



MINISTRY OF EDUCATION AND CULTURE
UNIVERSITAS NEGERI SURABAYA
FACULTY OF MATHEMATICS AND NATURAL SCIENCES
DEPARTMENT OF PHYSICS

Ketintang Campus, Jalan Ketintang, C3 Building, Surabaya 60231
 Website: <https://pendidikan-fisika.fmipa.unesa.ac.id/>, email: s1-pfis@unesa.ac.id

Undergraduate Programme of Physics Education

Module Handbook

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|---|---|
| Module Name : | <i>Fisika Bumi</i> Earth Science |
| Module level : | Bachelor degree/Undergraduate Programme |
| Course Code : | 8420302063 |
| Abbreviation, if applicable: | - |
| Courses included in the module, if applicable: | Not Applicable |
| Semester/Term | 2/First Year |
| Module coordinator(s) | Prof. Tjipto Prastowo, Ph.D. |
| Lecturer(s): | Prof. Tjipto Prastowo, Ph.D. Mita Anggaryani, Ph.D. |
| Language: | <i>Bahasa Indonesia</i> |
| Classification within the curriculum: | Compulsory / Elective |
| Teaching format/class hours per week during the semester: | 2 contact hours of lectures (Indonesia credit semester or sks*) |
| Workload : | 2 x 50 minutes lectures, 2 x 60 minutes structured activity, 2 x 60 minutes individual activity, 14 weeks per semester, 90 total hours per semester ~ 3.18 ECTS** |
| Credit Point: | 2 sks (3.18 ECTS) |
| Requirements: | Basic Physics I Basic Physics II |
| Learning goals/competencies: | <ol style="list-style-type: none"> 1. Realizing independent, creative, and honest characters in carrying out lecture assignments, UTS and Earth Physics UAS. 2. Mastering a structured study of the role of the earth as a complex physical system in human life. 3. Mastering the dynamic aspects of interdependence between the earth and humans. 4. Understand various potentials of earth disasters including geological and hydro-meteorological disasters in Indonesia. 5. Implementing an attitude of being aware and responsive to the environment and being prepared for earth disasters. |
| Content | Earth Physics contains the study of earth science with class discussion topics including understanding the interaction between humans and nature; the role of the earth (land, oceans, atmosphere and biosphere) in human life; the impact of human activities on nature and the environment; several types of earth disasters that often occur in Indonesia and their mitigation; awareness and preparedness of disasters as part of disaster |



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| | mitigation education to reduce disaster risk, understanding and application of local wisdom in disaster mitigation education. | | | | | | | | | | |
|----------------------------------|--|----------------------------|----------------------------|---------------|-----|------------|-----|-------------------|-----|---------------------|-----|
| Attribute Soft skill: | Scientific report, public speaking, and team work | | | | | | | | | | |
| Study/exam achievements: | 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 border="1" style="width: 100%;"> <thead> <tr> <th style="text-align: left;">Assessment Components</th> <th style="text-align: left;">Percentage of contribution</th> </tr> </thead> <tbody> <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> </tbody> </table> | Assessment Components | Percentage of contribution | Participation | 20% | Assignment | 30% | Mid-semester test | 20% | Final semester test | 30% |
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| | Assignment | 30% | | | | | | | | | |
| Mid-semester test | 20% | | | | | | | | | | |
| Final semester test | 30% | | | | | | | | | | |
| Learning Methods : | Student-centered approach, lecture and discussion, and presentations (structured activities) | | | | | | | | | | |
| Form of Media: | <i>Power Point</i> slides, e-book file, and multimedia. | | | | | | | | | | |
| Literature (primary references): | <ol style="list-style-type: none"> 1. Prastowo, T. 2012. Sains Kebumihan. Unpublished work. 2. Farndon, J. et al. 2003. Planet Earth. London, UK: Lorenz Books. 3. Robinson, A. 2002. Earth Shock. London, UK: Thames and Hudson Limited. 4. Scarth, A. 2001. Savage Earth. London, UK: Harper Collins Publishers. 5. Some ppt files and images relevant to Earth Physics from internet | | | | | | | | | | |
| Notes: | *1 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 sks = 1,59 ECTS according to Rector Decree Of Universitas Negeri Surabaya No. 598/Un38/Hk/Ak/2019 | | | | | | | | | | |