Course Specifications

General Information

Course name	Embryology (0601124)
Course number	MEDI1224
Faculty	
Department	
Course type	College Needs
Course level	1
Credit hours (theoretical)	2
Credit hours (practical)	0
Course Prerequisites	

Course Objectives

1 - This course provides a working structural knowledge of how the normal human body develops from fertilization to the end of the fetal period.

2 - The fundamental mechanisms underlying normal developmental processes and the basic principles underlying abnormal development are covered.

3 - Current concepts in mammalian morphogenesis applied to the development of various organ systems, the principles of teratology;

4 - mechanisms of malformation and the etiology and pathogenesis of some of the more common human congenital abnormalities.

5 - mechanisms of malformation and the etiology and pathogenesis of some of the more common human congenital abnormalities.

Intended Learning Outcomes

Knowledge and Understanding

* 1. The student will be able to identify the cell division including meiosis and mitosis
* 2. The student will be able to describe gamete formation, ovarian cycle, endometrial cycle, fertilization, implantation, and blastocyst formation.
* 3. The student will be able to describe the bilaminar and trilaminar Disc Formation.
* 4. The student will be able to describe Gastrulation, Neurulation, Development of CNS, and Placenta and Fetal Membranes formation.
* 5. The student will be able to explain head and neck formation.
* 6- The student will be able to describe the development of Cardiovascular System, Respiratory system, Urogenital system, Ear and Eye Development, and Musculoskeletal System.
* 7- The student will be able to identify the principles of teratology; mechanisms of malformation and the etiology and pathogenesis of some of the more common human congenital abnormalities.

Course Contents

1 - 1 Cell division, meiosis, mitosis.
2 - 2. Gametogenesis
3 - 3. 1st week of development; Ovulation to Implantation (include fertilization, cleavage,& form. Of the blastocyst)
4 - 4. 2nd week of development; Bilaminar Germ Disc formation.
5 - 5. 3rd week of development; Trilaminar Germ Disc, Gastrulation, neurulation (neural tube formation).
6 - 6. Embryonic period (3rd to 8th week) & Fetal period (3rd month to birth).
7 - 7. Fetal membranes and Placenta, include Fetal membranes in Twins, and its clinical correlates.
8 - 8. Congenital malformations, factors affecting congenital malformations, Principles of Teratology.
9 - 9. Development of skeletal system (skull, limbs, vertebral column, ribs & sternum) & clinical correlates.
10 - 10 Development of Muscular system and its clinical correlates.
11 - 11. Development of all parts of the head and neck including the face, mouth, teeth, palate, thyroid and tongue
12 - 12. Development of cardiocascular system and its clinical correlates
13 - 13. Development of respiratory system and its clinical correlates
14 - 14. Development of gastrointestinal system and its clinical correlates
15 - 15. Development of urogenital system and its clinical correlates
16 - 16. Development of central nervous system and its clinical correlates

Teaching and Learning Methods

1 - 1. Formal lectures
2 - 2. Slides demonstration.
3 - 3. LCD
4 - 4. Hands Out
5 - 5. Charts

Students Assessment

Assessment Method	TIME	MARKS
Final exam MCQs	End of semester	50
First midterm exam	After 4 weeks of the start of semester	20
Second midterm exam	After 8 weeks of the start of semester	20
Attendance , activity and behavior	All over the semester	10

Books and References

Essential books	Langmans medical embryology
Other References (Periodical, web sites, ... etc.)	http://www.tulane.edu/embryo/
	https://embryology.med.unsw.edu.au/embryology/index.php/Main_Page

Knowledge and Skills Matrix

Main Course Contents	Study Week	Knowledge and Understanding	Intellectual Skills	Professional Skills	General Skill
A review of medical embryology, discussing the basic topics about formation and developments of the various systems of the human body.	16 weeks				