



## Module Description/Course Syllabi

Study Programme : Magister of Soil Science  
 Faculty of Agriculture  
 Universitas Andalas

**1. Course number and name**

MIT 82223 Remote Sensing

**2. Credits and contact hours/Number of ECTS credits allocated**

3sks (2-1)

**3. Instructors and course coordinator**

1. Prof. Dr. Ir. Dian Fiantis, MSc; 2. Dr. Wiwid

**4. Specific course information**

**A. Brief description of the content of the course (catalog description)**

This course covers the definition and basic concepts of remote sensing, photogrametry, aerial cameras; characteristics and basic geometry of aerial photography; resource remote sensing satellite: landsat and spot; laser scanner; spectrometer; cartographic remote sensing satellite, microwave remote sensing; visual interpretation; digital interpretation for preprocessing, image sharpening, and extraction of thematic information; remote sensing applications; cost of utilizing remote sensing; and development of remote sensing

**B. Course Content**

Week	Course Content
1 (100)	Introduction, definition and development history of remote sensing
2 (100)	The basic principle of remote sensing, electromagnetic wave spectrum
3 (100)	Concepts and applications of active and passive remote sensing systems
4 (100)	The role of sensors, radiation concepts, spectral channels and sensor grouping patterns

5	Spatial and spectral accuracy
(100)	
6	Radiometric correction and geometric correction
(100)	
7	Multispectral classification with supervised method
(100)	
8	Multispectral classification with unsupervised method
(100)	
9	Image interpretation, first order, second order elements. Third order
(100)	
10	Ground reflectance spectrum, energy, ground radiation reflection model, soil spectroscopy
(100)	
11	Remote sensing process with UAV aerial photography
(100)	
12	3D mapping using PJ data
(100)	
13	Utilization of PJ data to answer environmental problems
(100)	
14	National policies and the role of state institutions regarding the utilization of PJ data
(100)	
<b><i>C. Semester when the course unit is delivered</i></b>	
ven Semester	
<b><i>D. Mode of delivery (face-to-face, distance learning)</i></b>	
Face to face	
<b><i>6. Intended Learning Outcomes (CPL)</i></b>	
ILO 1 : An ability to analyze and interpretate nature and characteristics of many soils in	

determining the potency and the threat of the land and environment resources PI 3 : An ability to interpretate soil data
ILO 3 : An ability to use technology in identifying and solving problems of soil, land resource, environment problems independently, eligibly, and accurately PI 1 : An ability to use technology to analyze soil
<b>7. Course Learning Outcomes (CPMK) ex. The student will be able to explain the significance of current research about a particular topic.</b>
A. Students will be able to interpretate data of many soils
B. Students will be able to use program in analyzing soil data for land management
<b>8.Learning and teaching methods</b>
<b>9.Language of instruction</b>
Indonesia and English (English Class)
<b>10.Assessment methods and criteria</b>
Summative Assessment : 1.. Tasks : 5% 5. Quiz : 5 % 6. Mid Semester : 25% 7. Final Semester : 25% 8. Praktikum :30% 9. Attendance : 5% Formative Assessment: 1.Thumb up and thumb down 2.Minutes paper