MINISTRY OF EDUCATION AND CULTURE
UNIVERSITAS NEGERI SURABAYA
FACULTY OF MATHEMATICS AND NATURAL SCIENCES
DEPARTMENT OF NATURAL SCIENCES
Ketintang Campus, Jl. Ketintang C12 Building, Surabaya 60231
Phone (031)18296427
Website http://pendidikan-sains.fmipa.unesa.ac.id

Module Name:	*Sains, Lingkungan, Teknologi, Masyarakat* (Science, Environment, Technology, and Society)
Module Level:	Bachelor degree/Undergraduate Programme
Course Code:	8420103138
Abbreviation, if applicable:	SETS
Courses included in the module, if applicable:	Not applicable
Semester/term	V/third year (junior)
Module coordinator(s):	Dra. Martini, M.Pd.
Lecturer(s):	Dra. Martini, M.Pd. Laily Rosdiana, S.Pd., M.Pd. Aris Rudi Purnomo, S.Si., M.Pd., M.Sc.
Language:	*Bahasa Indonesia* (Indonesian Language)
Classification within the curriculum:	Compulsory / ~~Elective~~
Teaching format/class hours per week during the semester:	3 contact hours of lectures (Indonesia credit semester or *sks**)
Workload:	3 x 50 minutes lectures, 3 x 60 minutes structured activity, 3 x 60 minutes individual activity, 14 weeks per semester, 119 total hours per semester ~ 4.77 ECTS**
Credit point:	3 *sks* (4.77 ECTS)
Requirements:	– General Chemistry – General Physics – General Biology
Learning goals/competencies:	**Course Learning Outcomes (CLOs):** After taking this course, students will be able to: 1. Identify issues related to environmental problems; 2. Mastering scientific concepts to choose solutions related to environmental problems; 3. Write environmental problems solving ideas in the form of a proposal; and 4. Work collaboratively to implement environmental problems solving ideal and write report.
Content:	The role of students in environmental management; waste management; technology that converts waste into alternative energy sources; plants producing biopesticide compounds; Ecological and economic benefits of using biopesticides; student innovative ideas in environmental management; designing innovative work of students in environmental management; student's innovative performance in environmental management.
Attribute Soft skill:	Discipline, collaboration, responsibility, and argumentation in the natural classroom setting
Study/exam achievements:	Students are considered to be competent and pass if at least get 40% of the maximum final grade. The final grade

<table>
<tr><td></td><td>(NA) is calculated based on the following weight:

<table><tr><th>Assessment Components</th><th>Percentage Contribution</th></tr><tr><td>Participation</td><td>20%</td></tr><tr><td>Assignment</td><td>30%</td></tr><tr><td>Mid-semester test</td><td>20%</td></tr><tr><td>Final semester test</td><td>30%</td></tr><tr><td>Total</td><td>100%</td></tr></table></td></tr>
<tr><td>Learning Methods</td><td>Project-based learning, lecturing, discussion, and presentation (structured activities).</td></tr>
<tr><td>Form of Media:</td><td>LCD, PowerPoint slides, worksheets, and e-learning Vinesa (https://vinesa.unesa.ac.id/course/view.php?id=171)</td></tr>
<tr><td>Literature (primary references):</td><td>1. Koul, O. & Dhaliwal, D. S (Ed). 2002. Microbial Biopesticides. New York: Taylor & Francis
2. Martini, dkk. 2018. Penumbuhan Budaya Akademik dalam Konteks Ecopreneurship. Surabaya: Unesa University Press.
3. Mousdale, D.M. 2008. Biofuels: Biotechnology, Chemistry, and Sustainable Development. New York: Taylor & Francis.
4. Ristek, 2012. 104 Inovasi Indonesia. Jakarta: Business Innovation Center (BIC)
5. William Linda D. 2005. Environmental Science. USA: Mc Graw Hill.
6. Winarsih, 2015. Peran Mahasiswa dalam Pembangunan Berkelanjutan. Kumpulan Handout.</td></tr>
<tr><td rowspan="2">Notes:</td><td>*1 sks in learning process = three contact hours that consist of: (a) scheduled instruction in a classroom or laboratory (50 minutes); (b) structured activity (60 minutes); and (c) individual activity (60 minutes) according to the Regulation of Indonesia Ministry of Research, Technology, and Higher Education No. 44 Year 2015 jo. the Regulation of Indonesia Ministry of Research, Technology, and Higher Education No. 50 Year 2018.</td></tr>
<tr><td>**1 sks = 1,59 ECTS</td></tr>
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