

NAAC 'A'



# *St. Xavier's College, Ranchi*

## *Syllabus*

*(Under Choice Based Credit System)*

*w.e.f.*

*(Academic Year-2025-28)*

*Department of Vocational & Management Studies*

*Bachelor of Arts (B.A) Honours Programme*

*Animation & Interior Design*

*James*  
14/11/25

*A. J.*  
14/11/25

*Shelina*  
14.11.2025

*Roni*  
14/11/25

*mdf*  
14-11-25  
*Jonny*  
14-11-2025

*Farmali*  
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*MDR*  
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*Santhosh*  
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## DEPARTMENT OF ANIMATION AND INTERIOR DESIGN

ST. XAVIER'S COLLEGE

(An Autonomous College, affiliated to Ranchi University)

RANCHI-834001, JHARKHAND

Tel: 0651-2214 301, 2214935, Ext-136

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### Resolution

A Meeting of the Board of Studies of Department of Animation and Interior Design was held today in order to review the syllabus of the UG Course offered by it.

The BoS took the following resolutions and forwarded the same for the approval of the Academic Council:

1. In Sem VI, Paper 613 (CC13), Understanding of Material available in the market including floor materials such marbles and tiles, be included.
2. In DSE3 (Sem VI), Architectural Walkthrough, a detail study regarding models and camera panning, be included.
3. In Sem II, Paper C203, in Advanced 2D Animation Design, creating basic animations of objects be included.

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Dr Santosh Kumar Kiro  
Chairman of the BoS

Dept of Animation and Interior Design

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## DEPARTMENT OF ANIMATION AND INTERIOR DESIGN

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Members of Board of Studies of CBCS Undergraduate Syllabus as per Guidelines of the Ranchi University, Ranchi.

Dated:- 14/11/2025

SL.NO	NAME OF THE BOARD STUDIES MEMBER	SIGNATURE
1	Dr. Santosh Kumar Kiro, (Chairperson)	<i>S. Kiro</i> 14.11.2025
2	Anuj Kumar, RU Representative	<i>A. Kumar</i> 14.11
3	Md. Rashid Iqbal Siddique, (Member)	<i>md. Rashid</i> 14.11.2025
4	Ms nandini Sinha, (Member)	<i>Nandini</i> 14.11.2025
5	Mr. Pankaj Gupta (Member)	<i>Pankaj Gupta</i> 14-11-2025
6	Ms. Komal Gakhar (Member)	<i>Komal</i> 14/11/25
7	Mr Yameen Urfi (Member)	<i>Yameen Urfi</i> 14/11/25
8	Mr. Sumit Ritesh Kullu (Member)	<i>Sumit Ritesh</i> 14/11/25
9	Mr Ajay Anukaran Tirkey (Member)	<i>Ajay</i> 14/11/25
10	Md. Riyaz Qureshi (Member)	<i>MD RIYAZ</i> 14/11/2025
11	Mr. Kumar Sumveg (Member)	<i>Kumar Sumveg</i> 14/11/25
12	Mr. Jogendra Karmali (Alumni)	<i>Karmali</i> 14/11/25



**COURSES OF STUDY FOR UNDERGRADUATE  
'B.A. in Animation & Interior Design Hons' PROGRAMME**

**Table AI-2 Subject Combinations allowed for B.A. in Animation & Interior Design Hons.  
Programme (164 Credits)**

Honours/Core Subject CC 14 Papers	Discipline Specific Elective Subject DSES 4 Papers	Skill Enhancement Course SEC 2 Papers	Compulsory Course AECC 1+1=2 Papers
B.A. in Animation & Interior Design	B.A. in Animation & Interior Design Specific	SEC in B.A. in Animation & Interior Design	Language Communication + EVS

**Table AI-2.1 Semester wise Examination Structure for Mid Sem & End Sem Examinations:**

Sem	Core Honours, Allied DSE, Compulsory AECC Courses		Mid Semester Theory cum Practical (F.M.)	End Semester Theory cum Practical (F.M.)
	Code	Papers		
I	C1	Image Editing With Photoshop	25	75
	C2	Basics of 2D Animation	25	75
	GE1A	Refer Table AI-2.3 of the Syllabus of Subject opted	---	100/ (75)
	GE1B	Refer Table AI-2.3 of the Syllabus of Subject opted	---	100/ (75)
	AECC	Language Communication +T	---	100
II	C3	Advance 2D Animation & Designing	25	75
	C4	3D Modeling & Texturing With Autodesk Maya	25	75
	GE2A	Refer Table AI-2.3 of the Syllabus of Subject opted	---	100/ (75)
	GE2B	Refer Table AI-2.3 of the Syllabus of Subject opted	---	100/ (75)
	AECC	Environmental Studies +T	---	100
III	C5	3D Lighting & Rendering With Autodesk Maya	25	75
	C6	Rigging With Autodesk Maya	25	75
	C7	2D Computer Aided Architectural Drafting with AutoCAD	25	75
	GE3A	Refer Table AI-2.3 of the Syllabus of Subject opted	---	100/ (75)
	GE3B	Refer Table AI-2.3 of the Syllabus of Subject opted	---	100/ (75)
	SEC 1	3D Sculpting with Z-Brush		50
IV	C8	3D Modeling With Autodesk 3DS Max	25	75
	C9	Motion Graphics With After Effects	25	75
	C10	Advance 2D & 3D Computer Aided Architectural Drafting with AutoCAD	25	75
	GE4A	Refer Table AI-2.3 of the Syllabus of Subject opted	---	100/ (75)
	GE4B	Refer Table AI-2.3 of the Syllabus of Subject opted	---	100/ (75)
	SEC 2	Stop Motion Animation		50
V	C11	3D Texturing, Lighting & Rendering with Autodesk 3DS Max	25	75
	C12	Animation with Autodesk Maya	25	75
	DSE 1	Visual effects with Autodesk Maya		100
	DSE 2	Interior and Exterior design Visualization		100
VI	C13	Advance visual Effects with Autodesk 3DS Max	25	75
	C14	Compositing Process	25	75
	DSE 3	Architectural Walkthrough and On-Job Training		100
	DSE 4	3D Portfolio		100

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*Kamran* 14/11/25  
*Shiraz* 14.11  
*Rouf* 14/11/25  
*MDRyaz* 14/11/2025  
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(Hons. Programme)  
Semester wise Examination Structure for Mid Sem.& End Sem. Examinations
- 4 Generic Elective Combinations allowed for Course structure for B.A. IN  
ANIMATION AND INTERIOR DESIGN (Hons. Programme) Course (Refer Table  
AI-2.4

## SEMESTER I

- 5 I. Ability Enhancement Compulsory Course (AECC)
- 6 II. Generic Elective (GE 1A)
- 7 III. Generic Elective (GE 1B)
- 8 III. Core Course –C 1
- 9 IV. Core Course- C 2

## SEMESTER II

- 10 I. Environmental Studies (EVS)
- 11 II. Generic Elective (GE 2A)
- 12 III. Generic Elective (GE 2B)
- 13 III. Core Course –C 3
- 14 IV. Core Course- C 4

## SEMESTER III

- 15 I. Skill Enhancement Course (SEC 1)
- 16 II. Generic Elective (GE 3A)
- 17 III. Generic Elective (GE 3B)
- 18 III. Core Course –C 5
- 19 IV. Core Course- C 6
- 20 V. Core Course- C 7

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#### SEMESTER IV

- 21 I. Skill Enhancement Course (SEC 2)
- 22 II. Generic Elective (GE 4A)
- 23 III. Generic Elective (GE 4B)
- 24 III. Core Course -C 8
- 25 IV. Core Course- C 9
- 26 V. Core Course- C 10

#### SEMESTER V

- 27 I. Discipline Specific Elective (DSE 1A/ B/ )
- 28 II. Discipline Specific Elective (DSE 2A/ B/ )
- 29 III. Core Course -C 11
- 30 IV. Core Course- C 12

#### SEMESTER VI

- 31 I. Discipline Specific Elective (DSE 3A/ B/ )
- 32 II. Discipline Specific Elective (DSE 4)
- 33 III. Core Course -C 13
- 34 IV. Core Course- C 14

#### MARKS DISTRIBUTION FOR EXAMINATIONS

##### Marks Distribution of Mid & End Semester Theory Examinations

- 35 Marks Distribution of Practical Examinations
- 36 Format of Question Paper for Mid Sem Examination of 25 Marks
- 37 Format of Question Paper for End Sem Examination of 75 Marks

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Table AI-1.1: Course structure for B.Sc./ B.A./ B.Com./B.Voc. (Hons. Programme)

Semester	Honours (Core Courses) 14 Papers	Allied (Elective Courses) 8 Papers	Ability Enhancement (Compulsory Courses) 4 Papers	Total Credits
Sem-I	C-1, C-2 (6+6=12 Credits)	GE-1A, GE-1B (6+6=12 Credits)	English Comm./Hindi Comm. (02 Credits)	26 Credits
Sem-II	C-3, C-4 (6+6=12 Credits)	GE-2A, GE-2B (6+6=12 Credits)	EVS (02 Credits)	26 Credits
Sem-III	C-5, C-6, C-7 (6+6+6=18 Credits)	GE-3A, GE-3B (6+6=12 Credits)	SEC-1 (02 Credits)	32 Credits
Sem-IV	C-8, C-9, C-10 (6+6+6=18 Credits)	GE-4A, GE-4B (6+6=12 Credits)	SEC-2 (02 Credits)	32 Credits
Sem-V	C-11, C-12 (6+6=12 Credits)	DSE-1, DSE-2 (6+6=12 Credits)		24 Credits
Sem-VI	C-13, C-14 (6+6=12 Credits)	DSE-3, DSE-4 (6+6=12 Credits)		24Credits
				Total = 164 Credits

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**Table AI-2 Subject Combinations allowed for B.A. IN ANIMATION AND INTERIOR DESIGN (Hons) Programme (164 Credits)**

Honours/Core Subject CC 14 Papers	Discipline Specific Elective Subject DSES 4 Papers	Skill Enhancement Course SEC 2 Papers	Compulsory Course AECC 1+1=2 Papers
B.A. IN ANIMATION AND INTERIOR DESIGN	B.A. IN ANIMATION AND INTERIOR DESIGN Specific	SEC in B.A. IN ANIMATION AND INTERIOR DESIGN	Language Communication + EVS

