

<p style="text-align: center;">Certificate in</p> <p style="text-align: center;">Multi-media Technology & D.T.P</p> <p style="text-align: center;">under SCVT Craftsman Training Scheme</p>

**Certificate in
Multi-media Technology & D.T.P
under SCVT Craftsman Training Scheme**

Eligibility : 12th Class pass under 10+2 system or duly recognized Diploma in Engineering from any AICTE approved Polytechnic Diploma of 3yrs duration after class 10th.

Fees : 25,000/-

Age : As per Department's normal ITI Admission norms

Duration of Training : 52 Weeks (1 year) @ 30 hrs/week.
- 2 hrs/week for Library
- 2 hrs/week for Week End Exam
- 2 hrs/week for Extra Curricular Activity

Total : 6 hrs/week

30 - 6 = 24 hrs/week total course hours.

Total Practical hrs/week : 12 hrs

Total Theory hrs/week : 12 hrs

Total of hours for Course : 52 x 24 hrs = 1248 hrs

Total no. of hours for Practical : 52 x 12 hrs = 624 hrs

Total no. of hours for Theory : 52 x 12 hrs = 624 hrs

Total no. of students : 25

Objectives of the Course :

- 1) Learning the basic of designing and animation.
- 2) A student can create the advertisement.
- 3) To attain optimum skill level for applied art technology.
- 4) Learning various packages on CorelDRAW 9.0, PageMaker 6.5, Photoshop 5.5, 2D/3D animation etc..
- 5) A student can successfully do Project work.

Minimum Hardware and Furniture Required for Multi-media Technology & D.T.P Trade under the aegis of SCVT pattern

Sr. No.	Hardware and Furniture Specification	Quantity Reqd. for 4 Batches
1	Server With P- III or P- IV Processor @ 500 MHz. with 128 MB RAM, 10.2 GB HDD 1.44 MB FDD 16 Bit Ethernet Card 52 x CD ROM Drive SVGA Color Monitor 101 Keyboard, Mouse, 56.6 Kbps Modem, Sound Card and Speakers + Microphone Fax Modem Card Connected through Telephone with internet Connection along with web Camera and Mpeg Encoder	1
2	Nodes With P-III Processors @ 500 MHz. with 64 MB RAM, 52 x CD ROM Drive, Sound Card and Speakers + Microphone 10.2 GB HDD 1.44 MB FDD 16 Bit Ethernet Card SVGA Color Monitor 101 Keyboard, Mouse	25
3	5 KVA stabilizer	2
4	0.5 KVA UPS for Server	1
5	16 Port Hub for LAN RJ 45 Connectors an UTP cable	2 Hubs (Cable and Connectors as per requirement)
6	132 Column Dot Matrix Printer	1
7	DeskJet or Laser or Inkjet Printer	1
8	Scanner	1
9	Window A.C. With 1.5 and 2 ton capacity	2 (one of 1.5 ton / one of 2 ton)
10	Vacuum Cleaner	1
11	Computer tables with Sunmica top having sliding tray for keyboard and one shelf for storage	25
12	Student Chairs with castor and adjustable height having cushion	25
13	Cushion fix chairs with rest arm and movable writing pad support	25
14	White Board	2
15	Over Head Projector or any other Multi-media type display device	1

Note : Each Batch Comprising of 25 Students.

Software Required for Multi-media Technology & D.T.P Trade under the aegis of SCVT pattern

Software Specification
Windows NT (Server), Windows NT (Workstation)/Windows'98 , Flash 4.0, CorelDRAW 9.0, Adobe PageMaker 6.5, Adobe PhotoShop 5.5, 3D Studio MAX, MS-Office 2000, Proxy Server. All Softwares should be licensed version.

Faculty Qualification :Diploma in Computer Science/Computer Application/Computer Technology (2 years OR more) by any Institution approved by AICTE. OR BCA (3 year course) or MCA or BE (Computer Science) from any recognized university.

In addition to above, the faculty should have minimum 3 years of teaching experience in any reputed Computer Institute in respect of topics covered in the course.

Faculty Requirement :**FOR ONE BATCH** Minimum 2 faculties are needed with above qualification for 1 batches each of 25 students. (1 Faculty for theory and 1 faculties as a lab coordinator)
FOR TWO BATCHS Minimum 3 faculties are needed with above qualification for 2 batches each of 25 students. (1Faculty for theory and 2 faculties as a lab coordinator)

Note : Theory and practical should be conducted simultaneously for each batch of 25 students

Area Requirement :For Practical Lab : 300 Sq. ft.
For Theory room : 200 Sq. ft.
For library room : 150 Sq. ft.

Office Space, Pantry, etc.. should be there. Separate Toilet Facility for ladies and gents should be there.

