaluation of their own practice, appraisal services and risk management.	٢-٢-و- التخطيط لتطوير الأداء في مجال مكافحة العدوى

2-Academic standards (Continuous

NAQAAE General ARS for Postgraduate Programs	Faculty ARS
٢-٢-ز- اتخاذ القرارات المهنية في سياقات مهنية متنوعة	2.2. D- Making alternative decisions in different situations in the field of the Infection Control.
٢-٣-أ- إتقان المهارات المهنية الأساسية و الحديثة في مجال مكافحة العدوى	2.3.A- Provide practical and or laboratory services that can help patient care ,solving health problems and better understanding of the normal structure and function. 2.3. B- Demonstrate practical / laboratory skills relevant to Infection Control.
٢-٣-ب- كتابة و تقييم التقارير المهنية	2.3. C- Write and comment on repor related to the field of Infection Contr
٢-٣-ج- تقييم الطرق و الأدوات القائمة في مجال مكافحة العدوى	2.3.A- Provide practical and or laboratory services that can help patient care ,solving health problems and better understanding of the normal structure and function. 2.3. B- Demonstrate practical / laboratory skills relevant to that Infection Control.

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

NAQAAE General ARS for Postgraduate Programs	Faculty ARS
٢-٤-أ-التواصل الفعال بأنواعه المختلفة	2.4. D- Demonstrate interpersonal and communication skills that result in effective information exchange and teaming with patients, their families, lab technical staff and other health professionals.
٢-٤-ب- استخدام تكنولوجيا المعلومات بما يخدم الممارسة المهنية	2.4. A- Demonstrate Practice-Based learning and Improvement skills that involves investigation and evaluation of their own practice, appraisal and assimilation of scientific evidence, improvements in provided services and risk management. 2.4. B- Use all information sources and technology to improve his practice.
٢-٤-ج- التقييم الذاتي وتحديد احتياجاته التعلمية الشخصية	2.4. A- Demonstrate Practice-Based learning and Improvement skills that involves investigation and evaluation of their own practice, appraisal and assimilation of scientific evidence, improvements in provided services and risk management. 2.4. B- Use all information sources and technology to improve his practice.

	2.4. E-Demonstrate Professionalism behaviors, as manifested through a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population.

2-Academic standards (Continuous)

NAQAAE General ARS for Postgraduate Programs	Faculty ARS
٢-٤-د- استخدام المصادر المختلفة للحصول على المعلومات و المعارف	2.4. A- Demonstrate Practice-Based learning and Improvement skills that involves investigation and evaluation of their own practice, appraisal and assimilation of scientific evidence, improvements in provided services and risk management.
٢-٤-هـ- وضع قواعد ومؤشرات تقييم أداء الآخرين	2.4. C- Demonstrate skills of teaching and evaluating others.
٢-٤-و- العمل في فريق ، وقيادة فرق في سياقات مهنية مختلفة	2.4. F- Demonstrate an awareness of and responsiveness to the larger context and system of health care and academic services and the ability to effectively use system resources to provide care that is of optimal value.
٢-٤-ز- إدارة الوقت بكفاءة	2.4. G- Demonstrate skills of effective time management.

٢-٤-ح- التعلم الذاتي و المستمر	2.4. H- Demonstrate skills of self and continuous learning.

II- Comparison between Program ARS and ILOS for master degree in Infection Control

(ARS)	(ILOs)
2-1- Knowledge and understanding **2-1-A-** Established basic, biomedical, clinical, epidemiological and behavioral sciences related to the Infection Control.	***2-1- Knowledge and understanding*** **2-1-A**- Explain the essential facts and principles of relevant basic sciences related to Infection Control. **2-1-B-** Mention essential facts of clinical supportive sciences related to Infection Control. **2-1-C-** Demonstrate sufficient knowledge of the main subjects related to Infection Control.
2-1-B The relation between practice in the speciality and the welfare of society.	**2-1-H-** State the impact of common problems related to the field of Infection Control on the society and how good practice can improve these problems.
2-1-C- Up to date and recent developments in common problems elated to the field of Infection Control.	**2-1-C-** Demonstrate sufficient knowledge of the main subjects related to Infection Control. **2-1-D-** Give the recent and update developments in the most important themes related to Infection Control.
2-1-D- Ethical and medicolegal principles	**2-1-E-** Mention the basic ethical and medicolegal principles that

