



UNIVERSITAS NEGERI YOGYAKARTA
 FACULTY OF MATHEMATICS AND NATURAL SCIENCES
 DEPARTMENT OF BIOLOGY
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Bachelor of Education in Biology

MODULE HANDBOOK

Module name:	General Chemistry Laboratory Work						
Module level, if applicable:	Undergraduate						
Code:	KIM 6401						
Sub-heading, if applicable:	-						
Classes, if applicable:	-						
Semester:	1 st						
Module coordinator:	Jaslin Ikhsan, Ph.D.						
Lecturer(s):	Nur Fitriyana, M.Pd.						
Language:	Bahasa Indonesia						
Classification within the curriculum:	Compulsory Course						
Teaching format / class hours per week during the semester:	170 minutes includes the laboratory work and it's reporting per week						
Workload:	Total workload of the activity is 45,33 hours per semester which consist of 170 minutes laboratory work with it's reporting per week for 16 weeks.						
Credit points:	1 SKS (2 ECTS)						
Prerequisites course(s):	-						
Program Learning Outcome	PLO 4: Mastering basic Biology and other relevant knowledge with mathematics and natural sciences PLO 7: Being able to do independent laboratory work and fieldwork						
Course Outcome:	After taking this course, the students are expected to be able to: <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%; text-align: center;">CO1</td> <td>Students understand the basic concept of chemistry and their application in daily life.</td> </tr> <tr> <td style="text-align: center;">CO3</td> <td>Students can evaluate the results of chemistry research based on data analysis</td> </tr> <tr> <td style="text-align: center;">CO4</td> <td>Sudents can communicate oral and written form the results of the laboratory work</td> </tr> </table>	CO1	Students understand the basic concept of chemistry and their application in daily life.	CO3	Students can evaluate the results of chemistry research based on data analysis	CO4	Sudents can communicate oral and written form the results of the laboratory work
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CO3	Students can evaluate the results of chemistry research based on data analysis						
CO4	Sudents can communicate oral and written form the results of the laboratory work						
Content:	The objective of General Chemistry Laboratory Work course for Biology is to provide the basics skills of chemistry that used to understand the chemistry concept that related with biology. This course conducts the experiment about stoichiometry, solutions, chemical kinetics, thermochemistry, nuclear chemistry and radiochemistry, as well as organic and biochemistry. The learning methods use are experiment in the						

	laboratory, discussion, question and answer, lectures. The assesment technique in this course include observation, written tests, quizzes, laboratory report, and performance.																											
Study/ exam achievements:	The final mark in this course will be weight as follow:																											
	<table border="1"> <thead> <tr> <th>No</th> <th>CO</th> <th>Assessment Object</th> <th>Assessment Technique</th> <th>Weight</th> </tr> </thead> <tbody> <tr> <td>1</td> <td rowspan="4">CO1, CO2, CO3</td> <td>a. Structural assignments</td> <td>Laboratory report, quizzes</td> <td>20%</td> </tr> <tr> <td>2</td> <td>b. Pre-test</td> <td>Written test</td> <td>30%</td> </tr> <tr> <td>3</td> <td>c. Final exam</td> <td>Written test</td> <td>30%</td> </tr> <tr> <td>4</td> <td>d. Presentation the result of the laboratory work</td> <td>Performance and observation</td> <td>20%</td> </tr> <tr> <td colspan="4">Total</td> <td>100%</td> </tr> </tbody> </table>	No	CO	Assessment Object	Assessment Technique	Weight	1	CO1, CO2, CO3	a. Structural assignments	Laboratory report, quizzes	20%	2	b. Pre-test	Written test	30%	3	c. Final exam	Written test	30%	4	d. Presentation the result of the laboratory work	Performance and observation	20%	Total				100%
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4	d. Presentation the result of the laboratory work		Performance and observation	20%																								
Total				100%																								
Forms of media:	Board, LCD Projector, Laptop/ Computer, Module, laboratory work equipments.																											
References:	General chemistry laboratory work module for Biology. Burdge, J. (2011). <i>Chemistry 2nd Ed.</i> New York: McGraw-Hill. Chang, R. (2007). <i>Chemistry 10th Ed.</i> New York: McGraw-Hill. Partana, C. J. (2002). <i>Common text book kimia dasar 2.</i> Yogyakarta: UNY dan JICA. Sukarna, I. M. (2002). <i>Common text book kimia dasar 1.</i> Yogyakarta: UNY dan JICA.																											

PLO and CO mapping

CO	PLO 1	PLO 2	PLO 3	PLO4	PLO 5	PLO 6	PLO 7	PLO 8	PLO 9	PLO 10	PLO 11	PLO 12
CO1				√			√					
CO2				√			√					
CO3				√			√					
CO4				√			√					