



UNIVERSITAS NEGERI YOGYAKARTA
FACULTY OF MATHEMATICS AND SCIENCE
DEPARTMENT OF BIOLOGY EDUCATION

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Bachelor of Science in Biology	MODULE HANDBOOK
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Module name:	<i>Insights and Review on Science</i>
Module level, if applicable:	<i>Undergraduate</i>
Code:	<i>AMF6201</i>
Sub-heading, if applicable:	-
Classes, if applicable:	-
Semester:	<i>odd</i>
Module coordinator:	<i>Prof. Dr. IGP Suryadarma</i>
Lecturer(s):	<i>Dr. Slamet Suyanto, Prof. Dr. IGP Suryadarma</i>
Language:	<i>Indonesian</i>
Classification within the curriculum:	<i>Compulsory Course</i>
Teaching format / class hours per week during the semester:	<i>100 minutes lectures, 120 minutes structured activities, and 120 minutes individual study per week</i>
Workload:	<i>Total workload is 91 hours per semester which consists of 100 minutes lectures, 120 minutes structured activities, and 120 minutes individual study per week for 16 weeks.</i>
Credit points:	<i>2 sks (3 ects)</i>
Prerequisites course(s):	<i>none</i>
Program Learning Outcome(s)	<p><i>At the end of this course, student will :</i></p> <p><i>PLO 06. become adaptive, creative, and innovative in applying biology and its related science (Adaptif, kreatif, dan inovatif dalam menerapkan ilmu biologi dan ilmu terkait)</i></p> <p><i>PLO 11. have skills in public speaking either in local, national, or international forum (Memiliki keterampilan saintifik sebagai pendukung kemampuan public speaking di forum lokal, nasional, dan internasional).</i></p>
Targeted learning outcomes:	<p>Students will be able to:</p> <p>CO 1. describe the nature of science</p> <p>CO 2. identify the objects, problems, and scientific method to study in biological science</p> <p>CO 3. describe the integration between biology, chemistry, physic, and mathematics</p> <p>CO 4. apply scientific method in solving scientific problems creatively</p> <p>CO 5. present the results of scientific investigation orally and in written form for local, national, or international seminars.</p>

Content:	<ol style="list-style-type: none"> 1. The nature of Science, the objects and problem to learn 2. The relation among science and mathematics, 3. Scientific method, Scientific attitudes, and ethics, and its application 4. Scientific presentation and writing style 	
Study / exam achievements:	Examination aspects	Worth (%)
	Participation	10
	Assignments	60
	Examinations	30
Forms of media:	<p>Video of technology and environmental damages PowerPoint of Biology, physic, chemistry, and mathematics interaction case</p>	
References:	<ol style="list-style-type: none"> 1. Friedman, Michel. 2012. Kant on concepts and intuitions in the mathematical sciences. <i>Synthese</i> 2. Guessoum, Nidhal. 2010. Science, religion, and the quest for knowledge and truth: an Islamic perspective. <i>Cultural Studies of Science Education</i>. 3. Han, Sunyoung, Capraro, Robert, Capraro, Mary Margaret. 2015. How Science, Technology, Engineering, And Mathematics (Stem) Project-Based Learning (Pbl) Affects High, Middle, And Low Achievers Differently: The Impact Of Student Factors On Achievement. <i>International Journal of Science and Mathematics Education</i> 4. Li, Cheng-Feng, Tian, Ye-Zhuang. 2016. Influence of Workplace Ostracism on Employee Voice Behavior. <i>American Journal of Mathematical and Management Sciences</i> 5. Teachers' Perceptions and Practices of STEAM Education in South Korea. 2016. <i>EURASIA Journal of Mathematics Science and Technology Education</i> 6. Kipnis, Mira & Hofstein, Avi. 2018. The Inquiry Laboratory as a Source for Development of Metacognitive Skills. <i>International Journal of Science and Mathematics Education</i>. 7. Neuhauser, C., 2014, Calculus for Biology and Medicine, Second Edition, Upper Saddle River: Pearson Education, Inc. 8. Doggett, G. and Sutcliffe, B.T., 1995, Mathematics for Chemistry, Eddison Wesley Longman Limited. 9. Pusat Penelitian Kelapa Sawit, Budidaya Kelapa Sawit, Editor: Lalang Buana, Donald Siahaan, Sunardi Adiputra. 10. Okasha, Samir. (2002). Philosophy of Science a very short introduction. New York: Oxford University Press 11. Jujun S. Suriasumantri. (2007). Filsafat Ilmu Sebuah Pengantar Popular. Jakarta: Pustaka Sinar Harapan 12. Tarski, Alfred. 1994. Introduction to Logic and to the Methodology of Deductive Sciences. New York : Oxford University Press 	