Total Area requirement for Institute is 1200 Sq. Ft. minimum.

Reference Books : Mastering 3D Studio Max R3, Tech Yourself PageMaker 6.5, Mastering Photoshop 5.5, flash 5 - Visual Jumpstart 3D Graphics & Animation from starting up to standing out, Mastering CorelDraw 9.0, ABC's of Windows'98, Computer Basics.

Exam Pattern :1Hour Theory (100 marks) & 2 hours Practical (300 marks). Mid-term exam should be conducted after six months. Final examination should be conducted at the end of the course.

**Multi-media Technology & D.T.P
Topics and Duration**

Sr. No.	Topics	Duration of course in week	Total Theory hrs.	Total Practical hrs.
1	Computer Fundamental & Windows'98 / Windows NT 4.0	3	36	36
2	Adobe PageMaker 6.5	5	60	60
3	CorelDRAW 9.0	10	120	120
4	Adobe Photoshop 5.5	10	120	120
5	Flash 4.0 & Multi-media Application	12	144	144
6	3D Studio MAX	8	96	96
7	Project	4	48	48
	Total Hours	52 weeks	624 hrs	624 hrs

Computer Fundamentals Week wise Break-up

WEEK 1

INTRODUCTION TO COMPUTER

- BOOTING PROCESS
- WHAT IS COMPUTER?
- HISTORY OF COMPUTER
 - A TRIBUTE TO THE PAST
 - GENERATIONS OF COMPUTER
- TYPES OF COMPUTERS
 - MICRO COMPUTER
 - MINI COMPUTER
 - MAIN FRAMES
 - SUPER COMPUTER
- APPLICATIONS OF COMPUTERS
- ADVANTAGES OF COMPUTERS
- COMPUTERS AND HUMAN BEINGS
- BASIC COMPUTER ORGANIZATION
 - INPUT DEVICES
 - MEMORY
 - PROCESSOR
 - OUTPUT DEVICES
- UNITS OF MEMORY
- TYPES OF MEMORY
- STORAGE DEVICES
 - TAPES
 - DISKS
- DIFFERENCE BETWEEN DATA AND INFORMATION
- NEED OF INFORMATION

WEEK 2

- TYPES OF PROGRAMMING LANGUAGES
 - HIGH LEVEL LANGUAGES
 - LOW LEVEL LANGUAGES
- DATA ORGANIZATION
- WHAT ARE DATA FILES
- WHAT ARE PROGRAM FILES
- WHAT ARE BATCH FILES

- WHAT ARE COMMAND FILES
- THE NUMBERING SYSTEMS
- DECIMAL SYSTEM
- BINARY SYSTEM
- BINARY CODED SYSTEM
- WHAT ARE ASCII TEXT FILES
- ROLE OF ROM-BIOS IN A COMPUTER SYSTEM
- SOFTWARE
- DIFFERENT TYPES OF SOFTWARE
 - SYSTEM SOFTWARE
 - APPLICATION SOFTWARE
 - CUSTOM SOFTWARE
- INTERPRETERS
- COMPILERS
- ASSEMBLERS
- EDITORS
- HARDWARE
- TYPES OF COMPUTER HARDWARE
- LATEST IN COMPUTER HARDWARE

Windows'98

WEEK 3

- GETTING STARTED WITH WINDOWS'98
- UNDERSTANDING WINDOWS
 - MAXIMIZING/MINIMIZING WINDOWS
 - MOVING/CLOSING/ENLARGING WINDOWS
 - USING SYSTEM MENU
 - WINDOWS TOOLBAR
- TASK BAR
- START BUTTON
- ACTIVE DESKTOP
- MANAGING DESKTOP
- MY COMPUTER WINDOW
- CONTROL PANEL
- WINDOWS'98 EXPLORER
- WINDOWS HELP
- MS-DOS AND WINDOWS'98
- WINDOWS'98 ACCESSORIES
- INSTALLED APPLICATION/UNINSTALL APPLICATION
- WINDOWS SETUP PAGE
- PAINT
- WORDPAD
- NOTEPAD
- CALCULATOR

Adobe Pagemaker 6.5

WEEK 4

INTRODUCTION TO PAGEMAKER 6.5

- HARDWARE REQUIREMENTS FOR PAGEMAKER 6.5
- WHAT IS NEW IN PAGEMAKER 6.5
- HOW TO INSTALL PAGEMAKER 6.5
- HOW TO START PAGEMAKER 6.5

