

## SWARNANDHRA COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous)

Narsapur, West Godavari District, A.P. 534280

## DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

## **TEACHING PLAN**

Cours	Course Little	Sei	mester	Branches	Contact Periods /Week	Acad	or reported by the second	Date of commencement of Semester
20EC7C	REMOTE SENSING	G	VII	EEE,ME ROBOTICS	4	2025-	2026	05-06-2025
COURS	E OUTCOMES:							
After con	apletion of the course students	are able to						
CO1	Understand the subject of space and satellite							re knowledge
CO2	Develop different remot satellite communica	_			_			nature of
	T	and the same of th	d in cot	ellite communica	tion and r	emote s	ensing	applications
CO3	Analyze various compo (K4)	nents use	a III Sau					аррисанона.
CO3		ast of de	esigning	satellite remote				
	(K4) Acquire and keep abre	ast of de	esigning	satellite remote	e sensing			so analyze the
CO4	(K4) Acquire and keep abresensor data for drawing  Out Comes /	ast of de inference	esigning e and co	satellite remote nclusions. ( <b>K4</b> )	e sensing Ter	system	and al	so analyze the
CO4	(K4) Acquire and keep abresensor data for drawing  Out Comes /	ast of de inference	esigning e and co Historic	satellite remote nelusions. (K4)  Topics/Activity  INTRODUCTION al background	e sensing Ter	system  t Book  ference	and al	so analyze the
CO4	Acquire and keep abresensor data for drawing  Out Comes / Bloom's Level  CO1: Understand the	Topics No.	esigning e and co  Historic Internat	satellite remote nelusions. (K4)  Topics/Activity  INTRODUCTION al background ional space laws	e sensing Ter	system ot Book ference	and al	so analyze the
CO4	Acquire and keep abresensor data for drawing  Out Comes / Bloom's Level	ast of de inference	esigning e and co  Historic Internat	satellite remote nelusions. (K4)  Topics/Activity  INTRODUCTION al background ional space laws ages of space based	e sensing Ter	system  t Book  ference	and al	so analyze the
CO4	Acquire and keep abresensor data for drawing  Out Comes / Bloom's Level  CO1: Understand the subject of satellite communication and remote	Topics No.	esigning e and co  Historic Internat Advanta	ropics/Activity  INTRODUCTION  al background  ional space laws  ages of space based  tions  ages of space based	e sensing Ter	system  t Book  ference  T1  T1	and al	so analyze the
CO4	Acquire and keep abresensor data for drawing  Out Comes / Bloom's Level  CO1: Understand the subject of satellite communication and remote sensing with the	Topics No.	esigning e and co  Historic Internat Advanta observa	ropics/Activity  INTRODUCTION  al background  ional space laws  ages of space based  tions  ages of space based	e sensing Ter	system  t Book ference  T1  T1  R2	and al	so analyze the
CO4	Acquire and keep abresensor data for drawing  Out Comes / Bloom's Level  CO1: Understand the subject of satellite communication and remote sensing with the core knowledge of	Topics No.  1.1 1.2 1.3	esigning e and co  Historic Internat Advanta observa Advanta observa Global o Global o	ropics/Activity  INTRODUCTION al background ional space laws ages of space based tions ages of space based tions coverage coverage	e sensing Ter	system  t Book ference  T1  T1  R2  T1	and al	t Delivery Method  Chalk & Talk
CO4	Acquire and keep abresensor data for drawing  Out Comes / Bloom's Level  CO1: Understand the subject of satellite communication and remote sensing with the	ast of de inference No.  1.1 1.2 1.3 1.4 1.4 1.4 1.5	esigning e and co  Historic Internat Advanta observa Advanta observa Global o Global o Multi so	ropics/Activity  INTRODUCTION al background ional space laws ages of space based tions ages of space based tions coverage coverage cale observation	e sensing Ter	system  t Book ference  T1  T1  R2  T1  R2  R2  T1	and al	t Delivery Method  Chalk & Talk PPT, active
CO4	Acquire and keep abresensor data for drawing  Out Comes / Bloom's Level  CO1: Understand the subject of satellite communication and remote sensing with the core knowledge of	ast of de inference No.  1.1 1.2 1.3 1.4 1.4 1.5 1.6	esigning e and co  Historic Internat Advanta observa Advanta observa Global o Global o Multi so Repeat o	ropics/Activity  INTRODUCTION al background ional space laws ages of space based tions ages of space based tions coverage cale observation observation	Tex Re	system  t Book ference  T1  T1  R2  R2  R2  R2	and al	t Delivery Method  Chalk & Talk PPT, active learning and
CO4	Acquire and keep abresensor data for drawing  Out Comes / Bloom's Level  CO1: Understand the subject of satellite communication and remote sensing with the core knowledge of space and satellite	ast of de inference No.  1.1 1.2 1.3 1.4 1.4 1.4 1.5	esigning e and co  Historic Internat Advanta observa Advanta observa Global o Global o Multi so Repeat o	ropics/Activity  Topics/Activity  INTRODUCTION  Tal background  Topics based  Topics b	Tex Re	system  t Book ference  T1  T1  R2  T1  R2  R2  T1	and al	t Delivery Method  Chalk & Talk PPT, active learning and
CO4	Acquire and keep abresensor data for drawing  Out Comes / Bloom's Level  CO1: Understand the subject of satellite communication and remote sensing with the core knowledge of space and satellite communication	ast of de inference No.  1.1 1.2 1.3 1.4 1.4 1.5 1.6	esigning e and co  Internat Advanta observa Advanta observa Global o Global o Multi so Repeat o Immedi digital f	Topics/Activity  INTRODUCTION  al background  ional space laws  ages of space based  tions  ages of space based  tions  overage  coverage  cale observation  observation  ate transmission and  ormat  ate transmission and	Tex Re	system  t Book ference  T1  T1  R2  T1  R2  R2  T1	and al	t Delivery Method  Chalk & Talk PPT, active learning and

