Course Specification

University: Al-Azhar
Faculty: Medicine
Department: Cell biology and Histology

1- Data of the course:

Code of the course: 204-his	**Title of the course:** Cell biology and histology of the 2nd year of MBBCh program	**Year: 2nd of the MBBCh program** **Duration: 30 week**
Specialty: Cell biology and histology	Number of teaching units: 8 units	Lectures: 60 hrs Practical: 60 hrs Total:120

2- Objectives o the course:	1.To learn how organized groups of cells (tissues) are arranged to form the organ systems of the body. 2. To appreciate that while the emphasis in histology is on the structure of cells, tissues and organs, structure has very little meaning without understanding the function, much of which is also presented in the other components of the course. 3. To be aware that **one reason for studying histology (the normal structure) is so that you can better understand a pathological (abnormal) change and the consequences of that change.** 4. To emphasize that most of the time will be spent in studying two dimensional sections of three dimensional structures, and so a number of atypical perspectives will be encountered caused by the plane of section. 5. To advice the student to try to find a typical perspective for his introduction to a new tissue or organ (use an atlas as a guide). Then try to imagine what it would look like in three dimensions. 6. To understand that the tissues of an organ are formed of cells with different structure and function but all of them cooperate to perform the function allotted to the organ.

3- ILOs

A- Knowledge and understanding:	1. Describe the normal microscopic and ultra structure and the molecular relationships in relation to function, growth, and differentiation of somatic and stem cells, death and inheritance of eukaryotic cells of the human body. 2. Identify the structure, ultrastructure and molecular components involved in the functional interaction of the four basic body tissues, the formed elements of blood and cells involved in hematopoiesis. 3. Correlate the microscopic and ultra- structure in relation to function and interaction of the tissues forming the cardiovascular organs. 4. Describe the microscopic and ultra- structure in relation to function of lymphatic organs with emphasis on the morphology, generation destination and function of different cells of the immune system.
B- Intellectual Skills:	1- To know the kind of cell talk between the cells of the organ and those of other organs. 2-There is an emphasis to know comparable subjects at about the same time, and we ask that you try and correlate structure and function. 3-Recognize that most diseases cause structural abnormalities that result in the problems with which you, as a physician, must contend. 4-To develop a systematic approach to the correct identification of histological structure of the different body organs.
C- Professional (Practical) Skills:	1-Be able to identify the trachea, bronchi, terminal bronchioles, respiratory bronchioles, alveolar ducts and alveoli 2- Be able to name the cellular and structural elements that form the blood-air barrier. 3-Identify the vascular supply of lungs. 4-Identify the types of cells present in the gastrointestinal epithelium and their functions in digestion. 5- Be able to identify the esophagus, divisions of stomach, parts of small intestines and large intestines. 6- Be able to name the cellular and structural elements that form the liver, pancreas and salivary glands. 7- Demonstrate the types, location, structure and histochemical localization of the neuroendocrine cells and their role in digestion. 8-Identify the different endocrine glands and their embryonic origins. their blood supplies, products and the feed back loops. 9-Name the divisions of the nephron, and specify their locations (pars convoluta or medullary ray of cortex, or medulla). 10-Relate the histological specializations found in specific divisions of the nephron to the functions of that division, and describe the blood supply of the kidney, parts involved in regulation of blood pressure,structure of the urinary epithelium, 11- Recognize and describe sections of ureter and urinary bladder. 12-Recognise and identify sections of testis the organisation of the seminiferous tubules in the testis, the different components reponsible for its gametogenic functions. 13-Recognize Sertoli cells and Leydig cells, and explain their roles in the production of sperm and regulation of the male reproductive system and explain the contribution of each part to the production of semen for the final ejaculate.

	14- Recognize and understand the histological organization of the prostate gland. 15- Recognize and understand the histological organization of the penis and know the role of its components in erection. 16- Recognize the changes that occur (four different stages) during the maturation of ovarian follicles and be aware of the origin, function and fate of the components of the maturefollicles. 17- Identify the stages of follicular growth (primordial, primary, secondary, tertiary), as well as the changes that occur in the follicular wall during pregnancy. 18-Describe the histological arrangement of the oviduct, uterus and vagina and appreciate how this is adapted for their particular functions. 19-Recognize examples of simple (free nerve endings), compound encapsulated (Meissner, Raffini, Krause, and muscle and tendon spindles) and organized organs for vision (eye) and hearing(ear). 20- Recognize the embryonic origin, and the structure in and function of the eye components in relation to the role of retina in vision. 21- Identify the structrure of the ear components and the structure of the organ of Corti in relationto hearing. 22-Identify white vs. gray matter in the spinal cord, cerebellum, and cerebrum). 23- Describe the organization and understand some of the basic functions of regions of the: spinal cord (e.g. dorsal horn, ventral horn, lateral extension of the ventral horn, and dorsal nucleus of Clarke), cerebellum (e.g. molecular, Purkinje, and granule cell layers and the general interactions of the cells therein) cerebral cortex (e.g. layers I through VI, particularly pyramidal cells of layers III and V) 24- Observe ependymal cells of the choroid plexus, noting that these are the cells responsible for the production of CSF.
D- General Skills:	1-Communicate appropriately with staff and colleagues
4- Course Content:	1- Respiratory system 2- Digestive system 3- Endocrine system 4- Urinary system 5- Male reproductive system 6- Female reproductive system 7- Special senses 8- The central nervous system (CNS)

5- Methods of teaching:	-Lectures -Practical sessions
6- Methods of teaching of handicaps	Not present

7- Students evaluation and assessment:

A- Method of assessment:	- Continuous assessment during the academic year - Mid-year exam - Final-year exam: Written exam Practical exam Oral exam
B- Time of assessment	Mid-year exam in January End-year exam in June or September
C- Allocated marks/Distribution	Examination and grading: Total grade is (150) a) Continuous assessments (quizzes), Lab activity, and midterm written exam. (30) b) Final Examination includes (1) Written examination (60) (2) Practical examination (40) (3) Oral examination (20)

8- Teaching books, notebooks, and references:

- Books/Notebooks:	
- References:	

Head of the department **Course Coordinator:**