**Table AI-2.1 Semester wise Examination Structure for Mid Sem & End Sem Examinations:**

Examination Structure for Mid Sem & End Sem Examinations:				
Sem	Core Honours, Allied DSE, Compulsory AECC Courses		Examination Structure	
	Code	Papers	Mid Semester Theory/Practical (F.M.)	End Semester Theory/Practical (F.M.)
I	C1	Image Editing with Photoshop	25	75
	C2	Basics of 2D Animation	25	75
	GE1A	Refer Table AI-2.3 of the Syllabus of Subject opted	25	(75)
	GE1B	Refer Table AI-2.3 of the Syllabus of Subject opted	25	(75)
	AECC	Language Communication +T	---	100
II	C3	Advance 2D animation and Designing	25	75
	C4	3D Modeling & Texturing with Autodesk Maya	25	75
	GE2A	Refer Table AI-2.3 of the Syllabus of Subject opted	---	100/ (75)
	GE2B	Refer Table AI-2.3 of the Syllabus of Subject opted	---	100/ (75)
	AECC	Environmental Studies+T	---	100
III	C5	3D Lighting & Rendering with Autodesk Maya	25	75
	C6	Rigging with Autodesk Maya	25	75
	C7	2d Computer Aided Architectural Drafting With AutoCAD	25	75
	GE3A	Refer Table AI-2.3 of the Syllabus of Subject opted	---	100/ (75)
	GE3B	Refer Table AI-2.3 of the Syllabus of Subject opted	---	100/ (75)
	SEC 1	3D Sculpting with ZBrush	---	---
IV	C8	3D Modeling with Autodesk 3DS Max	25	75
	C9	Motion Graphics with After Effects	25	75
	C10	Advance 2D & 3D Computer Aided Architectural Drafting with AutoCAD	25	75
	GE4A	Refer Table AI-2.3 of the Syllabus of Subject opted	---	100/ (75)
	GE4B	Refer Table AI-2.3 of the Syllabus of Subject opted	---	100/ (75)
	SEC 2	Stop Motion Animation	25	75
V	C11	3D Texturing, Lighting & Rendering with Autodesk 3DS Max	25	75
	C12	Animation with Autodesk Maya	25	75
	DSE 1	Visual effects with Autodesk Maya	25	75

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	DSE 2	Interior and Exterior design Visualization	25	75
	C13	Interior planning & Execution In Autodesk 3DS MAX	25	75
VI	C14	Compositing Process	25	75
	DSE 3	Architectural Walkthrough and On-Job Training	25	75
	DSE 4	3D Portfolio	---	---

**GE1 & GE2;** Any Two Generic Elective Combinations allowed for B.A. IN ANIMATION AND INTERIOR DESIGN (HONS.) COURSE MAY BE OPTED FROM THE LIST GIVEN BELOW:

**Table AI-2.2** Allowed Generic Subjects for B.A IN ANIMATION AND INTERIOR DESIGN Hons. Programme (140 + 24 = 164 Credits);

**Table AI-2.3:** For Student from ARTS background with Practical Subjects &/OR having Economics

S.No.	Note: Any One Subject may be opted as GE Subject but only One from S.No.1 and 10 will be allowed, if desired.		
1	Anthropology/Geography/ Psychology/ Home Sc.	7	Mathematics
2	History	8	Hindi
3	Political Science	9	English
4	Sociology	10	Bengali / Urdu / Sanskrit /
5	Economics		Ho / Kharia / Khortha /Kurmali / Kurukh /
6	Philosophy		Mundari / Nagpuri / PanchPargania / Santhali

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**Table AI-2.4 Generic Subject Papers for B. A. Hons. Programme (140 + 24 = 164 Credits);**  
All Four Papers of Two allowed Subjects (Table AI-2.3) to be opted:

Generic Elective Subject GE 4 Papers	Generic Elective Courses for Arts Stream (GE will be other than Core Subject opted)			
	Semester I GE1	Semester II GE2	Semester III GE3	Semester IV GE4
Hindi	<i>Kala aur Sahitya</i> +T	<i>Anuvad</i> +T	<i>Sahitya aur Patrakarita</i> +T	<i>Rachnatimak lekhan ki vidhaey</i> +T
English	Academic Writing +T	Language & Linguistics +T	Literature: Poems & Short Stories +T	Language, Literature & Culture +T
Geography	Geomorphology +Lab	Human Geography +Lab	Climatology +Lab	Economic Geography +Lab
History	Environmental Issues in India +T	Making of Contemporary India +T	History of West Asia +T	India and her Neighbours +T
Political Science	An Introduction to Political Theory +T	Indian Govt. and Politics +T	Comparative Govt. and Politics +T	Public Administration +T
Psychology	Introduction of psychology +Lab	Social psychology +Lab	Psychopathology +Lab	Psychological Statistics +Lab
Sociology	Indian Society and Culture +T	Social Movement in India +T	Sociology of Religion +T	Indian Sociological Theories +T
Economics	Principals of Microeconomics +T	Principals of Macroeconomics +T	Indian Economy +T	Money Banking & Public Finance +T
Anthropology	Economic Anthropology +Lab	Political Anthropology +Lab	Anthropology of Religion +Lab	Linguistic Anthropology +Lab
Philosophy	Indian Philosophy-I +T	Indian Philosophy-II +T	Indian Ethics +T	Western Ethics +T
Home Science	Human Nutrition +Lab	Entrepreneurship for small Catering units +Lab	Current concerns in Public Health Nutrition +Lab	Care and Wellbeing in Human Development +Lab

Topic	Code	Full Marks	Pass Marks including Mid Sem	Time	No of questions
EndSem	T60	75	--	3 Hrs	Since the subject is usually practical, examinees would be asked to make One question (Design), out of two options.

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**Bachelor of Arts (B.A) Honours in**  
**Animation & Interior Design**

**Course Curriculum**

<b><u>Sem</u></b>	<b><u>Course Status &amp; No</u></b>	<b><u>Title of the Course</u></b>	<b><u>Credit Th+Pr</u></b>
I	Core-1	Image Editing with Photoshop	1+5
	Core-2	Basics of 2D Animation	1+5
	AECC-1	English Communication	2
	GE-1A	Refer to Table no: AI-2.4 to select Generic Elect	1+5
	GE 1B	Refer to Table no: AI-2.4 to select Generic Elect	
II	Core-3	Advance 2D animation and Designing	1+5
	Core-4	3D Modeling & Texturing with AUTODESK MAYA	1+5
	AECC-2	Environmental Science	2
	GE-2A	Refer to Table no: AI-2.4 to select Generic Elect	1+5
	GE 2B	Refer to Table no: AI-2.4 to select Generic Elect	
III	Core-5	3D Lighting & Rendering with Autodesk Maya	1+5
	Core-6	Rigging with Autodesk Maya	1+5
	Core-7	2D Computer Aided Architectural Drafting with AutoCAD	1+5
	SEC-1	3D Sculpting with ZBrush	2
	GE 3A	Refer to Table no: AI-2.4 to select Generic Elect	1+5
	GE 3B	Refer to Table no: AI-2.4 to select Generic Elect	
IV	Core-8	3D Modeling with Autodesk 3DS Max	1+5
	Core-9	Motion Graphics with After Effects	1+5
	Core-10	Advance 2D & 3D Computer Aided Architectural Drafting with AutoCAD	1+5
	SEC-2	Stop Motion Animation	2
	GE-4A	Refer to Table no: AI-2.4 to select Generic Elect	1+5
	GE 4B	Refer to Table no: AI-2.4 to select Generic Elect	
V	Core-11	3D Texturing, Lighting & Rendering with Autodesk 3DS Max	1+5
	Core-12	Animation with Autodesk Maya	1+5
	DSE-1	Visual effects with Autodesk Maya	1+5
	DSE-2	Interior and Exterior design Visualization	1+5
VI	Core-13	Advance visual Effects with Autodesk 3DS Max	1+5
	Core-14	Compositing Process	1+5
	DSE-3	Architectural Walkthrough and On-Job Training	1+5
	DSE-4	3D Portfolio	1+5

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**Semester I-Bachelor in Arts (Animation & Interior Design)**

**Core Course-I-Image Editing with Photoshop**

**(Credits: Theory-1; Practical-5)**

**THEORY LECTURES: 20**

**Unit 1: Introduction**

**(1 Lecture)**

Introduction to Image Manipulation, Graphic Design, Illustrations, Matte and Digital Painting, Caricatures

**Unit 2: Graphical User Interface**

**(1 Lecture)**

Image, Pixel, Resolution, Aspect Ratio

**Unit 3: Images and their types**

**(1 Lecture)**

Raster Images, Vector Images, Uses, Examples, Combining Raster with Vector

**Unit 4: Color Theory**

**(2 Lectures)**

Primary Colors, Secondary Colors, Tertiary Colors, Artistic Color Wheel, Color Schemes, Monochromatic, Analogous, Neutral, Warm, Cool, Complementary, Technical Color Wheel

**Unit 5: Layers**

**(1 Lecture)**

Creating and Managing Layers, Multilayered psd files, Transforming Layers, Deleting Layers

**Unit 6: Mask**

**(3 Lectures)**

Properties and Uses of Mask, Layer Mask, Quick Mask, Vector Mask, Clip Masking

**Unit 7: Color Correction**

**(3 Lectures)**

Properties of Channels, Alpha, Shadows, Midtones, Highlights, Converting Greyscale to Color, RGB and CMYK

**Unit 8: Introduction to Blend Modes**

**(2 Lectures)**

Properties of Blend Modes, Normal, Darken, Multiply, Color Burn, Linear Burn, Lighten, Screen, Color Dodge, Linear Dodge, Overlay, Soft Light, Hard Light, Vivid Light, Linear Light, Pin Light, Difference, Hue, Saturation, Color, Luminosity

**Unit 9: Cloning**

**(1 Lecture)**

Concept of Cloning, Uses and Properties of Clone, Heal, Patch and Stamp Pattern

**Unit 10: Vanishing Point**

**(1 Lecture)**

Perspective, Edit Plane, Create Plane, Marquee, Stamp, Grid Size, Angle between Selected Plane and Parent, Replace Designs Based on Vanishing Point

**Unit 11: Digital Painting**

**(2 Lectures)**

Creating Outline with Photocopy, Grayscale Mode, Blocking, Control Opacity and Flow, Using Screen and Multiply, Adding Color

**Unit 12: Matte Painting**

**(2 Lectures)**

Multilayer Compositing, BG Plate, Perspective, Camera, Light Match, Aesthetics

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## **PRACTICAL LECTURES: 100**

### **Unit 1: Photoshop Interface**

(5 Lectures)

New Document, Menu Bar, Toolbar, Docking Palette, Canvas, Color Modes

### **Unit 2: Tools**

(10 Lectures)

Selection, Marquee, Lasso, Quick Selection, Crop, Fill, Dropper

### **Unit 3: Working with Layers**

(5 Lectures)

Creating and Managing Layers, Multilayered psd files, Transforming Layers, Deleting Layers

### **Unit 4: Brushes Properties**

(5 Lectures)

