



وكالة الجامعة للشؤون التعليمية  
البرامج الدراسية والتطوير

( 5 )

مختصر توصيف المقرر

(Embryology Course Syllabus)

### :(Course Information) \*

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BIOL-419	:
علم التشريح المقارن (BIOL-215)	:
لا يوجد	:
	:
3	:
<b>Module Title:</b>	<b>Embryology</b>
<b>Module ID:</b>	BIOL-419
<b>Prerequisite (Co-requisite):</b>	<b>Comparative Anatomy (BIOL-216)</b>
<b>Co-requisite :</b>	N/A
<b>Course Level:</b>	8 <sup>th</sup> level
<b>Credit Hours:</b>	3 Hours

### Module Description :

The current course will enable students to explore and gain further understanding of embryology both early and systematic through the investigation of development in both humans and animal models. With emphasize on embryonic and fetal development from fertilization to birth. This course focuses on the morphological changes that take place during development. Underlying molecular mechanisms and relevant congenital anomalies may be briefly considered.

## Module Aims

أهداف المقرر:

1	To acquire students with basic knowledge of Embryology and stages of development of the embryo.	1
2	To enable students to distinguish between different stages of embryological process.	2
3	To enable students to determine various structures and their changes through development.	3
4	To enable students to understand patterns of genetic layers and their contribution in development of organs.	4
5	To provide students with knowledge regarding latest developments in vertebrates embryology.	5

## Learning Outcomes:

مخرجات التعليم:

1	The student would be able to gain knowledge about properties and structure of Gametogenesis. Spermatogenesis, Spermiogenesis and Oogenesis.	1
2	Types and classification of eggs in vertebrates and hormonal control of gametogenesis.	2
3	Understand Cleavage, Patterns of cleavage, Cleavage pattern in some vertebrates.	3
4	Regarding Gastrulation, formation of the genetic layers. Gastrulation pattern in some vertebrates and Organogenesis.	4
5	latest developments in vertebrates embryology.	5

## Course Contents:

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ساعات التدريس (Hours)	الأسابيع (Weeks)	(Subjects)
3	1	Introduction of Embryology, Terms and concepts. Primordial Germ cells. Gonads early formation.
3	1	Gametogenesis. Spermatogenesis and Spermiogenesis.
3	1	Oogenesis.
3	1	Hormonal control of Gametogenesis.
3	1	Fertilization.
3	1	Cleavage. Patterns of cleavage, Cleavage pattern in some vertebrates.

3	1	Gastrulation, Formation of the genetic layers. Gastrulation pattern in some vertebrates.
3	1	Organogenesis. The generation of Ectodermal, mesodermal and Endodermal Organ rudiments. Examples of some organs developmental process.
3	1	Cellular basis of Morphogenesis Morphogenesis of 3 and 10mm frog embryo.
3	1	Organs Formed by The Ectoderm Layer: Neural System.
3	1	Pituitary Gland Sense Organs (The Eye).
3	1	Organs Formed by The Mesoderm Layer: Urinary and Genital System
3	1	Circular and Vascular System.
3	1	Organs Formed by The Endoderm Layer: Digestive System.

**Textbook and :**  
**References:**

ISBN	Publishing Year	Publisher	اسم المؤلف (رئيسي) Author's Name	Textbook title
978-1451190380	2014	LWW	Dr. Ronald W. Dudek	Embryology
	Publishing Year	Publisher	اسم المؤلف (رئيسي) Author's Name	Reference
978-1451176100	2013	LWW	Dr. Ronald W. Dudek	High-Yield Embryology
978-1455739776	2012	Saunders	Larry R. Cochard	Netter's Atlas of Human Embryology
978-1451113426	2011	LWW	Thomas W. Sadler	Langman's Medical Embryology

