

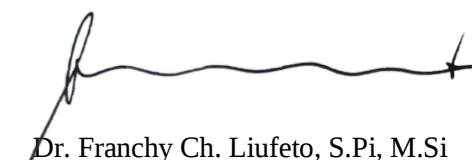
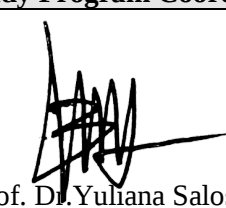


# NUSA CENDANA UNIVERSITY

## FACULTY OF ANIMAL HUSBANDRY, MARINE AND FISHERIES

### S1 AQUACULTURE

#### SEMESTER LEARNING PLAN (RPS)

| COURSES (MK)                                                          | MK CODE                                                                                                          | THE MK CLUSTER                                                                                                                                                                             | WEIGHT (credits)                                                                                                           |              | SEMESTER                                                                                                                  | Date of         |
|-----------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|--------------|---------------------------------------------------------------------------------------------------------------------------|-----------------|
| Basics of Environmental Impact Analysis (EIA) of Aquaculture Business | PPBDP16340                                                                                                       | Elective Courses<br>PS Expertise                                                                                                                                                           | Theory = 2                                                                                                                 | Practice = 1 | 5&6                                                                                                                       | January 3, 2025 |
|                                                                       | RPS Developer                                                                                                    |                                                                                                                                                                                            | RMK Coordinator                                                                                                            |              | Study Program Coordinator                                                                                                 |                 |
|                                                                       | <br>Jusuf Manilafai, SP.,M.Ling |                                                                                                                                                                                            | <br>Dr. Franchy Ch. Liufeto, S.Pi, M.Si |              | <br>Prof. Dr. Yuliana Salosso, S.Pi,MP |                 |
| Achievements Learning (CP)                                            | CPL-Study Program Charged to the Constitutional Court                                                            |                                                                                                                                                                                            |                                                                                                                            |              |                                                                                                                           |                 |
|                                                                       | CPL3                                                                                                             | Graduates must possess the necessary skills to manage data, convey information in the field of aquaculture, and provide alternative solutions when required plication of aquaculture       |                                                                                                                            |              |                                                                                                                           |                 |
|                                                                       | CPL6                                                                                                             | Graduates should be able to apply science and technology to enhance productivity in aquaculture                                                                                            |                                                                                                                            |              |                                                                                                                           |                 |
|                                                                       | CPL7                                                                                                             | Graduates should be able to identify, analyze, evaluate and interpret problems in the field of aquaculture and provide guidance in choosing various alternative solutions based on science |                                                                                                                            |              |                                                                                                                           |                 |
|                                                                       | Course Learning Outcomes (CLO)                                                                                   |                                                                                                                                                                                            |                                                                                                                            |              |                                                                                                                           |                 |
|                                                                       | CLO1                                                                                                             | Understand the basic concepts, regulations, and role of AMDAL in aquaculture sustainability (PLO3)                                                                                         |                                                                                                                            |              |                                                                                                                           |                 |
|                                                                       | CLO2                                                                                                             | Identify and apply environmental impact analysis methods in aquaculture activities (PLO6)                                                                                                  |                                                                                                                            |              |                                                                                                                           |                 |
|                                                                       | CLO3                                                                                                             | Evaluate the environmental impact of aquaculture and design mitigation strategies based on sustainability principles                                                                       |                                                                                                                            |              |                                                                                                                           |                 |
|                                                                       | CLO4                                                                                                             | Prepare AMDAL documents and post-AMDAL monitoring systems for aquaculture businesses (PLO6&7)                                                                                              |                                                                                                                            |              |                                                                                                                           |                 |
|                                                                       | Final Ability of each learning stage (Sub-CLO)                                                                   |                                                                                                                                                                                            |                                                                                                                            |              |                                                                                                                           |                 |
|                                                                       | Sub-CLO1                                                                                                         | Explain the definition, purpose, and scope of AMDAL in the context of aquaculture                                                                                                          |                                                                                                                            |              |                                                                                                                           |                 |
|                                                                       | Sub-CLO2                                                                                                         | Outline national or international EIA regulations relevant to aquaculture businesses                                                                                                       |                                                                                                                            |              |                                                                                                                           |                 |
|                                                                       | Sub-CLO3                                                                                                         | Identify the environmental components (physical, chemical, biological, social) affected by aquaculture                                                                                     |                                                                                                                            |              |                                                                                                                           |                 |



