CURRICULUM OVERVIEW

MASTER OF ENVIRONMENTAL SCIENCE

UNIVERSITY OF NUSA CENDANA

2023

CURRICULUM OVERVIEW OF MASTER ENVIROMENTAL SCIENCE POSTGRADUATE PROGRAMME NUSA CERNDANA UNIVERSITY

A. Vision and Mission Study Program

Vision of Master Environmental Science Study Program

Mission of Master Environmental Science Study Program

B. Programme Education Objective

The formulated PEO in Master's Degree of Environmental Science Study Programme has broadly considered from the National Standard of Higher Education (Standar Nasional Pendidikan Tinggi/SNPT) Indonesian Qualification Framework (IQF - Kerangka Kualifikasi Nasional Indonesia/KKNI) and Consortium of the Study Program in Environmental Science (Perhimpunan Program Studi Ilmu Lingkungan, PEPSILI), alumni, professionals and practicians). The PEO also relevance to the 8th level of National Higher Education Standards. Programme Education Objective (PEO) 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	Able to communicate complex environmental issues and research findings to a wide range of audiences, including policy makers, scientists, and the public.
	PLO 2	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	PLO 3	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	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	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	Able to learn for life and can keep up with the latest developments in environmental science and policy
General Skills	PLO 7	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

Specific skills	PLO 9	Able to design and implement environmental research projects, collect and analyze data, and interpret results to make evidence-based decisions
	PLO 10	Able to develop and implement environmental policies and strategies that address complex environmental challenges and promote sustainable development.
	PLO 11	Able to analyze and evaluate environmental problems and develop creative solutions to overcome such problems.

Description of the relationship between PLO and PEO for the master's programme in environmental science can be seen below,

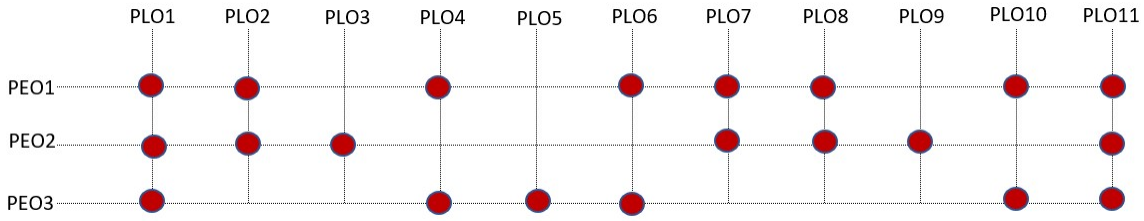

Figure 1. Matrix of PLO and PEO of for the master's programme in Environmental Science Study Programme

The Subject-Specific Criteria (SSC) are given from ASIN SSC 10 about Life Sciences and general and social competences which can be accessed online athttps://www.asiin.de/. The SSC is presented in the Table 2 below

SSC (Subject-Specific Criteria)		
Specialist competences	SSC 1	Have advanced their knowledge in core subjects, subject-relevant or interdisciplinary subjects.
	SSC 2	Be in a position to discuss complex life science issues and own research results comprehensively and in the context of current international research and present these in writing (e.g., Master's thesis, scientific publication) and orally (e.g., lecture with free discussion).
	SSC 3	Have gained subject-specific and interdisciplinary problem-solving competence.
Social Competences	SSC 4	Have gained the ability to combine specialized knowledge of various component disciplines, carry out independent scientific work, organize, conduct, and lead more complex projects, and publish the results.
	SSC 5	Have acquired social competencies, such as abstraction ability, systems analytical thinking, capacity for teamwork, ability to communicate, international and intercultural experience, and others, and are therefore especially prepared to take on leadership responsibilities.
	SSC 6	Be in a position to assess the social and environment-related effects of their actions.

Description of the relationship between PLO and SSC for the master's programme in environmental science can be seen below

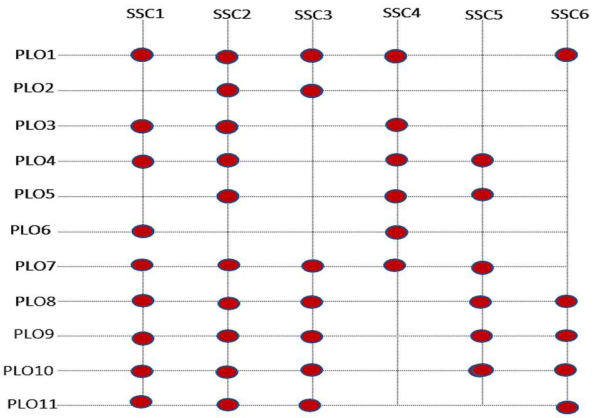

Figure 2. Matrix PLO dan SSC of Master of Environmental Science Programme

4. Curriculum Structure

The students of Biology Education Program complete their study in 2 years (4 semesters) length of study as the fastest period, and 8 years (8 semesters) length of study as the longest period. The courses that they have to complete during the study program are 47 credits (79.4 ECTS). The course groups include fundamental courses with 6 credits (9.6 ECTS), compulsory courses with 22 credits (35.2 ECTS), elective with 12 credits (19,2 ECTS) and Final task with 7 credits (15.4 ECTS). The descriptions of course subjects can be seen in Table 3 as follows

