



## SEMESTER STUDY PLAN

Study program: Master of Environmental Science

Faculty: Graduate School

|                                      |                                                                                                                                                                                                                                                                                         |                             |                                    |               |
|--------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|------------------------------------|---------------|
| <b>Subject:</b>                      | <b>Disaster mitigation</b>                                                                                                                                                                                                                                                              | <b>Code:</b><br>P-CIL-8-206 | <b>Credit:3</b><br><b>(6 ECTS)</b> | <b>Shem:2</b> |
| <b>Supporting lecturer:</b>          | <b>1. Prof. Drs. Sudharto Prawata Hadi, MES, Ph.D</b><br><b>2. Prof. Dr. rer. Nat. Heru Susanto, ST, MT</b>                                                                                                                                                                             |                             |                                    |               |
| <b>Learning Outcomes Subject:</b>    | <ul style="list-style-type: none"> <li>Students are able to understand and explain the basic concepts of disaster</li> <li>Students are able to understand and explain disaster management</li> <li>Students are able to understand and explain disaster management policies</li> </ul> |                             |                                    |               |
| <b>Short Description of Courses:</b> | This course examines and reviews various aspects of disaster, such as types of potential hazards, disaster cycles, disaster early warning, and policies related to disaster management.                                                                                                 |                             |                                    |               |

| 1    | 2                                                                     | 3                                                                               | 4                                                | 5                                                                                                                                                                                                                                  | 6                                                                                                     | 7                                                                                                                   |            |
|------|-----------------------------------------------------------------------|---------------------------------------------------------------------------------|--------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|------------|
| Week | Final Ability of each learning stage                                  | Study Materials/ Subjects                                                       | Learning methods                                 | Time                                                                                                                                                                                                                               | Student Learning Experience                                                                           | Evaluation                                                                                                          |            |
|      |                                                                       |                                                                                 |                                                  |                                                                                                                                                                                                                                    |                                                                                                       | Criteria & Indicators                                                                                               | Weight (%) |
| 1.   | Introduction/ Lecture contract                                        | Lecture Contract and, Presentation of the basic concepts of disaster management | Lectures, questions and answers, and discussions | 330min (0.375 ECTS)<br>Consist of:<br>• <i>Lecture:180 minutes</i><br>• <i>Q&amp;A: 30 minutes</i><br>• <i>Discussion : 30 minutes</i><br>• <i>Presentation : 30 minutes</i><br><i>Individual tasks: 60 minutes/day (16 weeks)</i> | Students listen to the lecturer's explanation and answer the lecturer's questions, as well as discuss | <ul style="list-style-type: none"> <li>Presence</li> <li>Activeness in Discussion</li> <li>Understanding</li> </ul> | 5          |
| 2    | Students can understand and understand the various types of disasters | An explanation of the different types of disasters and the                      | Lectures, questions and                          | 330min (0.375 ECTS)<br>Consist of:                                                                                                                                                                                                 | Students listen to the lecturer's explanation and                                                     | <ul style="list-style-type: none"> <li>Presence</li> <li>Activeness in Discussion</li> </ul>                        | 5          |