|                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                       |                                                                                                          |                                                                                                                                                                                                                                            |                                                                                                                                     |                                                                                                                                                         |                  |
|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
|                  | <div>1. Law No. 32 of 2009 concerning Environmental Protection and Management.</div> <div>2. Government Regulation No. 22 of 2021 concerning the Implementation of Environmental Protection and Management.</div> <div>3. Pearl, P. S. (n.d.). Environmental Impact Analysis</div> <div>4. Supriharyono. 2022. Fundamentals of EIA: Ecosystem Impacts of Fishery Resources. Plantaxia: Yogyakarta</div> <div>5. Glasson, J., Therivel, R., &amp; Chadwick, A. (2012). <i>Introduction to environmental impact assessment</i>. Routledge.</div> <div>6. Morris, P., &amp; Therivel, R. (2009). <i>Methods of environmental impact assessment</i>. Routledge.</div> <div>SUPPORTER:</div> <div>1. Regulation of the Minister of Environment and Forestry of the Republic of Indonesia Number: P.38/MENLHK/SETJEN/KUM.1/7/2019 concerning Business Plans and/or Activities That Must Have an Environmental Impact Analysis</div> |                                                                                                                                                                                       |                                                                                                          |                                                                                                                                                                                                                                            |                                                                                                                                     |                                                                                                                                                         |                  |
| Learning Media   | SOFTWARE:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                       |                                                                                                          |                                                                                                                                                                                                                                            | HARDWARE:                                                                                                                           |                                                                                                                                                         |                  |
|                  | SIADIKNONA, <i>Microsoft Office</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                       |                                                                                                          |                                                                                                                                                                                                                                            | Laptop, LCD, Projector                                                                                                              |                                                                                                                                                         |                  |
| Lecturer         | <div>1. Dr. Franchy Ch. Liufeto, S.Pi, M.Si</div> <div>2. Jusuf Manilapai, SP.,M.Ling</div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                       |                                                                                                          |                                                                                                                                                                                                                                            |                                                                                                                                     |                                                                                                                                                         |                  |
| Required Courses | -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                       |                                                                                                          |                                                                                                                                                                                                                                            |                                                                                                                                     |                                                                                                                                                         |                  |
| Learning Plan    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                       |                                                                                                          |                                                                                                                                                                                                                                            |                                                                                                                                     |                                                                                                                                                         |                  |
| Mg Ke-           | Sub-CLO (as the expected final ability)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Valuation                                                                                                                                                                             |                                                                                                          | Forms of Learning; Learning Methods; Assignment;<br>[ Estimated Time ]                                                                                                                                                                     |                                                                                                                                     | Study Materials / Learning Materials<br>[Library]                                                                                                       | Rating Weight(%) |
|                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Indicator                                                                                                                                                                             | Criteria & Form                                                                                          | Luring (Offline)                                                                                                                                                                                                                           | Online (Online)                                                                                                                     |                                                                                                                                                         |                  |
| (1)              | (2)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | (3)                                                                                                                                                                                   | (4)                                                                                                      | (5)                                                                                                                                                                                                                                        | (6)                                                                                                                                 | (7)                                                                                                                                                     | (8)              |
| 1                | Sub-CLO-1: Explain the basic concept and scope of AMDAL and its development history                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <div>1.1 Accuracy explains the basic concept of the EIA</div> <div>1.2 Accuracy explains the scope of the EIA</div> <div>1.3 Accuracy explains the history of AMDAL development</div> | <div>Kriteria:</div> <div>Headline Holistic</div> <div>Non-test techniques:</div> <div>• Summarize</div> | <div>• Reading</div> <div>• Discovery learning</div> <div>• Discussion</div> <div>[TM: 1x(3x50")]</div> <div>Task 1: Create a summary of the basic concepts, scope, and history of AMDAL development</div> <div>[PT+BM(1+1)x(3x60")]</div> | <div>Link:</div> <div>• Siadiknona</div> <div><a href="https://siadiknona.undana.ac.id/">https://siadiknona.undana.ac.id/</a></div> | <div>Definition of AMDAL</div> <div>, Objectives of AMDAL, Scope of AMDAL (physical, chemical, biological, social, economic aspects), History and</div> | 5                |