PAGEMAKER 6.5 OPENING SCREEN

- MENU BAR
- TOOLBOX
- CONTROL PALETTE

WEEK 5

MENU BAR INTRODUCTION

- FILE MENU
- EDIT MENU
- LAYOUT MENU
- TYPE MENU
- ELEMENT MENU
- UTILITIES MENU
- VIEW MENU
- WINDOW MENU

WEEK 6

TOOL BOX INTRODUCTION

- POINTER TOOL
- TEXT TOOL
- ROTATE TOOL
- CROPPING TOOL
- LINE TOOL
- CONSTRAINED LINE TOOL
- RECTANGLE TOOL
- RECTANGLE FRAME TOOL
- ELLIPSE TOOL
- ELLIPSE FRAME TOOL
- POLYGON TOOL
- POLYGON FRAME TOOL
- HAND TOOL
- ZOOM TOOL

WEEK 7

CONTROL PALETTE INTRODUCTION

- CHARACTER VIEW
- PARAGRAPH VIEW
- OBJECT VIEW

WORKING WITH PALETTES

- COLOR PALETTE
- STYLES PALETTE
- LAYERS PALETTE
- MASTER PAGES PALETTE
- HYPERLINK PALETTE
- LIBRARY PALETTE

- SCRIPTS PALETTE

WEEK 8

USES OF GUIDES

- SHOW/HIDE GUIDES
- SNAP TO GUIDE
- LOCK GUIDE
- CLEAR RULER GUIDE
- SEND GUIDE TO BACK
- BRING GUIDE TO FRONT

CorelDraw 9.0

WEEK 9

INTRODUCTION TO CORELDRAW 9.0

- HARDWARE REQUIREMENT FOR CORELDRAW 9.0
- HOW TO INSTALL CORELDRAW 9.0
- HOW TO START CORELDRAW 9.0
- OPENING SCREEN OF CORELDRAW 9.0

INTRODUCTION OF TOOL BOX

- PICK TOOL
- SHAPE TOOL
- ZOOM TOOL
- FREEHAND TOOL
- RECTANGLE TOOL
- ELLIPSE TOOL
- POLYGON TOOL
- TEXT TOOL
- INTERACTIVE FILL TOOL
- INTERACTIVE TRANSPARENCY TOOL
- INTERACTIVE BLEND TOOL
- EYE DROPPER TOOL
- OUTLINE TOOL
- FILL TOOL

FILE MENU

- NEW
- NEW FROM TEMPLATE
- OPEN
- CLOSE
- SAVE
- SAVE AS
- REVERT
- ACQUIRE IMAGE
- IMPORT
- EXPORT
- SEND
- PRINT
- PRINT PREVIEW
- PRINT SETUP
- DOCUMENT INFO
- VERSION CONTROL

- EXIT

WEEK 10

EDIT MENU

- UNDO PASTE
- REDO
- REPEAT
- CUT
- COPY
- PASTE
- PASTE SPECIAL
- DELETE
- DUPLICATE
- CLONE
- SELECT ALL
- PROPERTIES
- COPY PROPERTIES FROM
- FIND AND REPLACE
- INSERT NEW OBJECT
- INSERT BAR CODE

WEEK 11

VIEW MENU

- SIMPLE WIRE FRAME
- WIRE FRAME
- DRAFT
- NORMAL
- ENHANCE
- FULL SCREEN PREVIEW
- PREVIEW SELECTED ONLY
- COLOR PALETTE
- SCRAPBOOK
- ROLL UPS
- DOCKERS
- TOOLBARS
- PROPERTY BAR
- STATUS BAR
- RULERS
- GRID
- GUIDE LINES
- PRINTABLE AREA
- OVERPRINTED OBJECTS
- TEXT FRAMES

WEEK 12

LAYOUT MENU

- INSERT PAGE
- DELETE PAGE
- RENAME PAGE
- GOTO PAGE
- PAGE SETUP
- OBJECT MANAGER
- GRAPHIC AND TEXT STYLES
- COLOR STYLES

- GUIDE LINE SETUP
- SNAP TO GRID
- SNAP TO GUIDELINES
- SNAP TO OBJECTS

WEEK 13

ARRANGE MENU

- TRANSFORM
- CLEAR TRANSFORMATIONS
- ALIGN AND DISTRIBUTE
- ORDER
- GROUP
- UNGROUP
- UNGROUP ALL
- COMBINE
- BREAK APART
- LOCK OBJECT
- UNLOCK OBJECT
- INTERSECTION
- TRIM
- WELD
- SEPARATE
- CONVERT TO CURVES

WEEK 14

EFFECT MENU

- COLOR ADJUSTMENT
- TRANSFORM
- ARTISTIC MEDIA
- LENS
- ADD PERSPECTIVE
- POWER CLICK
- CLEAR EFFECT
- COPY EFFECT
- CLONE EFFECT

