Surveying Engineering Program
Department of Civil Engineering
College of Engineering
King Saud University

جـــامـــعـــة
الملك سعود
King Saud University 1957

SE 365 Principles of Remote Sensing and Photo Interpretation

Credit and Contact hours	3 / 2(Lectures); 0(Tutorials); 2(Laboratory)
Required, or Elective	Required for a BSCE degree
Course Description	Concepts & definition of remote sensing; properties of electro-magnetic waves & the environment; ground truth; spectral signature & target identification; remote sensors (types & comparison); techniques utilized to interpret remote sensing imagery visually; emphasis on air-photo interpretation in a range of application areas; visual analysis of non-photographic remote sensing data; introduction to computer-assisted image interpretation & GIS.
Prerequisites or Co-requisites	SE 321
Course Learning Outcomes	Students completing this course successfully will be able to

Course Learning Outcomes	Related Student Outcomes (SO)
CLO1: Discuss principles and concepts of remote sensing and image interpretation techniques.	**SO7**
CLO2: Compute required image interpretation data	**SO1**
CLO3: Explain how to use image interpretation in various applications: resource management, engineering, land use and planning, environmental assessment as examples	**SO7**
CLO4: Apply computer assisted image interpretation and integration of interpreted data in GIS.	**SO6**

Student Outcomes	**SO1**. an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics, and using modern engineering tools **SO 6**. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions **SO7:** an ability to acquire and apply new knowledge as needed, using appropriate learning strategies

Topics Covered	List of Topics	Related CLOs
	1. Concepts & definition of remote sensing	CLO1
	2. Properties of electro-magnetic waves & the environment	CLO1
	3. Reference data & Ground truth	CLO3
	4. Spectral signature & target identification	CLO2
	5. Remote sensors (types & comparison)	CLO1
	6. Techniques utilized to interpret remote sensing imagery visually	CLO3
	7. Implement air photo interpretation in a range of application areas	CLO3
	8. Visual analysis of non-photographic remote sensing data	CLO3
	9. Introduction to computer-assisted image interpretation & GIS	CLO4
Textbook(s) and Other Required Material	Textbook: Lillisand, Keifer and Chipman "Remote Sensing and Image Interpretation", 6th ed. 2008, John Wiley.	
Grading System	Homework, quizzes & Lab Exercises 25% 2 Mid-Terms 35% Final Exam 40% Note: There was a slight change in classwork grading because of COVID-19 & teaching on line.	
Instructors	Dr. Ahmad H. O. Alashaikh; (2A57); e-mail: aalashaikh@ksu.edu.sa	
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