Presets, Brush Palette, Brush Tip Shape, Diameter, Flip, Angle, Roundness, Hardness, Spacing, Shape Dynamics, Jitter, Scattering, Texture, Pattern, Dual Brush, Color Dynamics, Creating Custom Brush

### **Unit 5: Working with Mask**

(10 Lectures)

Method of creating Layer Mask, Quick Mask, Vector Mask, Clip Masking

### **Unit 6: Tools for Color Correction**

(10 Lectures)

Levels, Curves, Color Balance, Brightness Contrast, Hue Saturation, Histogram, Color Range, Match Color, Replace Color, Invert, Converting from one color mode to another

### **Unit 7: Using Gradient**

(5 Lectures)

Linear, Radial, Angle, Reflected, Diamond, Custom Gradient, Presets, Creating Depth Fog with Gradient, Metallic Ring with Gradient, Paint Bucket tool

### **Unit 8: Working with Blending Modes**

(5 Lectures)

Normal, Darken, Multiply, Color Burn, Linear Burn, Lighten, Screen, Color Dodge, Linear Dodge, Overlay, Soft Light, Hard Light, Vivid Light, Linear Light, Pin Light, Difference, Hue, Saturation, Color, Luminosity

### **Unit 9: Layer styles**

(5 Lectures)

Drop Shadow, Inner Shadow, Outer Glow, Inner Glow, Bevel Emboss, Satin, Color Overlay, Gradient Overlay, Pattern Overlay, Stroke

### **Unit 10: Using Cloning Tools**

(10 Lectures)

Using Clone, Heal, Patch and Stamp Pattern Tool

### **Unit 11: Filter Effects**

(5 Lectures)

Blur, Distort, Noise, Pixelate, Sharpen, Stylize, Liquify, Filter Gallery, Smart Filters

### **Unit 12: Using Vanishing Point**

(5 Lectures)

Replace Designs Based on Vanishing Point

### **Unit 13: Creating a Digital Painting**

(10 Lectures)

Creating Outline with Photocopy, Blocking, Control Opacity and Flow, Using Screen and Multiply, Adding Color

### **Unit 14: Developing a Matte Painting**

(10 Lectures)

BG Plate, Perspective, Matching Camera and Light

### **Suggested Readings**

1. Adobe Photoshop CC Classroom in a Book by Adobe Creative Team
2. Photoshop CC Bible: Lisa DaNae Dayley, Brad Dayley



**Semester I-Bachelor in Arts (Animation & Interior Design)**

**Core Course II: Basics of 2D Animation**

**(Credits: Theory-1; Practical-5)**

**THEORY LECTURES: 20**

**Unit 1: Principles of Animation**

(2 lectures)

Animation Principles, Brief history of Animation

**Unit 2: Flash Basics**

(1 lectures)

Interface, Flash Document, Reviewing the Interface, Managing the Workspace, Importing Files

**Unit 3: Tools in Flash**

(2 lectures)

Fundamentals of Shapes, Primitive Tools, Pen, Pencil and Line Tools, Selection Tools, Managing Color and Gradients

**Unit 4: Flash Graphics**

(3 lectures)

Rectangles, Gradient Filling, Making Selections, Drawing Ovals, Lines, Objects, Masking

**Unit 5: Creating Symbols**

(2 lectures)

Definition of Symbols, Converting Objects to Symbols, Bitmaps, Buttons, Transparency, Alpha

**Unit 6: Content Management**

(2 lectures)

New Document Settings & Navigation, Simple Vector Shapes, Curves, Other Drawing Tools, Interaction between Shapes, Groups

**Unit 7: Timeline**

(2 lectures)

Timeline Basics, Span of Frames, Playhead, Keyframes, Layers, Frame-by-Frame Animation, Onion Skin

**Unit 8: Motion Presets**

(2 lectures)

Motion Presets, Introduction to Motion Tween, Tween Spans, Custom Presets, Layer Folders, Static Frames

**Unit 9: Flash Animation Techniques**

(4 lectures)

Slideshow Content, Non-linear Animation, Swapping Objects, Distribute to Layers Command, Timeline Options

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## **PRACTICAL LECTURES: 100**

### **Unit 1: Getting Started**

(10 lectures)

Interface, Creating a Flash Document, Creating Shapes, Using the Primitive Tools, Drawing with Pen, Pencil and Line Tools, Editing Shapes, Using the Selection Tools, Managing Color and Gradients, Importing Files

### **Unit 2: Working with Graphics**

(10 lectures)

Creating Rectangles, Using a Gradient Fill, Making Selections, Drawing Ovals, Creating a Simple Animation, Working with Lines, Manipulating Objects, Masking Objects, Testing a Movie

### **Unit 3: Creating and Editing Symbols**

(20 lectures)

Importing Illustrator Files, About Symbols, Converting Objects to Symbols, Importing Bitmap Images, Adding Bitmaps to a Movie Clip Symbol, Working with Buttons, Adding Transparency, and Bouncing Ball animation

### **Unit 4: Creating & Managing Content**

(10 lectures)

Drawing & Selecting Simple Vector Shapes, Drawing Curves with the Pen & Pencil Tools, Exploring Other Drawing Tools, Interaction between Shapes, Grouping Objects.

### **Unit 5: Working with Timeline**

(10 lectures)

Create a Span of Frames & Control the Play head, Creating Key frames, Layers, Insert Blank Key frames & Clear Key frames, Frame-by-Frame Animation, Working with Onion Skin.

### **Unit 6: Creating a Motion Tween**

(20 lectures)

Adding a Motion Tween, Setting Property Keyframes for Scale & Rotation, Creating a Motion Tween from a Shape, Easing Keyframes, Creating a Fade-in by Adjusting the Alpha, Making a Motion Preset

### **Unit 7: Animation Techniques**

(20 lectures)

Working in a Movie Clip Timeline, Animating the First Image in the Slideshow, Using the Distribute to Layers Command, Animation Timing, Creating Scenes using different layers, Short story based animation

### **Suggested Readings**

1. Adobe Flash Professional CC Classroom in a Book Paperback by Adobe Creative Team
2. Adobe Flash Professional CS6 Essentials (Essentials (John Wiley) Paperback by William Heldman
3. The Illusion of Life: Disney Animation Hardcover by Ollie Johnston, Frank Thomas
4. Cartoon Animation (Collector's Series) Paperback by Preston Blair
5. Adobe Flash Professional CS5 Bible Paperback by Todd Perkins

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**Semester I-Bachelor in Arts (Animation & Interior Design)**

**AECC I- English Communication**

**Objective:** The purpose of this course is to introduce students to the theory, fundamentals and tools of communication and to develop in them vital communication skills which should be integral to personal, social and professional interactions. One of the critical links among human being and an important thread that binds society together is the ability to share thoughts, emotions and ideas through various means of communication: both verbal and non-verbal. In the context of rapid globalization and increasing recognition of social and cultural pluralities, the significance of clear and effective communication has substantially enhanced.

The present course hopes to address some of these aspects through an interactive mode of teaching-learning process and by focusing on various dimensions of communication skills. Some of these are:

Language of communication, various speaking skills such as personal communication, social interactions and communication in professional situation such as interviews, group discussion and office environments, important reading skills as well as writing skills such as report writing, note-taking etc.

While, to an extent, the art of communication is natural to all living beings, in today's world of complexities, it has been acquired some elements of science. It is hoped that after studying this course, student will find a difference in their personal and professional interactions.

The recommended readings given at the end are only suggestive; the students and teachers have the freedom to consult other materials on various suits/topics given below. Similarly, the questions in the examination will be aimed towards assessing the skills learnt by the students rather than the textual content of the recommended books.

1. Introduction: Theory of communication, Types and modes of communication.
2. Language of Communication: Verbal and non-verbal (Spoken and Written), Personal, Social and Business, Barriers and Strategies, Intra-personal, Inter-personal and Group communication.
3. Speaking Skills: Monologue, Dialogue, Group discussion, Effective Communication / Miscommunication, Interview, Public Speech.
4. Reading and Understanding: Close reading, Comprehension, Summery Paraphrasing, Analysis and Interpretation, Translation (from Indian language to English and vice-versa), Literary/Knowledge Texts.
5. Writing Skills: Documentation, Report Writing, Making notes, Letter writing.

**Recommended Books:**

1. Fluency in English-Part- II, Oxford University Press 2006.
2. Business English, Pearson, 2008
3. Language, Literature and Creativity, Orient Blackswan, 2013
4. Language through Literature (forthcoming) ed. Dr. Gauri Mishra, Dr.Ranjan Kaul, Dr.Brati Biswas



**Semester I-Bachelor in Arts (Animation & Interior Design)**

**GE I: Pre Production Workflow with CoralDRAW**

**(Credits: Theory-1; Practical-5)**

**THEORY LECTURES: 20**

**Unit 1: Pre-Production**

**(3 Lectures)**

Introduction to Pre Production, Requisites, Workflow

**Unit 2: Understanding Perspective**

**(2 Lectures)**

Vanishing Horizons, One Dimension, Two Dimensions, Three Dimensions, One Point Perspective, Two Point Perspective, Three Point Perspective, Camera Angles

**Unit 3: Understanding Gesture**

**(2 Lectures)**

Anatomy, Figure Drawing, Line of Action, Changes in line of action to express attitude, Body Language, Pose Construction, Dynamic and Expressive poses, Balance and Center of Gravity, Motion and Action

**Unit 4: Character Development**

**(2 Lectures)**

Types of Characters, Cartoon, Fantasy, Realistic, Anthropomorphic, 2-head Characters, 4-head Characters, 5-head Characters

**Unit 5: Script writing**

**(2 Lectures)**

Story Building, Making a Script Visual, Rules of Scriptwriting, Character Appearances, Dialogues, Timing

**Unit 6: Storyboard Making**

**(2 Lectures)**

Rules for Storyboarding, Simplify, Focus, Combine characters, Camera Movements, Cut scenes, Pre Viz. and Animatics for Animation

**Unit 7: Introduction to Coral DRAW**

**(2 Lectures)**

Interface, Navigation, Selecting and Manipulating Objects, Tools, 1st

**Unit 8: Designing with CorelDraw**

**(3 Lectures)**

Fundamentals of Designing, Document Settings for Covers, Cards, Book Covers, Brochures, Advertisements, Banner, Web Graphics

**Unit 9: Advanced Effects**

**(2 Lectures)**

Printing, Layouts and Layers, Symbols, Clipart, Layers Styles, Templates, Bitmaps, Exporting

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## **PRACTICAL LECTURES: 100**

### **Unit 1: Types of Strokes on Paper**

(2 Lectures)

Vertical and Horizontal, Round and Spiral, Rhythmic and Zigzag, Wave, Circle and Triangles, Rectangle and Squares, Sphere

