

FI505 Meteorology and Space Weather

Module name:	Meteorology and Space Weather	
Module level, if applicable:	Undergraduate	
Code:	FI505	
Sub-heading, if applicable:	-	
Classes, if applicable:	-	
Semester:	6 th	
Module coordinator:	Nanang Dwi Ardi	
Lecturer(s):	Nanang Dwi Ardi	
Language:	Bahasa Indonesia	
Classification within the curriculum:	Elective course	
Type of Teaching	Contact hours per week during the semester	Class Size
<ol style="list-style-type: none"> 1. Lecture (conceptual, contextual and problem-solving approaches through expository, and discussions). 2. Structured activities (assignments based on conceptual, contextual and problem-solving approaches) 3. Self-study (reading literature) 	1 hour 40 minutes	35
Workload:	Total workload is 91 hours (3.2 ECTS) per semester which consists of 100 minutes lectures and one meeting for stadium general (0.82 ECTS), 120 minutes structured activities (0.99 ECTS), and 120 minutes self-study per week for 14 weeks (0.99 ECTS), 100 minutes for each exam (0.12 ECTS), and 240 minutes for each exam preparation (0.28 ECTS).	
Credit points:	3.2 ECTS	
Pre-requisites course(s):	-	
Course Learning Outcomes (CLO):	<p>After taking this course the students have ability to:</p> <p>CLO1. Explain basic concept of meteorology and climatology CLO2. Explain earth and sun relationship and its consequences CLO3. Explain element of weather system CLO4. Explain radiation and earth-sun system CLO5. Explain hydrology cycle CLO6. Explain weather measurement principle CLO7. Explain climate and human life CLO8. Explain basic concept of space weather CLO9. Explain major disturbance in space weather</p>	

	<p>CLO10. Explain impact of solar activity to earth CLO11. Explain Solar Activity Index CLO12. Explain flare CLO13. Explain Filament/Prominence CLO14. Explain Corona Mass Ejection CLO15. Explain Solar Radio Emission CLO16. Explain Solar Proton Event CLO17. Explain The dynamic of magnetosphere CLO18. Explain Earth magnetic field parameter CLO19. Explain Geomagnetic Index CLO20. Explain the dynamic of Ionosphere CLO21. Explain the impact space weather to earth</p>															
Content:	Climate and weather parameter, Earth and sun relationship, Atmosphere circulation, Global air mass movement, Solar Radiation, Hydrology cycle, Sun and space weather, Solar activity, Magnetosphere, Ionosphere, Impact space weather to earth.															
Study/exam achievements:	<p>The final mark will be weight as follow:</p> <table border="1"> <thead> <tr> <th>No</th> <th>CLO</th> <th>Assessment Object</th> <th>Assessment Techniques</th> <th>Weight</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>CLO1-CLO21</td> <td>Subject specific competence: a. Individual assignments b. Mid Exam c. Final Exam</td> <td>Written Written test Written test</td> <td>30% 35% 35%</td> </tr> <tr> <td colspan="4">Total</td> <td>100%</td> </tr> </tbody> </table>	No	CLO	Assessment Object	Assessment Techniques	Weight	1	CLO1-CLO21	Subject specific competence: a. Individual assignments b. Mid Exam c. Final Exam	Written Written test Written test	30% 35% 35%	Total				100%
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1	CLO1-CLO21	Subject specific competence: a. Individual assignments b. Mid Exam c. Final Exam	Written Written test Written test	30% 35% 35%												
Total				100%												
Forms of media:	Board, LCD Projector, Laptop/Computer, stream video conference, relevant volcano documentary movie															
Literature:	<ol style="list-style-type: none"> 1. Soewarno, (2015). <i>Klimatologi: Pengukuran dan Pengolahan Data Curah Hujan, Contoh Aplikasi Hidrologi dalam Pengelolaan Sumber Daya Air (Seri Hidrologi)</i>, Graha Ilmu, Yogyakarta. 2. Nuraeni, F dkk, (2016). <i>SWIFtS: Space Weather Information and Forecast Services</i>. Pusat Sains Antariksa Lembaga Penerbangan dan Antariksa Nasional. 3. Seargent, D. A. (2012). <i>Weird weather: Tales of astronomical and atmospheric anomalies</i>. Springer Science & Business Media. 															