|   |                                                                                                                          |                                                                                                                                                                                                                       |                                                                                                                                                  |                                                                                                                                                                                                                                                                                         |                                                                                                                                                       |                                                                                                                                                    |   |
|---|--------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|---|
|   |                                                                                                                          |                                                                                                                                                                                                                       |                                                                                                                                                  |                                                                                                                                                                                                                                                                                         |                                                                                                                                                       | development of AMDAL in Indonesia and internationally and Basic principles of AMDAL                                                                |   |
| 2 | Sub-CLO-2: Outlining national and international EIA regulations relevant to aquaculture businesses                       | 2.1 Accuracy of identifying national EIA regulations<br>2.2 Accuracy of identifying international AMDAL regulations<br>2.3 Accuracy explains the relevance of regulations to aquaculture businesses                   | <b>Kriteria:</b><br>Headline Holistic<br><b>Non-test techniques:</b> <ul style="list-style-type: none"> <li>Summarize</li> <li>Quiz 1</li> </ul> | <ul style="list-style-type: none"> <li><b>Reading</b></li> <li><b>Discovery learning</b></li> <li><b>Discussion</b></li> </ul> <b>[TM: 1x(3x50")]</b><br><b>Task 2:</b> Make a summary of the types of pollutants and sources of pollutants<br><b>[PT+BM (1+1)x(3x60")]</b>             | Link:<br><ul style="list-style-type: none"> <li>Siadiknona</li> </ul> <a href="https://siadiknona.undana.ac.id/">https://siadiknona.undana.ac.id/</a> | Procedures and stages of the AMDAL process in Indonesia and the Relationship of AMDAL regulations with aquaculture business licensing              | 5 |
| 3 | Sub-CLO-3: Identify environmental components (physical, chemical, biological, social) affected by aquaculture activities | 3.1 Precisely identify the components of the physical environment<br>3.2 Accurately identify components of the chemical and biological environment<br>3.3 Precisely identify the components of the social environment | <b>Kriteria:</b><br>Headline Holistic<br><b>Non-test techniques:</b> <ul style="list-style-type: none"> <li>Create a paper</li> </ul>            | <ul style="list-style-type: none"> <li><b>Reading</b></li> <li><b>Discovery learning</b></li> <li><b>Discussion</b></li> </ul> <b>[TM: 1x(3x50")]</b><br><b>Task 3:</b> Write a paper on the environmental components affected by aquaculture activities<br><b>[PT+BM(1+1)x(3x60")]</b> | Link:<br><ul style="list-style-type: none"> <li>Siadiknona</li> </ul> <a href="https://siadiknona.undana.ac.id/">https://siadiknona.undana.ac.id/</a> | Components of the physical, chemical, biological environment and Social environmental components and Interactions between environmental components | 5 |
| 4 | Sub-CLO-4: Applying the environmental                                                                                    | 4.1 Precision applying the Leopold Matrix                                                                                                                                                                             | <b>Kriteria:</b><br>Headline Holistic                                                                                                            | <ul style="list-style-type: none"> <li><b>Reading</b></li> <li><b>Problem Based Learning</b></li> </ul>                                                                                                                                                                                 | Link:                                                                                                                                                 | Types of Environmental                                                                                                                             | 5 |

