

Environmental Pollution Control



**MASTER PROGRAM OF ENVIRONMENTAL SCIENCE
SCHOOL OF POSTGRADUATE STUDIES
DIPONEGORO UNIVERSITY**



A Module Handbook or collection of module descriptions that is also available for students to consult should contain the following information about the individual modules:

Module design	Environmental Pollution Control
Module level, if applicable	
Code, if applicable	CIL-2.2.610
Subtitles, if applicable	
Courses, if applicable	
Semester(s) in which the module is taught	2 nd Semester
Person responsible for the module	Dr. Ing,- Sudarno Utomo, ST, MSc
Lecturer	1. Dr. Ing,- Sudarno Utomo, ST, MSc 2. Dr. Drs. Subagiyo, M.Si
Language	<i>Indonesian and English</i>
Relations to curriculum	
Type of teaching, contact hours	<i>Lecture: 60 minutes Q&A: 10 minutes Discussion: 10 minutes Presentation: 10 minutes</i>
Workload	<i>(Estimated) workload, divided into contact hours (lecture, exercise, laboratory session, etc.) and private study, including examination preparation, specified in hours,¹ and in total.</i>
Credit points	<i>3 credits</i>
Requirements according to the examination regulations	<i>Minimum attendance of lectures 75%</i>
Recommended prerequisites	<i>eg existing competences in...</i>

¹ When calculating contact time, each contact hour is counted as a full hour because of the organization of the schedule, moving from room to room, and individual questions to lecturers after the class, all mean that about 60 minutes should be counted.

Module objectives/intended learning outcomes	• studentacant analyzing pollution problems, classifying pollution sources, knowing pollution materials, characterizing waste, pollution cycles, pollution impacts, prevention, control and prevention
Content	This course examines the analysis of pollution problems, classification of pollution sources: water, soil, air, toxicology of heavy metals, food and medicine, pesticides; pollution materials, waste characteristics, pollution cycles, pollution impacts, prevention, control and prevention: supervision, determination/estimation of environmental quality (water, air, and land).
Study and examination requirements and forms of examination	• <i>Open book and close book</i> • <i>Multiple choice, case study, interview, practice</i>
Media employed	<i>Powerpoint, youtube, website</i>

Reading list	1. Environmental Science, Soeriatmadja, ITB, 1987. 2. Environmental Pollution, Satrawijaya, A. Tresna, Rineka Cipta, Jakarta, 1991. 3. McGraw-Hill Encyclopedia of Environmental Science and Engineering (3rd Edition). McGraw-Hill, Inc. 1993. 4. The Environment and Its Sustainability Imam Soepardi, Alumni, Bandung, 1994. 5. Sims, J. Activated sludge, Environmental Encyclopedia. Detroit. 2003 6. Minister of Environment Regulation No. 13 of 2010 7. Introduction to ISO 14001, Cokorda Prapti Mahandari, Gunadarma University, 2004 8. Conningham, WilliamP., and Barbara Woodworth Saigo. 1985. Environmental Science, A Global Concorn. Jubuque-USA: Win. C. Brown Publisher. 9. Connel& Miller. 1995. Chemical Pollution Ecotoxicology. UI Press Jakarta. 10. Darmono.1995. Metals in the Biology of Living Things. UI. Jakarta. 11. Mahida,UN. 1986. Water pollution. Rajawali, Jakarta. 12. Mason.CF. 1991. Biology of Freshwater Pollution. John Willey & Sons Inc. New York. 13. Miller,G. Tylor. 1986. Environmental Science, An Introduction. Wadsworth Publishing Company, Bronsons. California. 14. Sastrawijaya.1991. Environmental pollution. Rineka Cipta. Jakarta. 15. SoemarwotoO. 1988. Environmental Impact Analysis. UGM Press Yogyakarta 16. Soemirat,Y. 2003. Environmental Toxicology. UGM. Yogyakarta. 17. Wardhana,W.A. 2004. Impact of Environmental Pollution. Andi. Yogyakarta.
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