relevant to practice in the Infection Control field.	should be applied in practice and are relevant to the field of Infection Control.
2-1-E-Quality assurance principles related to the good medical practice in the Infection Control field.	**2-1-F-** Mention the basics and standards of quality assurance to ensure good practice in the field of Infection Control.
2-1-F- Ethical and scientific basics of medical research.	**2-1-G-** Mention the ethical and scientific principles of medical research methodology.

continuous **(ARS)**	**continuous** **(ILOs)**

***2-2- Intellectual skills*:** **2-2-A-**Correlation of different relevant sciences in the problem solving and management of common problems of the Infection Control.	***2-2- Intellectual skills:*** **2-2-A-** Correlate the relevant facts of relevant basic and clinically supportive sciences with reasoning, diagnosis and management of common problems of the Infection Control.
2-2-B-Problem solving skills based on data analysis and evaluation (even in the absence of some) for common situations related to Infection Control.	**2-2-B-** Demonstrate an investigatory and analytic thinking approach (problem solving) to common clinical or practical situations related to Infection Control.
2-2-C- Demonstrating systematic approach in studding common themes or problems relevant to the Infection Control field.	**2-2-C-** Design and /or present a case or review (through seminars/journal clubs.) in one or more of common themes or problems relevant to the Infection Control field.
2-2-D Making alternative decisions in different situations in the field of the Infection Control.	**2-2-D-** Formulate management plans and alternative decisions in different situations in the field of the Infection Control.

continuous (ARS)	continuous (ILOs)
2-3- Practical skills:	***2/3/1/Practical skills)***
2-3-A- Provide practical and or laboratory services that can help patient care ,solving health problems and better understanding of the normal structure and function.	**2-3-1-A-** Demonstrate competently relevant laboratory skills related to Infection Control .
	2-3-1-B- Use the up to date technology for the conditions related to Infection Control .
2-3-B- Demonstrate practical/laboratory skills relevant to Infection Control .	**2-3-1-C-** Develop plans for performing experiments related to Infection Control .
	2-3-1-D- Carry out common experiments related to Infection Control .
	2-3-1-E- Counsel and educate students, technicians and junior staff, in the lab about conditions related to speciality; including handling of samples, devices, safety and maintenance of laboratory equipments.
	2-3-1-F- Use information technology in some of the situations related to Infection Control .
	2-3-1-G- Share in providing health care services aimed supporting patient care ,solving health problems

	and better understanding of the normal structure and function.
2-3-C- Write and comment on reports for situations related to the field of Infection Control **.**	**2-3-1-H** Write competently all forms of professional reports related to the Infection Control (lab reports, experiments reports,).

Continuous (ARS)	continuous (ILOs)
2-4- General skills	***2/3/2 General skills***
2-4-A- Demonstrate practice-based learning and improvement skills that involves investigation and evaluation of their own practice, appraisal and assimilation of scientific evidence, improvements in provided services and risk management	**2-3-2-A-** Perform practice-based improvement activities using a systematic methodology (share in audits and risk management activities and use logbooks). **2-3-2-B-** Appraises evidence from scientific studies. **2-3-2-C-** Conduct epidemiological Studies and surveys.
2-4-B- Use all information sources and technology to improve his practice.	**2-3-2-C-** Conduct epidemiological Studies and surveys. **2-3-2-D**-Performdata management including data entry and analysis and Using information technology to manage information, access on-line medical information; and support their own education.
2-4-C- Demonstrate skills of teaching and evaluating others.	**2-3-2-E-** Facilitate learning of students, lab technical staff and other health care professionals including their evaluation and assessment.
2-4-D- Demonstrate interpersonal and communication skills that result in effective information exchange and teaming with patients, their families, lab technical staff and other health	**2-3-2-F-** Maintain therapeutic and ethically sound relationship with patients, their families, lab technical staff and other health professionals. **2-3-2-G-** Elicit information using

