



## COURSE SPECIFICATION

### (Molecular Biology of Cancer)

Faculty of Medicine- Mansoura University

#### (A) Administrative information

(1) Programme offering the course.	Postgraduate Master degree of Medical Oncology
(2) Department offering the programme.	Internal Medicine Department
(3) Department responsible for teaching the course.	Medical Oncology Unit
(4) Part of the programme.	2 <sup>nd</sup> part
(5) Date of approval by the Department's council	2/08/2016
(6) Date of last approval of programme specification by Faculty council	9/8/2016
(7) Course title.	Molecular Biology of Cancer
(8) Course code.	MONC 510 MB
(9) Total teaching hours.	30 hours/15 Weeks

## **(B) Professional information**

### **1) Course Aim.**

The broad aim of the course are as follows.

1. To familiarize the students with basic principles of Molecular biology and protein synthesis.
2. To enable the student to describe the biological membrane, the role of free nucleotides in signal transduction control, and macromolecules involved in transmission of information from gene expression to the formation of functioning proteins.

### **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**

- A1. Define the significance of human genome project and the principles of gene therapy.
- A2. Describe cell cycle and its regulation, and point out how its dysregulation results in either apoptosis or carcinogenesis.
- A3. Identify the causes and possible mechanisms of carcinogenesis, and how to screen, diagnose, and follow-up cancer by detection of tumor markers.

#### **B- Intellectual skills**

- B1. Analyze result of molecular tests.
- B2. Compare between normal and cancer stem cells.

### 3) Course content:

Subjects	Lectures	Clinical	Laboratory	Seminars	Total Teaching Hours
1) Molecular Tools in Cancer Research	4h				4h
2) Intracellular Signaling	4h				4h
3) The Cellular Microenvironment and Metastases	4h				4h
4) Control of the Cell Cycle	4h				4h
5) Pathophysiology of Cancer Cell Death	4h				4h
6) Cancer Immunology	4h				4h
7) Stem Cells, Cell Differentiation, and Cancer	2h				2h
8) Vascular and Interstitial Biology of Tumors	4h				4h

### 4) Teaching methods:

#### 4.1 Power point presentation

### 5) Assessment methods:

5.1. Written exam for assessment of A1-3 , B1-2

5.2. MCQ exam for assessment of A1-3 , B1-2

**Percentage of each Assessment to the total mark.**

Written exam:	80 marks	80% of total exam.
MCQ exam	20 marks	20% of total exam.

**6) References of the course.**

**6.2 Text books:** – Manual of Clinical Oncology seventh edition (Dennis A.Casciato)  
– Abeloff's Clinical Oncology, 5th Edition (Johj E. Niederhuber)

**7) Facilities and resources mandatory for course completion.**

- Lectures Halls.
- Data show.

**Course coordinator:**

**Prof. Sameh Shamaa**

**Prof. Tawfik Elkhodary**

**Dr. Ziad Emarah**

**Head of the department:**

**Prof. Salah El-Gamal**

**Date of First Approval: 22/12/2010**

**Date of Last Approval: 23/08/2016**