UNIVERSITAS NEGERI YOGYAKARTA
FACULTY OF MATHEMATICS AND NATURAL SCIENCES
DEPARTMENT OF CHEMISTRY
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Module name:	Biology for Chemistry
Module level, if applicable:	Undergraduate
Code:	KIM6303
Sub-heading, if applicable:	-
Classes, if applicable:	2
Semester:	1st
Module coordinator:	Prof. Dr.Djukri
Lecturer(s):	1. Prof. Dr.Djukri 2. Dr. Agung Wijaya S.
Language:	Bahasa Indonesia and English
Classification within the curriculum:	Compulsory Course
Teaching format / class hours per week during the semester:	• Lectures: 100 minutes lectures, 120 structured activities and 120 individual study per week • Laboratory work: 170 minutes includes the laboratory work and it's reporting per week
Workload:	Total workload is 136 hours per semester which consists of 150 minutes lectures, 180 structured activities, 180 individual study, and also 170 minutes laboratory work with it's reporting per week for 16 weeks
Credit points:	3 SKS (5 ECTS)
Prerequisites course(s):	-
Course Outcomes	After taking this course, the students have ability to: CO1. Instill religious value related to the creation of creatures or universe CO2. Exhibit tolerance towards the individual diversity CO3. Independently finish the given tasks CO4. Be resposible when collaborating with others CO5. Adapt to various learning objects and environments CO6. Analyze organisms' body parts including their functions and their relationships with their habitat as an attempt to control the balance in the ecosystem. CO7. Explain the theory of evolution and relate genetics to inheritance CO8. Employ the concepts and ways of thinking in chemistry in resolving environmental problems which aims for environmental preservation on a daily basis CO9. Apply scientific methods during practicums CO10. Implement scientific methods to solve problems in biology related to chemistry
Content:	This course discusses the basic concepts in biology, objects of living organization, and scientific methods, principles, laws, theories and basic skills to apply scientific process through lab practices.

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<tr><td></td><td></td></tr>
<tr><td>Study / exam achievements:</td><td>The final mark will be weight as follow:
<table>
<tr><th>No</th><th>CO</th><th>Assessment Object</th><th>Assessment Technique</th><th>Weight</th></tr>
<tr><td>1</td><td>CO1 and CO2</td><td>Attitude</td><td>Rubrics for students' attitude</td><td>15%</td></tr>
<tr><td>2</td><td>CO3, CO4, and CO 5</td><td>Skills in biology</td><td>Rubrics for skill assessment</td><td>15%</td></tr>
<tr><td>3</td><td>CO6, CO 7, and CO8</td><td>Essay</td><td>Rubrics for essay writing</td><td>15%</td></tr>
<tr><td>4</td><td>CO9 and CO10</td><td>Practicum/ research reports</td><td>Rubrics for practicum or research reports writing</td><td>15%</td></tr>
<tr><td>5</td><td>Mid and final term</td><td>Understanding the concepts and materials in biology</td><td>Written test</td><td>2 x 20%</td></tr>
<tr><td colspan="4">Total</td><td>100%</td></tr>
</table></td></tr>
<tr><td>Forms of media:</td><td>Board, LCD Projector, Laptop/Computer, PPT slides, and video files</td></tr>
<tr><td>Reference:</td><td>A. Beatrycze Nowicka, Joanna Ciura, Renata Szymańska, Jerzy Kruk, 2018, Improving photosynthesis, plant productivity and abiotic stress tolerance – current trends and future perspectives, Journal of Plant Physiology,Volume 231,Pages 415-433
B. Richard Gordon and Alexei A. Sharov. 2018. Habitability of the Universe before the earth. Elsevier
C. Raymond C Nias. 2013. Endanger Ecosystem.Elsevier
D. Mahfuzur, Ozaki, teruya, Kato-Noguchi, 2020, Potential use of Shumannianthus dichotomus waste :the phytotoxic activity of the waste and its identified compound. Journal of Environmental Science and Health. https:doi.org/10.1080/03601234.2020.1822716
E. Adesanya, Zvomuya, Farenhorst. 2020. Sulfamethoxazole sorption by cattail and switchgrass roots. Journal of Environmental Science and Health. https:doi.org/10.1080/03601234.2020.1807263
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I. Salisbury, F.B. and Ross, C. W. 1995. Fisiologi Tumbuhan (1st edition). Bandung: ITB
J. E. Amin, M. 2009. Evolusi. Malang: Universitas Negeri</td></tr>
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	Malang

PLO and CO mapping

	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9	PLO10
CO1		✓								
CO2							✓			
CO3									✓	