



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:	Waste Management Technology
Module level, if applicable:	Undergraduate
Code:	BIM6277
Sub-heading, if applicable:	-
Classes, if applicable:	-
Semester:	Even
Module coordinator:	Dr. Tien Aminatun
Lecturer(s):	Dr. Ir. Suhartini, Dr. Tien Aminatun
Language:	Bahasa Indonesia
Classification within the curriculum:	Elective Course
Teaching format / class hours per week during the semester:	100 minutes lectures, 120 minutes structured activities, and 120 minutes individual study per week
Work load:	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.
Credit points:	2 SKS (3 ECTS)
Prerequisites course(s):	Ecology
Program Learning Outcomes:	<ul style="list-style-type: none"> 4. Comprehensively mastering Biology (core biology) to solve problems in the field of Biology (problem-solving) and to underlie the concepts of related sciences 6. Being adaptive, creative, innovative in applying the concepts of Biology and other related fields 9. Being able to work and create jobs/being an entrepreneur in the field of Biology 11. Possessing scientific skills to support the ability to speak in local, national, and international forums
Course Outcomes	After taking this course, the students have ability to:

	<p>CO1. Mendiskripsikan definisi, macam-macam, dan karakteristik limbah</p> <p>CO2. Memahami keterkaitan limbah dengan pencemaran lingkungan</p> <p>CO3. Memahami strategi dan teknologi pengelolaan limbah sesuai dengan karakteristiknya</p> <p>CO4. Merumuskan pemecahan masalah tentang pencemaran lingkungan yang diakibatkan oleh limbah, baik yang dihasilkan oleh aktivitas manusia maupun oleh proses alam</p> <p>CO5. Menginternalisasikan pengetahuan tentang pengelolaan limbah dalam rangka pengelolaan lingkungan hidup menjadi nilai-nilai yang menjadi dasar untuk menentukan sikap dan perilaku dalam kehidupan sehari-hari√</p> <p>CO6. Communicate the result of individual or communal study</p>															
Content:	<p>Materi matakuliah ini menekankan pada pengembangan kepribadian melalui pembahasan tentang keterkaitan antara pencemaran lingkungan yang diakibatkan oleh limbah dan kelangsungan kehidupan manusia, sehingga limbah perlu dikelola dengan strategi dan teknologi yang sesuai dengan sifat dan karakteristik dari limbah tersebut. Wawasan ini perlu diterapkan dalam kehidupan sehari-hari dalam rangka mengelola lingkungan hidup demi keberlanjutan sistem pendukung kehidupan bagi manusia.</p>															
Study/examachievements:	<p>The final mark will be weight as follow:</p> <table border="1" data-bbox="620 1108 1429 1331"> <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 CO6</td> <td>Observed attitudes , knolwedge, and skills</td> <td>Survey, test, rubrics and manuals</td> <td>100%</td> </tr> <tr> <td colspan="4" style="text-align: right;">Total</td> <td>100%</td> </tr> </tbody> </table>	No	CO	Assessment Object	Assessment Technique	Weight	1	CO1 to CO6	Observed attitudes , knolwedge, and skills	Survey, test, rubrics and manuals	100%	Total				100%
No	CO	Assessment Object	Assessment Technique	Weight												
1	CO1 to CO6	Observed attitudes , knolwedge, and skills	Survey, test, rubrics and manuals	100%												
Total				100%												
Forms of media:	Real objects, multimedia															
Reference:	<ol style="list-style-type: none"> 1. A. G. Tyler Miller, JR. 2001. <i>Environmental Science, Working with The Earth</i>. 8th Edition. Brooks/Cole Thomson Learning. USA. 2. Anonim. 1987. Buku Petunjuk Pencegahan dan Penanggulangan Pencemaran Limbah Padat dan Cair Industri. Jakarta: Departemen Perindustrian. 3. Des W. Connell dan Gregory J. Miller. 1995. Kimia dan Ekotoksikologi Pencemaran. Diterjemahkan oleh Yanti Koestoer. Jakarta: Penenrbit Universitas Indonesia. 4. Crawford, R.L. and Crawford, D.L. 2005. <i>Bioremediation: Principles and Applications</i>. University of Idaho, Moscow, Idaho, USA, Cambridge University Press 															

