

Course Descriptor

ACADEMIC YEAR			
Course Code & Title	Histology and Embryology		
	3	Level of study	Undergraduate
College / Centre	College of Applied & Health Sciences		
Co-requisites		Pre-requisites	

1. COURSE OUTLINE

[This course provides an opportunity to explore and introduce human embryological development, with focuses on the origin of cells and tissue and its differentiation to various support tissues and organ systems. Cellular level Histology is presented, with focuses on structure supporting function. Clinical aspects of common embryological development and abnormalities will be examined. Microscopy skills are developed and histological techniques such as microtomy and tissue staining will be covered.]

2. AIMS

The Primary goal of this course, provide students with knowledge on the development of the cells and tissues and physiological organization for them. During histology lectures the basics of cytology are discussed in order to fully understand the organization and development of the tissues that form organs. Through the lectures the organization of cells and the extracellular matrix and their relation to the organization of different tissues are explained and discussed, together with consideration of the practical aspect of standard histological procedures, including microscopy methods (optics, fluorescence and electrons), as a tools for studying the human body structure and development.

3. LEARNING OUTCOMES, TEACHING, LEARNING and ASSESSMENT METHODS

Learning Outcomes (Definitive)	Teaching and Learning methods (Indicative)	Assessment (Indicative)
At the end of the course of Histology and Embryology the student should have acquired:		
1. Use a correct scientific terminology to identify, at the microscopic level, the different types of cells and tissues present in the human body and the mechanisms of their formation during embryonic development.	Lectures and presentations	Class tests and Quizzes
2. Understand the relationship between cells and the extracellular matrix underlying the organization of the different tissues of the multicellular organism.	Presentations and Demonstrations and Assignment, etc	Self-reflective journal
3. Apply the knowledge of histology and embryology to the subsequent study of physiology, anatomy, pathological anatomy, and clinical disciplines.	Lectures and presentations	Class Presentation, Written Examination



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4.	Autonomously interpret histological slides and describe the processes of embryogenesis and organogenesis.	Lecture group discussion	Practical presentation
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4. ASSESSMENT WEIGHTING

Assessment	Percentage of final mark (%)
Quizzes (Two)	
Assignment/ Homework	
Mid-Term Examination	
Final Examination	
TOTAL	100%

5. ACHIEVING A PASS

Students will achieve **3** credit hours for this course by passing **ALL** of the course assessments and achieving a **minimum overall score of 50%**

NB *Ensure that ALL learning outcomes are taken into account

6. Course Content :

Week	Lecture Topics	Time Hours
1	Introduction to histology and embryology	3
2	Cell differentiation and histogenesis of tissues, epithelia and cell surface specializations and cell polarity, lining epithelia.	3
3	Glands (endocrine and exocrine)	3
4	Connective tissues: General structure and function of connective tissue	3
5	Muscle tissues: structure and function of the skeletal, cardiac and smooth muscle.	3
6	Nervous tissue: Neurons. Neuroglia. Nerve fibres. Synapses. Neuro muscular junction.	3
	Mid Term Exam	
7	Spermatogenesis and Hormonal control of spermatogenesis	3
8	Folliculogenesis and oogenesis. Hormonal control of folliculogenesis and oogenesis.	3
9	Ovarian & uterine cycles	3
10	Fertilization.	3
11	Embryonic and adult stem cells, somatic cell reprogramming into pluripotent stem cells (iPS): concepts, definition and potentiality for tissue regeneration and repair.	3
12	First week of development and implantation embryo	3
13	Second week of development and the formation of embryonic disk.	3



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Week	Lecture Topics	Time Hours
14	Third week of development and the formation of primitive layers: endoderm, ectoderm and mesoderm.	3
15	Fourth week of development and the embryonic folding and body cavities.	
		42
	Final Exam	
15	Recommended Independent Study Hours	15
	TOTAL COURSE HOURS (42+15)	57

7. RECOMMENDED READING

Core text/s:

1. Ross M.H. and W. Pawlina: Histology a text and atlas, sixth edition. Wolters Kluwer/Lippincott Williams and Wilkins.
2. Schoenwolf, Bleyl, Bauer and Francis-West: Larsen's Human Embryology, fifth edition.
3. Moore, Persaud, Torchia. The Developing Human: Clinically Oriented Embryology. Elsevier

Library + online resources:



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