			Class Test -I		1	
		To	otal		12	
	T		2.PRINCIPLES OF REMOTE SE	NSING		
		2.1	Fundamentals of remote sensing signals	T1	1	
	CO2. Dovolon	2.2	The electromagnetic spectrum	R2	1	
	CO2: Develop different remote	2.3	Terms and units of measurements	T1	1	
	sensing signaling techniques capable	2,4	EM radiation laws	T1	1	
TT	of interpreting	2.5	Spectral signature in the solar spectrum	R1	1	
II	signature of satellite	2.6	vegetation reflectance	T1	1	
	communication	2.7	soil reflectance	T1	1	
	from bodies like	2.8	water in the solar spectrum	D2	1	
	soil, vegetation and ocean.	2.9	The thermal infrared domain characteristics of EM radiation in thermal infrared	R2 T1	1	
	and occan.	2.11	Thermal properties of vegetation Soils thermal domain	T1	1	
			Class Test-II		1	
		To	otal		12	
			3.SENSORS AND REMOTE SE	NSING SA	TELLITE	ES
		3.1	Types of sensors	R1	1	
		3.2	Spatial resolution and spectral resolution	T1	1	
	components used in	3.3	Temporal resolution and radiometric resolution	T1	1	Chalk & Talk,
	satellite	3.4	Passive sensors Photographic cameras	T1 R2	1	PPT, active
	communication and	3.6	Active scanners	T1	1	learning and
$\mathbf{m}$	remote sensing	3.7	Radar and Lidar		1	tutorial
	applications.	3.8	Satellite orbits	R2	1	
	applications.	3.9	Spot satellite	R1	1	
		3.10	High resolution satellites	T1	1	
		3.11	Polar and Geostationary satellites  Class Test-III	T1	1 1	
		T	otal		12	
		1	4.BASIS FOR INTERPRETATION	OF REM		SING
		4.1	Constraints in remote sensing	T1	1	
		4.2	Types of interpretation	T1	1	Chalk & Talk,
TV	CO4: Acquire and	4.3	Data acquisition	T1	1	PPT, active
IV	keep abreast of	4.3	Data acquisition	R3	1	learning and
	designing satellite	4.4	Thematic classification	T1	1	tutorial
	remote sensing system	4.4	Thematic classification	R2	1	
	Tolliote Selising System	4.5	Generation of Biophysical variables	R1	1	

