CURRICULUM STRUCTURE MASTER OF ENVIRONMENTAL SCIENCE

UNIVERSITY OF NUSA CENDANA

2025

PREFACE

The development of the *Curriculum Structure for the Master of Environmental Science Program* at Universitas Nusa Cendana is a strategic step to strengthen the quality and relevance of postgraduate education in responding to the complex challenges of environmental issues, particularly in dryland and archipelagic regions.

This curriculum is designed to equip graduates with interdisciplinary knowledge, critical thinking skills, and the ability to formulate sustainable solutions to environmental problems. Emphasis is placed on integrating scientific, socio-economic, and policy perspectives to prepare students for careers in academia, government, and the environmental sector.

This document outlines the Programme Educational Objectives, Qualification Profile, Programme Learning Outcomes, Curriculum Structure, Course Distribution, and Curriculum Roadmap Matrix. It is designed in alignment with the Indonesian National Qualification Framework (KKNI), the principles of Outcome-Based Education (OBE), and the Tridharma of Higher Education.

We hope that this curriculum structure serves as a clear guide for academic implementation and becomes a reference for continuous development of the Master's Program in Environmental Science at Undana. Our deepest appreciation goes to all academic staff, stakeholders, and partners who have contributed to the preparation of this curriculum document.

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1. Programme Education Objective

Programme Education Objective for Master's Degree of Environmental Science Study Programme are:

1. Producing graduates who can design, carry out education, evaluate and make decisions in the field of natural resource management and the dryland environment of the archipelago, which is reflected through the following qualifications are:
   a. Able to integrate science in collecting, processing and interpreting data as a basis for decision making related to strategic efforts to manage natural resources and the environment.
   b. Able to master the basics of environmental science.
   c. Able to master the basics of environmental planning and management.
   d. Able to act as a planner in natural resources and environmental management.
   e. Able to play a role as a manager of natural resources and the environment.
   f. Able to act as an innovator, motivator, and mediator in natural resources and environmental management and solving environmental problems.
   g. Able to design, create and apply models of planning and management of natural resources and the environment
2. Designing and carrying out research on natural resource management and the dryland environment of the archipelago and communicating it in the scientific forums.
3. Conducting community service in applying environmentally sound science and technology to support sustainable development in the dry land of the archipelago.

2. Qualification Profile

Qualification Profile (QP) of Master's degree in Environmental Science can been seen in Table below

No.	Qualification Profile	Description
1	Environmental Educator or Instructor	Able to conduct education, management and protection in environmental activities
2	Researcher	Able to conduct research on the Environment and draw conclusions holistically to compile environmental mitigation efforts
3	Environmental Expert	Able to provide recommendations and analyze related to environmental management and protection
4	Entrepreneur	Able to apply science and technology in the use of the environment to open jobs independently
5	Environmental Consultant	Able to review and compile Environmental documents
6	Environmental Technocrat	Able to supervise, restore, make environmental instruments

3. Programme Learning Outcomes

Programme Learning Outcomes (PLOs) of Master degree of Environmental Science in Table as follow

Area	Code	Description
Attitude	PLO 1	be able to understand in depth the physical, chemical, and biological systems that support the environment

	PLO 2	be able to comply with ethical and professional standards in their research and practice, and able to identify and address ethical dilemmas that may arise in their work.
Knowledge Skills	PLO 3	be able to understand in depth the physical, chemical, and biological systems that support the environment. This includes knowledge of ecosystem dynamics, climate change, pollution, and natural resource management.
	PLO 4	be able to understand holistically about environmental laws and regulations at local, national, and international levels, and be able to apply this knowledge in their work
	PLO 5	be able to be aware of the social and cultural factors that influence environmental issues and be able to work effectively with diverse communities and stakeholders. .
	PLO 6	be able to learn for life and can keep up with the latest developments in environmental science and policy
General	PLO 7	be able to work independently and as part of a team, collaborating with others to achieve common goals
	PLO 8	have the necessary skills to manage data, convey information in the field of Environmental Science, and provide alternative solutions when needed

	PLO 10	be able to develop and implement environmental policies and strategies that address complex environmental challenges and promote sustainable development.
	PLO 11	be able to analyze and evaluate environmental problems and develop creative solutions to overcome such problems.

3. Curriculum Structure

No	Type of Course	Total course	Credit unit	ECTS
1	Fundamental Courses	2	6	9.6
2	Compulsory Courses	9	27	43.2
3	Elective Courses	5	15	24.0
4	Final Project	2	7	11.2
Total		**18**	**55**	**88.0**

4. Course Distribution

Type of Courses	Code	Course	CU	ECTS
SEMESTER I				
Fundamental course	IPSAL 61301	Statistical analysis	3	4.8
	IPSAL 61202	Environmental Science	3	4.8
Compulsory Course	IPSAL 61303	Management of Natural Resources and Environment	3	4.8
	IPSAL 61304	Management of Coastal Areas, Sea and Small Islands	3	4.8
	IPSAL 61305	Karst Ecology and Resource Management	3	4.8
SEMESTER II				
Compulsory Course	IPSAL 62306	Research methodology	3	4.8
	IPSAL 62307	Population, Environmental and Development	3	4.8
	IPSAL 62308	Human Ecology	3	4.8
	IPSAL 62309	Environmental Planning and administration	3	4.8
Elective courses				
Conservation of Natural Resources and Environment	IPSAL 62310	Principles and Techniques of Inventorying Natural Resources and the Environment	3	4.8

Natural Resources and Environmental Planning	IPSAL62311	Regional and Spatial planning Environment	3	4.8
Watershed	IPSAL62312	Land use planning and management	3	4.8
Climate Change and Adaptation	IPSAL62313	Climate Change, Adaptation and Mitigation	3	4.8
Total				
SEMESTER III				
Compulsory Course	IPSAL 63314	Environmental Impact Analysis	3	4.8
	IPSAL 63216	Principles of Environmental Degradation and Pollution	3	4.8
Elective courses				
Conservation of Natural Resources and Environment	IPSAL 63315	Biodiversity	3	4.8
	IPSAL 63317	Area Conservation Management	3	4.8
Natural Resources and Environmental Planning	IPSAL 63318	Environmental Law	3	4.8
	IPSAL 63319	Environmental Economics	3	4.8
Watershed	IPSAL 63320	Remote Sensing	3	4.8
	IPSAL 63221	Natural Resources Management and Irrigation	3	4.8
Climate change and Adaptation	IPSAL 63222	Environmental Markets and Finance	3	4.8
	IPSAL 63223	Climate change policy	3	4.8

	IPSAL 63224	Community Empowerment in Environmental Management
	IPSAL 63225	Waste Management
SEMESTER IV		
Final Project	PPs 601	Colloquium
	PPs 699	Thesis

Note: sum of elective course taken by student is 52 CU (**83.2** CTS)

5. Curriculum Roadmap Matrix