



Cell biology, genomics and Genetics Related to Andrology & STDs
COURSE SPECIFICATION

MD Andrology, Reproduction and Sexually transmitted infections

Faculty of Medicine- Mansoura University

(A) Administrative information

(1) Programme offering the course:	MD Andrology, Reproduction and Sexually transmitted infections
(2) Department offering the programme:	Dermatology, Andrology and STDs
(3) Department responsible for teaching the course:	Dermatology, Andrology and STDs
(4) Part of the programme:	first part
(5) Date of approval by the Department`s council	3/4/2016
(6) Date of last approval of programme specification by Faculty council	9/8/2016
(7) Course title:	Cell biology, genomics and Genetics Related to Andrology & STDs
(8) Course code:	ANDRO 615 CB
(9) Total teaching hours:	15
(10) Credit hours	1

(B) Professional information

(1) Course Aims:

The broad aims of the course are as follows:

- 1- Provides the student with detailed and advanced knowledge about **Cell biology, genomics and Genetics** related to the field of Andrology, Reproduction and Sexually transmitted infections

(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- Recognize the following in Cell biology:

1. Cytoskeleton, Cell membrane and its dynamics.
2. Spermatogenesis and Sperm-egg interactions
3. Structure and functions of Sertoli cell, Leydig cell and Smooth muscle.
4. Roles of Tissue engineering, Stem cells and Biotechnology in Andrology
5. Cell cycle & division, movements, junctions and signalling & communications

A2- Identify the following Principles in **Genetics**:

1. General principles of genetics
2. Genetics of Sexual Development and Differentiation.
3. Genetics of male infertility and sexual dysfunctions.
4. Genetic counseling

A 3- Discuss the following items in **Genomics**:

1. Architecture of the Human Genome
2. Genomic Structure of the Human X and Y Chromosomes.
3. General principles of genomics.
4. Principles of Genetic Diagnostics
5. Gene therapy.

B- Intellectual skills:

B 1- Illustrate stages of Spermatogenesis and Sperm-egg interactions.

B2- Differentiate between different types of :

1. Cell movements
2. Cell junctions.

B3- Compare between Genomic Structure of the Human X and Y Chromosomes.

(3) Course content:

Subjects	Teaching Hours
Cell biology:	7
Cytoskeleton, Cell membrane and its dynamics.	
-Cell movements	
-Cell signalling and communications.	
-Cell junctions.	
-Cell cycle and cell division.	
-Spermatogenesis and Sperm-egg interactions	
–structure and functions of Sertoli cell, Leydig cell and Smooth	

muscle.	
-roles of Tissue engineering, Stem cells and Biotechnology in Andrology	
Genetics:	3
<ol style="list-style-type: none"> 1. General principles of genetics 2. Genetics of Sexual Development and Differentiation. 3. Genetics of male infertility and sexual dysfunctions. 4. Genetic counseling 	
Genomics	5
<ol style="list-style-type: none"> 1. Architecture of the Human Genome 2. Genomic Structure of the Human X and Y Chromosomes. 3. General principles of genomics. 4. Principles of Genetic Diagnostics 5. Gene therapy. 	

(4) Teaching methods:

4.1: Lectures

4.2: Workshops

4.3: Grand meetings

4.4: Specialty conferences

(5) Assessment methods:

5.1: Written exams for assessment of knowledge and intellectual ILOS

(6) Assessment schedule:

MCQ Exam at the end of the semester (one semester after MD registration)

Final Written exam Assessment after one semester after MD registration

(7) Percentage of each Assessment to the total mark:

MCQ Exam 20 % = 20 marks.

Final Written exam 80% = 80 marks.

(8) References of the course:

6.1: Hand books: Department staff handouts

6.2: Text books: Andrology: Male Reproductive Health and Dysfunction, E. Nieschlag, H.M. Behre and S. Nieschlag (Editors) 2009, Springer; 3rd ed. Edition, A Practical Guide to Basic Laboratory Andrology by Lars Björndahl, David Mortimer, Christopher L. R. Barratt, and Jose Antonio Castilla Cambridge University Press; 1 edition (2010)

6.3: Journals: human andrology,

6.1: Websites: www.iasstdaids.org, www.telemedicine.org/std ,and ijsa.rsmjournals.com

(9) Facilities and resources mandatory for course completion:

1- Fully Equipped Lecture halls

2- Department library

3- Faculty library

Course coordinator:

Prof. Samir Elhanbaly, MD

Chairman of the department:

Prof. Ibrahim A. Abdel-Hamid, MD

Date: 3/4/2016