professionals.	effective nonverbal, explanatory, questioning, and writing skills. **2-3-2-H-** Provide information using effective nonverbal, explanatory, questioning, and writing skills. **2-3-2-I-** Work effectively with others as a member of a team or other professional group.
2-4-E-Demonstrate professionalism behaviors, as manifested through a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population.	**2-3-2-J-** Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society. **2-3-2-K**- Demonstrate a commitment to ethical principles including provision or withholding of clinical care, confidentiality of patient information, informed consent, business practices. **2-3-2-L**-Demonstrate sensitivity and responsiveness to patients' culture, age, gender, and disabilities.
2-4-F- Demonstrate an awareness of and responsiveness to the larger context and system of health care and academic services and the ability to effectively use system resources to provide care that is of optimal value.	**2-3-2-M**-Work effectively in relevant academic and health care delivery settings and systems including good administrative and time management. **2-3-2-N-** Adopt cost-effective practice and resource allocation that does not compromise quality of

	services. **2-3-2-O**- Assist patients in dealing with system complexities.
2-4-G- Demonstrate skills of effective time management.	**2-3-2-M**-Work effectively in relevant academic or health care systems including good administrative and time management.
2-4-H- Demonstrate skills of self and continuous learning.	**2-3-2-A-** Perform practice-based improvement activities using a systematic methodology (share in audits and risk management activities and use logbooks).

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	2/1/F	2/1/G	2/1/H
Course 1: Basic and Clinical Medical Microbiology	√	√	√	√	√	√	√	√
Course 2: Immunology	√	√	√	√	√	√	√	√
Course 3: - Epidemiologic Methods for Infection Control	√	√	√	√	√	√	√	√
Course 4: Applied Biostatistics		√			√	√	√	√
Course 5: Infection Control1 (Basic principles and general guidelines for infection prevention and control)	√	√	√	√	√	√	√	√
Course 6: Infection Control 2 (Advanced infection , prevention and control)	√	√	√	√	√	√	√	√

Intellectual Outcomes

Course	Program covered ILOs			
	2/1/A	2/1/B	2/1/C	2/1/D
Course 1: Basic and Clinical Medical Microbiology	√	√	√	√
Course 2: Immunology	√	√	√	√
Course 3: -Epidemiologic Methods for Infection Control	√	√	√	√
Course 4: Applied Biostatistics	√	√	√	√
Course 5: Infection Control1 (Basic principles and general guidelines for infection prevention and control)	√	√	√	√
Course 6: Infection Control 2 (Advanced infection , prevention and control)	√	√	√	√

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
Course 1: Basic and Clinical Medical Microbiology	√	√	√	√	√	√	√	√
Course 2: Immunology								
Course 3: - Epidemiologic Methods for Infection Control	√	√	√	√	√	√	√	
Course 4: Applied Biostatistics	√		√	√				
Course 5: Infection Control1 (Basic principles and general guidelines for infection prevention and control)	√	√	√	√	√	√	√	√
Course 6: Infection Control 2 (Advanced infection , prevention and control)	√	√	√	√	√	√	√	√