WEEK 15

BITMAP MENU

- CONVERT TO BITMAP
- EDIT BITMAP
- CROP BITMAP
- TRACE BITMAP
- RESAMPLE
- INFLATE BITMAP
- BITMAP COLOR MASK
- RESOLVE LINK
- UPDATE FROM LINK
- 3D EFFECTS
- ART STROKES
- BLUR
- COLOR TRANSFORM
- CONTOUR
- CREATIVE
- DISTORT

- NOISE
- SHARPEN
- PLUG-INS

WEEK 16

TEXT MENU

- FORMAT TEXT
- EDIT TEXT
- FIT TEXT TO PATH
- FIT TEXT TO FRAME
- ALIGN TO BASELINE
- STRAIGHTEN TEXT
- WRITING TOOL
- CHANGE CASE
- MAKE TEXT HTML COMPATIBLE
- CONVERT
- TEXT STATISTICS
- SHOW NON PRINTING CHARACTERS

WEEK 17

TOOLS MENU

- OPTIONS
- OBJECT MANAGER
- COLOR MANAGEMENT
- PALETTE EDITOR
- COLOR STYLES
- GRAPHIC AND TEXT STYLES
- CREATE
- COLOR SCRIPTS

WEEK - 18

WINDOW MENU

- NEW WINDOW
- CASCADE
- TILE HORIZONTALLY
- TILE VERTICALLY
- ARRANGE ICON
- COLOR PALETTES
- TOOLBARS
- CLOSE
- CLOSE ALL
- REFRESH WINDOW

Adobe Photoshop 5.5

WEEK 19

INTRODUCTION TO PHOTOSHOP 5.5

- HARDWARE REQUIREMENTS FOR PHOTOSHOP 5.5
- WHAT IS NEW IN PHOTOSHOP 5.5
- HOW TO INSTALL PHOTOSHOP 5.5
- HOW TO START PHOTOSHOP

Photoshop 5.5 Opening Screen

- MENU BAR
- TITLE BAR
- TOOLBOX
- STATUS BAR
- PALLETS

Different Menus in Photoshop 5.5

File Menu

- NEW
- OPEN
- OPEN AS
- CLOSE
- SAVE
- SAVE AS
- SAVE A COPY
- REVERT
- PLACE
- IMPORT
- EXPORT
- AUTOMATE
- FILE INFO
- PAGE SETUP
- PRINT
- JUMP TO
- PREFERENCE
- COLOR SETTING
- ADOBE ONLINE
- EXIT

Week 20

Edit Menu

- UNDO
- CUT
- COPY
- COPY MERGED
- PASTE
- PASTE INFO
- CLEAR
- FILL
- STROKE
- FREE TRANSFORM
- TRANSFORM
- PURGE

Week 21

Image Menu

- MODE
- ADJUST
- DUPLICATE
- APPLY IMAGE
- CALCULATION
- IMAGE SIZE
- CANVAS SIZE

- CROP
- ROTATE CANVAS
- HISTOGRAM
- TRAP

WEEK 22

Layer Menu

- NEW
- DUPLICATE LAYER
- DELETE LAYER
- LAYER OPTION
- ADJUSTMENT OPTION
- EFFECTS
- TYPE
- ADD LAYER MASK
- ENABLE LAYER MASK
- DISABLE LAYER MASK
- GROUP WITH PREVIOUS
- UNGROUP
- ARRANGE
- ALIGN LINKED
- DISTRIBUTE LINKED
- MERGE LAYER
- MERGE VISIBLE
- FLATTEN IMAGE

Week 23

Select Menu

- ALL
- DESELECT
- RESELECT
- INVERSE
- COLOR RANGE
- FEATHER
- MODIFY
- GROW
- SIMILAR
- TRANSFORM SELECTION
- LOAD SELECTION
- SAVE SELECTION

Week 24

Filter Menu

- ARTISTIC
- BLUR
- BRUSH STROKES
- DISTORT
- NOISE
- PIXELATE
- RENDER
- SHARPEN
- SKETCH
- STYLIZE
- TEXTURE

- VIDEO
- OTHER

Week 25

View Menu

- NEW VIEW
- PREVIEW
- GAMUT WARNING
- ZOOM IN
- ZOOM OUT
- FIT ON SCREEN
- ACTUAL PIXEL
- PRINT SIZE
- SHOW/HIDE PATH
- SHOW/HIDE EDGES
- SHOW/HIDE GUIDES
- LOCK GUIDE
- CLEAR GRID
- SHOW/HIDE GRID
- SNAP TO GRID

WEEK 26

Window Menu

- CASCADE
- TITLE
- ARRANGE ICON
- CLOSE ALL
- SHOW TOOLS
- SHOW NAVIGATOR
- SHOW INFO
- SHOW OPTIONS
- SHOW COLOR
- SHOW CHANNELS
- SHOW PATHS
- SHOW HISTORY
- SHOW STATUS BAR

