



# SWARNANDHRA COLLEGE OF ENGINEERING & TECHNOLOGY (AUTONOMOUS)

Accredited by National Board of Accreditation, AICTE, New Delhi, Accredited by NAAC with "A" Grade – 3.32 CGPA, Recognized under 2(f) & 12(B) of UGC Act 1956, Approved by AICTE, New Delhi, Permanent Affiliation to JNTUK, Kakinada Seetharampuram, W.G.DT., Narsapur-534280, (Andhra Pradesh)

## DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

### TEACHING PLAN

Course Code	Course Title	Semester	Branches	Contact Periods /Week	Academic Year	Date of commencement of Semester
16CS6E03	MULTIMEDIA & APPLICATION DEVELOPEMENT	VI	CSE	6	2019-20	25/11/2019

#### **COURSE OUTCOMES**

1	Describe differences in color and how it relates to color theory.(K1)
2	Define the concepts of different Video signals, Audio signals and MIDI. (K2)
3	Explain the features of Action Script2.0 programming. (K3)
4	Describe the object oriented concepts of Action Script2.0. (K3)
5	Analyze the various data lossless and lossy compression techniques.(K4)
6	Explain and apply the video compression techniques and multimedia communication cross networks.(K5)

UNIT	Out Comes / Bloom's Level	Topics No.	Topics/Activity	Text Book / Reference	Contact Hour	Delivery Method
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#### **UNIT- I: MULTIMEDIA**

<b>I</b>	<b>CO1:</b> Describe differences in color and how it relates to color theory(K1)	1.1	Introduction	T1,R1	1	Chalk & Talk
		1.2	Multimedia and hypermedia	T1,R1	1	NPTEL
		1.3	World wide web	T1,R1	1	Chalk & Talk
		1.4	Overview of multimedia software tools	T1,R1	1	Web Resource
		1.5	Graphics and image data representation	T1,R1	1	Chalk & Talk
		1.6	Graphics/image data types	T1,R1	1	Chalk & Talk
		1.7	File formats	T1,R1	1	PPT
		1.8	Color science	T1,R1	1	Chalk & Talk
		1.9	Color models in images	T1,R1	1	NPTEL
		1.10	Color models in video	T1,R1	1	Chalk & Talk
			Content beyond syllabus	4K HD monitors	T1,R1	1

**Total**

**11**



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UNIT-II: VIDEO & AUDIO SIGNALS						
<b>II</b>	<b>CO2:</b> Define the concepts of different Video signals, Audio signals and MIDI (K2)	2.1	Types of video signals	T1	1	Chalk & Talk
		2.2	Analog video	T1	1	PPT
		2.3	Digital video	T1	1	Web Resources
		2.4	Digitization of sound	T1	1	Chalk & Talk
		2.5	MIDI	T1	1	Chalk & Talk
		2.6	Structure of MIDI Messages	T1	1	Chalk & Talk
		2.7	Quantization and transmission of audio	T1	1	NPTEL
		2.8	DPCM, DM, APDCM	T1	1	NPTEL
		Content beyond syllabus	Signal image and vision technologies.	T1	1	PPT
<b>Total</b>					<b>9</b>	
UNIT-III: ACTION SCRIPT I						
<b>III</b>	<b>CO3:</b> Explain the features of ActionScript 2.0 programming (K3)	3.1	ActionScript I: Action Features	T2,R2	1	Chalk & Talk
		3.2	Object-Oriented ActionScript	T2,R2	1	Chalk & Talk
		3.3	Datatypes	T2,R2	1	Web Resources
		3.4	Type Checking	T2,R2	1	Chalk & Talk
		3.5	Classes	T2,R2	1	PPT
		3.6	Authoring an Action	T2,R2	1	Chalk & Talk
		3.7	Completing the Box Class	T2,R2	1	Chalk & Talk
		3.8	Properties and methods	T2,R2	1	Chalk & Talk
		3.9	Script Class	T2,R2	1	Chalk & Talk
		3.10	Constructor functions	T2,R2	1	Chalk & Talk
		Content beyond syllabus	Building a simple Driving game	T2,R2	1	PPT
<b>Total</b>					<b>11</b>	
UNIT-IV: ACTION SCRIPT II						
<b>IV</b>	<b>CO4:</b> Describe the object oriented concepts of ActionScript 2.0. (K3)	4.1	ActionScript II : Inheritance	T2	1	Chalk & Talk
		4.2	ActionScript II : Features	T2	1	Chalk & Talk
		4.3	Authoring an Action Script 2.0 Subclass	T2	1	Chalk & Talk
		4.4	Built in dynamic classes	T2	1	Chalk & Talk
		4.5	Interfaces	T2	1	NPTEL
		4.6	Multiple type Inheritance with interface	T2	1	NPTEL
		4.7	Packages	T2	1	Chalk & Talk
		4.8	Simulating packages	T2	1	Chalk & Talk
		4.9	Exceptions	T2	1	Web Resources
		4.10	Exception bubbling	T2	1	Web Resources