### **Unit 2: Perspective Drawing on Paper**

(10 Lectures)

One Point Perspective, Two Point Perspective, Three Point Perspective

### **Unit 3: Stick Figure Drawing on Paper**

(8 Lectures)

Anatomy, Drawing Stick Figures, Basic Human Proportions, Line of Action, Balance, Pose Construction, Scribbling, Live Sketching

### **Unit 4: Character Development on Paper**

(5 Lectures)

Drawing types of Characters, Cartoon, Fantasy, Realistic, Anthropomorphic, Character Construction with Basic Shapes, Character Blocking, Character Dynamic Poses

### **Unit 5: Model Sheets on Paper**

(5 Lectures)

Creating Character Model Sheets, Front view, Side View, Three-fourth view, Aligning

### **Unit 6: Traditional Scriptwriting**

(5 Lectures)

Building a story and writing a screenplay

### **Unit 7: Traditional Storyboarding**

(10 Lectures)

Converting a Script into a Visual Storyboard

### **Unit 8: Classical Animation on Paper**

(15 Lectures)

Sketching using Light Box, Principles of Classical Animation, Bouncing Ball

### **Unit 9: Shapes & Graphics in CoralDRAW**

(10 Lectures)

Drawing and Shaping Objects, Arranging Objects, Working with Logos & Artistic Text

### **Unit 10: Designing with CoralDRAW**

(10 Lectures)

Tools for Designing, Design Covers, Cards, Book Covers, Brochures, Advertisements, Banner, Web Graphics

### **Unit 11: Advanced Effects in CoralDRAW**

(20 Lectures)

Printing, Layouts and Layers, Special Page Layouts, Arranging Objects, Using Symbols and Clipart, Using Layers Styles and Templates, Interactive Effects, Custom Creation Tools, Working With Bitmaps, Exporting Drawings

## **Suggested Readings**

1. The Animator's Survival Kit Book by Richard Williams
2. Anatomy & Drawing by Victor Perard
3. The Art of the Storyboard: A Filmmaker's Introduction, Second Edition Paperback by John Hart
4. Storyboard Design Course: Principles, Practice, and Techniques Paperback by Giuseppe Cristiano
5. Adventures In The Screen Trade by William Goldman
6. CorelDRAW X6 - Official Guide by Gary David Bouton
7. Bring it Home with CorelDRAW by Roger Wanbolt

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**Semester-II-Bachelor in Arts (Animation & Interior Design)**  
**Core Course III: Advanced 2D Animation and Designing with Adobe FLASH**  
**(Credits: Theory-1; Practical-5)**

**THEORY LECTURES: 20**

**Unit 1: Advanced Tools for 2D Animation**

(4 lectures)

Fundamentals of Complex Graphics and Animation, Deco Tool, Spray Brush Tool and Bone Tool

**Unit 2: Integrating Sound & Video**

(2 lectures)

Usage of Adding Media to applications using Sound and Video, Supported Formats of Audio and Video

**Unit 3: Digital Conversion Design**

(3 lectures)

Background design, Character sheets, Animatics, Story based designs and animation

**Unit 4: Introduction to ActionScript**

(4 lectures)

Introducing ActionScript, Stop Action, Introduction to Buttons & Setting Button States, Interactive Text Buttons, Introduction to Interactive Programs for Web and Mobile Devices

**Unit 5: Code Snippets in Flash**

(4 lectures)

Flash Code Snippets, Add to Frame Method, Copy to Clipboard, Options for Advanced Users, Heads Up Display, Modification of Snippets, Multiple snippets uses

**Unit 6: Publishing**

(3 lectures)

Overview of Flash Publish Settings, Compression in Bitmaps & Sounds, Optimization for Search Engines, Formats for different platforms

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**PRACTICAL LECTURES: 100**

## Unit 1: Advanced Tools for 2D Animation

*(25 lectures)*

*Creating Complex Graphics and Animation using Deco Tool, Spray Brush Tool, and Bone Tool*

## Unit 2: Using Sound & Video

*(15 lectures)*

*Adding Media to applications using Sound and Video, Supported Formats of Audio and Video, Integrating media with file*

### Unit 3: Digital Conversion Design

*(20 lectures)*

*Background design, Character sheets, Animatics, Story based designs and animation, Animation loops for biped and quadruped, Lips sync*

## Unit 4: Introduction to ActionScript

*(15 lectures)*

*Introducing ActionScript, Adding a Stop Action, Creating Buttons & Setting Button States, Creating Interactive Text Buttons, Introduction to Interactive Programs for Web and Mobile Devices*

## Unit 5: Code Snippets in Flash

*(20 lectures)*

*Using Code Snippets, Add to Frame, Copy to Clipboard, Options for Advanced Users, Applying a snippet, Heads Up Display, Modifying snippets, Combining multiple snippets*

## Unit 6: Publishing


(5 lectures)

Overview of Flash Publish Settings, Compression in Bitmaps & Sounds, Optimization for Search Engines, Formats support and conversions

### Suggested Readings

1. *Adobe Flash Professional CS6 Classroom in a Book Paperback* by Adobe Creative Team
2. *Adobe Flash ActionScript 3 Classroom in a Book Paperback* by Adobe Creative Team
3. *Exploring Adobe Flash CS6 Paperback* by Prof. Sham Tickoo , Supriya Mishra
4. *Adobe Flash Professional CS6 Essentials (Essentials (John Wiley))Paperback* by William Heldman
5. *5.Sketching for Animation: Developing Ideas, Characters and Layouts in Your Sketchbook (Required Reading Range) Paperback* by Peter Parr
6. *Adobe Creative Suite 6 Design and Web Premium All-in-One For Dummies* by Jennifer Smith, Christopher Smith, Fred Gerantabee

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**Semester II-Bachelor in Arts (Animation & Interior Design)**  
**Core Course-IV-3D Modeling & Texturing with Autodesk Maya**  
**(Credits: Theory-1; Practical-5)**

**THEORY LECTURES: 20**

**Unit 1: Introduction to 3D**

(1 Lecture)

Properties of 3-Dimensional Objects, Uses,

**Unit 2: Modeling and Texturing User Interface**

(1 Lecture)

Workspace, Menu Bar, Status Line, Shelf, Workspace, Channel Box, Toolbox, Outliner

**Unit 3: Modeling Tools**

(2 Lectures)

Curves, Surface, Polygons, Subdivide, Shaded mode, Wireframe, Transform, Rotate, Scale

**Unit 4: NURBS**

(1 Lecture)

NURBS Primitives, NURBS Attributes, Control Vertex, Isoparm, Surface Point, Surface Patch, Hull, Revolve, Loft, Planar, Extrude, Birail, Bevel

**Unit 5: Poly**

(2 Lecture)

Polygon Primitives, Poly Attributes, Vertex, Edge, Face, Vertex face, Combine, Separate, Mirror, Smooth, Split, Extrude, Chamfer, Merge, Extract, Collapse

**Unit 6: Introduction to Shading and Texturing**

(2 Lectures)

Diffuse, Specularity, Roughness, Reflectivity, Refractivity, Translucency, Self Illumination

**Unit 7: Maya Shaders**

(2 Lectures)

Lambert, Blinn, Anisotropic, Phong, Layered, Use Background

**Unit 8: Textures**

(2 Lectures)

Types of Textures, Bitmap Textures, Procedural Textures, Working with Bump Map and Displacement Map, 2D textures, 3D Textures

**Unit 9: Working with Transparency, Reflection and Refraction**

(2 Lectures)

Creating Glass Material, Ramp, Connection Editor, Sampler Info Utility, Raytrace, Refractive Index

**Unit 10: Hypershade**

(2 Lectures)

Menu Bar, Create, Bin, Work Area, Creating Hypershade Material Workflow, Graph Network, Hierarchy, Hotkeys, Texture Baking

**Unit 11: Unwrap**

(2 Lectures)

UVW Co-ordinate System, UV Texture Editor, Mapping, Planar, Cylindrical, Spherical, Automatic, UV Sets, Snapshot, UTE Tools

**Unit 12: Utilities**

(1 Lecture)

Blend, Bump2D, Condition, Double Switch, hsv to rgb, Luminance, Multiply Divide, Placement, Average, Reverse, Sampler Info,

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## **PRACTICAL LECTURES: 100**

### **Unit 1: Maya Modeling Interface**

(5 Lectures)

Maya Workspace, Using Left, Mid, Right Mouse Buttons for Viewport, Working in Viewport

### **Unit 2: NURBS Modeling**

(10 Lectures)

Creating a 3D Model using NURBS

### **Unit 3: Poly Modeling**

(15 Lectures)

Creating an inorganic 3D Model using Poly

### **Unit 4: Unwrapping**

(10 Lectures)

Unwrapping a 3D Model

### **Unit 5: Texturing**

(20 Lectures)

Using Hypershade, Texturing an inorganic 3D Model, Creating Glass, Metal, Matte Surfaces, Raytracing Options

### **Unit 8: Inorganic Modeling and Texturing**

(20 Lectures)

Modeling, Unwrapping and Texturing inorganic characters and props

### **Unit 8: Organic Modeling and Texturing**

(20 Lectures)

Modeling, Unwrapping and Texturing organic characters

### **Suggested Readings**

1. Mastering Autodesk Maya 2014: Autodesk Official Press (Sybex Press Edition) by Todd Palamar
2. Introducing Autodesk Maya 2014
3. The Art of Maya: An Introduction to 3D Computer Graphics by T. Hawken

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## Credits-Theory 2

(2 lectures)

(6 lectures)

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(7 lectures)

(6 lectures)

*(Equal to 5 lectures)*

1. Carson, R. 2002. *Silent Spring*. Houghton Mifflin Harcourt.
2. Gadgil M., & Guha R. 1993. *This fissured land: An Ecological History of India*, Univ of California Press
3. Gleeson, B. and Low, N. (eds.) 1999. *Global Ethics and Environment*, London, Routledge
4. Gleick, P.H.1993. *Water in Crisis*. Pacific Institute for Studies in Development, Environment & Security
5. Groom, Martha J., Gary K. Meffe, and Carl Ronald Carroll. *Principles of Conservation Biology*.
6. Grumbine, R. Edward, and Pandit, M.K.2013. *Threats from India's Himalaya dams*. *Science*, 339: 36-37.
7. McCully, P. 1996. *Rivers no more: the environmental effects of dams* (pp.29-64).Zed Books.
8. McNeill, John R. *Something New Under the Sun: An Environment History of the Twentieth Century*.
9. Odum, E.P., Odum, H.T. & Andrews, J. 1971. *Fundamentals of Ecology*. Philadelphia Saunders.



