



MODULE HANDBOOK

Remote Sensing for Regional Climate

Supriatna

Undergraduate Study Program for Geography
Faculty of Mathematics and Natural Sciences
Universitas Indonesia

Remote Sensing for Regional Climate

Module designation	Remote Sensing for Regional Climate
Semester(s) in which the module is taught	Sixth (6th) Semester
Person responsible for the module	Supriatna
Lecturer	<ol style="list-style-type: none"> 1. Supriatna 2. Masita Dwi Mandini Manessa 3. Iqbal Putut As-Shidiq 4.
Language	Bahasa Indonesia
Relation to curriculum	Elective
Teaching methods	Student-centered Learning and combination with Cooperative Learning
Workload (incl. contact hours, self-study hours)	<ol style="list-style-type: none"> 1. Lectures: 100 minutes per week per semester 2. Assignment: 120 minutes per week per semester 3. Independent study: 120 minutes per week per semester 4. Minutes x weeks x semester: $340 \times 14 \times 1 = 4760$ minutes per semester 5. Midterm Examination: 100 minutes per semester 6. Final Examination: 100 minutes per semester 7. Total workload per semester: 4950 minutes / 82 hours 40 minutes
Credit points	2 (Two)
Required and recommended pre-requisites for joining the module	<ol style="list-style-type: none"> 1. Remote Sensing 2. System Information Geography
Module objectives/intended learning outcomes	This course discusses the concept and remote sensing applications to observe regional climate conditions. The material starts from the remote sensing sensor conception that is appropriate for weather dynamics detection in the tropics. Climate components are detected using remote sensing data and combined using the AI approach
Content	<ol style="list-style-type: none"> 1. The Concept of Regional Climate Remote Sensing 2. Active and Passive Remote Sensing System and Sensor For Getting Climate Component Datasets 3. Algorithms and Techniques for Extraction of Climate Component Attributes (Deep Learning, and GEE) 4. Regional Climate Components Monitoring Application (Atmospheric Condition) 5. Regional Climate Components Monitoring Application (Lithosphere Condition) 6. Regional Climate Component Monitoring Application (Oceanography Condition)
Examination forms	-
Study and examination requirements	<ol style="list-style-type: none"> 1. Individual Works (15%) 2. Group Works and Presentation (25%) 3. Quiz (10%) 4. Mid-Term Examination (25%) 5. Final Examination (25%)

Reading list	<p>Mangalasseril Mohammad Anees, Deepika Mann, Mani Sharma, Ellen Banzhaf, and Pawan K Joshi; Assessment of Urban Dynamics to Understand Spatiotemporal Differentiation at Various Scales Using Remote Sensing and Geospatial Tools; Remote Sens. 2020, 12(8), 1306; https://doi.org/10.3390/rs12081306</p> <p>Kerle, N., Jensen, L. L. F., and Hurneman, G. C. (eds) (2004) Principles of Remote Sensing – ITC Educational Textbook Series. The Netherland: ITC.</p> <p>Lillesand, T. M., Kiefer, R. W., Chipman, J. (2008) Remote sensing and Image Interpretation. 6th. NY: John Wiley and Sons.</p>
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