Tabel 3. Curriculum structure

No	Type of Course	Total course	Credit unit	ECTS
1	Fundamental Courses	2	6	9.6
2	Compulsory Courses	7	22	35.2
3	Elective Courses	4	12	19.2
4	Final Task	2	7	15.4
Total		**15**	**47**	**79.4**

5. Course Distribution

Type of Courses	Code	Course	CU	ECTS
SEMESTER I				
Fundamental course	IPSAL61301	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
SEMESTER II				
Compulsory Course	IPSAL 62305	Research methodology	3	4.8
	IPSAL 62206	Environmental Population and Development	3	4.8
	IPSAL 62207	Human Ecology	3	4.8
	IPSAL 62208	Environmental Planning and administration	3	4.8
Elective courses				
Conservation of Natural Resources and Environment	IPSAL 62309	Principles and Techniques of Inventorying Natural Resources and the Environment	3	4.8

Natural Resources and Environmental Planning	IPSAL62310	Regional and Spatial planning Environment	3	4.8
Watershed	IPSAL62311	Land use planning and management	3	4.8
Climate Change and Adaptation	IPSAL62312	Climate Change, Adaptation and Mitigation	3	4.8
Total				
SEMESTER III				
Compulsory Course	IPSAL 63313	Environmental Impact Analysis	3	4.8
	IPSAL 63214	Principles of Environmental Degradation and Pollution	3	4.8
Elective courses				
Conservation of Natural Resources and Environment	IPSAL 63315	Biodiversity	3	4.8
	IPSAL 63316	Conservation Management	3	4.8
Natural Resources and Environmental Planning	IPSAL 63317	Environmental Law	3	4.8
	IPSAL 63318	Environmental Economics	3	4.8
Watershed	IPSAL 63319	Remote Sensing	3	4.8
	IPSAL 63220	Natural Resources Management and Irrigation	3	4.8
Climate change and Adaptation	IPSAL 63221	Environmental Markets and Finance	3	4.8
	IPSAL 63222	Climate change policy	3	4.8

	IPSAL 63223	Community Empowerment in Environmental Management	3	4.8
SEMESTER IV				
Final Project	PPs 601	Colloquium	1	1.6
	PPs 699	Thesis	6	13.8

Note: sum of elective course taken by student is 47 CU (79.4 ECTS)

5. Curriculum Roadmap

The structure and course in Master's Environmental Science study programme consists of 47 credit hours. In This study programme , the curriculum structure has been divided into two years program intentions. First year of study focuses on fundamental and compulsory of statistical analysis, research method, and environmental issue consist of 41 credits courses. Second year of study focuses on compulsory course and Final Task. Elective courses that support student research. Each course contributes to PLO in Environmental Science. Each course contributes to PLO in Environmental Science study program as diagram 1

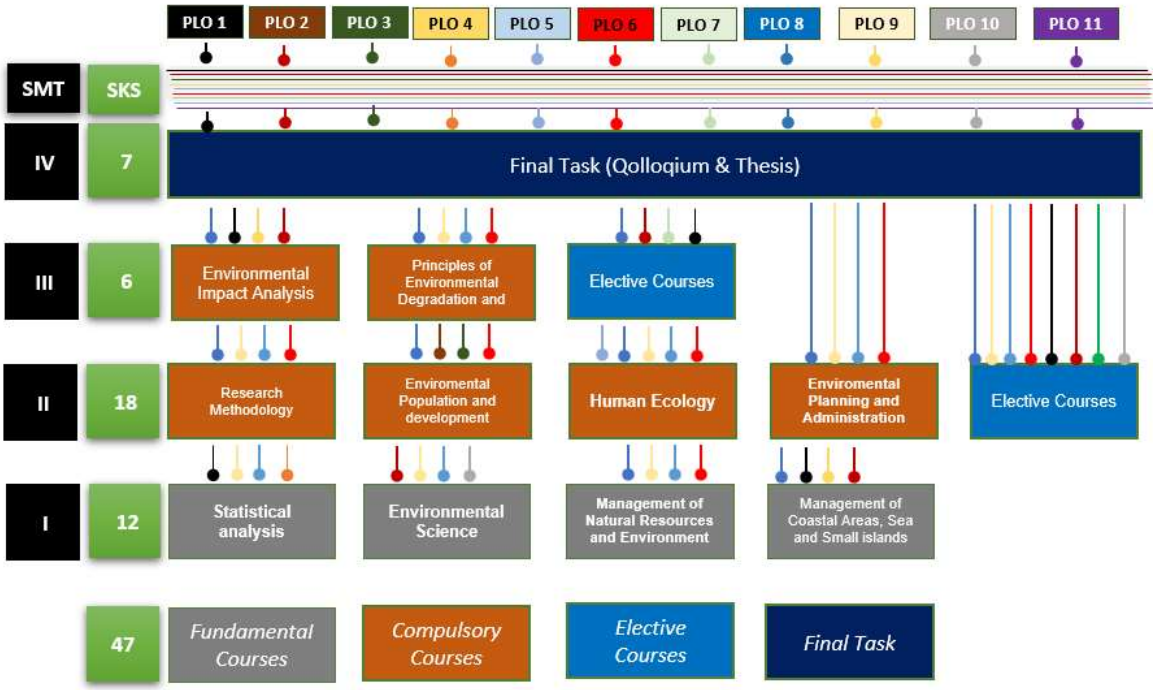

Figure 3. Course roadmap