Undergraduate Programme In Physics **Module Handbook**

Module Name :	*Mitigasi Bencana Alam* Mitigation of Natural Disaster
Module level :	Bachelor degree/Undergraduate Programme
Course Code :	4520102247
Abbreviation, if applicable:	-
Courses included in the module, if applicable:	Not Applicable
Semester/Term	7/Fourth Year
Module coordinator(s)	Tjipto Prastowo, Ph.D
Lecturer(s):	Tjipto Prastowo, Ph.D
Language:	*Bahasa Indonesia* (Indonesian Language)
Classification within the curriculum:	~~Compulsory~~/ Elective
Teaching format/class hours per week during the semester:	2 contact hours of lectures (*sks* or credit unit*)
Workload :	Lecture: 2 x 50 minutes lectures, 2 x 60 minutes structured activity, 2 x 60 minutes individual activity, 14 weeks per semester. 79.33 total hours per semester ~ 3.18 ECTS **
Credit Point:	2 sks (3.18 ECTS)
Requirements:	Disaster mitigation
Learning goals/competencies:	1. Students know the purpose, scope, procedure of lectures and students are able to understand the definition of disaster, the concept of vulnerability, and the concept of disaster risk. 2. Students know the purpose, scope, procedure of lectures and students are able to understand the meaning of disaster, the concept of vulnerability, and the concept of disaster risk. earthquakes, explain the relationship of earthquakes to the probability of a tsunami, and describe the concept of development. 3. Students are able to explain the meaning of an earthquake, explain the factors that cause earthquakes, explain the types of earthquakes, explain the actions that residents need to take when an earthquake occurs, explain the relationship between earthquakes and the possibility of a tsunami, and describe the concept of development. 4. Students are able to explain the process of volcanic eruptions, variations in types of volcanic eruptions,

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<tr><td></td><td>characteristics of pre-volcanic symptoms, characteristics of post-volcanic symptoms, variations of volcanic material, actions that residents need to take when a volcanic eruption occurs, and describe the zoning of areas affected by the eruption through maps.
5. Students are able to explain the process of landslide hazard, factors that cause landslides, variations of actions or efforts to minimize the impact of landslides, indicate potential landslide hazards through maps, and describe effective socialization for residents to prevent and overcome landslides, understanding social disasters, various factors that cause social disasters, efforts to anticipate social disasters, and various strategic efforts in overcoming social disasters.
6. Students are able to understand and cover the scope of development, the importance of accommodating development efforts, and identifying various disaster-based development efforts, understanding and objectives of development policies, background on integrating disaster into development policies, showing examples of development policies in Indonesia that are directly related to disasters. and shows examples of disaster management policies in several developed countries, such as Japan and the USA.
7. Students can make practical reports for seminar materials.</td></tr>
<tr><td>Content</td><td>This lecture discusses the causes of disasters, types of disasters, anticipation that needs to be done, mapping of disaster-prone areas and efforts to rehabilitate disaster areas. At the end of the lecture, students are expected to have comprehensive knowledge and a positive attitude towards disasters, both before, during and after disasters.</td></tr>
<tr><td>Attribute Soft skill:</td><td>Scientific report, public speaking, and team work</td></tr>
<tr><td>Study/exam achievements:</td><td>Students are considered to complete the course and pass if they obtain at least 40% of maximum final grade. The final grade (NA) is calculated based on the following ratio:
<table>
<tr><th>Assessment Components</th><th>Percentage of contribution</th></tr>
<tr><td>Participation</td><td>20%</td></tr>
<tr><td>Assignment</td><td>30%</td></tr>
<tr><td>Mid-semester test</td><td>20%</td></tr>
<tr><td>Final semester test</td><td>30%</td></tr>
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<tr><td>Learning Methods :</td><td>Student-centered approach, lecture and discussion, and presentations (structured activities)</td></tr>
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Form of Media:	*Power Point* slides, e-book file, and multimedia.
Literature (primary references):	1. Madlazim. (2015). Earth Physics Book Seismology Series. Surabaya: Unipress UNESA. 2. Coburn and Spence (1994). Disaster Mitigation, United Kingdom : Cambridge Architectural. 3. Agung Mulyo (2004). Introduction to Earth Sciences, Bandung: Faithful Library. 4. Don and Leet (1964), Earthquake ; Scientific and Simple Research, Yogjakarta: Discourse Creation. 5. http://www//wikipedia.org/wiki. List of Earthquakes in Indonesia.
Notes:	*1 credit unit or *sks* in learning process = three periods consist of: (a) scheduled instruction in a classroom or laboratory (50 minutes); (b) structured activity (60 minutes); and (c) individual activity (60 minutes) according to the Regulation of Indonesia Ministry of Research, Technology, and Higher Education No. 44 Year 2015 jo. the Regulation of Indonesia Ministry of Research, Technology, and Higher Education No. 50 Year 2018.
	**1 credit unit or *sks* = 1.59 ECTS according to Rector Decree Of Universitas Negeri Surabaya No. 598/UN38/HK/AK/2019