


MODULE HANDBOOK

	UNIVERSITAS PADJADJARAN FACULTY OF MATHEMATICS AND NATURAL SCIENCES BACHELOR OF BIOLOGY PROGRAMME	COURSE CODE: D10D-3007
Module designation	Animal Development	
Semester in which the module is taught	3	
Persons responsible for the module	1. Dr. Kartiawati Alipin 2. Dr. Desak Made Malini 3. Dr. Yasmi P. Kuntana 4. Madihah, M.Si 5. Dinda Haniah Arum Saputri , S.Si., M.Si.	
Medium of instruction	Indonesian	
Relation to curriculum	Compulsory course	
Teaching methods	Lecture and discussion, Contextual Learning, Project Based Learning, Cooperative Learning	
Workload	Total workload : 5440 minutes = 90.67 hours Lecture and discussion : 2 x 50 minutes x 16 weeks = 1600 minutes = 13.33 hours Exercises : 2 x 60 minutes x 16 weeks = 1920 minutes = 32 hours Self-study : 2 x 60 minutes x 16 weeks = 1920 minutes = 32 hours	
Credit points	2.00 (3.62 ECTS)	
Required and recommended prerequisites for joining the module	-	
Module objectives/intended learning outcomes	1. Students are able to analyze the objectives, scope, and rules for conducting the Animal Development practicum. 2. Students are able to explain the process of gamete cell growth and development so that they are able to fertilize or be fertilized or can perform fertilization. 3. Students are able to distinguish the growth and development processes of the embryo from the formation of the zygote to the formation of the three germ layers. 4. Students are able to classify the formation of various organs based on the origin of ectoderm, mesoderm, and endoderm tissues. 5. Students are able to determine embryo adaptations as well as normal development and its abnormalities.	
Contents	1. Introduction 2. Gametogenesis 3. Fertilization 4. Cleavage & Blastulation 5. Gastrulation 6. Neurulation & Organogenesis of ectoderm derivatives 7. Organogenesis of mesoderm derivatives 8. Organogenesis of endoderm derivatives 9. Adaptation of the embryo and placenta 10. Normal development and developmental abnormalities	

	11. Metamorphosis and regeneration
Examination forms	Quiz, Midterm exam, Assignment, and Final exam
Study and examination requirements	The minimum attendance in lectures is 80%. Final grades are evaluated based on quiz (20%), midterm exam (30%), assignment (20%), and final exam (30%)
Reading lists	<ol style="list-style-type: none"> 1. Gilbert, S.F. 2000. Developmental Biology, 6th ed. Sunderland: Sinauer Associates, Inc. 2. Johnson, M. & B. Everitt. 1988. Essential Reproduction, 3rd ed. Oxford: Blackwell Scientific Publications 3. Sadler, T.W. 1990. Langmans medical Embriology. 6 th ed. Baltimore Mariland: Williams & Wilkins 4. Carlson, B. M. 1996. Patten’s foundations of embryology, 6th ed. New York: McGraw-Hill, Inc 5. Turner, C.D. & Joseph T.B. 1976. Endokrinologi Umum. Airlangga University Press. 6. Mescher, A. L. (2018). Junqueira’s Basic Histology: Text & Atlas (15th ed.). McGraw-Hill Education. 7. Tortora, G. J., & Derrickson, B. H. (2018). Principles of Anatomy and Physiology (15th ed.). John Wiley & Sons.