



**COURSE SPECIFICATION**  
**OF TISSUE CULTURE & TISSUE ENGINEERING**  
**Faculty of Medicine- Mansoura University**

**(A) Administrative information**

(1) Programme offering the course.	Postgraduate Doctorate degree of plastic surgery/ PSUR600
(2) Department offering the programme.	Plastic and reconstructive surgery Department
(3) Department responsible for teaching the course.	Plastic and reconstructive surgery Department
(4) Part of the programme.	Second Part
(5) Date of approval by the Department`s council	11/7/2016
(6) Date of last approval of programme specification by Faculty council	9/8/2016
(7) Course title.	Tissue culture & tissue engineering
(8) Course code.	PSUR 633 TCE
(9) Total teaching hours.	30 lecturers hours throughout the 4 semesters

## **(B) Professional information**

### **(1) Course Aims:**

The broad aims of the course are as follows: This course provides fellows with the ability to:

- 1- To provide knowledge about basic principles of tissue engineering and biologic materials used.
- 2- To provide basic knowledge about stem cells and its applications in the field of plastic surgery.

### **(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 22- Understand the basic principles of tissue engineering.
- A 23- Understand the basic principles of cell and tissue culture.
- A 24- know the different biologic materials used in tissue engineering.
- A 25- Understand the basic principles of stem cells and its applications in the field of plastic surgery.

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

- B15 – Analyze expected cell responses to surface and architecture of tissue engineering scaffolds.

**(3) Course content.**

Subjects	Lectures 3hrs/week For 10 weeks	Clinical	Laboratory	Field	Total Teaching Hours (30 hrs)
▪ Basic principles of tissue engineering	3 hrs/wk for one week				3 hrs/ one week
▪ Cell and tissue culture	3 hrs/wk for one week				3 hrs/ one week
▪ Biologic materials in tissue culture	3 hrs/wk for one week				3 hrs/ one week
▪ Basic principles of tissue transplantation	3 hrs/wk for one week				3 hrs/ one week
▪ Skin bank	3 hrs/wk for one week				3 hrs/ one week
▪ Gene therapy	3 hrs/wk for one week				3 hrs/ one week
▪ Cell responses to surface and architecture of tissue engineering scaffolds	3 hrs/wk for one week				3 hrs/ one week
▪ Angiogenesis and vascularity for tissue engineering applications	3 hrs/wk for one week				3 hrs/ one week
▪ Role of stem cells in plastic surgery	3 hrs/wk for one week				3 hrs/ one week
▪ Growth factors and cytokines and their role in tissue engineering	3 hrs/wk for one week				3 hrs/ one week

**(4) Teaching methods.**

4.1. Lectures. ....

**(5) Assessment methods.**

5.1. Final written exam .....

**Assessment schedule.**

At the end of 36<sup>th</sup> month .....

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

Written exam:.....50.....

- Written exam is directed to measure knowledge and intellectual skills

**(6) References of the course.**

**6.1: Hand books:**

- Oxford handbook of plastic and reconstruction surgery, .....
- plastic surgery secrets .....

**6.2: Text books:**

- Michigen manual of plastic surgery.....
- Grabb and Smith's plastic surgery .....
- Total burn care .....

**6.3: Journals:**

- Plastic and reconstructive surgery (PRS) ...
- Annals of plastic surgery .....
- IPRAS (International journal of Plastic, Reconstructive and Aesthetic Surgery).....
- Burns .....
- Tissue engineering .....

**6.4: Others .....Attending meetings & Conferences.....**

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

- Laptop and data show projector
- Laser pointer and white board
- Comfortable and well prepared classroom

**Course coordinator: Dr. Mohammed Hassan Elfahar**

**Head of the department: Prof. Mohammed Radwan Elhadidy**

**Date:**