THE MODULE HANDBOOK

Magister Biology Study Program
FACULTY OF BIOLOGY

ANIMAL BIOMECHANICS AND BIOMIMETIC

Course code	BIMB000000
Course level	Magister
Semester/ term	Odd/even
Course coordinator(s)	Zuliyati Rohmah, S.Si., M.Si., Ph.D.
Lecture(s)	1. Zuliyati Rohmah, M.Si., Ph.D. 2. Dr. Susilo Hadi, M.Si.,
Language	Indonesian
Classification within the Curriculum	Elective
Teaching format/ class hours per week during the semester	This course is planned to have 14 teaching weeks and 2 weeks of examination.
Workload	Estimated working hour: 2 credits of theory and 1 credit of laboratory work.
Credits	2-1 credits
Requirements	-
Program Learning Outcome	KN2. The graduates are demonstrating knowledge and comprehend biological system and bio-engineering methods to solve tropical biodiversity problems (Knowledge); GS2. The graduates are able to manage research data and make decisions in solving biological problems based on analytical or experimental studies and critical analysis of information (General Skills); SS2. The graduates are able to solve problems related to biological resources through inter- and / or multidisciplinary approaches beneficial to society and the scientific community (Specific Skills)
Course Learning Outcome	CPMK1. student able to demonstrate knowledge on vertebrates' locomotion, organ biomechanics, and biomimetics CPMK2. student able to apply animal anatomy for animal locomotion analysis and biomechanics CPMK3. student able to design and conduct the research about animal biomechanics and biomimetics in accordance with the standard procedures and ethics.

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<tr><td>Course Description</td><td>The Animal Biomechanic and Biomimetic course studies the mechanics of structures that exist in the animal body related to locomotion in animals, both soft and hard tissues. This course also describes the analysis of animal movements resulting from the mechanical consequences of their structures. This course also provides an overview of the biomechanics applications that exist in animal body structures in sports, medical, and prosthetics.</td></tr>
<tr><td>Assessments</td><td>
<table>
<tr><th>Assessment component</th><th>Percentage</th><th>CPMK 1</th><th>CPMK 2</th><th>CPMK 3</th></tr>
<tr><td>Practical Project</td><td>25</td><td></td><td>✓</td><td>✓</td></tr>
<tr><td>Assignment</td><td>15</td><td>✓</td><td>✓</td><td>✓</td></tr>
<tr><td>Quiz</td><td>10</td><td>✓</td><td>✓</td><td>✓</td></tr>
<tr><td>Midterm exam</td><td>25</td><td>✓</td><td>✓</td><td>✓</td></tr>
<tr><td>Final exam</td><td>25</td><td>✓</td><td>✓</td><td>✓</td></tr>
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<tr><td>Study Media</td><td>Youtube, Power Points, website</td></tr>
<tr><td>Literature</td><td>

Hildebrand, M. 1995. Analysis of Vertebrate Structure. John Wiley & Sons Inc. New York.
Iuliis, G.D., George,B. and D. Pulera. 2007. The Dissection of Vertebrates A Laboratory Manual. Elsevier Inc. Amsterdam.
John G. Fleagle, "Muscles of Vertebrates: Comparative Anatomy, Evolution, Homologies and Development.," The Quarterly Review of Biology 86, no. 2 (June 2011): 142-142.
Kardong, K. V. 2002. Vertebrates: Comparatives Anatomy, Function, Evolution 3rd edition. McGraw – Hill Companies, Inc. New York, p: 358
Kent, G. C. and L. Miller. 1997. Comparative Anatomy of The Vertebrates 8th edition. The McGraw-Hill Companies, Inc. New York. USA. Pp: 136-190, 229-257

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