(Credits: Theory-1; Practical-5)

## Integrating raster in vector software, raster tools, vector integration, tracing

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## **PRACTICAL LECTURES: 100**

### **Unit 1: Getting Started**

(5 Lectures)

Interface, Setting Input & Output Devices, Working with Control Surfaces

### **Unit 2: Panels**

(5 Lectures)

Files, Markers, Effects Rack, Diagnostics, Properties, Mixer, Editor, Selection View, Levels

### **Unit 3: Working with Waveform and Multi track editing**

(5 Lectures)

Working with Waveform, Multi track Editing, Tools, Working between Waveform & Multi track View, Zooming & Navigating, Snapping

### **Unit 4: Importing and Recording Audio**

(5 Lectures)

Importing Files into the File Panel, Recording Audio in the Waveform Editor, Recording Audio in the Multi track Editor, Inserting Audio Files into Editor, Adding Tracks into a Multi track view, Extracting Audio from an AV File, Exporting an audio

### **Unit 5: Editing Techniques**

(10 Lectures)

Selecting Waveform Ranges, Skip Selection, Crop Command, Using Multiple Clipboards, Utilizing Zero Crossing Points, Snapping, Clip Stretching, Amplitude Adjustments, Fading, Looping

### **Unit 6: Working with Effects**

(10 Lectures)

Introducing the Audio Effects, Applying Reverb Effects, Applying EQ Effects, Correcting Pitch, Amplify Effects, Metronome & Tempo Settings, Matching Volume across Audio Files

### **Unit 7: Noise Reduction**

(5 Lectures)

Using Spectral View, Applying DeEsser Effects for removing Sibilance from audio, Capturing a Noise Print, Noise Reduction Options, Adaptive Noise Reduction, Removing Clicks, Reducing Noise in the Spectral Display

### **Unit 8: Introduction to Illustrator**

(10 Lectures)

Interface, workspace, types of projects handled, import/export, basics of vector files

### **Unit 9: Tools**

(15 Lectures)

Integration tool panel, menu panel, control panels, library

### **Unit 10: Designing**

(25 Lectures)

Fundamentals of vector designing, layers, groups, vector design

### **Unit 11: Vector Raster handling**

(5 Lectures)

Integrating raster in vector software, raster tools, vector integration, tracing

## **Suggested Readings**

1. Adobe Audition CC Classroom in a Book By Adobe Creative Team
2. Audio Editing with Adobe Audition 1st Edition by Richard Riley

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**Semester III-Bachelor in Arts (Animation & Interior Design)**  
**Core Course V: 3D Lighting & Rendering with AUTODESK MAYA**  
**(Credits: Theory-1; Practical-5)**

**THEORY LECTURES: 20**

**Unit 1: Introduction**

(2 Lectures)

Physical Properties of Light, Bounce, Decay, Radiosity

**Unit 2: Illumination**

(2 Lectures)

Direct, Angle of Incidence, Indirect Illumination, Scanline and Arnold Illumination Attributes

**Unit 3: Three-Point Lighting**

(2 Lectures)

Key Light, Fill Light, Back Light, Rim Light, Shadow Areas, Intensity and Angle of Each

**Unit 4: CG Artificial Lighting**

(3 Lectures)

Types and Properties of Maya Lights, Ambient, Directional, Point, Spotlight, Area, Volume

**Unit 5: Shadows**

(3 Lectures)

Properties of CG Shadows, Types of Shadows, Shadow Map Introduction and Properties, Ray Traced Shadow Introduction and Properties

**Unit 6: Arnold Renderer**

(3 Lectures)

Properties of Photon Emission, Light Emission, Indirect illumination, Caustics, Radiosity, Environment

**Unit 7: Advanced Lighting**

(3 Lectures)

Attributes and Uses Direct and indirect illumination, Photon Color, Intensity, Exponent, Caustics, Color Bleeding, Ambient Occlusion, Accuracy, Interpolation, Reflections, Refractions, Max Trace Depth, Overrides

**Unit 8: Rendering**

(2 Lectures)

Managing Render Layers, Creating Render Passes, Render Setup, Renderers, Formats, Batch Render

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## **PRACTICAL LECTURES: 100**

### **Unit 1: Maya Lighting Interface**

(5 Lectures)

Working with Maya Lights, Properties of Ambient, Point, Spot, Directional, Area and Volume Light

### **Unit 2: Interior Lighting**

(20 Lectures)

Working with Window Light, Bulb Light, Bounces, Shadows, Occlusion

### **Unit 3: Exterior Lighting**

(20 Lectures)

Working with Sunlight, Skylight, Dome Setup, Exterior Shadows, Environment Properties

### **Unit 4: Day Lighting**

(5 Lectures)

Working with Light Recreating Sunlight and Sky Lighting

### **Unit 5: Night Lighting**

(5 Lectures)

Recreating Moonlight and night Ambience

### **Unit 6: Mood Lighting**

(5 Lectures)

Lighting a scene to create moods

### **Unit 7: Lighting with Arnold**

(25 Lectures)

Working with Photon Emission, Light Emission, Introduction to indirect illumination, Caustics, Radiosity, Environment, Arnold HDRI

### **Unit 8: Image Based Lighting**

(10 Lectures)

High Dynamic Range Images, Properties, Exposure, Gain, Mapping of HDRI, Samples, Ray Depth, Shadow Controls

### **Unit 9: Rendering**

(5 Lectures)

Creating Render Layers, Rendering various Passes, Batch rendering an animated scene

## **Suggested Readings**

1. Mental Ray for Maya, 3ds Max, and XSI: a 3d artist's guide to rendering: introducing autodesk maya 2014 by Boaz Livny
2. Mastering Autodesk Maya 2014: Autodesk Official Press (Sybex Press Edition) by Todd Palamar
3. Introducing Autodesk Maya 2014
4. The Art of Maya: An Introduction to 3D Computer Graphics by T. Hawken

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Semester III-Bachelor in Arts (Animation & Interior Design)

Core Course VI: 3D Rigging with Autodesk Maya

(Credits: Theory-1; Practical-5)

**THEORY LECTURES: 20**

**Unit 1: Introduction**

(2 Lectures)

What is Rigging and Animation, Relevance, Uses, Work Pipeline

**Unit 2: Traditional Principles of Animation**

(3 Lectures)

Squash and stretch, Anticipation, Staging, Straight Ahead Action and Pose to Pose, Follow Through and Overlapping Action, Slow In and Slow Out, Arc, Secondary Action, Timing, Exaggeration, Solid drawing, Appeal

**Unit 3: Graph Editor**

(2 Lectures)

Graph Editor Interface, Properties of Curves, Types of Curve, Introduction to Graph Editor Tools

**Unit 4: Bone Setup**

(2 Lectures)

Introduction to Bones, Joints, Uses, Hierarchy, Parenting

**Unit 5: Kinematics**

(3 Lectures)

Essentials of Forward Kinematics, Inverse Kinematics, FK-IK Switch

**Unit 6: Controllers**

(2 Lectures)

Introduction to Controllers, Uses of Controllers in rigging and Animation,

**Unit 7: Skinning**

(2 Lectures)

Introduction to Skinning, Process to Skin a 3D Model

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## **PRACTICAL LECTURES: 100**

### **Unit 1: Animation Workspace and Tools**

(5 Lectures)

Maya Rigging and Animation workspace, Tools for Rigging and Animation, Keyboard Hotkeys, Setting up FPS and Timeline, Preferences

### **Unit 2: The Bouncing Ball**

(5 Lectures)

Animating a Bouncing Ball according to the Principles, Keyframe Animation, Working with Basic Animation Tools

### **Unit 3: Graph Editor**

(5 Lectures)

Working with the Graph Editor, Using Curves, Types of Curves, In Tangents, Out Tangents, Weighted Tangents, Graph Curve Controls for Speed

### **Unit 4: Pendulum**

(5 Lectures)

Parenting Objects, Animating a Pendulum Loop, Pre Infinity, Post Infinity, Oscillate

### **Unit 5: Setting up Bones**

(5 Lectures)

Creating Bones and Joints in a 3D Model, Using Bones and Joints, Rigging Basic Tools

### **Unit 6: Kinematics**

(10 Lectures)

Working with Forward Kinematics, Inverse Kinematics, Creating FK-IK Switch

### **Unit 7: Controllers**

(10 Lectures)

Setting up Controllers, Using Controllers to control the bones and rig, Animating using Controllers

### **Unit 8: Biped Rig**

(20 Lectures)

Creating a Biped Full Body Rig and setting up IK and FK

### **Unit 9: Skinning**

(10 Lectures)

Skinning a 3D Model to the Rig, Using Quick Selection Sets, Adjusting Influence, Paint Weights, Blend Shapes

### **Suggested Readings**

1. Animation Methods - Rigging Made Easy: Rig Your First 3D Character in Maya Paperback by David Rodriguez
2. Mastering Autodesk Maya 2014: Autodesk Official Press (Sybex Press Edition) by Todd Palamar
3. Introducing Autodesk Maya 2014
4. The Art of Maya: An Introduction to 3D Computer Graphics by T. Hawken

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**Semester III-Bachelor in Arts (Animation & Interior Design)**  
**Core Course VII: 2D Computer Aided Architectural Drafting with AUTOCAD**  
**(Credits: Theory-1; Practical-5)**

**THEORY LECTURES: 20**

**Unit 1: Introduction**

(3 Lectures)

AutoCAD Workspace, Screen Layout, Command Lines, Navigating Interface

**Unit 2: Basic Drawing & Editing Commands**

(3 Lectures)

Unit setting, Introduction to Lines, Erasing Objects, Polar Tracking, Rectangles, Circles, Viewing Drawing, Basic Commands for Editing Drawings,

**Unit 3: Advanced Drawing**

(2 Lectures)

Precision and Accuracy in Drawings, Object Snap, Snap Overrides, Polar Tracking Settings, Object Snap Tracking, Using SNAP and GRID, Grips for Editing

**Unit 4: Objects Types**

(2 Lectures)

Properties of Arcs, Polylines, Polygons, Ellipses

**Unit 5: Object Editing**

(2 Lectures)

Essentials of Trimming and Extending, Layers, Stretching, Fillets and Chamfers, Offset, Arrays, Blocks, Concept of Hatching

**Unit 6: Using Dimensions**

(2 Lectures)

Dimensioning Concepts, Fundamentals of Linear Dimensions, Radial and Angular Dimensions.