|   |                                                                                    |                                                                                                                                               |                                                  |                                                                                                                                                                                                                                                                                                  |                                                                                                       |                                                                                                                           |   |
|---|------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|---|
|   |                                                                                    | problems associated with each of these disasters                                                                                              | answers, and discussions                         | <ul style="list-style-type: none"> <li>• <i>Lecture:180 minutes</i></li> <li>• <i>Q&amp;A: 30 minutes</i></li> <li>• <i>Discussion : 30 minutes</i></li> <li>• <i>Presentation : 30 minutes</i></li> </ul> <i>Individual tasks: 60 minutes/day (16 weeks)</i>                                    | answer the lecturer's questions, as well as discuss                                                   | <ul style="list-style-type: none"> <li>• Understanding</li> </ul>                                                         |   |
| 3 | Students can understand and understand the cycle of disaster and safety prevention | Exposure to the disaster cycle - phases, Safety culture, prevention                                                                           | Lectures, questions and answers, and discussions | 330min (0.375 ECTS)<br>Consist of: <ul style="list-style-type: none"> <li>• <i>Lecture:180 minutes</i></li> <li>• <i>Q&amp;A: 30 minutes</i></li> <li>• <i>Discussion : 30 minutes</i></li> <li>• <i>Presentation : 30 minutes</i></li> </ul> <i>Individual tasks: 60 minutes/day (16 weeks)</i> | Students listen to the lecturer's explanation and answer the lecturer's questions, as well as discuss | <ul style="list-style-type: none"> <li>• Presence</li> <li>• Activeness in Discussion</li> <li>• Understanding</li> </ul> | 5 |
| 4 | Students can understand and understand about community-based mitigation            | Presentation on mitigation and preparedness, community-based DRR, structural and non-structural actions, community roles and responsibilities | Lectures, questions and answers, and discussions | 330min (0.375 ECTS)<br>Consist of: <ul style="list-style-type: none"> <li>• <i>Lecture:180 minutes</i></li> <li>• <i>Q&amp;A: 30 minutes</i></li> <li>• <i>Discussion : 30 minutes</i></li> <li>• <i>Presentation : 30 minutes</i></li> </ul> <i>Individual tasks: 60 minutes/day (16 weeks)</i> | Students listen to the lecturer's explanation and answer the lecturer's questions, as well as discuss | <ul style="list-style-type: none"> <li>• Presence</li> <li>• Activeness in Discussion</li> <li>• Understanding</li> </ul> | 5 |

|   |                                                                                                    |                                                                                    |                                                  |                                                                                                                                                                                                                                    |                                                                                                       |                                                                                                                           |   |
|---|----------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|--------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|---|
| 5 | Students can understand and understand global trends in dealing with disasters                     | Study global trends in disasters: urban disasters, pandemics, complex emergencies. | Lectures, questions and answers, and discussions | 330min (0.375 ECTS)<br>Consist of:<br>• <i>Lecture:180 minutes</i><br>• <i>Q&amp;A: 30 minutes</i><br>• <i>Discussion : 30 minutes</i><br>• <i>Presentation : 30 minutes</i><br><i>Individual tasks: 60 minutes/day (16 weeks)</i> | Students listen to the lecturer's explanation and answer the lecturer's questions, as well as discuss | <ul style="list-style-type: none"> <li>• Presence</li> <li>• Activeness in Discussion</li> <li>• Understanding</li> </ul> | 5 |
| 6 | Students can understand and understand the recommendations and prohibitions when a disaster occurs | Presentation on Dos and don'ts during various types of disasters                   | Lectures, questions and answers, and discussions | 330min (0.375 ECTS)<br>Consist of:<br>• <i>Lecture:180 minutes</i><br>• <i>Q&amp;A: 30 minutes</i><br>• <i>Discussion : 30 minutes</i><br>• <i>Presentation : 30 minutes</i><br><i>Individual tasks: 60 minutes/day (16 weeks)</i> | Students listen to the lecturer's explanation and answer the lecturer's questions, as well as discuss | <ul style="list-style-type: none"> <li>• Presence</li> <li>• Activeness in Discussion</li> <li>• Understanding</li> </ul> | 5 |
| 7 | Students can understand and understand the framework related to disaster management                | Presentation on National Initiatives and frameworks related to disaster management | Lectures, questions and answers, and discussions | 330min (0.375 ECTS)<br>Consist of:<br>• <i>Lecture:180 minutes</i><br>• <i>Q&amp;A: 30 minutes</i><br>• <i>Discussion : 30 minutes</i><br>• <i>Presentation : 30 minutes</i>                                                       | Students listen to the lecturer's explanation and answer the lecturer's questions, as well as discuss | <ul style="list-style-type: none"> <li>• Presence</li> <li>• Activeness in Discussion</li> <li>• Understanding</li> </ul> | 5 |