|       |                                                                                                     |                                                                                                                                                                       |                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                  |                                                                                                                 |                                                                                                                                                                                    |    |
|-------|-----------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
|       | impact analysis method (Leopold Matrix, Check-list) to aquaculture case studies                     | 4.2 Precision in implementing Check-lists<br>4.3 Precision of analyzing environmental impacts using such methods                                                      | <b>Non-test techniques:</b> <ul style="list-style-type: none"> <li>• Create a paper</li> <li>• Quiz 2</li> </ul>                                            | <b>• Discussion</b><br><b>[TM: 1x(3x50")]</b><br><b>Assignment 4:</b> Prepare a paper on the application of environmental impact analysis methods to aquaculture case studies<br><b>[PT+BM(1+1)x(3x60")]</b>                                                                                                     | <b>• Siadiknona</b><br><a href="https://siadiknona.undana.ac.id/">https://siadiknona.undana.ac.id/</a>          | Impact Analysis Methods and Case Studies of the Application of Impact Analysis Methods to Various Types of Aquaculture Businesses                                                  |    |
| 5,6,7 | Sub-CLO-5: Evaluate the positive and negative impacts of aquaculture activities on the environment  | 5.1 Precision evaluates positive impact<br>5.2 Accuracy of evaluating negative impacts<br>5.3 Accuracy provides examples of impacts on different types of aquaculture | <b>Kriteria:</b><br>Headline Holistic<br><b>Non-test techniques:</b> <ul style="list-style-type: none"> <li>• Writing of work (Practicum Report)</li> </ul> | <b>• Reading</b><br><b>• Collaborative Learning atau Project Based Learning</b><br><b>• Discussion</b><br><b>[TM: 1x3x(3x50")]</b><br><b>Task 5:</b> Conduct case studies on the positive and negative impacts of aquaculture activities on the environment and prepare reports<br><b>[PT+BM(1+1)x3x(3x60")]</b> | Link:<br><b>• Siadiknona</b><br><a href="https://siadiknona.undana.ac.id/">https://siadiknona.undana.ac.id/</a> | Positive and negative impacts of aquaculture and Evaluation of impacts at various scales (local, regional, global as well as Environmental risk analysis in aquaculture activities | 25 |
| 8     | <b>MIDTERM EXAM</b>                                                                                 |                                                                                                                                                                       |                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                  |                                                                                                                 |                                                                                                                                                                                    |    |
| 9     | Sub-CLO-6: Designing recommendations for environmental impact mitigation (waste management, habitat | 6.1 Precision in designing waste management mitigation recommendations<br>6.2 Precision designing habitat restoration                                                 | <b>Kriteria:</b><br>Headline Holistic<br><b>Non-test techniques:</b> <ul style="list-style-type: none"> <li>• Create a video</li> <li>• Quiz 3</li> </ul>   | <b>• Reading</b><br><b>• Discovery learning</b><br><b>• Discussion</b><br><b>[TM: 1x(3x50")]</b><br><b>Task 6:</b> Make a proposal for environmental impact                                                                                                                                                      | Link:<br><b>• Siadiknona</b><br><a href="https://siadiknona.undana.ac.id/">https://siadiknona.undana.ac.id/</a> | The concept of environmental impact mitigation, Aquaculture waste management                                                                                                       | 10 |

|       |                                                                                   |                                                                                                                                 |                                                                                                       |                                                                                                                                                                                                                                     |                                                                                                          |                                                                                                                                                                                                                              |    |
|-------|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
|       | restoration) based on AMDAL studies                                               | mitigation recommendations<br>6.3 Conformity of recommendations with AMDAL studies                                              |                                                                                                       | mitigation recommendations for an aquaculture business<br>[PT+BM(1+1)x(3x60")]                                                                                                                                                      |                                                                                                          | strategies and techniques, and Approach to environmentally friendly technology in aquaculture as well as the preparation of impact mitigation plans in the EIA document                                                      |    |
| 10,11 | Sub-CLO-7: Compiling AMDAL documents (Andal, RKL, RPL) for aquaculture businesses | 7.1 Reliable document compilation accuracy<br>7.2 Accuracy in compiling RKL documents<br>7.3 Accuracy in drafting RPL documents | <b>Kriteria:</b><br>Headline Holistic<br><b>Non-test techniques:</b><br>• Writing of work or projects | <ul style="list-style-type: none"> <li>• <b>Reading</b></li> <li>• <b>Project Based Learning</b></li> <li>• <b>Discussion</b></li> </ul> <b>Task 7:</b> Draft an EIA document for an aquaculture business<br>[PT+BM(1+1)x2x(3x60")] | Link:<br>• Siadiknona<br><a href="https://siadiknona.undana.ac.id/">https://siadiknona.undana.ac.id/</a> | Components of reliable documents, reliable preparation methodologies, techniques for collecting and analyzing environmental data, Forecasting of environmental impacts and Presentation of information in reliable documents | 15 |