**Unit 7: Advanced Commands**

(2 Lectures)

Express, Parametric, Quick effects, add selective, dimscales etc

**Unit 8: Electrical Planning**

(2 Lectures)

Creating residential and commercial electrical planning

**Unit 9: Plumbing Planning**

(2 Lectures)

Creating residential and commercial plumbing planning

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## **PRACTICAL LECTURES: 100**

### **Unit 1: Introduction**

**(5 Lectures)**

AutoCAD Interface, Screen Layout, Working with Commands, Opening an Existing Drawing File, Saving, Navigating Workspace

### **Unit 2: Objects Types**

**(5 Lectures)**

Drawing Arcs, Drawing Polylines, Editing Polylines, Drawing Polygons, Drawing Ellipses

### **Unit 3: Basic Drawing & Editing Commands**

**(10 Lectures)**

Drawing Lines, Erasing Objects, Drawing Lines with Polar Tracking, Drawing Rectangles, Drawing Circles, Viewing Drawing, Undoing and Redoing Actions

### **Unit 4: Advanced Drawing**

**(10 Lectures)**

Drawing Precision, Using Object Snap, Object Snap Overrides, Polar Tracking Settings, Object Snap Tracking, Drawing with SNAP and GRID

### **Unit 5: Editing Drawings**

**(10 Lectures)**

Selecting Objects for Editing, Moving Objects, Copying Objects, Rotating Objects, Scaling Objects, Mirroring Objects, Editing Objects with Grips

### **Unit 6: Layers**

**(10 Lectures)**

Working with Layers, Creating New Drawings with Templates, Layer State, Changing an Object's Layer

### **Unit 7: Object Editing**

**(10 Lectures)**

Measuring Objects, Working with Properties, Trimming and Extending, Stretching Objects, Creating Fillets and Chamfers, Offsetting Objects, Creating Arrays of Objects, Blocks, Hatching

### **Unit 8: Using Dimensions**

**(10 Lectures)**

Working with Dimensions, Adding Linear Dimensions, Adding Radial and Angular Dimensions, Editing Dimensions, Adding Notes to Your Drawing

### **Unit 9: Advanced Commands**

**(10 Lectures)**

Express, Parametric, Quick effects, add selective, dimscale etc

### **Unit 10: Electrical Planning**

**(10 Lectures)**

Creating residential and commercial electrical planning

### **Unit 11: Plumbing Planning**

**(10 Lectures)**

Creating residential and commercial plumbing planning

## **Suggested Readings**

1. AutoCAD 2016 and AutoCAD Lt 2016 No Experience Required: Autodesk Official Press Paperback by Donnie Gladfelter
2. AutoCAD 2015 and AutoCAD LT 2015 Essentials: Autodesk Official Press by Scott Onstott
3. AutoCAD 2015 and AutoCAD LT 2015 Bible Paperback by Ellen Finkelstein

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**Semester III-Bachelor in Arts (Animation & Interior Design)**

**SEC I: 3D Sculpting with ZBrush**

**(Credits: Practical-2)**

**PRACTICAL LECTURES: 40**

**Unit 1: Sculpting with Clay**

**(5 Lectures)**

Traditional Clay Modeling and Sculpting

**Unit 2: Introduction to ZBrush**

**(5 Lectures)**

Tools & Interface, Clay Brush, Geometry Resolution, Establishing Structure, Masking, Using A Knife Tool, Dynamesh

**Unit 3: Production Modeling**

**(5 Lectures)**

Essence of Design, Topology, Technical best practices, presenting work

**Unit 4: Human Anatomy**

**(5 Lectures)**

Introduction to Human Anatomy, Skeletal masses, Proportions, Torso, Neck, Shoulder, Arms, Lower body, Leg, Foot, Tying and Finalizing the Full Figure

**Unit 5: Animal Anatomy**

**(5 Lectures)**

Creature anatomy overview, Head, Neck, Torso, Legs, Combining anatomy

**Unit 6: Texturing with ZBrush**

**(5 Lectures)**

Core themes and major groups of the upper body, the creation of additional maps for creating a realistic head, Hand painted fundamentals creature assets, Final Image and presentation

**Unit 7: Character Creation**

**(5 Lectures)**

Body proportions, Blockout modeling, Primary form sculpting, Head, Detailing hair and face guts blockout, Clothing sculpting and detailing, Gear and hard surface modeling, Retopology, UV layout, Shaders setup, Base Textures and Material Breakup, Skin and Cloth detail, Hard Surface and detail, Hair texture, Finalizing textures, Character presentation, Posing, Turnaround renders sculpt and in-game, and Beauty Render

**Unit 5: Maya to ZBrush**

**(5 Lectures)**

Connection and exchange of file formats between Maya and ZBrush

**Suggested Readings**

1. ZBrush Digital Sculpting Human Anatomy Paperback by Scott Spencer
2. ZBrush Character Sculpting: v. 1: Projects, Tips & Techniques from the Masters Paperback by 3DTotol Team, Michael Jensen, Rafael Grassetti, Jesse Sandifer, Cedric Seaut
3. Anatomy for 3D Artists: The Essential Guide for CG Professionals Paperback by Chris Legaspi, 3DTotol Publishing
4. ZBrush Professional Tips and Techniques Paperback by Rick Baker, Paul Gaboury

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**Semester III-Bachelor in Arts (Animation & Interior Design)**

**SEC I: 3D Sculpting with ZBrush**

**(Credits: Practical-2)**

**PRACTICAL LECTURES: 40**

**Unit 1: Introduction to ZBrush** (5 Lectures)  
(5 Lectures)

Tools & Interface, Clay Brush, Geometry Resolution, Establishing Structure, Masking, Using A Knife Tool, Dynamesh

**Unit2 : Production Modeling** (5 Lectures)

Essence of Design, Topology, Technical best practices, presenting work

**Unit 3: Human Anatomy** (5 Lectures)

Introduction to Human Anatomy, Skeletal masses, Proportions, Torso, Neck, Shoulder, Arms, Lower body, Leg, Foot, Tying and Finalizing the Full Figure

**Unit 4: Texturing with ZBrush** (5 Lectures)

Core themes and major groups of the upper body, the creation of additional maps for creating a realistic head, Hand painted fundamentals creature assets, Final Image and presentation

**Unit 5: Maya to ZBrush** (5 Lectures)

Connection and exchange of file formats between Maya and ZBrush

**Suggested Readings**

1. ZBrush Digital Sculpting Human Anatomy Paperback by Scott Spencer
2. ZBrush Character Sculpting: v. 1: Projects, Tips & Techniques from the Masters Paperback by 3DTotol Team, Michael Jensen, Rafael Grassetti, Jesse Sandifer, Cedric Seaut
3. Anatomy for 3D Artists: The Essential Guide for CG Professionals Paperback by Chris Legaspi, 3DTotol Publishing
4. ZBrush Professional Tips and Techniques Paperback by Rick Baker, Paul Gaboury

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**Semester III-Bachelor in Arts (Animation & Interior Design)**

**GE III: Video Editing With Adobe Premiere Pro**

**(Credits: Theory-1; Practical-5)**

**THEORY LECTURES: 20**

**Unit 1: Introduction**

**(2 Lectures)**

Introduction to Video Editing, Non-Linear Editing, Online and Offline Editing, PAL, NTSC, Frame Rate, Frame Size

**Unit 2: Setting up a Project**

**(2 Lectures)**

Compatible Formats, Importing Files from Camera, Importing Image Sequence, Importing Video, Sequence Settings, In Points, Out Points, Presets, Video Settings, Preview Settings, Project Path

**Unit 3: Essentials of Basic Editing**

**(3 Lectures)**

Audio Video File, Timeline Arrangements, Requisites for Editing, Keyboard hotkeys

**Unit 4: Video Transitions**

**(3 Lectures)**

Automate to Sequence Dialog, Effects Panel, Properties of Video Transitions, Controlling Parameters, Keyframe Animation of Effects

**Unit 5: Audio**

**(1 Lectures)**

Mono, Stereo, Compatible Audio Formats, Importing Audio to Sequence, Audio Settings, Audio Preview and Render, Audio Channels,

**Unit 6: Audio Effects and Transitions**

**(1 Lectures)**

Properties of Audio Effects and Transitions, Source Window Audio Controls, Keyframe Animation of Audio Effects

**Unit 7: Title Design**

**(2 Lectures)**

New Title Document, New Title Settings, Title Dialog, Safe Frames

**Unit 8: Superimposing**

**(1 Lectures)**

Superimposing Basics, Using Timeline Tracks as layers for combining footages from various source to produce desired effects, Controlling Color, Opacity, Size, Angle and animation of footages

**Unit 9: Live Shoot Integration**

**(5 Lectures)**

Live shoot and using it for digital integration

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## **PRACTICAL LECTURES: 100**

### **Unit 1: Interface**

**(5 Lectures)**

Menu Bar, Project Window, Source Window, Program Window, Timeline, Media Browser, Info Panel, Effects Panel, Keyframes

### **Unit 2: Basic Editing**

**(10 Lectures)**

Creating a Sequence, Importing Files, Using In Point and Out Point in the Source Window, Adding and Deleting Tracks, Working with the Timeline, Exporting the Final Output

### **Unit 3: Working with Tools**

**(5 Lectures)**

Using Selection tool, Track Select tool, Ripple Edit tool, Rolling Edit tool, Rate Stretch tool, Razor tool, Slip tool, Slide tool, Pen tool, Hand tool, Zoom tool

### **Unit 4: Video Effects and Transitions**

**(10 Lectures)**

Applying Video Effects and Transitions on Footages, Dissolve, Fade, Wipe, Flip, Spin, Dip to Black, Dip to White, Stretch, Slide, Special Effects

### **Unit 5: Audio Effects and Transitions**

**(5 Lectures)**

Importing only Audio from an AV file, working with Audio Effects and Audio Transitions, Applying it on the tracks in the Timeline

### **Unit 6: Advanced Editing**

**(10 Lectures)**

Editing Sequence directly in the timeline using editing tools, , Trim, Gap, Ripple, Rate, Speed and Duration, Tint Color Correcting a Footage

### **Unit 7: Title Design**

**(10 Lectures)**

Creating a Title Document, Title Design Tools, Templates, Animating Tiles, Roll, Crawl, Transform, Distort, Color, Transparency, Fonts

### **Unit 8: Chroma Removal**

**(10 Lectures)**

Removal of Chroma using Ultra Keyer and Chroma Key

### **Unit 9: Keyframe Controls**

**(5 Lectures)**

Animating Effects, Transitions and Properties using Keyframe Controls and Effects Control Panel

### **Unit 10: Editing a Video**

**(20 Lectures)**

Editing a video complete with Effects, Transitions, Titles, Keyframing and adding Audio, Rendering the Project, Supported Video Formats, Compressions

### **Unit 11: Live Shoot Integration**

**(15 Lectures)**

Live shoot and using it for digital integration

### **Suggested Readings**

1. Adobe Premiere Pro CS6 Classroom in a Book by Sandee Adobe Creative Team
2. Mastering Adobe Premiere Pro CS6 Hotshot Paperback by Paul Ekert
3. Adobe Premiere Pro CC Classroom in a Book by Maxim Jago

