UZO-587 Teratology Cr. (2)

Course Objectives:

The course aims to:

1. Provide information on transmission of traits from the parents in their gametes, the formation of zygote and itsdevelopment
2. Impart detailed knowledge about cellular basis of morphogenesis, mechanisms of cellular differentiation andinduction.
3. Provide understanding of the mechanisms of organogenesis, factors controlling growth andoncogenesis.

Course Learning Outcomes:

Upon successful completion of the course, the student will be able to:

1. **Gain** familiarity with features that make an organism model for the learning of developmental biology *e.g.,* fertilization in sea urchin with mammalian likemechanisms.
2. **Apprehend** the contributions of the sperm and the egg to formzygote
3. **Elucidate** the problems associated with cell differentiation through fate mapping.
4. **Arrange and investigate** the classical and modern experiments into "find it", "block it", and "move it" categories
5. **Demonstrate** the ability to label macromeres, mesomeres, and micromeres and know which cell types are derived from each of these cell layers in the early embryo (*e.g.,* primary and secondary mesenchyme, ectoderm, endoderm, andmesoderm).

Course Contents

Developmental disorders: causes mechanisms and patterns. Brief description of development of various body organs and their related anomalies

Teaching-Learning Strategies

Teaching will be a combination of class lectures, class discussions, and group work. Short videos /films will be shown on occasion.

Assignments
The sessional work will be a combination of written assignments, class quizzes, presentation, and class participation/attendance.

Assessments and Examination
Sessional Work: 25 marks
Midterm Exam: 35 marks
Final term Exam: 40 marks

Books Recommended:
1. Carlson, B.M. 2016. HUMAN EMBRYOLOGY AND DEVELOPMENTAL BIOLOGY, 6th Edition Mosby
2. Moore, K.L. and Prasad. 2000. THE DEVELOPING HUMAN, Saunders.

UZO-588 Teratology(Lab.) Cr. (1)

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Course Contents:
Study of whole mounts and sections of various mammalian embryos. Experimental manipulations of live embryos.

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Assignments
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