

Semester: 4 th Subject:		Surveying-II (PC/CE/8-T)	
Week	Lec. Day	Topics	Remarks
1 st	1.	Survey Adjustment and Treatment of Observations: Types of errors, definition of weight of an observation, most probable values	
	2.	law of accidental errors, law of weights,	
	3.	determination of probable error (different cases with examples), principle of least squares,	
2 nd	4.	adjustment of triangulation figures by method of least squares.	
	5.	Numerical problems	
	6.	Astronomy: Definitions of astronomical terms,	
3 rd	7.	star at elongation, star at prime vertical star at horizon, star at culmination	
	8.	celestial coordinate systems, Napier's rule of circular parts,	
	9.	Numerical problems	
4 th	10.	various time systems: sidereal, apparent, solar and mean solar time,	
	11.	equation of time-its cause.	
	12.	Numerical problems	
5 th	13.	Introduction GIS, GPS, DEM, DTED	
	14.	Large scale mapping, small scale mapping, Components of GIS	
	15.	Application of GIS in civil engineering	
6 th	16.	Remote Sensing, Fundamentals, EMS, RS System	
	17.	Active and Passive radiation – Electromagnetic Radiation – Nomenclature	
	18.	Reflectance, Transmission and Absorption	
7 th		MINOR TEST I	
8 th	19.	Thermal Emission – Plank's formula,	
	20.	Stefan – Boltzman Law;	
	21.	Wein's Displacement Law	
9 th	22.	Emissivity – Kirchoff's Law	
	23.	Characteristics of Solar Radiant Energy, Application of remote sensing to various engineering fields	
	24.	Interaction of EMR with Atmosphere – Scattering, Refraction, Absorption, Transmission. Atmospheric Windows.	
10 th	25.	Interaction of EMR with Atmosphere – Scattering, Refraction, Absorption, Transmission. Atmospheric Windows.	
	26.	Interaction of EMR with Earth Surface – Spectral Reflectance Curves.	
	27.	Interaction of earth surface with EM radiation in visible, NIR, TIR and Microwave regions	
11 th	28.	Idealized & Real sequence of remote sensing.	
	29.	Elements of Photo-grammetry: Introduction: types of photographs, types of aerial photographs,	
	30.	Classification and application of photogrammetry	
12 th	31.	aerial camera and scale of photographs	
	32.	height displacements in vertical photographs	
	33.	Numerical problems	
13 th	34.	Relief displacement	
	35.	Numerical problems	
	36.	stereoscopic vision and stereoscopies	
14 th		MINOR TEST II	
15 th	37.	Parallax in photometry	
	38.	height determination from parallax measurement,	
	39.	flight planning, number of photographs, overlaps	