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**Semester IV-Bachelor in Arts (Animation & Interior Design)**  
**Core Course VIII:-3D Modeling with Autodesk 3DS MAX**  
**(Credits: Theory-1; Practical-5)**

**THEORY LECTURES: 20**

**Unit 1: Introduction to 3ds Max**

**(2 Lectures)**

3D Studio Max Software Introduction, Controlling the Viewport  
Keyboard and Mouse

Navigation through

**Unit 2: Primitives**

**(2 Lectures)**

Primitive Objects, Create Panel, Create Geometry, Standard Primitives, Object Parameters, Extended Primitives, Renaming Objects, Modifying Object Parameters, Transforming Objects, Translate, Rotate, Scale, Gizmo, Status Bar Type-in Fields, Vertex, Edge, Border, Polygon, Element

**Unit 3: Splines**

**(2 Lectures)**

Basic Spline Shape Objects, NURBS Curves, Extended Spline, Rendering Panel, Interpolation Panel, Creation Method, Vertex, Segment, Spline, Refine, Snap, Vertex Types, Fillet, Chamfer, Weld, Attach, Break, Mirror

**Unit 4: Compound Objects**

**(1 Lecture)**

Loft, Boolean, ProBoolean

**Unit 5: Modifiers**

**(1 Lectures)**

Method of working of Extrude, Lathe, Bend, Noise, FFD, Wave etc

**Unit 6: Polygon Modeling**

**(2 Lectures)**

Editable Poly, Vertex, Edge, Border, Polygon, Element, Editing Geometry, Tools for Poly Modeling, Graphite Modeling Ribbon

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## **PRACTICAL LECTURES: 100**

### **Unit 1: Introduction to Max Workspace**

**(5 Lectures)**

Interface, Application Button, Quick Access Toolbar, Caption Bar, Info Center, Window Controls, Menu Bar, Main Toolbar, Viewports, View Cube, Command Panel, Track Bar, Status Bar, Viewport Navigation Controls, Camera Navigation Controls,

### **Unit 2: Primitives, Splines, Compound Objects**

**(10 Lectures)**

Working with Standard Primitives, Splines and Compound Objects, Using Transform Tools

### **Unit 3: Modifiers (5 Lectures)**

Using Extrude, Lathe, Bend, Noise, FFD, Wave, Controlling their Attributes

### **Unit 4: Polygon Modeling**

**(15 Lectures)**

Creating a 3D Model with Editable Poly, Using Vertex, Edge, Border, Polygon, Elements and their individual parameters to model

### **Unit 5: Unwrapping**

**(20 Lectures)**

Using UVW Map, Unwrap UVW, Unwrapping a 3D Model, UV Editor, Texture Painting with Photoshop, Importing Unwrap in Photoshop for Texture Painting, Adding Textures, Working with Layers and Modes, Exporting Textures For Wrapping in 3DS Max

### **Unit 6: Texturing**

**(20 Lectures)**

Using Material Editor, Texturing a Model, Using Map Bump, Displacement, Specular, Glossiness, Creating Glass, Metal, Matte Surfaces, Working with Raytrace, Creating Incandescence material

### **Unit 7: Product Modeling and Texturing**

**(10 Lectures)**

Modeling, Unwrapping and Texturing a Product

### **Unit 8: Interior Prop Modeling and Texturing**

**(20 Lectures)**

Modeling, Unwrapping and Texturing Interior Props

## **Suggested Readings**

1. Autodesk 3ds Max 2016 Essentials Paperback by Dariush Derakhshani and Randi L. Derakhshani
2. Autodesk 3ds Max 2015 Essentials: Autodesk Official Press Paperback by Randi L. Derakhshani and Dariush Derakhshani
3. Architectural Rendering with 3ds Max and V-Ray: Photorealistic Visualization Paperback by Markus Kuhlo, Enrico Eggert
4. V-Ray My Way: A Practical Designer's Guide to Creating Realistic Imagery Using V-Ray & 3ds Max Paperback by Lee Wylde
5. Exploring Standard Materials in 3ds Max 2016 Paperback – Import, 21 Jul 2015 by Raavi O'connor



**Semester IV-Bachelor in Arts (Animation & Interior Design)**

**Core Course IX: Motion Graphics with After Effects**

**(Credits: Theory-1; Practical-5)**

**THEORY LECTURES: 20**

**Unit 1: Introduction**

**(2 Lectures)**

Introduction to Motion Graphics, Multilayer Video Compositing, Films and Video Post Production Process

**Unit 2: Composition**

**(1 Lecture)**

Composition Properties, Pixel Aspect Ratio, Frame, Motion Graphics

**Unit 3: Tools**

**(3 Lectures)**

Selection Tool, Hand Tool, Zoom Tool, Rotation Tool, Unified Camera Tool, Pan Behind Tool, Rectangle Tool, Pen Tool, Type Tool, Brush Tool, Stamp Clone Tool, Eraser Tool, Roto Brush Tool, Puppet Pin Tool

**Unit 4: Text**

**(1 Lecture)**

Text Layer Options, Animate, Based on, Amount, Shape, Smoothness, Ease High/Ease Low, Randomize Order, Fill Color, Stroke Color, Stroke Width, Character Offset

**Unit 5: Mask**

**(3 Lectures)**

Vertices, Segments, Mask Path, Mask Feather, Mask Opacity, Mask Expansion

**Unit 6: Import**

**(1 Lecture)**

Acceptable Formats, Footage Aspect Ratio, Frame Rate, Setting up the Fields

**Unit 7: Keying**

**(3 Lectures)**

Process and Advantages of Keying, Chroma Setup, Reasons to Choose Green or Blue Color, Chroma Lighting

**Unit 8: Color Correction**

**(2 Lectures)**

Process of Color Changes, Levels, Color Balance, Hue/Saturation, Brightness/Contrast, Curves

**Unit 9: Tracking & Stabilizing**

**(2 Lectures)**

Concept and Process of Tracking and Stabilizing, Track Points, Tracker Controls, Motion Stabilizer Channels, 4 Point Tracking

**Unit 10: 3D Layers in AE**

**(2 Lectures)**

3D Layers, Parallax, Converting Images into 3D Layers, Particles

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## **PRACTICAL LECTURES: 100**

### **Unit 1: AE Interface**

**(5 Lectures)**

Toolbar, Project Window, Composition Window, Timeline, Effects Panel, Playback Panel

### **Unit 2: Creating a Composition**

**(5 Lectures)**

Composition Settings, Name, Preset, Width, Height, Pixel Aspect Ratio, Frame, Start Time Code, Duration, Creating Layers, Solid, Animating a Layer

### **Unit 3: Text**

**(10 Lectures)**

Text Layer, Animating Source Text, Animating Text on an Path, Animating Text, Applying Wiggle

### **Unit 4: Mask Animation**

**(5 Lectures)**

Using Mask, Advanced Timeline Option, Uniform Scaling, Nesting, Key frame Interpolation, Spatial Interpolation, Temporal Interpolation, Modes, Controlling Motion Blur, Quality, RAM Preview

### **Unit 5: Motion Graphics**

**(10 Lectures)**

Creating Motion Graphics using Solids, Masks and Animating Transform Nodes

### **Unit 6: Chroma Removal**

**(10 Lectures)**

Working with Key Light, Color Key, Color Range, Linear Color Key, Color Difference key, Luma Keyer, Spill Suppression, Choker

### **Unit 7: Color Correcting Footages**

**(5 Lectures)**

Using Effects for Correcting Color of a Footage, Levels, Color Balance, Hue/Saturation, Brightness/Contrast, Curves

### **Unit 8: Extracting/Creating Contact Shadows for Chroma Footages**

**(5 Lectures)**

Using Extract Effect for Contact Shadows

### **Unit 9: Wire Removal and Rotoscopy**

**(10 Lectures)**

Using Paint to remove wires, Paint Panel, Removing Wire in Still Cam Footage, Removing Wire in Moving Cam Footage

### **Unit 10: Rotoscopy**

**(10 Lecture)**

Working with Rotoscopy

### **Unit 11: Tracking & Stabilizing**

**(5 Lectures)**

Tracking and Stabilizing a Footages, Track Points, Tracker Controls, Motion Stabilization

### **Unit 12: Camera Projection**

**(9 Lectures)**

Camera Projection, Creating Parallax, Orbit Camera Tool, Track Tool, Collapse Transform, Using Particles

### **Unit 13: Exporting**

**(1 Lecture)**

Render Queue, Supported Formats, Render Setting, Module, Compression

### **Unit 14: Creating a Promo**

**(10 Lectures)**

Creating a Promo with Motion Graphics, Texts, Videos, Images, Transitions

## **Suggested Readings**

1. Adobe After Effects CC Classroom in a Book by Adobe Creative Team
2. After Effects Apprentice: Real-World Skills for the Aspiring Motion Graphics Artist (Apprentice Series)
3. The After Effects Illusionist: All the Effects in One Complete Guide by Chad Perkins



**Semester IV-Bachelor in Arts (Animation & Interior Design)**  
**Core Course X: Advanced 2D Architectural Drafting with AUTOCAD & SketchUp**  
**(Credits: Theory-1; Practical-5)**

**THEORY LECTURES: 20**

**Unit 1: Reusing Content**

(2 Lectures)

Introduction to Groups, Blocks, Using By Layer and By Block object properties, Redefining blocks, Exploding objects, Dynamic block, External block content

**Unit 2: Defining Attributes and Configuring Tables**

(2 Lectures)

Designing a symbol with text placeholders, Designing attribute definitions, Defining a block with attributes, Creating a table, Styling a table's title text, Adding fields to tables

**Unit 3: Making External References**

(2 Lecture)

Exporting objects to a file, Attaching and overlaying xrefs, Altering xrefs, Clipping xrefs, Editing xrefs in place, Removing xrefs

**Unit 4: Basics of Annotation**

(2 Lectures)

Introduction to Annotations, Text in a Drawing, Multiline Text, Coordinate Entry, DWF Printing and Publishing, DWF Plotting and Viewing

**Unit 5: The Command Line**

(2 Lecture)

The AutoCAD command line, Customizing the Command Line Settings, Input settings, Lines of prompt history, Input search options, Transparency Options, Typing commands, Keyboard shortcuts, Suggestion menu, Sub-menus

**Unit 6: Introduction to SketchUp**

(2 Lecture)

Interface, Workspace, Formats

**Unit 7: 3D Modeling in SketchUp**

(2 Lectures)

3D modeling in Sketcup, Setting, Commands

**Unit 8: Tools**

(2 Lectures)

Advanced tools and commands for SketchUp

**Unit 9: Texturing in SketchUp**

(2 Lectures)

Basic Texturing, Texture Controls, Material Mapping, Procedural Maps and Bitmaps, Supported Formats for Texturing from Bitmaps

