

Al-Nahrain University
College of Medicine

Course Title & Code: Medical Embryology (ANTEmb-22). 2023-2024

Grade: Second.

Semester: Second.

Total Hours: Theory (15) Practical (30) Clinical

Hours/week: Theory (1) Practical (2) Clinical

Credits:

1. learning objectives

The course is designed to enable the student to:

1. Study the morphogenetic changes related to organs formation.
2. Understanding the embryological aspects of congenital malformations.
3. Understanding the clinical varieties of the most common applied embryological presentations related to systemic embryology.

2. Instructional and Learning methods and tools

The syllabus is given to students in 15 hours of theoretical lectures, and 30 hours of practical sessions. The contents of the lectures include many topics related to problem solving in medical embryology and case based learning. The practical sessions include practical demonstration of stained slide of embryonic sections and plastic model.

The theoretical lectures and the practical session involved dividing the class into four groups, one lecture/ weeks, and 2 hours' practical laboratory session/ week.

3. Syllabus

3.1 Theory:

Date (weeks)	Topics	Hours
1st week	Embryology of musculoskeletal system (Somitogenesis Myogenesis).	1
2nd week	Development of the skeletal system: (the skull, limbs, vertebrae, rib and sternum)	1
3rd week	Development of the central nervous system	1
4th week	Development of the head and neck	1
5th week	Development of the eye.	1
6th week	Development of the ear.	1
7th week	Morphogenesis of the cardiac system	1
8th week	Development of the vascular system	1
9th week	Formation of the gut tube.	1
10th week	Embryogenesis of gut tube	1
11th week	Derivatives of the gut tube	1
12th week	Development of the respiratory system	1
13th week	Embryogenesis of the renal system	1
14th week	Developmental of the internal genital organs	1
15th week	Development of the external genital organs	1

3.2 Practical:

No.	Topics	Hours
1	Demonstration for using sections of vertebrate embryos in embryology	2
2	Morphological features of somite formation	2
3	Histogenesis of the limb buds, the fetal skull	2
4	Subdivision of the neural tube, the morphology of the spinal cord, and brain vesicles	2
5	Morphology of the pharyngeal arches and the head mesenchyme	2
6	Morphogenesis of the eyeball	2
7	The ear vesicle	2
8	Formation of the heart tube and loop	2
9	<i>Mid-term examination</i>	2
10	Morphology of the embryonic arteries and veins	2
11	Formation of the gut tube	2
12	Derivatives of the gut tube	2
13	Formation of the embryonic trachea and lung	2
14	Formation of the kidney systems	2
15	Discussion of case – bases learning	2

4. Student assessment:

The minimum requirement of a student to pass is to achieve at least 50% of total 100 marks assigned for the course.

The marks are distributed as follows:

Mid-term Theory	Mid-term Practical	Quiz	Final Practical	Final Theory
20%	10%	10%	20%	40%

Students who fail to attain the 50% cut off mark are required to re-sit for a second trial examination similar to the final one. Failing in the second trial entails the student to repeat the academic year.

5. Books and references:

1. Sadler TW (2014): Langman's medical embryology. 13thEd. William & Wilkins. Philadelphia.
2. Moore KL and Persaud TVN (1998): Before we are born, Essentials of embryology and birth defects. 5th Ed. Saunders' comp. Philadelphia.
3. Moore KL and Persaud TVN (1998): The developing human, clinical oriented embryology. 6th Ed. Saunders' comp. Philadelphia.