Week 27

Introduction to Photoshop Toolbars

- MARQUEE TOOL & ITS SUBTOOLS
- MOVE TOOL & ITS SUBTOOLS
- LASSO TOOL & ITS SUBTOOLS
- STAMP TOOL & ITS SUBTOOLS
- HISTORY BRUSH TOOL & ITS SUBTOOLS
- PENCIL TOOL & ITS SUBTOOLS
- BLUR TOOL & ITS SUBTOOLS
- DODGE TOOL & ITS SUBTOOLS
- PEN TOOL & ITS SUBTOOLS
- TYPE TOOL & ITS SUBTOOLS
- GRADIENT TOOL & ITS SUBTOOLS
- MAGIC TOOL
- AIRBRUSH TOOL
- PAINT BRUSH TOOL
- ERASER TOOL

- MEASURE TOOL
- PAINT BUCKET TOOL
- EYE DROPPER TOOL
- HAND TOOL
- ZOOM TOOL

Week 28

Working with Palettes

- NAVIGATOR PALLET
- INFO PALLET
- OPTIONS PALLET
- COLOR PALLET
- SWATCHES PALLET
- BRUSHES PALLET
- LAYER PALLET
- CHANNELS PALLET
- PATHS PALLET
- HISTORY PALLET
- ACTIONS PALLET

Macro-media FLASH 4.0

Week 29

FLASH BASICS

- AN OVERVIEW OF FLASH
- INTRODUCTION TO FLASH 4 INTERFACE
- BASIC FLASH MOVEMENT

CREATING WITH FLASH

- LAYERS
- FLASH ROTATION AND SCALING
- FLASH DRAWING TOOLS:
 - LINE
 - OVAL
 - RECTANGLE
 - FREEFORM
 - SYMBOLS
- USING INSTANCES OF SYMBOLS IN YOUR FLASH MOVIE
- CHANGING ALL INSTANCES BY CHANGING THE SYMBOL IN FLASH
- USING A BUTTON SYMBOL INSTANCE IN YOUR FLASH MOVIE
- ADDING INTERACTIVITY
- USING MOTION GUIDES

Week 30

SHAPE TWEENING

- FLASH SHAPE TWEENING

SOUNDS

- ORGANISING SOUNDS IN YOUR FLASH MOVIE
- IMPORTING A SOUND (.WAV) FILE INTO YOUR FLASH MOVIE
- ADDING A SOUND LOOP TO YOUR FLASH MOVIE
- ADDING OVERLAPPING EVENT SOUNDS TO YOUR FLASH MOVIE

- STOPPING SOUNDS IN YOUR FLASH MOVIE

Multi-media Application

WEEK 31

INTRODUCTION TO MULTIMEDIA

- STRUCTURE OF THE COURSE AND LAB
- WHAT IS MULTIMEDIA
- APPLICATIONS
- BRAINSTORM: A SIMPLE APPLICATION

DEMONSTRATIONS

- MULTIMEDIA PRESENTATIONS WITH ASTOUND
- SOUND EDITING WITH SOUND FORGE
- MUSIC EDITING WITH CAKEWALK
- BITMAP EDITING WITH PHOTOSHOP
- VIDEO EDITING WITH PREMIERE
- 3-D GRAPHICS WITH 3-D STUDIO

Week 32

ANALOG TO DIGITAL

- SIGNALS AND WAVES
- PERIODIC WAVES
- FREQUENCY COMPONENTS
- TRANSDUCERS
- COMMUNICATION SYSTEMS
- FILTERING
- MODULATION
- SAMPLING
- ANALOG VS DIGITAL
- PROBLEMS WITH ANALOG COMPONENTS
- ADVANTAGES OF DIGITAL
- CONVERTING ANALOG TO DIGITAL
- FIDELITY
- NOISE
- POWER RATIOS AND SNR
- CONVERTING ANALOG TO DIGITAL

COMPRESSION

- COMPRESSION
- ENTROPY
- SOURCE CODING
- HUFFMAN CODES
- VOCODERS
- RUN-LENGTH ENCODING
- PREDICTIVE ENCODING
- μ -LAW ENCODING
- DIFFERENTIAL PCM
- ADAPTIVE DPCM
- LZW COMPRESSION
- COMPRESSION RESULTS

WEEK 33

QUALITY OF SERVICE

- TIME AND MULTIMEDIA
- DEFINITIONS
- TIMING FUNCTIONS
- EDITING
- TIMING CODES
- ABSOLUTE TIMING CODES
- SPECIFICATION OF RELATIVE TIMING
- SYNCHRONIZATION REQUIREMENTS
- QUALITY OF SERVICE
- QOS EXAMPLES
- REDUCING JITTER
- HANDLING LATE ARRIVALS