General Skills

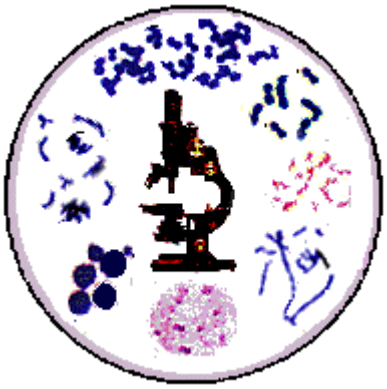
Course	Program covered ILOs							
	2/3/2/ A	2/3/2/ B	2/3/2/ C	2/3/2/ D	2/3/2/ E	2/3/2/ F	2/3/2/ G	2/3/2 /H
Course 1: Basic and Clinical Medical Microbiology	√	√	√	√	√	√	√	√
Course 2: Immunology	√	√	√	√	√	√	√	√
Course 3: - Epidemiologic Methods for Infection Control	√	√	√	√	√	√	√	√
Course 4: Applied Biostatistics	√	√	√	√	√	√	√	√
Course 5: Infection Control1 (Basic principles and general guidelines for infection prevention and control)	√	√	√	√	√	√	√	√
Course 6: Infection Control 2 (Advanced infection , prevention and control)	√	√	√	√	√	√	√	√

General Skills

Course	Program covered ILOs						
	2/3/2/I	2/3/2/ J	2/3/2/ K	2/3/2/ L	2/3/2/ M	2/3/2/ N	2/3/2/ O
Course 1: Basic and Clinical Medical Microbiology	√	√	√	√	√	√	√
Course 2: Immunology	√	√	√	√	√	√	√
Course 3: - Epidemiologic Methods for Infection Control	√	√	√	√	√	√	√
Course 4: Applied Biostatistics	√	√	√	√	√	√	√
Course 5: Infection Control1 (Basic principles and general guidelines for infection prevention and control)	√	√	√	√	√	√	√
Course 6: Infection Control 2 (Advanced infection , prevention and control)	√	√	√	√	√	√	√

Annex 7,
Additional information:

Department information:



Our Mission:

The mission of the Department of Microbiology and Immunology is to conduct the best possible research and provide the most rigorous and inspiring training in the areas of microbiology, immunology, host-pathogen interaction and related fields. Through such activities, our goal is to improve human and animal health. We hope to present an overview of our research and training activities and to inspire like-minded individuals to join us in our quest.

Research

The traditional focus of the Department of Microbiology and Immunology has been on how microbes survive and cause disease in an animal or human host and how that host's immune system discriminates between self, friend (commensal microbes) and pathogenic microbes. In recent years, the Department has expanded this scope to also include related disciplines such as genetics, biotechnology, and Infection control through inclusion of the infection control research lab.

On the side of the microorganism, we study the growth and pathogenesis of viruses, bacteria, and fungi asking questions such as how do these organisms penetrate and survive in their chosen environment? How do they deal with the host's potent immune response? What distinguishes “good” microbes from “bad” and how do the two interact? What is responsible for latency/persistence and reactivation of infection?

On the side of the host, we are asking questions such as how are self-antigens distinguished from non-self? How are antigens processed and presented to effector cells? What cascades follows antigen presentation? What roles do the various effector cells play in the host's immune response to different diseases? How does tolerance arise during development, how does it break down in autoimmunity and how can we interfere with these processes?

Using a variety of microbial and host systems, we are also addressing fundamental questions of cell development and gene regulation. For example, how do cancer cells lose their self-control? Gene expression, of course, is central to much of biology.

- The Department underwent several expansions by inclusion of the PCR lab., Virology lab and the infection control lab. This is a group of faculty with interests that take us beyond our traditional focus in host and pathogen into even more diverse but complementary areas of biomedical research.

- The Department of Microbiology and Immunology is a community of over 30 individuals, all of whom share a common passion for research and learning. The Department was founded almost 50 years ago and has gone by a number of names since that time, each reflecting a particular stage in the evolution of medicine and the life sciences. Our current name is Medical Microbiology and immunology Department.

