



SEMESTER LEARNING PLAN
DEPARTMENT OF GEOMATICS ENGINEERING
FACULTY OF CIVIL, PLANNING, and GEO ENGINEERING

PROGRAM	UNDERGRADUATE		
COURSE NAME	Advanced Remote Sensing	CODE	RM184948
SEMESTER	Elective Course	CREDITS	3 (three)
LECTURERS			
COURSE MATERIALS	1	Radiometric Correction	
	2	Remote Sensing Water Monitoring	
	3	Remote Sensing For Land Monitoring	
	4	Remote Sensing For Atmospheric Studies	
EXPECTED LEARNING OUTCOMES THAT IMPOSED IN THE COURSE	D	Able to perform spatial data acquisition using modern measurement methods, geospatial data processing, using industry standard software, and making standard designs and analyzes in the fields of geodesy, surveying, hydrography, remote sensing, photogrammetry, and cadastral.	
	E	Able to apply information & communication technology and the latest technological developments in the fields of geodesy, surveying, hydrographic, remote sensing, photogrammetry, geographic information systems, and cadastral.	
	H	Able to work in inter-disciplinary and inter-cultural teams so they can compete at national and international levels.	
COURSE LEARNING OUTCOMES	1	Students can understand the concept of atmospheric correction and practice it using several methods	
	2	Students can extract parameter information in water, land and atmosphere from spectral data	
ABILITY CATEGORIES	<i>Cognitive Proccess</i>	<i>Analyse</i>	
	<i>Knowledge Domain</i>	<i>Procedural</i>	
	<i>Psychomotor</i>	<i>Conscious control</i>	
	<i>Affective</i>	<i>Change of attitude</i>	

Class	Lesson learning outcome	Criteria dan Assessment Indicator	Weight	Learning Materials	Learning Experience	Learning Methods	Estimated Time
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1,2,3	Atmospheric Correction	1. Understand the concept of atmospheric correction 2. The ability to performe atmospheric corrections using several methods	20	1. Atmospheric Correction Concept 2. Atmospheric Correction Methods: DOS, 6SV and FLAASH	1. Practice 2. Group discussion 3. Quiz	Lecture & Discussion Independent task Presentation & Discussion	6 x 50' 6 x 60' 6 x 50'
4 - 7	Remote Sensing Water Monitoring	Understand the concept of Remote sensing for Water monitoring and the ability to do processing for obtaining water parameters.	30	1 Concept of Water Remote sensing 2 Extraction of water quality main parameters (Chl-a, TSS, SST)	1. Practice 2. Exercise using study case 3. Homework, make a report from the results of practice	Lecture & Discussion Independent task Presentation & Discussion	8 x 50' 8x 60' 2 x 50'
8	Mid-Semester Evaluation						
9 - 12	Remote Sensing For Land Monitoring	1. Accuracy of answers in presentations and discussions 2. Accuracy in conducting analysis 3. Accuracy in understanding the concept of Land Remote sensing and the ability to do processing to obtain terrestrial parameters.	40	1. Remote sensing concept for land monitoring 2. Extract information from images: Spectral Index (Vegetation, Fire, Drought), Surface Temperature and impervious objects	1. Presentation of tasks 2. Discussion 3. Practice 4. Exercise using study case 5. Discussion and presentation of practice results	Lecture & Discussion Independent task Presentation & Discussion	8 x 50' 8x 60' 2 x 50'

13 - 15	Remote Sensing For Atmospheric Studies	<ol style="list-style-type: none"> 1. Accuracy in describing tasks 2. Accuracy in applying analysis in the discussion topic 3. Accuracy in explaining various topics 4. Accuracy in answering quizzes 5. Accuracy in understanding the concept of Water Remote sensing and the ability to do processing to obtain atmospheric parameters. 	<ol style="list-style-type: none"> 1. Concept of remote sensing atmospheric studies 2. Information extraction from images such as atmospheric temperature, water content and air pollutants 	<ol style="list-style-type: none"> 1. Presentation of tasks 2. Quiz 3. Independent task 4. Practice 5. Exercise using study case 6. Discussion and presentation of practice results 	Lecture & Discussion Independent task Presentation & Discussion	10 x 50' 10x 60' 4 x 50'
18	Final Semester Evaluation					
90						