REAL-TIME SCHEDULING

- COMPUTER SYSTEM CLOCKS
- DEFINITIONS
- INTERRUPTS
- REAL-TIME OPERATING SYSTEMS
- AN EXAMPLE TASK SET
- NON-REAL-TIME: FCFS
- NON-REAL-TIME: RR
- RATE MONOTONIC SCHEDULING
- EARLIEST DEADLINE FIRST
- COMPLICATIONS

WEEK 34

COMPACT DISKS

- THE CD FAMILY
- COMPACT DISC FEATURES
- CD CONSTRUCTION
- CD RADIAL ASSIGNMENT
- CONSTANT LINEAR VELOCITY
- AUDIO CD DRIVES
- ERROR CORRECTION
- TERMINOLOGY
- CHANNELS
- Q CHANNEL
- CD TRACKS
- CD-DA
- CD-ROM
- CD-ROM SECTOR
- MODE 1 SECTOR
- MODE 2 SECTOR
- MIXED-MODE CD
- CD-ROM ISO 9660
- CD-I
- CD-I AUDIO ENCODING
- CD-I VIDEO
- CD-ROM XA
- CD-R, OR CD-WO
- PHOTO-CD
- CD-ROM DRIVES

DISKS AND BUSES

- MAGNETIC DISKS
- A/V MAGNETIC DISKS
- VIDEO CAPTURE TO DISK
- IDE DISK INTERFACE
- ENHANCED IDE
- SCSI DISK INTERFACE
- DISK BLOCK CACHING
- DISK ARRAYS (RAID)
- DEVICE DRIVERS
- SINGLE VS. MULTIPLE BUSES
- BUS TRANSFERS
- PC INTERRUPT PRIORITIES
- DIRECT MEMORY ACCESS (DMA)
- ISA BUS
- PCI BUS
- PLUG-AND-PLAY

WEEK 35

MEDIA CONTROL INTERFACE

- THE MEDIA CONTROL INTERFACE
- DEVICE DRIVERS
- TYPES OF MCI DEVICES
- USING THE MCI VBX
- PROPERTIES OF MM CONTROLS
- READ-ONLY PROPERTIES
- EVENTS
- MCISENDCOMMAND
- TYPES OF COMMANDS
- EX. MCISENDCOMMAND
- EXAMPLE: WAVE AUDIO

WEEK 36

COMPUTER AUDIO

- PITCH PERCEPTION
- PITCH (cont.)
- HARMONICS
- UNPITCHED SOUNDS
- VOLUME
- AMPLITUDE CHANGES
- MASKING
- AUDIO EQUIPMENT
- AUDIO QUALITY
- MICROPHONES
- PROPAGATION AND NOISE
- IMPEDANCE
- MATCHING IMPEDANCES
- AUDIO CONNECTORS (PLUGS)
- SIGNAL STRENGTHS
- AMPLIFIERS
- SPEAKERS
- DIGITAL PROPAGATION
- DIGITAL TAPE RECORDERS
- EDITING SOUND
- EDITING WITH SOUND FORGE

- REFLECTION FROM SURFACES
- DETERMINING SOUND LOCATION
- SYNTHESIZING LOCATION CUES

COMPUTER MUSIC

- MIDI
- MIDI ADVANTAGES
- MIDI HARDWARE
- MIDI COMMANDS
- GENERAL MIDI
- MIDI CHANNELS
- CHANNEL MESSAGES
- CONTINUOUS CONTROLLERS
- PRESETS
- MIDI SYSTEM MESSAGES
- MIDI TIME
- MIDI SEQUENCERS
- MUSIC NOTATION
- CAKEWALK DEMO
- SYNTHESIZERS
- TYPES OF SYNTHESIS
- SUBTRACTIVE SYNTHESIS
- SUBTRACTIVE MODULATION
- FM SYNTHESIS
- FM SYNTH OPERATORS
- WAVETABLE SYNTHESIS
- PITCH VARIATION / COMPRESSION
- QUALITY
- SOUND CARD FUNCTIONS
- EXTERNAL CONNECTIONS
- COMPATIBILITY
- SAMPLING RATES AND PRECISION
- SCHEDULING SOUND
- SIGNAL PROCESSING

