



Satuan Acara Pengajaran

ENCN802005 - Penginderaan Jauh

Pengajar

Dr. Ir. Dodi Sudiana M.Eng.

Minggu 1

Materi Introduction

Class regulation, course plan & materials, grading system, references, midterm exam, homeworks, final exam. History of Remote Sensing

Media PPT, Video, SCELE (<http://scele.ui.ac.id>)

Referensi

1. J.B. Campbell and R.H. Wynne, Introduction to Remote Sensing, 5th Edition, The Guildford Press, NY, 2011.
2. C.H. Chen, Signal and Image Processing for Remote Sensing, 2nd Edition, CRC Press, 2012.
3. Canadian Centre for Remote Sensing, Fundamental of Remote Sensing.
4. Other relevant books, papers, websites, etc.

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Minggu 2

Materi Electromagnetic Radiation

The EM spectrum, major divisions of EM spectrum, radiation laws, interactions with the atmosphere, surfaces, summary

Media PPT, Video, SCELE (<http://scele.ui.ac.id>)

- Referensi**
1. J.B. Campbell and R.H. Wynne, Introduction to Remote Sensing, 5th Edition, The Guildford Press, NY, 2011.
 2. C.H. Chen, Signal and Image Processing for Remote Sensing, 2nd Edition, CRC Press, 2012.
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 4. Other relevant books, papers, websites, etc.
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Minggu 3

- Materi** Digital Imagery
- Electronic imagery, spectral sensitivity, digital data, formats, equipments for digital analysis, image processing software, the Internet, summary.
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- Media** PPT, LCD, SCELE (<http://scele.ui.ac.id>)
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- Referensi**
1. J.B. Campbell and R.H. Wynne, Introduction to Remote Sensing, 5th Edition, The Guildford Press, NY, 2011.
 2. C.H. Chen, Signal and Image Processing for Remote Sensing, 2nd Edition, CRC Press, 2012.
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Minggu 4

- Materi** Image Interpretation
- Context, tasks, elements, strategies of interpretation, collateral information, rating scale, photomorphic regions, equipments, image scale calculations, summary.
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- Media** PPT, LCD, SCELE (<http://scele.ui.ac.id>)
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- Referensi**
1. J.B. Campbell and R.H. Wynne, Introduction to Remote Sensing, 5th Edition, The Guildford Press, NY, 2011.
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Minggu 5

Materi Land Observation Satellites

<http://www.fas.org/irp/imint/docs/rst/Intro/vert-rollout.jpg>
Satellite RS, Landsat, satellite orbits, the Landsat System, MSS, TM, Administration, current satellite systems, computer searches, summary.

Media PPT, LCD, SCELE (<http://scele.ui.ac.id>)

- Referensi**
1. J.B. Campbell and R.H. Wynne, Introduction to Remote Sensing, 5th Edition, The Guildford Press, NY, 2011.
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Minggu 6

Materi Active Microwave

Radar image, wavelength, penetration of radar, polarization, real aperture system, synthetic aperture systems, radar interpretation, satellite imaging radars, radar interferometry, summary.

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Referensi

1. J.B. Campbell and R.H. Wynne, Introduction to Remote Sensing, 5th Edition, The Guildford Press, NY, 2011.
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Minggu 7

Materi Lidar

Introduction, Profiling Lasers, Imaging Lidars, Lidar Imagery, Types of Imaging Lidars, Processing Lidar Image Data

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Referensi

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Minggu 8

Materi NATIONAL HOLIDAY (NYEPI)

Media

Referensi

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Minggu 9

Materi Midterm Assignment

Thermal Imagery

Introduction, Thermal Detectors, Thermal Radiometry, Microwave Radiometers, Thermal Scanners, Thermal Properties of Objects, Geometry of Thermal Images, The Thermal Image and Its Interpretation, Heat Capacity Mapping Mission, Landsat Multispectral Scanner and Thematic Mapper Thermal Data

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1. J.B. Campbell and R.H. Wynne, Introduction to Remote Sensing, 5th Edition, The Guildford Press, NY, 2011.
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Minggu 10

Materi Image Classification

Introduction, Informational Classes and Spectral Classes, Unsupervised Classification, Supervised Classification, Ancillary Data, Fuzzy Clustering, Artificial Neural Networks, Contextual Classification, Object-Oriented Classification, Iterative Guided Spectral Class Rejection

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1. J.B. Campbell and R.H. Wynne, Introduction to Remote Sensing, 5th Edition, The Guildford Press, NY, 2011.
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Minggu 11

Materi Hyperspectral Remote Sensing

Introduction, Spectroscopy, Hyperspectral Remote Sensing, The Airborne Visible/Infrared Imaging Spectrometer, The Image Cube, Spectral Libraries, Spectral Matching, Spectral Mixing Analysis, Spectral Angle Mapping, Analyses, Wavelet Analysis for Hyperspectral Imagery

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1. J.B. Campbell and R.H. Wynne, Introduction to Remote Sensing, 5th Edition, The Guildford Press, NY, 2011.
2. C.H. Chen, Signal and Image Processing for Remote Sensing, 2nd Edition, CRC Press, 2012.
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Minggu 12

Materi Change Detection

Introduction, Bitemporal Spectral Change Detection Techniques, Multitemporal Spectral Change Detection, summary.

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Referensi

1. J.B. Campbell and R.H. Wynne, Introduction to Remote Sensing, 5th Edition, The Guildford Press, NY, 2011.
2. C.H. Chen, Signal and Image Processing for Remote Sensing, 2nd Edition, CRC Press, 2012.
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Minggu 13

Materi Land Use and Land Cover

Introduction, Aerial Imagery for Land Use Information, Land Use Classification, Visual Interpretation of Land Use and Land Cover, Land Use Change by Visual Interpretation, Historical Land Cover Interpretation for Environmental Analysis, Other Land Use Classification Systems, Land Cover Mapping by Image Classification, Broad-Scale Land Cover Studies, Sources of Compiled Land Use Data

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1. J.B. Campbell and R.H. Wynne, Introduction to Remote Sensing, 5th Edition, The Guildford Press, NY, 2011.
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Minggu 14

Materi Global Remote Sensing

Introduction, Biogeochemical Cycles, Advanced Very-High-Resolution Radiometer, Earth Observing System, Earth Observing System Instruments, Earth Observing System Bus, Earth Observing System Data and Information System, Long-Term Environmental Research Sites, Earth Explorer, Global Monitoring for Environment and Security, Gridded Global Population Data

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