COURSESPECIFICATION

(Advanced Microbial Genetics)

Faculty of Medicine– Mansoura University

(A) Administrativeinformation

(1) Programmeoffering the course:	Programme for Postgraduate master degree of Medical Microbiology and Immunology
(2) Department offering the programme:	Medical Microbiology and Immunology
(3) Department responsible for teaching the course:	Medical Microbiology and Immunology dep.
(4) Part of the programme:	Second part
(5) Date of approval by the Department`s council	7/8/2016
(6) Date of last approval of programme specification by Faculty council	9/8/2016
(7) Course title:	Advanced microbial genetics
(8) Course code:	MIC 507AG
(9) Credit hours	1
(10) Total teaching hours:	15 hrs lectures

(B) Professional information

(1) Course Aims:

The broad aims of the course are as follows:(either to be written in items or as a paragraph)

To provide the candidate with theoretical knowledge ofadvances in microbial genetics

(2) Intended Learning Outcomes (ILOs):

Intended learning outcomes (ILOs); Are four main categories: knowledge& understanding to be gained, intellectual qualities, professional/practical and transferable skills.

On successful completion of the course, the candidate will be able to:

A- Knowledge and Understanding

A 1 recognize the basics of viral genetics.

A 2 describe the fungal genetics in prokaryots and euokaryotes.

A 3 outline the different PCR varieties, their advances and applications

A 4 explain different blotting techniques and their applications in microbial diagnosis.

A 5 Discuss restriction fragment length polymorphism (RFLP) and its applications in molecular typing.

B1 Interpret the results of advanced molecular diagnostic techniques including different PCR varieties, blotting techniques and RFLP.
B 2 Assess the advantages of individual methods of molecular diagnosis of infections.
B 3 Analyze and explain the pitfalls encountered in resultsof different PCR methodss.

(3) Course content:

Subjects	Lectures (15 h)	Laboratory	Field
Viral genetics	3hour		
Fungal genetics in prokaryotes and euokaryotes	3 hour		
PCR varieties and advances	3 hours		
Blotting techniques	3 hours		
Restriction fragment length polymorphism (RFLP)	3 hour		

(4) Teaching methods:

4.1: Lectures

4.2:Seminars

4.3:Attending workshops

4.4 Observation of, assisting and discussion with senior medical staff

(5) Assessment methods:

5.1:Written exam for assessment of knowledge and intellectual ILOs

5.2:: MCQ continuous assessment exam for assessment of knowledge and intellectual ILOs

Assessment schedule:

Percentage of each Assessment to the total mark (total microbiology course assessment):

Written exam:…40 marks

MCQ:…… 10 marks

Other types of assessment:……None……. .%:……

Other assessment without marks:

1-Candidate Logbook which should be fulfilled and signed by Head of the department.

1- Attendance Criteria: Minimum acceptance attendance is 75%

(6) References of the course:

6.1: Hand books: Department theoretical books and handout

6.2: Text books:…

1. Topley and Wilson's Microbiology and Microbial infections. Volume 8,2005,10th edition
2. Zinsser Microbiology-2001.
3- Fundamental Bacterial Genetics : Nancy Trun and JaninTrempy-2004

6.3: Journals:

1. Clinical Microbiology Reviews
2. Journal of Clinical Microbiology
3. Journal of Medical Microbiology
4. Journal of Microbiological Methods
5. Journal of Applied Genetics.

6.1: Websites: Nature Reviews:

http://www.nature.com/nrg/focus/microgen/index.html

1. **Facilities and resources mandatory for course completion:**
   1. Lecture halls.
   2. Data shows and computer assistance.
   3. Molecular biology laboratory.
   4. Thermal cycler device.

5. UV illuminator.
6. Tray for gel electrophoresis.
7. Chemicals for genetic techniques.

Course coordinator: Dr. Heba Degla

Head of the department: Prof. Dr. Mohammad Abou El ela

Date: