Module Handbook

Modul Name	Vertebrate Embryology (Practical Work)
Modul Level	Bachelor
Abbreviation, If applicable:	BIE 321
Sub---heading, if applicable:	-
Courses included in the module, if applicable:	-
Semester	Odd
Module Coordinator	Prof. Win Darmanto, M.Si., Ph.D.
Lectures	Dr. Alfiah AHayti Sugiharto, M.Si. Muhammad Hilman Fu'adil Amin, M.Si.
Language	Bahasa Indonesia
Classification within the curriculum:	Compulsory Course / ~~Elective Studies~~
Teaching format/ class hours per week during semester	300 minutes/ week
Workload per semester	100 min lecture + 100 min structural assignment + 100 min self-assignment x 13 weeks; total 3900 min = 65 hours 65/25 = 2.6 ECTS
Credit point	1
Requirements	Animal Histology (Practical Work)
Learning goals/competencies	**General Competence (Skill)** Students are able to explain the embryogenesis of vertebrates; the difference of embryogenesis in structure and development of vertebrates from zygote to organism; to make a model animal embryos and prepared a report animal organogenesis properly. **Specific Competence** 1. Understanding and explaining Gametogenesis 2. Understanding and explaining the phase of frog's embryo development 3. Understanding and explaining the phase of chicken's embryo development 4. Understanding and explaining the phase of pig's embryo development 5. Understanding and explaining the phase of mouse's embryo and placenta development. 6. Understanding and explaining how to collect and evaluate Oocyte
Content	Gametogenesis, cleavage, blastulation, gastrulation, neurulation, and organogenesis in vertebrates.
Soft skill Attribute	Discipline and team work
Study/ exam achievements	Students are considered to be competent and pass if at least get 40% of maximum. Final score (NA) is calculated as follow: Paper project (20%), mid exam (35%), final exam (35%), soft skill (10%) Final index is defined as follow: A : 75 - 100 AB : 70 - 74.99 B : 65 - 69.99 BC : 60 - 64.99 C : 55 - 59.99

	D : 40 - 54.99 E : 0 - 39.99
Form of media	Histological slides, dissecting set
Learning Method	Practical Work
Literature	a. Adamstone, F. B. 1964. *Vertebrate Embryology*, 2nd ed. John Wiley & Son, Inc.,London. b. Balinsky, B. I. 1976. *An Introduction to Embryology*. W.B. Saunders Company, c. Philadelphia. d. Huettner, A. F. 1957. *Comparative Embryology of the Vertebrates*. The Macmillan Company. New York. e. Schoenwolf, G. C. 1995. *Laboratory Studies of Vertebrate and Invertebrate* f. *Embryos*. 8th Ed. Prentice Hall Ic. USA.
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