Week 37

IMAGES

- VIDEO SYSTEM PROPERTIES
- MONITORS
- RASTER SCANNING
- SCREEN SIZE
- SCREEN RESOLUTION
- COLOR RESOLUTION
- CAMERAS
- CAMERAS (cont.)
- GREY-SCALE RESOLUTION
- SCREEN RESOLUTION VS. COLOR RESOLUTION
- COLOR SYSTEMS
- LUMINANCE + CHROMINANCE
- CMYK SYSTEM
- COLOR ACCURACY
- COLOR STANDARDS
- COLOR LOOKUP
- COLOR DITHERING STEPS
- PICKING THE PALLETTE
- MAPPING TO PALLETTE

- ERROR DIFFUSION
- WARPING
- MORPHING
- PHOTOSHOP DEMO

IMAGE PROCESSING

- DIGITAL IMAGES
- IMAGE ACQUISITION
- ARITHMETIC OPERATIONS ON IMAGES
- IMAGE CHARACTERISTICS AND MEASUREMENTS
- ALTERING CONTRAST AND BRIGHTNESS
- SMOOTHING OR BLURRING
- EDGE DETECTION AND SHARPENING

Week 38

GRAPHIC COMPRESSION

- COMPUTER VIDEO REQUIREMENTS
- COMPONENT SPEEDS
- SOLUTIONS?
- RUN LENGTH COMPRESSION
- HUFFMAN ENCODING
- PREDICTIVE
- GRAPHICS FILE INFO
- BMP
- XBM
- GIF
- JPEG
- JPEG COMPRESSION MODES
- SEQUENTIAL ENCODING
- DISCRETE COSINE TRANSFORM
- QUANTIZATION
- ZIG-ZAG ORDERING
- MPEG

COMPUTER VIDEO

- STANDARDS
- VIDEO SYSTEM PROPERTIES
- ANALOG SIGNALS
- FRAME RATES
- MULTI-SYNC MONITORS
- CONVENTIONAL TV (NTSC)
- VHS
- S-VHS
- HDTV
- FILM
- COMPUTER VIDEO
- CONVERTING BETWEEN STANDARDS
- RECORDING
- VIDEO SYSTEM ARCHITECTURE
- VIDEO CONTROLLER / ACCELERATOR
- FRAME CAPTURE
- VIDEO CAPTURE FEATURES
- VIDEO IN A WINDOW
- VIDEO ENCODER
- FRAME RECORDER
- GRAPHICS COMMANDS

Week 39

MPEG VIDEO COMPRESSION

- MPEG HISTORY
- STRENGTHS AND WEAKNESSES
- BASIC IDEA
- JPEG REVIEW
- TEMPORAL ENCODING
- SEARCHING FOR SIMILAR BLOCKS
- EXHAUSTIVE SEARCH
- LOGARITHMIC SEARCH
- HIERARCHICAL SEARCH
- IF MATCH FOUND...
- TYPES OF BLOCKS
- TYPES OF FRAMES
- GROUP OF PICTURES
- DECOMPRESSION

3-D GRAPHICS RENDERING

- RENDERING 3-D GRAPHICS
- 3-D STUDIO
- 3DS: 2-D EDITOR
- 3DS: LOFTER
- 3DS: 3-D EDITOR
- 3DS: MATERIALS EDITOR
- POSITIONING OBJECTS
- ASSIGN LIGHTING
- GRAPHICS PROCESSING
- PRIMITIVES
- BEZIER CURVES AND SURFACES
- COORDINATE SYSTEMS
- GEOMETRIC TRANSFORMATIONS
- BACK FACE ELIMINATION
- LIGHTING CALCULATIONS
- SURFACE MAPPING (WALLPAPER)
- ENVIRONMENT MAPPING
- BUMP MAPPING
- VIEWING
- PERSPECTIVE
- HIDDEN SURFACE ELIMINATION
- SHADOWS
- SURFACE COLOR SHADING
- GOURAUD SHADING
- PHONG SHADING
- OTHER STUFF
- ANIMATION

Week 40

SPEECH SYNTHESIS AND RECOGNITION

- SPEECH
- VOICE ADVANTAGES
- VOICE PROBLEMS
- LAYERS OF SPEECH PROCESSING
- ACOUSTIC REPRESENTATIONS
- PHONEMES

- SPEECH PRODUCTION
- ARTICULATION MODEL
- VOICE PLAYBACK APPLICATIONS
- VOICE PLAYBACK ISSUES
- LINEAR PREDICTIVE CODING
- EDITING
- TEXT-TO-SPEECH (T2S)
- WORDS TO PHONEMES
- DETERMINING STRESS
- CO-ARTICULATION
- CONCATENATIVE SYNTHESIS
- INTONATION
- APPLICATIONS OF SPEECH RECOGNITION
- SR COMPONENTS
- SR CAPABILITIES
- TEMPLATES
- PATTERN MATCHING: DTW
- HIDDEN MARKOV MODELS
- SOLVABLE HMM QUESTIONS
- HIERARCHICAL HMMs
- VECTOR QUANTIZATION
- SPEECH RECOGNITION ERRORS
- MINIMIZING ERRORS
- SYNTAX
- PARSING
- OTHER RECOGNITION LEVELS
- PRAGMATICS
- DISCOURSE

