MODUL HANDBOOK
THESIS PROPOSAL

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

Modul Description :

Module designation	Thesis proposal
Semester(s) in which the module is taught	3rd semester
Person responsible for the module	Principal Advisor Co-Supervisor
Language	Indonesian and English
Relation to curriculum	Compulsory
Teaching methods	Mix Method or Blended Learning by incorporating Student Centred-learning and Technological Learning • Student Centred-learning: teacher promote individual to exploring individual idea • Technological Learning, teacher leads to use high technology in information such as by exploring, utilizing internet/searching engine
Workload (incl. contact hours, self-study hours)	• Drafting the thesis title and research objectives, 20 hours • Presentation on thesis concept, 5 hours • Discussion and writing proposal draft I: Preliminary chapter, 20 hours • Presentation originality of writing and respect for intellectual property, 5 hours • Discussion and writing proposal draft II: Introductory chapter review, 20 hours • Discussion and writing proposal Draft III: Literature review, 20 hours • Discussion and writing proposal draft IV: Literature area studio, 20 hours • Discussion and writing proposal draft V: survey and preliminary research, research method flowchart, 20 hours • Discussion and writing proposal draft VI: Research methods chapter, 20 hours
Workload (incl. contact hours, self-study hours)	• Peer review and editing the thesis proposal, 30 hours • Finalization of research proposal draft, 40 hours • Completing draft proposals and presentations, 40 hours • Proposal seminar exam, 20 hours • Total workload for semester = 300 hours

Credit points	2 credits / 12 ECTS
Required and recommended prerequisites for joining the module	Have completed minimum 14 credits/28 ECTS
Module objectives/intended learning outcomes	- Able to formulate environmental management theory - Able to formulate and carry out scientific research to solve environmental problems - Able to formulate environmental management policies - Able to formulate rules, methods through of environmental management to improve the quality of life, and save them in the form of theses, national and international journals or proceedings of reputable seminars
Content	This course examines thesis proposals which include selecting titles, compiling background problems, problem formulation, theoretical studies, and research methods, so that students can produce thesis proposals.
Examination forms	- Presentation of thesis proposal - Interview - Thesis proposal document (problem statement, goal, method, schedule, survey and colleting data, result analysis and conclusion)
Study and examination requirements	Have been approved Principal Advisor and Co-Supervisor for examination
Reading list	1. Gu, A., Li, B & Zhang, H. (2021). Machine learning: new ideas and tools in environmental science and engineering. Environmental Science & Technology, 55(19), 12741-12754. 2. Kornuta Halyna, Germaine Ron. 2019. Quick Guide to Writing a Thesis or Dissertation. Routledge Educational and Further Research 3. Nikolai Attard, 2018, WASP (Write Scientific Papers): Writing an academic research proposal, Early Human Development, Volume 123, Pages 39 - 41, https://doi.org/10.1016/j.earlhumdev.2018.04.0 11

Reading list	
	4. Evans David, Gruba Paul, Zobel Justin. 2014. How to Write a Better Thesis (Third Edition). Jumper
	5. Khoiyangbam, RS, and N Gupta. 2012. Introduction to Environmental Science. New Delhi: TERI
	6. Kelleher, C., & Wagener, T. (2011). Ten guidelines for effective data visualization in scientific publications. Environmental Modelling & Software, 26(6), 822-827.
	7. Chiras, D. D. (2009). Environmental science. Jones & Bartlett Publishers.
	8. Moed, H. F., Glänzel, W., & Schmoch, U. (2004). Handbook of quantitative science and technology research. The Use of Publications and Patent Statistics in Studies of S&T Systems. Dordrecht: Kluwer Academic Publisher.