



UNIVERSITAS NEGERI YOGYAKARTA
FACULTY OF MATHEMATICS AND SCIENCE
DEPARTMENT OF BIOLOGY EDUCATION
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Bachelor of Science in Biology

MODULE HANDBOOK

Module name:	Ecology of Microorganism
Module level, if applicable:	Undergraduate
Code:	BIM6266
Sub-heading,if applicable:	-
Classes,if applicable:	-
Semester:	Odd
Module coordinator:	Dr. Bernadetta Octavia
Lecturer(s):	Dr. Bernadetta Octavia, Anna Rakhmawati,M.Si.
Language:	Bahasa Indonesia
Classification within the curriculum:	Elective Course
Teaching format / class hours per week during the semester:	100 minutes for lecture, 120 minutes for structured activities, and 120 minutes for individual study per week.
Work load:	Total workload is 91 hours per semester consisting of 100 minutes lecture, 120 minutes for structured activities, and 120 minutes for individual study per week for 16 weeks.
Credit points:	1 SKS (2 ECTS)
Prerequisites course(s):	Microbiology
Program Learning Outcomes:	<p>4. Comprehensively mastering Biology (core biology) to solve problems in the field of Biology (problem-solving) and to underlie the concepts of related sciences</p> <p>6. Being adaptive, creative, innovative in applying the concepts of Biology and other related fields</p> <p>9. Being able to work and create jobs/being an entrepreneur in the field of Biology</p> <p>11. Possessing scientific skills to support the ability to speak in local, national, and international forums</p>
Course Outcomes	<p>After attending this subject students are able to:</p> <p>CO1. Understand basic concepts within the field of microbial</p>

	<p>ecology</p> <p>CO2. Interpret the various ecological and evolutionary principles that impact microbes</p> <p>CO3. Recognize diversity observed among different microbes</p> <p>CO4. Explain the ways microorganisms interact with biotic environments such as other microorganisms, plants, and animals</p> <p>CO5. Explain the ways microorganisms interact with abiotic environments</p> <p>CO6. Recognize and provide detailed examples of the complexity of microbial catabolism that is common to all life.</p> <p>CO7. Critically read and write on topics related to microbial ecology..</p>															
Content:	Matakuliah ini mengajarkan konsep ekologi mikroba serta peranan mikroorganisme yang terkait dengan lingkungan dan kehidupan keseharian sehingga mahasiswa dapat memiliki bekal mengembangkan mikrobiologi di berbagai bidang															
Study/exam achievements:	<p>The final mark will be weighted as follows:</p> <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>CO1 to CO7</td> <td>Observed attitudes , knolwedge, and skills</td> <td>Survey, test, rubrics and manuals</td> <td>100%</td> </tr> <tr> <td colspan="4">Total</td> <td>100%</td> </tr> </tbody> </table>	No	CO	Assessment Object	Assessment Technique	Weight	1	CO1 to CO7	Observed attitudes , knolwedge, and skills	Survey, test, rubrics and manuals	100%	Total				100%
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1	CO1 to CO7	Observed attitudes , knolwedge, and skills	Survey, test, rubrics and manuals	100%												
Total				100%												
Forms of media:	Real objects, microscopic slides, model, and multimedia.															
References:	<p>A. Barton, L.L. and Northup, D.E. 2011. <i>Microbial Ecology</i>. Wiley-Blackwell</p> <p>B. Glazer. A.N. and Nikaido. H., 2007. <i>Microbial Biotechnology Fundamentals of Applied Microbiology</i>. Cambridge University Press. UK</p> <p>C. Madigan, M.T., Martinko, J.M., Bender, K.S., Buckley, D.H. and Stahl, D.A. 2015. <i>Brock Biology of Microorganisms</i>. Pearson Education, Inc, USA</p> <p>D. Mitchell ,R. and Gu Ji-Dong (Ed.) 2010. <i>Environmental Microbiology</i>, 2 nd ed. Wiley-Blackwell</p> <p>E. Cohen, G.N. 2011. <i>Microbial Biochemistry</i>, 2 nd ed. Springer</p>															

PLO and CO mapping

	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9	PLO10	PLO11
CO1				√		√			√		
CO2				√		√			√		
CO3				√		√			√		
CO4				√		√			√		

C05				√		√			√		
C06				√		√			√		
C07				√		√			√		√