Name

Signature with Date



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		Content beyond syllabus	Flash player based applications	T2	1	PPT
				<b>Total</b>	<b>11</b>	
<b>UNIT-V: MULTIMEDIA DATA COMPRESSION</b>						
<b>V</b>	<b>CO5:</b> Analyze the various data lossless and lossy compression techniques(K4)	5.1	Datacompression	T1	1	Chalk & Talk
		5.2	Lossless compression algorithm	T1	1	Chalk & Talk
		5.3	Run-Length Coding, Variable Length Coding	T1	1	Chalk & Talk
		5.4	Dictionary Based Coding, Arithmetic Coding	T1	1	NPTTEL
		5.5	Lossy compression algorithm	T1	1	Chalk & Talk
		5.6	Variable Length and Huffman Coding	T1	1	PPT
		5.7	Quantization	T1	1	Web Resources
		5.8	Wavelet-Based Coding	T1	1	PPT
		5.9	Transform Coding	T1	1	Chalk & Talk
		5.10	DCT	T1	1	Chalk & Talk
		5.11	Embedded Zerotree of Wavelet	T1	1	Chalk & Talk
		5.12	Coefficients Set Partitioning in Hierarchical Trees (SPIHT).	T1	1	Chalk & Talk
		Content beyond syllabus	EBCOT compression technique	T1	1	PPT
				<b>Total</b>	<b>13</b>	
<b>UNIT-VI: BASIC VIDEO COMPRESSION TECHNIQUES</b>						
<b>VI</b>	<b>CO:6</b>	6.1	Introduction	T1	1	Chalk & Talk
		6.2	Compression techniques	T1	1	Chalk & Talk
		6.3	Compression based on motion compensation	T1	1	Chalk & Talk
		6.4	Search for motion vectors	T1	1	Chalk & Talk
		6.5	MPEG	T1	1	Web Resources
		6.6	MPEG1	T1	1	Web Resources
		6.7	MPEG2	T1	1	Web Resources
		6.8	Basics of Multimedia Networks.	T1	1	Chalk & Talk
		6.9	Network Communications and Applications of Multimedia over IP.	T1	1	Chalk & Talk
		6.10	Media-on-Demand(MOD).	T1	1	Chalk & Talk
		6.11	ITV & STB.	T1	1	PPT
		6.12	Broadcast schemes.	T1	1	PPT
		Content beyond syllabus	H.264/AVC, MPEG-4 part 10 compression standards.	T1	1	PPT
				<b>Total</b>	<b>13</b>	



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CUMULATIVE PERIODS		68
<b>Text Books:</b>		
S.No.	AUTHORS, BOOK TITLE, EDITION, PUBLISHER, YEAR OF PUBLICATION	
1	Ze-Nian Li and Mark S.Drew ,Fundamentals of Multimedia ,2 <sup>nd</sup> Edition, PHI, 2014	
2	Colin Moock ,Essential ActionScript 2.0,3 <sup>rd</sup> Edition,O' REILLY, 2017	
<b>Reference Books:</b>		
S.No.	AUTHORS, BOOK TITLE, EDITION, PUBLISHER, YEAR OF PUBLICATION	
1	Nigel Chapman and Jenny Chapman, Digital multimedia,3 <sup>rd</sup> Edition, Wiley, 2016	
2	Julius Azasoo,Multimedia Tools & Applications ,1 <sup>st</sup> Edition ,Creative Commons,2018	
3	Peters, KeithFoundation Actionsript 3.0 Animation, 3 <sup>rd</sup> Edition,Apress,2016	
<b>Web Details</b>		
1	<a href="https://doi.crossref.org/simpleTextQuery">https://doi.crossref.org/simpleTextQuery</a>	
2	<a href="http://libguides.luc.edu/c.php?g=49783&amp;p=320638">http://libguides.luc.edu/c.php?g=49783&amp;p=320638</a>	
3	<a href="https://www.w3schools.com">https://www.w3schools.com</a>	

i.	Faculty	K.Devi Prasanna	
ii.	Faculty II (for common Course)	P.Ravi Kiran	
iii.	Course Coordinator	K.Devi Prasanna	
iv.	Module Coordinator	K.Rajesh Kumar	
v.	Programme Coordinator	Dr.P.Srinivasulu	

**Principal**