



DEPARTMENT OF GEOMATICS ENGINEERING
UNDERGRADUATE PROGRAM IN GEOMATICS ENGINEERING
COURSE SYLLABUS

COURSE	Name	Introduction to Remote Sensing
	Code	RM184519
	Credits	3 (three)
	Semester	V (five)

COURSE DESCRIPTION

This course contains the processing and utilization of extra-terrestrial spatial data.

EXPECTED LEARNING OUTCOME

A	Able to apply mathematics, science, and engineering in the fields of geodesy, surveying, hydrography, remote sensing, photogrammetry, geographic information systems, and cadastral to gain a thorough understanding of the principles of
C	Able to identify, formulate, analyze and solve problems in the fields of geodesy, surveying, hydrographic, remote sensing, photogrammetry, and cadastral.
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,
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.

COURSE LEARNING OUTCOME

1	Able to understand the history and basic concepts of remote sensing and the development of the latest / current geospatial information science and technology in the fields of geodesy and surveying, geodynamics and the environment, geospatial, geomarin, and cadastre
2	Having skills in processing remote sensing imagery data and the development of the latest / current geospatial information and geospatial technology in the fields of geodesy and surveying, geodynamics and the environment, geospatial, geomarin, and cadastre
3	Having skills in processing radiometric calibrations, geometric corrections and the development of the latest / up-to-date geospatial information science and technology in the fields of geodesy and surveying, geodynamics and the environment, geospatial, geomarin, and cadastre
4	Able to carry out interpretation and classification of satellite imagery and the development of the latest / current geospatial information and technology in the fields of geodesy and surveying, geodynamics and the environment, geospatial, geomarin, and cadastre

COURSE MATERIALS

1	Remote Sensing Concepts, Historical Platform, Basic Principles, Electromagnetic Wave Physics, Transport Vehicle, Satellite Geometry
2	Image Types and Specifications, Definition, Active Remote Sensing Satellites, Passive Remote Sensing Satellites, Reflectant Characters on Earth's Surface Objects
3	Interpretation, Basic Understanding, Basis of Interpretation, Key Interpretations, Types, Methods, Processes, Tools, Data/Documents for Interpretation
4	Geometric Correction, Radiometric Correction, Algorithm Usage, Radiometric Calibration, Software Usage and Image Classification

PREREQUISITE

Photogrammetry

REFERENCES

- | | |
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| A. | Main References |
| 1 | Penginderaan Jauh (Dasar Teori dan Terapan), ITS Press, 2012, Sukojo, B.M |
| 2 | Remote Sensing and Image Interpretation (Book by Ralph W. Kiefer and Thomas Lillesand) Originally published: 1979 Authors: Ralph W. Kiefer, Thomas Lillesand |
| 3 | Introduction to Remote Sensing (Book by James B Campbell) Originally published: 1987 Author: James B Campbell |
| B. | Additional References |
| 1 | Image Analysis, Classification and Change Detection in Remote Sensing: With Originally published: 2014 By Morton J. Canty |
| 2 | Physical Principles of Remote Sensing Originally published: 2013 By W. G. Rees |
| 3 | Classification Methods for Remotely Sensed Data, Second Edition Originally published: 2009 By Paul Mather, Brandt Tso.. |
| 4 | Remote sensing, models, and methods for image processing (Book by Robert A. Schowengerdt) Originally published: January 1997 Author: Robert A. Schowengerdt |