## FORMAT OF THE LESSON PLAN AND EVALUATION OF THE COURSE "WATER POLLUTION MANAGEMENT"

### 1. LESSON PLAN FORMAT

| NO | MEETING | MATERIAL (ID)                                                                     | MATERIAL                                                                          |
|----|---------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| 1  | 1       | Basic concept and scope of AMDAL                                                  | Basic concepts and scope of AMDAL                                                 |
| 2  | 2       | EIA regulations related to AMDAL aquaculture business                             | Regulations related to aquaculture business                                       |
| 3  | 3       | Environmental components affected by aquaculture (physical, chemical, biological) | Environmental components affected by aquaculture (physical, chemical, biological) |
| 4  | 4       | Environmental impact analysis methods (e.g., Leopold Matrix Check-list)           | Environmental impact analysis methods (e.g., Leopold Matrix, Check-list)          |
| 5  | 5, 6, 7 | Identify the important impact of aquaculture activities                           | Identification of significant impacts of aquaculture activities                   |
| 6  | 8       | Mid-Semester Exam                                                                 | Midterm Exam                                                                      |
| 7  | 9       | Environmental Management Plan (RKL) in aquaculture business                       | Environmental Management Plan (RKL) in aquaculture business                       |
| 8  | 10, 11  | Environmental Monitoring Plan (RPL) on aquaculture business                       | Environmental Monitoring Plan (RPL) in aquaculture business                       |
| 9  | 12, 13  | Case studies of AMDAL on different types of aquaculture businesses                | AMDAL case studies in various types of aquaculture business                       |
| 10 | 14, 15  | Preparation of AMDAL documents (Andal, RKL, RPL)                                  | Preparation of AMDAL documents (Andal, RKL, RPL)                                  |
| 11 | 16      | Final Semester Exam                                                               | Final Exam                                                                        |

### 2. EVALUATION PLAN FORMAT

| NO | EVALUATION BASIS         | WEIGHT (%) | EVALUATION COMPONENTS | DESCRIPTION<br>INDONESIAN LANGUAGE                               | DESCRIPTION<br>ENGLISH                                                     |
|----|--------------------------|------------|-----------------------|------------------------------------------------------------------|----------------------------------------------------------------------------|
| 1  | Participatory activities | 25         | Discussion            | Discussion of each topic                                         | <i>Discussion every topic</i>                                              |
| 2  | Project results          | 25         | Aquascope Project     | Design, layout, natural, ecology, health, hygiene and creativity | <i>Design, layout, nature, ecology, health, cleanliness and creativity</i> |
| 3  | Cognitive/Knowledge      | 10         | Assignment            | Tasks 1 – 9 in RPS                                               | <i>Assignment 1 – 9 from Basic Course Outline</i>                          |
|    |                          | 10         | Quiz                  | Quiz on topic                                                    | <i>Quiz on topic</i>                                                       |

|  |  |    |                     |                                                |                                                                                 |
|--|--|----|---------------------|------------------------------------------------|---------------------------------------------------------------------------------|
|  |  | 15 | Mid-Semester Exam   | Questions based on Sub-CLO indicators 1<br>- 5 | <i>Test items are based on<br/>indicators of learning objectives<br/>1 to 5</i> |
|  |  | 15 | Final Semester Exam | Questions based on Sub-CLO indicators 6<br>- 8 | <i>Test items are based on<br/>indicators of learning objectives<br/>6 to 8</i> |