|    |                                                                                                    |                                                                                                                                                                       |                                                  |                                                                                                                                                                                                                                    |                                                                                                       |                                                                                                                           |           |
|----|----------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|-----------|
|    |                                                                                                    |                                                                                                                                                                       |                                                  | <i>Individual tasks: 60 minutes/day (16 weeks)</i>                                                                                                                                                                                 |                                                                                                       |                                                                                                                           |           |
| 8  | Students can understand and understand the process and institutional framework related to disaster | Presentation on Process and institutional framework at State and Central Level – National and Country Disasters Management Authority                                  | Lectures, questions and answers, and discussions | 330min (0.375 ECTS)<br>Consist of:<br>• <i>Lecture:180 minutes</i><br>• <i>Q&amp;A: 30 minutes</i><br>• <i>Discussion : 30 minutes</i><br>• <i>Presentation : 30 minutes</i><br><i>Individual tasks: 60 minutes/day (16 weeks)</i> | Students listen to the lecturer's explanation and answer the lecturer's questions, as well as discuss | <ul style="list-style-type: none"> <li>• Presence</li> <li>• Activeness in Discussion</li> <li>• Understanding</li> </ul> | 5         |
| 9  | Students can understand and understand about disaster early warning                                | Presentation on prediction and early warning systems. The role of information, education, communication, and training, geoinformatics and IT in disaster preparedness | Lectures, questions and answers, and discussions | 330min (0.375 ECTS)<br>Consist of:<br>• <i>Lecture:180 minutes</i><br>• <i>Q&amp;A: 30 minutes</i><br>• <i>Discussion : 30 minutes</i><br>• <i>Presentation : 30 minutes</i><br><i>Individual tasks: 60 minutes/day (16 weeks)</i> | Students listen to the lecturer's explanation and answer the lecturer's questions, as well as discuss | <ul style="list-style-type: none"> <li>• Presence</li> <li>• Activeness in Discussion</li> <li>• Understanding</li> </ul> | 5         |
| 10 | <b>UTS</b>                                                                                         | <b>Meeting Material 1- 9</b>                                                                                                                                          | <b>Independent Written Test</b>                  | <b>330 minutes of processing time or the equivalent of 0.25 ECTS</b>                                                                                                                                                               | <b>Students working on UTS questions</b>                                                              | <b>Completeness and the truth explanation as well accuracy understanding</b>                                              | <b>10</b> |

|     |                                                                                                  |                                                                                                                    |                                                                                                    |                                                                                                                                                                                                                                                       |                                                                                                       |                                                                                                                     |   |
|-----|--------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|---|
| 11. | Students can understand and understand the components of disaster relief                         | Presentation on disaster relief components                                                                         | <ul style="list-style-type: none"> <li>Lectures, questions and answers, and discussions</li> </ul> | 330min (0.375 ECTS)<br>Consist of: <ul style="list-style-type: none"> <li>Lecture:180 minutes</li> <li>Q&amp;A: 30 minutes</li> <li>Discussion : 30 minutes</li> <li>Presentation : 30 minutes</li> </ul> Individual tasks: 60 minutes/day (16 weeks) | Students listen to the lecturer's explanation and answer the lecturer's questions, as well as discuss | <ul style="list-style-type: none"> <li>Presence</li> <li>Activeness in Discussion</li> <li>Understanding</li> </ul> | 5 |
| 12  | Students can understand and understand related to disaster mitigation institutional arrangements | Presentation on Institutional arrangements for mitigation, response and preparedness                               | Lectures, questions and answers, and discussions                                                   | 330min (0.375 ECTS)<br>Consist of: <ul style="list-style-type: none"> <li>Lecture:180 minutes</li> <li>Q&amp;A: 30 minutes</li> <li>Discussion : 30 minutes</li> <li>Presentation : 30 minutes</li> </ul> Individual tasks: 60 minutes/day (16 weeks) | Students listen to the lecturer's explanation and answer the lecturer's questions, as well as discuss | <ul style="list-style-type: none"> <li>Presence</li> <li>Activeness in Discussion</li> <li>Understanding</li> </ul> | 5 |
| 13  | Students can understand and understand policies related to disaster                              | Presentation on other related Policies, plans, programs and legislation relevant to/related to disaster management | Lectures, questions and answers, and discussions                                                   | 330min (0.375 ECTS)<br>Consist of: <ul style="list-style-type: none"> <li>Lecture:180 minutes</li> <li>Q&amp;A: 30 minutes</li> <li>Discussion : 30 minutes</li> <li>Presentation : 30 minutes</li> </ul>                                             | Students listen to the lecturer's explanation and answer the lecturer's questions, as well as discuss | <ul style="list-style-type: none"> <li>Presence</li> <li>Activeness in Discussion</li> <li>Understanding</li> </ul> | 5 |

