Course Title	Developmental Biology and Embryology				
Course Code	BMS311				
Course Type	Compulsory				
Level	Bachelor (1st Cycle)				
Year / Semester	3rd Year / 5th Semester				
Teacher's Name	TBA				
ECTS	5	Lectures / week	3 Hours	Laboratories / week	None
Course Purpose and Objectives	The aim of the course is the study of patterns and principles of normal embryonic and fetal development of mammals with emphasis on comparison to adult anatomy and medical implications. More specifically, the course addresses the developmental events during all stages of prenatal development emphasizing on human development but with a comparative approach to illustrate key differences in embryological development across animals. Overall, it provides an overview of important developmental issues, questions, and approaches to study.				
Learning Outcomes	Upon successful completion of this course, students will be able to: • Answer questions about the structure of sperm and eggs. • Demonstrate their understanding of the process of fertilization (including recognition, binding, fusion, and the activation of egg metabolism) and the roles of various molecules in that process. • Identify and define key structural and molecular events involved in each stage of human development, the precursors of each structure, and its functional significance. • Recognize, using a comparative approach, the key differences in embryological development across animals. • Describe normal embryological anatomy and identify anomalies and teratological defects in development of various tissues through comparison of normal and abnormal development.				
Prerequisites	BMS111	Co-requisites	None		
Course Content	• Gametogenesis and fertilization • Developmental anatomy and specification				

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Early development in invertebrates
Early development in birds and mammals
Ectodermal derivatives
Mesodermal and endodermal derivatives
Development of organ systems, including the nervous, re spiratory, cardiovascular, urogenital, and digestive systems as well as the sensory organs.
Sex determination and germ line differentiation
Postembryonic development
Anomalies and teratological defects in development of various tissues and their implications

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<tr><td>Teaching Methodology</td><td>Face- to- face</td></tr>
<tr><td>Bibliography</td><td>Developmental Biology, by Scott Gilbert, 10th edition.

Analysis of Biological Development, by Klaus Kalthoff, 2nd Edition.

Human Embryology and Developmental Biology, by Bruce M. Carlson, 5th Edition.</td></tr>
<tr><td>Assessment</td><td>
<table>
<tr><td>Mid – Term Examination</td><td>30%</td></tr>
<tr><td>Final Examination</td><td>40%</td></tr>
<tr><td>Assignments</td><td>20%</td></tr>
<tr><td>Class Participation</td><td>10%</td></tr>
<tr><td></td><td>100%</td></tr>
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<tr><td>Language</td><td>English</td></tr>
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