



MINISTRY OF EDUCATION, CULTURE, RESEARCH,
AND TECHNOLOGY

UNIVERSITAS NEGERI SURABAYA

FACULTY OF MATHEMATICS AND NATURAL SCIENCES
Ketintang Campus, D-1 Building, Surabaya 60231 +6231-8296427
Website: www.fmipa.unesa.ac.id, email: info_fmipa@unesa.ac.id

Master Program of Science Education

Module Handbook

Module Name :	<i>Kajian Sains II/ Study of Science II*</i>)
Module level :	<i>Master Program of Science Education</i>
Course Code :	<i>8410102207</i>
Abbreviation, if applicable:	-
Courses included in the module, if applicable:	<i>Not Applicable</i>
Semester/Term	<i>2nd /First Year</i>
Module coordinator(s)	<i>Dr. Raharjo, M.Si.</i>
Lecturer(s):	<i>Dr. Z. A. Imam Supardi, M.Si. Dr. Raharjo, M.Si.</i>
Language:	<i>Indonesian Language</i>
Classification within the curriculum:	<i>Compulsory/ Elective</i>
Teaching format/class hours per week during the semester:	<i>3 contact hours of lectures (Indonesia credit semester or CU*)</i>
Workload :	<i>3 x 50 minutes lectures, 3 x 90 minutes structured activity, 3 x 100 minutes individual activity, 14 weeks per semester, 168 total hours per semester ~ 6.72 ECTS**</i>
Credit Point:	<i>3 CU (6.72 ECTS)</i>
Requirements:	
Learning goals/competencies:	<p>Knowledge (KNO-2) CLO-1 <i>Mastering knowledge and technology in the field of Science Education through research to produce innovative and tested work</i></p> <p>Competency (COM-3) CLO-2 <i>Designing and creating educational concepts that can be utilized for society and science that is recognized nationally and internationally</i></p> <p>CLO-3 <i>Creating critical and systematic thinking and be able to apply it in making recommendations for the design of a study tailored to the research topic to produce appropriate data analysis based on scientific rules, procedures, and ethics</i></p>



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Content	<i>This subject examines the concepts, principles, roles, functions, physical-chemical rules that support the life of living beings; includes motion processes, homeostasis, coordination, transportation, and cell transport. Lectures are presented in theory, and assignments.</i>																														
Attribute Soft skill:	<i>Scientific report, public speaking, and team work</i>																														
Study/exam achievements:	<p><i>Students are considered to be competent and pass if at least get 70. Final score is calculated as follows: 20% Participation + 30% Assignment + 20% Middle Exam (UTS) + 30% Final Exam (UAS)</i></p> <p>Final index is defined as follow:</p> <table border="1"> <thead> <tr> <th>Index</th> <th>Converted Score</th> <th>Score Range</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>4.00</td> <td>$85 \leq A \leq 100$</td> </tr> <tr> <td>A-</td> <td>3.75</td> <td>$80 \leq A- < 85$</td> </tr> <tr> <td>B+</td> <td>3.50</td> <td>$75 \leq B+ < 80$</td> </tr> <tr> <td>B</td> <td>3.00</td> <td>$70 \leq B < 75$</td> </tr> <tr> <td>B-</td> <td>2.75</td> <td>$65 \leq B- < 70$</td> </tr> <tr> <td>C+</td> <td>2.50</td> <td>$60 \leq C+ < 65$</td> </tr> <tr> <td>C</td> <td>2.00</td> <td>$55 \leq C < 60$</td> </tr> <tr> <td>D</td> <td>1.00</td> <td>$40 \leq D < 55$</td> </tr> <tr> <td>E</td> <td>0.00</td> <td>$0 \leq E < 40$</td> </tr> </tbody> </table>	Index	Converted Score	Score Range	A	4.00	$85 \leq A \leq 100$	A-	3.75	$80 \leq A- < 85$	B+	3.50	$75 \leq B+ < 80$	B	3.00	$70 \leq B < 75$	B-	2.75	$65 \leq B- < 70$	C+	2.50	$60 \leq C+ < 65$	C	2.00	$55 \leq C < 60$	D	1.00	$40 \leq D < 55$	E	0.00	$0 \leq E < 40$
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Learning Methods :	<i>Case Method and Discussion</i>																														
Form of Media:	<i>Power Point slides, e-book file, and multimedia.</i>																														
Literature (primary references):	<ol style="list-style-type: none"> <i>Anderson, Smith, Richard W. Hill, Gordon A. Wyse, 2012, Animal Physiology, CollegeSinauer Associates, Inc. Publishers.</i> <i>Andrey B. Rubin 2014, Fundamentals of Biophysics, New York, Co-published by John Wiley & Sons,</i> <i>Davidovits, Paul 2016, Physics in Biology Physics in Biology and Medicine, New York, Library of Congress Cataloging-in-Publication Data</i> <i>Dillon, Patrick, 2012. Biophysics A Physiological Approach, Michigan, Michigan State University Press</i> <i>Goldfarb, Daniel, 2011, Biophysics, New York Mc Graw Hill</i> 																														
Notes:	<p><i>*1 CU in learning process = three periods consist of: (a) scheduled instruction in a classroom (50 minutes); (b) structured activity (90 minutes); and (c) individual activity (100 minutes) according to according to Rector Decree of Universitas Negeri Surabaya No. 598/UN38/HK/AK/2020</i></p> <p><i>**1 CU = 2.24 ECTS according to Rector Decree of Universitas Negeri Surabaya No. 598/UN38/HK/AK/2020</i></p> <p><i>*Total ECTS = (total hours workload/ 60 min) / 25 hours</i></p> <p>Each ECTS is equals with 25 hours</p>																														
Last Amendment	<i>5 January 2023</i>																														