

## Module Handbook

Modul Name	Vertebrate Embryology
Modul Level	Bachelor
Abbreviation, if applicable:	BIE 320
Sub-heading, if applicable:	-
Courses included in the module, if applicable:	-
Semester	Odd
Module Coordinator	Prof. Win Darmanto, M.Si., Ph.D.
Lectures	Muhammad Hilman Fu'adil Amin, M.Si.
Language	Bahasa Indonesia
Classification within the curriculum:	Compulsory Course / <del>Elective Studies</del>
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	2
Requirements	Animal Histology
Learning goals/competencies	<p><b>General Competence (Knowledge)</b> Students are able to distinguish the structure and the development of vertebrates from zygote to organism properly.</p> <p><b>Specific Competence</b></p> <ol style="list-style-type: none"> <li>1. Understanding female reproduction system</li> <li>2. Understanding male reproduction system and fertilization</li> <li>3. Explaining blastulation and gastrulation</li> <li>4. Explaining neurulation</li> <li>5. Explaining extra embryonal</li> <li>6. Explaining five sense and face</li> <li>7. Understanding female reproduction system</li> <li>8. Explaining urogenital embryology</li> <li>9. Explaining heart and blood system</li> <li>10. Explaining digestive system and its glands</li> </ol>
Content	The definition of embryology and developmental theories from gametes, fertilization, cleavage, gastrulation and organogenesis in vertebrates.
Soft skill Attribute	Discipline and Argumentation
Study/ exam achievements	<p>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%)</p> <p>Final index is defined as follow:</p> <p>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</p>
Form of media	LCD
Learning Method	Class and discussion

Literature	<ul style="list-style-type: none"> <li>a. Adamstone, F. B. 1964. <i>Vertebrate Embryology</i>, 2<sup>nd</sup> ed. John Wiley &amp; Son, Inc., London.</li> <li>b. Balinsky, B. I. 1976. <i>An Introduction to Embryology</i>. W.B. Saunders Company, Philadelphia.</li> <li>c. Huettner, A. F. 1957. <i>Comparative Embryology of the Vertebrates</i>. The Macmillan Company. New York.</li> <li>d. Schoenwolf, G. C. 1995. <i>Laboratory Studies of Vertebrate and Invertebrate Embryos</i>. 8<sup>th</sup> Ed. Prentice Hall Inc. USA.</li> </ul>
Note	Requirement of Developmental Biology and Teratology