|                          |                                                                                |                                                                                                                                                                                                                                                         |                                                  |                                                                                                                                                                                                                                    |                                                                                                       |                                                                                                                                       |           |
|--------------------------|--------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|-----------|
|                          |                                                                                |                                                                                                                                                                                                                                                         |                                                  | <i>Individual tasks: 60 minutes/day (16 weeks)</i>                                                                                                                                                                                 |                                                                                                       |                                                                                                                                       |           |
| 14                       | Students can understand and understand the national disaster management policy | Presentation on National Disaster Management Policy                                                                                                                                                                                                     | Lectures, questions and answers, and discussions | 330min (0.375 ECTS)<br>Consist of:<br>• <i>Lecture:180 minutes</i><br>• <i>Q&amp;A: 30 minutes</i><br>• <i>Discussion : 30 minutes</i><br>• <i>Presentation : 30 minutes</i><br><i>Individual tasks: 60 minutes/day (16 weeks)</i> | Students listen to the lecturer's explanation and answer the lecturer's questions, as well as discuss | <ul style="list-style-type: none"> <li>• Presence</li> <li>• Activeness in Discussion</li> <li>• Understanding</li> </ul>             | 5         |
| 15                       | Students can understand and understand the national disaster management policy | Presentation on National Disaster Management Policy                                                                                                                                                                                                     | Lectures, questions and answers, and discussions | 330min (0.375 ECTS)<br>Consist of:<br>• <i>Lecture:180 minutes</i><br>• <i>Q&amp;A: 30 minutes</i><br>• <i>Discussion : 30 minutes</i><br>• <i>Presentation : 30 minutes</i><br><i>Individual tasks: 60 minutes/day (16 weeks)</i> | Students listen to the lecturer's explanation and answer the lecturer's questions, as well as discuss | <ul style="list-style-type: none"> <li>• Presence</li> <li>• Activeness in Discussion</li> <li>• Understanding</li> <li>• </li> </ul> | 5         |
| 16                       | UAS                                                                            | Meeting Materials 1-15 (resume material)                                                                                                                                                                                                                | Written test                                     | <b>330 minutes of processing time or the equivalent of 0.25 ECTS</b>                                                                                                                                                               | <b>Students working on UAS questions</b>                                                              | <b>Completeness and the truth explanation as well accuracy understanding</b>                                                          | <b>20</b> |
| <b>8.Reference List:</b> |                                                                                | <ol style="list-style-type: none"> <li>1. Canter, LW 1996. "Environmental Impact Assessment", 2nd Edition. McGraw-Hill, New York.</li> <li>2. Soemarwotto, O. 2005. Environmental Impact Analysis. Gadjah Mada University Press, Yogyakarta.</li> </ol> |                                                  |                                                                                                                                                                                                                                    |                                                                                                       |                                                                                                                                       |           |

- |  |                                                                                                                                                                                                                                                         |
|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <ol style="list-style-type: none"><li>3. Suratmo, GF 1998. Environmental Impact Analysis, 8th Edition, Gadjah Mada University Press, Yogyakarta</li><li>4. Ministry of Environment and Forestry. 2016. Set of Regulations on the Environment.</li></ol> |
|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

