Analisa Sistem Lingkungan

PROGRAM MAGISTER ILMU LINGKUNGAN
SEKOLAH PASCASARJANA
UNIVERSITAS DIPONEGORO

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 System Analysis
Module level, if applicable	
Code, if applicable	CIL-2-2-606
Subtitles, if applicable	
Courses, if applicable	
Semester(s) in which the module is taught	2nd Semester
Person responsible for the module	Ir. Setia Budi Sasongko, DEA, Ph.D
Lecturer	1. Prof. Dr. Ir. Hadiyanto, S.T., M.Sc.
Language	*Indonesian and English*
Relations to curriculum	
Type of teaching, contact hours	*Lecture: 60 minutes* *Q&A: 10 minutes* *Discussion: 10 minutes* *Presentation: 10 minutes*
Workload	*(Estimated) workload, divided into contact hours (lecture, exercise, laboratory session, etc.) and private study, including examination preparation, specified in hours,[1] and in total.*
Credit points	*2 credits*
Requirements according to the examination regulations	*Minimum attendance of lectures 75%*
Recommended prerequisites	*eg existing competences in…*

[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	• Able to understand problems with environmental modeling approach • Able to solve environmental problems with an environmental modeling approach.
Content	This course studies the concept of sustainable development that integrates ecological systems to answer environmental problems.
Study and examination requirements and forms of examination	• *Open book and close book* • *Multiple choice, case study, interview, practice*
Media employed	*Powerpoint, youtube, website*
Reading list	1. Bequette, B.W,. 1998, Process Dynamics: Modeling, Analysis and Simulation, Prentice Hall International, Inc. NY 2. Daniek H.Kim, 1994, System Thinking Tools, Pegasus Communications, Cambrigde, Massachusetts. 3. George R. Richardson, Alexander L. Pugh, 1981, Introduction to System Dynamics Modeling with Dynamo, The MIT Press Cambridge, Massachusetts, London, England. 4. Jorgensen, S.E., 1994, Fundementals of Ecological Modelling 2nd ed., Elsevier, NY 5. Keinath, T.M. Wanielista, M. 1975, Mathematical Modeling for water pollution control processes, Ann Arbor Science, Michigan. 6. Michel R. Goodman, 1980, Study Notes in System Dynamics, The MIT Press Cambridge, Massachusetts, London, England. 7. Muhammadi, Erman Aminullah, Budhi Soesilo, 2001, "Analisis Sistem Dinamis: Lingkungan Hidup, Sosial, Ekonomi, Manajemen", Penerbit UMJ Press. 8. Party, G.G, Chapman, D., 1989, Dynamic Modeling and Expert System in Wastewater Engineering, Lewis Pub. Inc, Michigan. 9. Robert N., Andersen D., Deal R., Garet M., Shaffer W., 1983, Introduction to Computer simulation: A system Dynamics modeling approach, Addison-Wesley Pub. Co.Sydney.