

**HARRAN UNIVERSITY FACULTY OF ARTS & SCIENCE
BIOLOGY DEPARTMENT**

Name of the course	Code of the course	Semester	T + P	Credits	ECTS
Animal Embryology	0804524	5	2+2	3	5

Course prerequisite	N/A
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Language of the course	Turkish
Type of the course (Obligatory/Elective)	Compulsory
Name of the instructor who taught the course last semester	Assist. Prof. Dr. Hatice (Gümüřhan) AKTAř
Aim and goals of the course	This course is intended to provide to students information about general embryology and embryonic development of animals.
Learning Outcomes of the Course	At the end of this course the student; <ol style="list-style-type: none"> 1. have information about Embryology definition and scope and branches of the Embryology 2. learn processes of gametogenesis and features of the gametes 3. learn kinds of zygote cleavage and the blastula types 4. learn how embryonic germ layers originate 5. have information about embryonic development processes of some animal groups (sea urchin, Amphioxus, frogs, birds and mammals) and about their organogenesis
Contents of the course	Introduction to Embryology, description of embryology, parts of embryology; Meiosis; Gametogenesis, morphology of sperm and ovum; Types of ovum, vitellogenesis; Fertilization; Cleavage (segmentation) and cleavage types; Blastulation; Gastrulation, mesoderm formation; Embryonic development of Seaurchin; Embryonic development of Amphioxus; Embryonic development of Amphibians; Embryonic development of Aves; Embryonic development of Mammalia, plasenta types, organogenesis in mammals.

Weeks	Semester Teaching Plan
1	Introduction to Embryology
2	Meiosis; Gametogenesis; Spermatogenesis, Sperm morphology; Features of sperm
3	Oogenesis, Ovum morphology, Ovum types, Vitellogenesis
4	Fertilization
5	Cleavage and its kinds, Blastula types
6	Gastrulation, Mesoderm formation
7	Midterm
8	Neurulation
9	Embryonic development of Sea Urchin
10	Embryonic development of Amphioxus
11	Embryonic development of frogs (Amphibians)
12	Embryonic development of birds (Aves).

13	Embryonic development of Mammalians
14	Organogenesis
15	Final exam

General Competences

To comprehend embryonic development and organogenesis processes in vertebrates and invertebrates.

References

1. GILBERT S.F., Developmental Biology, 6th ed., Sunderland (MA): Sinauer Associates, 2000.
2. TABAKOĞLU - OĞUZ, A., Animal Embryology, 2001, İstanbul

Evaluation

Midterm : %30
Final : %60
Practice in Laboratory: %10