Module Descriptions

Module Designation	Animal Structure and Development *Struktur Perkembangan Hewan*
Course Code	8420504271
Semester/Term	2nd semester
Person responsible for the module	Dr. Widowati Budijastuti, M.Si. Prof. Dr. Ir. Dyah Hariani, M.Si Prof. Dr. Nur Ducha, M.Si. Sisca Desi Prastyaningtias, S.Si., M.Si. Dr. Honesty Nurizza Pinanti, M.Si.
Language	Bahasa Indonesia (Indonesian language)
Relation to curriculum	Compulsory course
Teaching methods	Lecture, lab works
Workload	Contact hours: 3 x50 minutes lectures, 3 x50 minutes laboratory works, 3 x60 minutes structured activity, 3 x60 minutes individual activity, 14 weeks per semester, 180 total hours per semester ~ 6.36 ECTS**
Credit Point	4 CUs
Required and recommended prerequisites for joining the module	General Biology
Module Objectives/intended learning outcomes	Knowledge 1. Able to solves problems related to anatomical structure, morphology, and development of diploblastic and triploblastic invertebrate animals 2. Able to draw anatomical structure and development of locomotor, digestive, respiratory, and urogenital systems of the five vertebrate phyla. 3. Able to solve problems related to anatomical and morphological development of integumentary, endocrine, circulatory, nervous, and sensory systems in the five vertebrate phyla 4. Able to identify anatomy organ across all systems in the five vertebrate animals

<table>
<tr><td>Content</td><td>This course examines the structure and development of various tissues and organs composing the body systems of invertebrates and vertebrates. Covers organ ontogeny, including skeletal, muscular, integumentary, digestive, respiratory, circulatory, endocrine, urogenital, reproductive, nervous, and sensory systems. The course is delivered through lectures, discussions, Q&A sessions, observations, and simple projects, both theoretically and practically.</td></tr>
<tr><td>Examination forms</td><td>Written exam</td></tr>
<tr><td>Study and examination requirements and forms of examination</td><td>Study Requirement

Attendance: students must attend at least 75% of the lectures to be eligible for the final examination.

Study examination

The final grade (NA) is calculated based on the following ratio:

<table>
<tr><td>Assessment Components</td><td>Percentage of contribution</td></tr>
<tr><td>Participation</td><td>20%</td></tr>
<tr><td>Assignment</td><td>30%</td></tr>
<tr><td>Mid-semester test</td><td>20%</td></tr>
<tr><td>Final semester test</td><td>30%</td></tr>
</table>

Grade conversion of 0-100 scale into 0-4 scale is set as below:
<table>
<tr><td>Letter</td><td>Number</td><td>Grade Interval</td></tr>
<tr><td>A</td><td>4,00</td><td>85 ≤ A ≤ 100</td></tr>
<tr><td>A-</td><td>3,75</td><td>80 ≤ A- < 85</td></tr>
<tr><td>B+</td><td>3,50</td><td>75 ≤ B+ < 80</td></tr>
<tr><td>B</td><td>3,00</td><td>70 ≤ B < 75</td></tr>
<tr><td>B-</td><td>2,75</td><td>65 ≤ B- < 70</td></tr>
<tr><td>C+</td><td>2,50</td><td>60 ≤ C+ < 65</td></tr>
<tr><td>C</td><td>2,00</td><td>55 ≤ C < 60</td></tr>
<tr><td>D</td><td>1,00</td><td>40 ≤ D < 55</td></tr>
<tr><td>E</td><td>0,00</td><td>0 ≤ E < 40</td></tr>
</table>
</td></tr>
<tr><td>Reading List</td><td>1. Alberts, B., Johnson, A., Lewis, J., Raff, M., Roberts, K., & Walter, P. (2015). Molecular Biology of the Cell (6th ed.). New York: Garland Science.</td></tr>
</table>

	2. Gilbert, S. F., & Barresi, M. J. (2020). Developmental Biology (12th ed.). Sunderland: Sinauer Associates. 3. Hill, R. W., Wyse, G. A., & Anderson, M. (2020). Animal Physiology: Mechanisms and Adaptations (4th ed.). Oxford: Oxford University Press. 4. Kardong, K. V. (2018). Vertebrates: Comparative Anatomy, Function, Evolution (8th ed.). New York: McGraw-Hill Education. 5. Sadler, T. W. (2019). Langman's Medical Embryology (14th ed.). Philadelphia: Wolters Kluwer Health. 6. Purwantara, B., & Suprayogi, A. (2014). Biologi Perkembangan Hewan: Proses dan Regulasi. Bogor: IPB Press. 7. Syaifudin, M. (2016). Embriologi Dasar Manusia. Jakarta: EGC. 8. Anwar, A., & Taufiq, R. (2018). Fisiologi Hewan: Dasar Teori dan Aplikasi. Yogyakarta: Pustaka Pelajar. 9. Lestari, S., & Putra, R. A. (2017). Perkembangan Embrio Hewan Vertebrata. Bandung: Alfabeta. 10. Yuliawati, D., & Kurniawati, E. (2021). Dasar-dasar Biologi Perkembangan. Surabaya: Airlangga University Press.