COURSE SPECIFICATION

(Advanced Microbial Genetics)

Faculty of Medicine– Mansoura University

(A) Administrative information

(1) Programme offering the course:	Program for Postgraduate MD 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 607 AG
(9) Credit hours	2
(10) Total teaching hours:	30 hrs

(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)

Intended Learning Outcomes (ILOs):

1- To provide the candidate with theoretical knowledge of advances in microbial genetics
2- To educate the candidate how to do advanced molecular techniques in practice

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

A- Knowledge and Understanding

A 1 recognize the basics of DNA fingerprinting.
A 2 describe the epigenitics in prokaryots and euokaryotes.
A 3 explain metagomic techniques and their applications in microbial diagnosis.
A 4 understand genome coding strategies.
A 5 know the tools for next generation sequencing
A 6 outline the applications of bacterial transformation.
A 7 describe bacterial mapping techniques.

2- Intellectual activities (I)

B- Intellectual skills

The Postgraduate Degree provides opportunities for candidates to achieve and demonstrate the following intellectual qualities:

B 1 Interpret the results of DNA fingerprinting.
B 2 Assess the advantages of next generation sequencing.
B 3 Analyze and explain the results of next generation sequencing and bacterial mapping techniques.

(2) Course content:

Subjects	Lectures (30 h)
DNA fingerprinting and applications of DNA analysis	5
Epigenetics	5
Metagenomics	5
Genome coding strategies	5
Next generation sequencing techniques	5
Applications of bacterial transformation	3
Bacterial mapping techniques	2

(3) Teaching methods:

4.1: Lectures

4.2: Seminars

4.4: Attending workshops

4.5 Observation of, assisting and discussion with senior medical staff

(4) Assessment methods:

5.1:Written exam for assessment of ILOs number; A 1-7, B 1-3

5.3: MCQ continuous assessment exam for assessment of ILOs number; A 1-7, B 1-3

Assessment schedule:

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

Written exam: 40 marks, that is 80% of the total marks

MCQ: 10 marks, that's is 20% of the total 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%

(5) References of the course:

6.1: Hand books: Department theoretical books

6.2: Text books:…

1- Fundamental Bacterial Genetics : Nancy Trun and Janin Trempy -2004

6.3: Journals:

1. Journal of Microbiological Methods

2. 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. Enas hammad**

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

Date: