

MODULE HANDBOOK

Module Name	Environmental Chemistry
Module level	Bachelor
Abbreviation, if applicable	8420403154
Sub-heading, if applicable	-
Course included in the module, if applicable	-
Semester/term	6 th /Third Year
Module coordinator(s)	Prof. Dr. Suyono, M.Pd
Lecturer(s)	Prof. Dr. Suyono, M.Pd, Dr. Amaria, M.Si. Rusmini S.Pd, M.Si, Dina Kartika Maharani S.Si, M.Sc
Language	Bahasa Indonesia
Classification within the curriculum	Elective Course
Teaching format/class hours per week during the semester:	3 hours lectures (50 min / hour)
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 points:	3 CU = 3 x 1.59 = 4.77 ECTS
Prerequisite course(s):	-
Targeted learning outcomes:	<ol style="list-style-type: none"> 1. Students have knowledge about the sources, reactions, displacement, effects, and changes of chemical species in air, water and soil, the reciprocal effect of human activities on all those mentioned, and an analysis of environmental impacts (Amdal) 2. Students are skilled at using tools in experimenting with water quality parameters from the environment 3. Students have the ability to work together and are responsible for discussing knowledge about 1) sources, reactions, displacement, effects, and changes in chemical species in air, water and soil, 2) The reciprocal effect of human activities on all the so-called on no.1 and 3) Environmental impact analysis (Amdal) 4. Students have the ability to communicate knowledge about 1) sources, reactions, displacement, effects, and changes in chemical species in air, water and soil, 2) The reciprocal effect of human activities on everything mentioned in no. 1 and 3) Environmental impact analysis (Amdal)
Content:	<ol style="list-style-type: none"> 1. Sources, reactions, displacement, effects, and changes in chemical species in air, water and soil, 2. The reciprocal effect of human activities on all the so-called on no.1 and 3) 3. Environmental impact analysis (Amdal)
Study / exam achievements:	Students are considered to complete the course and pass if

	<p>they obtain at least 40% of maximum final grade. The final grade (NA) is calculated based on the following ratio:</p> <table border="1"> <thead> <tr> <th>Assessment Components</th> <th>Percentage of contribution</th> </tr> </thead> <tbody> <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> </tbody> </table>	Assessment Components	Percentage of contribution	Participation	20%	Assignment	30%	Mid-semester test	20%	Final semester test	30%
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Participation	20%										
Assignment	30%										
Mid-semester test	20%										
Final semester test	30%										
Media:	Computer, LCD, White board, laboratory										
Learning Methods	Individuals assignment, group assignment, discussion, presentation, and practicum										
Literature:	<ol style="list-style-type: none"> 1. De, anil Kumar. 1987. <i>Environmental Chemistry</i>. India: Willey Eastern Limited. 2. Faust, S.D and Aly, O.M. 1981. <i>Chemistry of Natural Water</i>. London: Ann Arbor Science. 3. Manahan, S.E. 1994. <i>Environmental Chemistry</i>. London: Lewis Publishers CRC Pres. Inc 4. More, J.W. and More, E.A., 1976. <i>Environmental Chemistry</i>. New York: Academic Press. 5. Radojevic, Miroslav and Bashkin, Vladimir N, 1999, <i>Practical Environmental Analysis</i>, Cambridge : Royal Society of Chemistry 										
Notes:	<p>*1 CU in learning process = three periods 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.</p> <p>**1 CU = 1,59 ECTS according to Rector Decree Of Universitas Negeri Surabaya No. 598/Un38/Hk/Ak/2019</p>										