MODULE HANDBOOK

<table>
<tr><th colspan="7">APPLIED REMOTE SENSING</th></tr>
<tr><td colspan="2">Module/Course Title

8720202128</td><td>Student Workload

2 CU X 16 X 170’=90,6618</td><td>Credits

2</td><td>Semester

5th</td><td>Frequency

28 CU</td><td>Duration

14 x meetings</td></tr>
<tr><td>1</td><td colspan="2">Types of courses
LECTURER
PRACTICUM</td><td>Contact hours
(2CU X 1,59
ECTS)
X{(50:170’)X
28,51
Workhours=
26,64</td><td>Independent Study
(2CU X 1,59
ECTS)
X{(60:170’)X
28,51
Workhours=
31,96</td><td>Structured Study
(2CU X 1,59
ECTS)
X{(60:170’)X
28,51
Workhours=
31,96</td><td>Class size

32</td></tr>
<tr><td>2</td><td colspan="6">Prerequisites for participation (if applicable)
Pass the Basic Remote Sensing</td></tr>
<tr><td rowspan="4">3</td><td colspan="6">Program Learning Outcomes (PLO)</td></tr>
<tr><td colspan="6">PLO 2
Able to analyze regional and zoning characteristics (regionalization) in the context of resources and disasters based on the principles and approach of Geography to support sustainable development</td></tr>
<tr><td colspan="6">PLO 6
Able to make appropriate decisions in the context of solving problems in the field of geography and geography education, based on the results of analysis of information and data</td></tr>
<tr><td colspan="6">PLO 8
Able to formulate, process, analyze data, and present geosphere information, both physical and human aspects by using geospatial technology for geography learning and research</td></tr>
<tr><td></td><td colspan="6">PLO 12
Able to work together, have social sensitivity, high concern for society and the environment</td></tr>
</table>

	Course Learning Outcome (CLO) **1.** Able to analyze regional and zoning characteristics (regionalization) in the context of resources and disasters based on the principles and approach of Geography to support sustainable development in East Java especially in own regency area based on remote sensing data. **2.** Able to solve problems in the field in the field of geography and geogaphy education based on analysis of remote sensing data. **3.** Able to formulate, process, analyze data, and present the spatial problem in learning and research based on remote sensing data. **4.** Able to work in groups to solve social and environmental problems.
4	**Subject aims/Content** 1. Applied Remote Sensing for land cover analysis

	2. Applied Remote Sensing for land use analysis 3. Applied Remote Sensing for natural resource analysis 4. Applied Remote Sensing for agricultural analysis 5. Applied Remote Sensing for forestry analysis 6. Applied Remote Sensing for disaster analysis 7. Applied Remote Sensing for socioeconomic analysis 8. Applied Remote Sensing for transport analysis
5	**Teaching methods** Project Based Learning, Self Direction Learning, Small Group Discussion
6	**Assessment Methods** Portofolio, paper test, demonstration test
7	**This module/course is used in the following study programme/s as well** -
8	**Responsibility for module/course** COMPULSORY/~~ELECTIVE~~*/
9	**Other information** 1. Adams, J.B., Gillespie, A.R., 2006. ***Remote Sensing of Landscape with Spectral Images – A Physical Modeling Approach***. Cambridge University Press. New York. 2. Elachi, C., Zyl, V.J. 2006. ***Introduction to the Physic and Techniques of Remote Sensing***. John Willey & Sons Inc.. New Jersey. 3. Horning, N., Robinson, J.A., Sterling, E.J., Turner, W., Spector, S., 2010. ***Remote Sensing for Ecology and Conservation***. Oxford University Press, New York. 4. Liang, S. 2004. ***Quantitative Remote Sensing of Land Surface***. John Willey & Sons Inc.. New Jersey. 5. Liu, J.G., Mason, P.J. 2009. ***Essential Image Processing and GIS for Remote Sensing***, John Wiley and Sons, Chichester. 6. Mather, P.M. 2004. ***Computer Processing of Remotely-Sensed Images An Introduction***. John Willey & Sons Inc. Chichester. 7. Schowengerdt, R.A., 2007. ***Remote Sensing Models and Methods for Image Processing***. Third Edition. Elsevier. London. 8. Thenkabail, P.S., Hanjra, M.A., Dheeravath, V., Gumma, M., 2011. **Global Croplands and Their Water Use from Remote Sensing and Non Remote Sensing Perspective**, *Advances in Environmental Remote Sensing, Sensor, Algorithm, and Aplications*, p. 387 – 391.