Staff members:

Professors:

Prof. Shaban Hashim Ahmed
Prof. Ismail Sedeek Mohamed
Prof. Amany Gamal Thabet
Prof. Ahmed Sadik Ahamed
Prof. Mohamed Aly Mohamed Al-Feky
Prof. Khaled Hassanein
Prof. Enas Abdel-Megeed Mohamed Daef
Prof. Ehsan Abdel-Sabour
Prof. Mona Amin Hassan
Prof. Mohamed Saad Badary
Prof. Salwa Said Ahmed
Prof. Noha Adbel-Haleem Afifi
Prof. Shereen Ahmed Abdel-Rahman
Prof. Nahla Mohamed Al-Sherbeny
Prof. Michael Nazmy Agban

Assistant Professors:

Dr. Shreen Gamal Aldeen Al-Gendy
Dr. Wegdan Abdel-Hameed Mohamed
Dr. Intsar Hamid Ahmed
Dr. Hanaa Nafady
Dr. Mona Salam Embarak
Dr. Magi Abdallah Ibraheem
Dr. Omnia Hassan Bakr
Dr. Mohamed El-Mokhtar
Dr. Amany Mohamed Adawy
Dr. Mona Hussein Mohamed

Lecturers:

Dr. Alyaa Ghandour
Dr. Amal Ahmed El-Khawaga
Dr. Shereen Mohamed
Dr. Shreen Saber
Dr. Helal Fouad

Dr. Raoheia Fathey
Dr. Asmaa Salah Shaltoot
Dr. Heba Ismaeil

Opportunities within the department:

Education

The teaching mission of the Department is to provide the best possible training in the areas of microbiology, immunology and related fields. Our approach is holistic in that we are constantly considering the entirety of the system we study, be it the pathogenesis of an autoimmune disease (perhaps microbially triggered) or a pathogen-produced virulence protein that reprograms gene expression in an infected cell. We know that all of us are both student and teacher, be we first year undergraduates or senior faculty. Teaching and learning are our constant companions in the classroom, the lab, the ward or the office.

We offer a large number of formal courses as well as practical training and mentoring in the lab and clinic. We are committed to undergraduate and postgraduate training.

Undergraduate Studies

The Department of Microbiology and Immunology offers many opportunities for undergraduate students to learn about our discipline. We offer many courses that specifically cater to undergraduates ranging from freshman seminars through to advanced classes for seniors. Undergraduates also are encouraged to obtain research experience in the labs of department faculty. Students interested in doing this should contact individuals whose work falls within their specific area of interest.

Graduate Studies

Courses typically taken are at the advanced graduate level in microbiology, immunology, genetics besides cell and molecular biology. All students are required to obtain some teaching experience, usually by serving as teaching assistant. The normal time for completion of the MD. is about 2 to3 years, and for Ph.D is about 4 years.

Seminars

The Department of Microbiology and Immunology holds a monthly Research Seminar Series which present current research in microbiology

Events and Achievments:

Completed Research Support

- R21AI067868 Shata (P.I.)8/15/06 – 7/31/08

University of Cincinnati

Towards Understanding the Morbidity of HEV

This research project is a collaborative effort among American and Egyptian scientists to study the immunology and virology of hepatitis E virus.

- HC &HB Project Ahlam(P.I .) 1/1/1998-1/1/1999

Cement Company

Screening for Hepatitis B and Hepatitis C viruses among workers and their families in Cement Company in Assiut.

- HCV in Egypt (Strickland)P.I 1/11996-1/1/2000

Vaccination against Poliomyelitis Farouk Hassanen (P.I.) 1/5/1993-1/12/1994

- **USAID Schistosomiasis Rsearch project** 06-03-61

  1-6-1992 to 28-2-1997,

- **Idiotypic Regulations Of Immune Response**
  Shata(P.I.) 1/1/1991-1/2/1995

To

Schistosomiasis Hematobium (Grant No 3/1/34)
Ultrasound and Immunological Assesment of Praziquntel
Ahmad Medhat (P.I) 1/7/1991-1/6/1996
Therapy of Patients infected with Schistosoma hematobium
Contact Us

General mail should be addressed to:

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Faculty of Medicine

Assiut University

Egypt

Faculty are most easily found on our **Faculty Research page**
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(End of the program specification)