REAL-TIME COMMUNICATION

- NETWORK APPLICATIONS
- NETWORKS ARE UBIQUITOUS
- IMPORTANT PROPERTIES
- TRANSMISSION MEDIA
- TRAFFIC CLASSES
- CIRCUIT-SWITCHED NETWORKS
- PACKET-SWITCHED
- CONNECTIONS?
- HIERARCHY / LAYERING
- IS UTILIZATION IMPORTANT?
- GUARANTEES
- QoS: BANDWIDTH
- QoS: END-TO-END DELAY
- QoS: DELAY JITTER
- QoS: LOSS (ERROR) RATE
- QoS: ADMISSION RATE
- QoS: PRIORITIES
- QoS: MULTICASTING SUPPORT
- DELAY COMPONENTS
- PACKETIZATION DELAY
- ENCAPSULATION

3D Studio Max

WEEK 41

BASIC OF 3D STUDIO MAX

- HARDWARE & SOFTWARE REQUIREMENTS
- LIVING IN A 3D WORLD
- BUILDING VERTICAL EDGES AND FACES
- UNDERSTANDING HOW ANIMATION HAPPEN

BASIC CONCEPTS OF 3D STUDIO MAX

- UNDERSTANDING MAX'S OBJECT CONCEPTS
- UNDERSTANDING MAX'S CONCEPTS OF SPACE
- UNDERSTANDING MAX'S CONCEPTS OF TIME
- UNDERSTANDING MAX'S RENDERING OPTIONS

THE MAX INTERFACE

- ACCESSING COMMANDS IN THE MENU BAR
- ACCESSING FEATURES IN THE SHELF AREA
- THE COMMAND PANEL
- NAVIGATING IN VIEWPORTS
- UNDERSTANDING SPECIALIZED USER INTERFACE TOOLS

WEEK 42

BASIC MAX MODELING TOOLS

- DEFINING MODEL TYPES
- BUILDING MODELS
- CREATING MODELS WITH COMPOUND OBJECTS
- MODIFYING WITH BOOLEANS
- HANDS ON MAX

ORGANIC MODELING

- MODELING ORGANIC FORMS
- MODELING WITH PATCHES
- MODELING A NARWHALE WITH SURFACE TOOLS
- MODELING WITH NURBS
- SUBDIVISION SURFACE MODELING WITH NURMS
- ORGANIC BOX MODELING

WEEK 43

ANIMATION KEYS

- GRASPING CONCEPTS OF TIME IN ANIMATION
- WORKING WITH THE MAX ANIMATION TOOL
- GETTING STARTED THE ANIMATION IN MAX
- USING CONTROLLERS TO ANIMATE

ADVANCING YOUR ANIMATION SKILL

- USING THE TRACK VIEW TO ANIMATE
- USING DUMMY OBJECTS
- ANIMATING HIERARCHIES
- WORKING IN CHARACTER STUDIO

WEEK 44

BASIC MATERIALS

- UNDERSTANDING CG SHADING

- MASTERING THE MATERIAL EDITOR
- UNDERSTANDING COMMON MATERIAL TYPES
- UNDERSTANDING MAP TYPES

WEEK 45

ADVANCED MATERIAL

- UNDERSTANDING RAYTRACE MATERIALS
- CREATING MAT/SHADOW MATERIALS
- BUILDING COMPOUND MATERIALS
- NEW MATERIALS FEATURES IN R3
- UNDERSTANDING CAMERA MAPPING

WEEK 46

ADDING COLOR AND LIGHT

- UNDERSTANDING COLOR MODEL
- EXPLORING THE COLOR AND LIGHT TOOLS IN MAX
- SETTING YOUR LIGHT PARAMETERS
- SIMULATING LIGHT AND COLOR IN 2D
- DESIGNING YOUR LIGHTING

WEEK 47

RENDERING AND ENVIRONMENT EFFECT

- RENDERING TOOLS
- CHOOSING YOUR RENDER SETTINGS
- NETWORK RENDERING
- USING THE RENDER EFFECTS DIALOG BOX
- USING THE RAM PLAYER

WEEK 48

POST PRODUCTION AND COMPOSITING

- UNDERSTANDING VIDEO POST
- CHOOSING IMAGE FILTERS
- EDITING VIDEO CLIPS
- COMPOSITING VIDEO CLIPS
- COMPOSITING REFLECTIONS OF A MIRROR WITH ANOTHER IMAGE

WEEK - 49 TO 52

PRJOECT

