MINISTRY OF EDUCATION AND CULTURE
UNIVERSITAS NEGERI SURABAYA
FACULTY OF MATHEMATICS AND NATURAL SCIENCES
DEPARTMENT OF NATURAL SCIENCES
Ketintang Campus, Jl. Ketintang C12 Building, Surabaya 60231
Phone (031)18296427
Website http://pendidikan-sains.fmipa.unesa.ac.id

Module Name:	*Biomekanika* (Biomechanics)
Module Level:	Bachelor degree/Undergraduate Programme
Course Code:	8420103053
Abbreviation, if applicable:	-
Courses included in the module, if applicable:	Not applicable
Semester/term	III/Second year (Freshmen)
Module coordinator(s):	Dr. Elok Sudibyo, M.Pd.
Lecturer(s):	Dr. Elok Sudibyo, M.Pd. Dra. Martini, M.Pd. Dhita Ayu Permata Sari, S.Pd., M.Pd.
Language:	*Bahasa Indonesia* (Indonesian Language)
Classification within the curriculum:	Compulsory / ~~Elective~~
Teaching format/class hours per week during the semester:	3 contact hours of lectures (Indonesia credit semester or *sks**)
Workload:	3 x 50 minutes lectures, 3 x 60 minutes structured activity, 3 x 60 minutes individual activity, 14 weeks per semester, 119 total hours per semester ~ 4.77 ECTS**
Credit point:	3 *sks* (4.77 ECTS)
Requirements:	– General Physics (Code: 8420103045) – General Chemistry (Code: 8420103074) – General Biology (Code: 8420103023)
Learning goals/competencies:	**Course Learning Outcomes (CLOs):** After taking this course, students will be able to: 1. Apply basic science basic knowledge of physics, chemistry, and biology to describe phenomena and process of movement in living things by utilizing relevant ICTs; 2. Communicate ideas and research result related to movement in living things both orally or in writing; 3. Demonstrate decision making skills during laboratory activity.
Content:	Kinetics, kinematics, plant movement, human/animal movement.
Attribute Soft skill:	Discipline, collaboration, responsibility, and argumentation in the natural classroom setting
Study/exam achievements:	Students are considered to be competent and pass if at least get 40% of the maximum final grade. The final grade (NA) is calculated based on the following weight:

Assessment Components	Percentage Contribution
Participation	20%
Assignment	30%

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<tr><td>Mid-semester test</td><td>20%</td></tr>
<tr><td>Final semester test</td><td>30%</td></tr>
<tr><td>Total</td><td>100%</td></tr>
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<tr><td>Learning Methods</td><td>Constructivism, student-centered approach, project-based learning, lecturing, discussion, and presentation (structured activities), and flip learning</td></tr>
<tr><td>Form of Media:</td><td>LCD, PowerPoint slides, and worksheets.</td></tr>
<tr><td>Literature (primary references):</td><td>1. Hamill, J. & Knutzen, K. M. 2015.Biomechanical Basis of Human Movement.Second Edition. Philadelphia: Lippincott Williams & Wilkins.
2. Giancoli, Douglas C. 2016. Physics: Principles with Applications 7th Edition. Boston: Pearson.
3. Beck, Charles B. 2010. An Introduction to Plant Structure and Development: Plant Anatomy for the Twenty-First Century, 2 Edition Book. New York: Cambridge University Press.
4. Trefil, J. and Hazen, R.M., 2016. The Sciences: An Integrated Approach. Wiley Global Education.
5. Reece, J. B., Urry, L. A., Cain, M. L., Wasserman, S. A., Minorsky, P. V., & Jackson, R. B. (2014). Campbell biology (No. s 1309). Boston, MA: Pearson.
6. Taiz, L. and Zeiger E. 2010. Plant Physiology, Fifth Edition. Sinauer Associates. California: Sunderland</td></tr>
<tr><td rowspan="2">Notes:</td><td>*1 sks in learning process = three contact hours that consist of: (a) scheduled instruction in a classroom or laboratory (50 minutes); (b) structured activity (60 minutes); and (c) individual activity (60 minutes) according to the Regulation of Indonesia Ministry of Research, Technology, and Higher Education No. 44 Year 2015 jo. the Regulation of Indonesia Ministry of Research, Technology, and Higher Education No. 50 Year 2018.</td></tr>
<tr><td>**1 sks = 1,59 ECTS</td></tr>
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