CO4 keep desi rem and sens infe	gning satellite ote sensing system also analyze the sor data for drawing rence and	4.7 4.8 To 5.1 5.2 5.3 5.3 5.4 5.5 5.6 5.6	Spatial patterns Spatial patterns Interpretation phase Class Test-IV  Stal  5.PHOTOGRAPHIC Feature Identification Criteria for visual interpretation Brightness, color, Texture, Shadows Texture, Shadows Shape and size Stereoscopic view Visual analysis	R1 R2 T1 IMAGES R2 T1 T1 T1 T1 T1	1 1 1 1 1 1 1	Chalk & Talk
CO4 keep desi rem and sens infe	Acquire and abreast of gning satellite ote sensing system also analyze the sor data for drawing rence and	5.1 5.2 5.3 5.4 5.5 5.6	Interpretation phase Class Test-IV  5.PHOTOGRAPHIC Feature Identification Criteria for visual interpretation Brightness, color, Texture, Shadows Texture, Shadows Shape and size Stereoscopic view	T1 IMAGES R2 T1 T1 T1 T1	1 1 1 1 1 1 1	Chalk & Talk
CO4 keep desi rem and sens infe	Acquire and abreast of gning satellite ote sensing system also analyze the sor data for drawing rence and	5.1 5.2 5.3 5.4 5.5 5.6	Class Test-IV  5.PHOTOGRAPHIC  Feature Identification  Criteria for visual interpretation  Brightness, color, Texture, Shadows  Texture, Shadows  Shape and size  Stereoscopic view	IMAGES R2 T1 T1 T1 T1	1 1 12 1 1 1	Chalk & Talk
CO4 keep desi rem and sens infe	Acquire and abreast of gning satellite ote sensing system also analyze the sor data for drawing rence and	5.1 5.2 5.3 5.3 5.4 5.5 5.6	5.PHOTOGRAPHIC Feature Identification Criteria for visual interpretation Brightness, color, Texture, Shadows Texture, Shadows Shape and size Stereoscopic view	R2 T1 T1 T1 T1	1 1 1 1 1	Chalk & Talk
keep desi rem and sens infe	gning satellite ote sensing system also analyze the sor data for drawing rence and	5.1 5.2 5.3 5.3 5.4 5.5 5.6	Feature Identification Criteria for visual interpretation Brightness, color, Texture, Shadows Texture, Shadows Shape and size Stereoscopic view	R2 T1 T1 T1 T1	1 1 1 1	Chalk & Talk
keep desi rem and sens infe	gning satellite ote sensing system also analyze the sor data for drawing rence and	5.2 5.3 5.4 5.5 5.6	Feature Identification Criteria for visual interpretation Brightness, color, Texture, Shadows Texture, Shadows Shape and size Stereoscopic view	R2 T1 T1 T1 T1	1 1 1 1	Chalk & Talk
keep desi rem and sens infe	gning satellite ote sensing system also analyze the sor data for drawing rence and	5.2 5.3 5.4 5.5 5.6	Criteria for visual interpretation Brightness, color, Texture, Shadows Texture, Shadows Shape and size Stereoscopic view	T1 T1 T1 T1	1 1 1 1	Chalk & Talk
keep desi rem and sens infe	gning satellite ote sensing system also analyze the sor data for drawing rence and	5.3 5.4 5.5 5.6	Brightness, color, Texture, Shadows Texture, Shadows Shape and size Stereoscopic view	T1 T1 T1	1 1 1	Chalk & Talk
v and sens	gning satellite ote sensing system also analyze the sor data for drawing rence and	5.3 5.4 5.5 5.6	Texture, Shadows Shape and size Stereoscopic view	T1 T1	1 1 1	Chalk & Talk
v and sens	ote sensing system also analyze the sor data for drawing rence and	5.4 5.5 5.6	Shape and size Stereoscopic view	T1	1	Chalk & Talk
v and sens	also analyze the sor data for drawing rence and	5.5 5.6	Stereoscopic view		1	CIAVILLE OF THIS
v and sens	also analyze the sor data for drawing rence and	5.6		R1		PPT, active learning and tutorial
sens	sor data for drawing rence and		Vieual analysis		1	
infe	rence and	5.6	V 15that allaly 515	T1	1	
		5.0	Visual analysis	R1	1	
cone	011101010	5.7	Geometric characteristics of images	T1	1	
	conclusions.	5.8	Color composites	T1	1	
			Class Test		1	
			Course beyond Syllabus		1	
		To	otal		12	
			CUMULATIVE PROPOSED PI	ERIODS	60	
Text Books:	AUTHORS, BOOK TIT	TLE, ED	ITION, PUBLISHER, YEAR OF PUBL	LICATION		
1.Emilio Chuv	ieco, " Fundamentals of Sa	atellite Re	emote Sensing" CRC Press, Edition, 200	)9		
Reference Boo						
S.NO	<b>AUTHORS, BOOK TIT</b>	TLE, ED	ITION, PUBLISHER, YEAR OF PUBI	LICATION		
			ng, CRC press, Edition-2007.			
<ol><li>Satellite Con</li></ol>	munication by R N Mutag	gi Oxford	l university press, 2016.			
3,Enrico Del R	e, and Marina Ruggieri, S	atellite C	ommunication and navigation systems, S	pringer		
Web sources						

		Name	Signature
i.	Course Coordinator	Mr. V Srinivas	V. 802
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