MINISTRY OF EDUCATION, CULTURE,
RESEARCH AND TECHNOLOGY
UNIVERSITAS NEGERI SURABAYA
FACULTY OF MATHEMATICS AND NATURAL SCIENCES
UNDERGRADUATE PROGRAMME OF PHYSICS
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Module Name :	Physics of Seismology
Module-level :	Bachelor degree/Undergraduate Programme
Course Code :	4520102077
Abbreviation, if applicable:	-
Courses included in the module, if applicable:	Not Applicable
Semester/Term	3/2
Module coordinator(s)	Prof. Tjipto Prastowo, Ph.D.
Lecturer(s):	1. Prof. Dr. Madlazim, M.Si. 2. Arie Realita, M.Si.
Language:	*Bahasa Indonesia*
Classification within the curriculum:	Compulsory Courses
Teaching format/class hours per week during the semester:	Per-week consists of: 2 hours practice (1 hour practice = 50 minutes)
Workload :	2 hours practice, 2 hours structured assignments, 2 learn to be independent per-week, for 15 weeks = a total of 90 hours practice / semester
Credit Point:	2 sks (3.18 ECTS)
Requirements:	Earth Physics
Learning goals/competencies (fill with PLOs):	1. Realizing independent, creative, and honest characters in carrying out lecture assignments, UTS and UAS Physics seismology. 2. Able to work together effectively in solving Seismological Physics problems 3. Able to process information effectively in solving Seismological Physics problems 4. Able to think high-level (complex) effectively in solving Seismological Physics problems. 5. Implementing an attitude of being aware and responsive to the environment and being prepared for earth disasters.
Content	This course discusses: elasticity theory, seismic wave propagation, velocity structure, earthquake parameters, earthquake parameter estimation, travel time curve, tomography travel time, earthquakes, CMT, focal mechanism, fault plane identification. This course can be followed by students who have attended Earth Physics lectures. The implementation of lectures uses an expository approach in the form of lectures, discussions, presentations, and observations, practicums,

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<tr><td></td><td>workshops equipped with the use of LCDs, computer simulations, as well as an inquiry approach in the context of observing tasks and using tools or software related to Seismological Physics.</td></tr>
<tr><td>Attribute Soft Skills:</td><td>1. Verbal communication skills (public speaking)
2. Ability to work together in presentation groups (teamwork)</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 the 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-centred approach, lecture and discussion, and presentations (structured activities)</td></tr>
<tr><td>Form of Media:</td><td>Power point file
e-book file</td></tr>
<tr><td>Literature (primary references):</td><td>1. Madlazim. 2017. Buku Fisika Bumi Seri Seismologi. Unpublished work.
2. Aki and Richards. 2002. Quantitative Seismology. Academic Press.
3. Shearer. 1990. Introductionto Seismologi. London,Cambridge University Press.</td></tr>
<tr><td>Date of Last Amendment:</td><td></td></tr>
<tr><td rowspan="2">Notes:</td><td></td></tr>
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