**Unit 10: Lighting and Rendering in SketchUp and Vray**

(2 Lectures)

Lighting Properties, Light Properties Palette, Standard Lights, Photometric Lights

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## **PRACTICAL LECTURES: 100**

### **Unit 1: Reusing Content**

**(5 Lectures)**

Working with groups, Creating and inserting blocks, Using By Layer and By Block object properties, Redefining blocks, Exploding objects with Explode and Xplode, Designing a dynamic block, Accessing external block content, Redefining local blocks with global blocks

### **Unit 2: Defining Attributes and Configuring Tables**

**(10 Lectures)**

Designing a symbol with text placeholders, Designing attribute definitions, Defining a block with attributes, Creating a table, Styling a table's title text

### **Unit 3: Basics of Annotation**

**(10 Lectures)**

Working with Annotations, Adding Text in a Drawing, Modifying Multiline Text, Formatting Multiline Text, Coordinate Entry, DWF Printing and Publishing, DWF Plotting and Viewing, Publishing Drawing Sets

### **Unit 4: Using the Command Line**

**(10 Lectures)**

The AutoCAD command line, Positioning the command line, Closing the command line, Input settings, Lines of prompt history, Input search options, Transparency Options

### **Unit 5: Introduction to 3D with AutoCAD**

**(5 Lectures)**

3D Interface, Arranging elevations and sections around the plan, Deleting, purging, and cleaning up

### **Unit 6: 3D Modeling in AutoCAD**

**(10 Lectures)**

Navigating in AutoCAD 3D, Extruding closed Polylines walls, Building sills and headers, Extruding interior partitions, Modeling curved headers, Moving the ceiling using a point filter, Building the first-floor slab

### **Unit 7: Advanced Modeling**

**(10 Lectures)**

Using Tools For Advanced 3D Modeling, Modeling doors with glazing, Building windows and their frames, Joining and extruding stair profiles, Sub object manipulation, Modeling stairs from plans, Building a railing that follows a 3D path, Modeling Terrain Surfaces, Shaping the courtyard as a NURBS surface, Sculpting a sloping terrain, Slicing topographic contour lines

### **Unit 6: Introduction to SketchUp**

**(5 Lecture)**

Interface, Workspace, Formats

### **Unit 7: 3D Modeling in SketchUp**

**(5 Lectures)**

3D modeling in Sketcup, Setting, Commands

### **Unit 8: Tools**

**(10 Lectures)**

Advanced tools and commands for SketchUp

### **Unit 9: Texturing in SketchUp**

**(10 Lectures)**

Basic Texturing, Texture Controls, Material Mapping, Procedural Maps and Bitmaps, Supported Formats for Texturing from Bitmaps

### **Unit 10: Lighting and Rendering in SketchUp and Vray**

**(10 Lectures)**

Lighting Properties, Light Properties Palette, Standard Lights, Photometric Lights

### **Suggested Readings**

1. AutoCAD 2016 and AutoCAD Lt 2016 No Experience Required: Autodesk Official Press Paperback by Donnie Gladfelter
2. Mastering Autocad 2015 and AutoCAD LT 2015 Paperback by George Omura
3. Architectural Model making Paperback by Nick Dunn



**Semester IV-Bachelor in Arts (Animation & Interior Design)**

**SEC II: Stop Motion Animation**

**(Credits: Practical-2)**

**PRACTICAL LECTURES: 40**

**Unit 1: Introduction**

**(2 Lectures)**

Outline of Stop Motion, Requisites, Procedure, Uses, Types

**Unit 2: Pre Production**

**(8 Lectures)**

Story line up, Creating a Setup, Scripting, Storyboarding, Camera setup, Camera Angles

**Unit 3: Props**

**(10 Lectures)**

Creating various Characters and props from Paper and Clay, Coloring the props, Setting up Environment

**Unit 4: Production**

**(10 Lectures)**

Building Set, Shooting and Animating frame by frame

**Unit 5: Post Production**

**(5 Lectures)**

Importing the frames in a Editing Software, Aligning the shots, Color Correction, Transitions

**Unit 6: Final Video**

**(5 Lectures)**

Adding Titles and credits in the video, Rendering the developed Stop Motion Video

**Suggested Readings**

1. The Art of Stop-motion Animation Paperback by Ken Priebe
2. The Advanced Art of Stop-Motion Animation by Ken A. Priebe
3. Stop Motion Animation: How to Make & Share Creative Videos Paperback by Melvyn Ternan

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**Semester IV-Bachelor in Arts (Animation & Interior Design)**

**GE IV: Photography**

**(Credits: Theory-1; Practical-5)**

**THEORY LECTURES: 20**

**Unit 1: Introduction to Photography**

**(1 Lecture)**

Photography as an art and science, Uses and applications of Photography

**Unit 2: History of Photography**

**(1 Lecture)**

The birth of the camera, Modernization of photography, Introduction of digital photography

**Unit 3: Photography equipments**

**(1 Lecture)**

Cameras, Lenses, Filters, Tripods, Monopods, Camera Bags, Digital storage

**Unit 4: Understanding a Camera**

**(2 Lecture)**

Parts of the camera, Exposure triangle, Setting aperture, Shutter speed, Understanding ISO, Other manual controls

**Unit 5: Techniques for taking Professional Photographs**

**(1 Lecture)**

Tripod and its importance, Types of lenses, Understanding Background & Lighting, Rule of thirds, Resolutions

**Unit 6: Different Shots Terminology**

**(2 Lectures)**

Long shot, Mid shot, Close-up shot, Two shot, Over the shoulder shot

**Unit 7: Understanding Lights for photography**

**(2 Lectures)**

Different types of light equipment, Different types of lighting, Indoor lighting, Outdoor lighting, Universal lighting, Categorical lighting, Special or Mood lightin

**Unit 8: Types of Photography**

**(2 Lectures)**

Portraits, Landscape, Fashion, Film Photography, Product Photography, Wildlife, Child Photography, Stage Programme, Press photography, Sports Photography, Table top, Macro

**Unit 9: Indoor and Outdoor Photography**

**(2 Lectures)**

Taking Portraits, Taking group photos, Taking function photos, Wedding Photography, Nature Photography, Landscape Photography

**Unit 10: Photo Editing with Photoshop**

**(2 Lectures)**

Basics of Importing digital image to PC, Photo Correction, Cropping, Levels, Altering brightness & contrast, Hue & Saturation, Red eye, Cloning, Printing

**Unit 11: Photo Manipulation with Photoshop**

**(2 Lectures)**

Fundamentals of Layers, Mask, Brush tools, Adjustment layers, Layer merging, Dodging and burning

**Unit 12: Photo Marketing**

**(1 Lecture)**

Work sampling, Portfolio making, Business card, Referrals, Networking, Social Media, Print Ads, Photo Exhibitions

**Unit 13: Employment Opportunities**

**(1 Lecture)**

Opportunities in Government Sectors, Business Sectors, Private Sectors and Film Industry

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## **PRACTICAL LECTURES: 100**

### **Unit 1: Getting started**

**(5 Lectures)**

Selection of cameras, Introduction to DSLR, Handling Camera

### **Unit 2: Using Photography equipments**

**(10 Lectures)**

Using Cameras, Lenses, Filters, Tripods, Monopods, Camera Bags, Digital storage

### **Unit 3: Understanding a Camera**

**(15 Lectures)**

Working with a Camera, Exposure triangle, Setting aperture, Shutter speed, Understanding ISO, Other manual controls

### **Unit 4: Techniques for taking Professional Photographs**

**(10 Lectures)**

Using Tripod, Using Different Types of lenses, Effective Background & Lighting, Applications of Rule of thirds, Output Resolutions

### **Unit 5: Types of Shots**

**(10 Lectures)**

Capturing Long shot, Mid shot, Close-up shot, Two shot, Over the shoulder shot

### **Unit 6: Understanding Lights for photography**

**(10 Lectures)**

Handling light equipment, working with different types of lighting, Indoor lighting, Outdoor lighting, Universal lighting, Categorical lighting, Special or Mood lighting

### **Unit 7: Working with Different Types of Photography**

**(10 Lectures)**

Capturing Portraits, Landscape, Fashion, Film Photography, Product Photography, Wildlife, Child Photography, Stage Programme, Press photography, Sports Photography, Table top, Macro

### **Unit 8: Indoor and Outdoor Photography**

**(10 Lectures)**

Portraits, Group photos, Function photos, Wedding Photography, Nature Photography, Landscape

### **Unit 9: Photo Editing with Photoshop**

**(10 Lectures)**

Importing digital image to your PC, Photo Correction, Cropping, Levels, Altering brightness & contrast, Hue & Saturation, Red eye reduction, Cloning, Printing

### **Unit 10: Photo Enhancement with Photoshop**

**(10 Lectures)**

Using Layers, Applying a layer mask, Brush tools, Adjustment layers, Layer merging, Dodging and burning, Adding Vignette

## **Suggested Readings**

1. Photography: Canon DSLRs For Beginners - The Ultimate Guide to Taking Stunning, Beautiful Digital Pictures With Your Canon Camera (Digital Photography, Photography Books, DSLR Photography) by Jessica Collins
2. DSLR Photography for Beginners: Take 10 Times Better Pictures in 48 Hours or Less! Best Way to Learn Digital Photography, Master Your DSLR Camera & Improve Your Digital SLR Photography Skills by Brian Black
3. Digital Photography for Beginners: The Fastest Way to Learn the Essentials and Start Taking Great Shots by Kush Sharma



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## **PRACTICAL LECTURES: 100**

### **Unit 1: Texturing**

(2 Lectures)

Introduction to 3D Texturing, Texture Coordinates, Unwrapping, Render UV Template, Exporting for Image Editing Software

### **Unit 2: Material Editor**

(2 Lectures)

Compact Material Editor Interface, Slots, Tools, Material Parameters, Maps, Bitmaps, Procedural Maps, Slate Material Editor, Creating Materials, Using Maps

### **Unit 3: Unwrapping in 3DS Max**

(2 Lectures)

Concept of Unwrapping, UVW Mapping, Unwrap UVW, UV Editor

### **Unit 4: Unwrap Editor and Tools**

(2 Lectures)

UV Editor Interface and Tools, Working with Checker, Texture Placement, Seams, Projections, Peel, Pelt, Relax, Stitch

### **Unit 5: Ray tracing**

(2 Lectures)

Essentials of Transparency, Reflectivity, Refractivity, Translucency, Fall off, Using Curves

### **Unit 6: Lighting Interface**

(5 Lectures)

Working with Max Lights, Properties of Ambient, Point, Spot, Directional, Area and Volume Light

### **Unit 7: Working with Max Shadows**

(10 Lectures)

Using Shadow Map, Ray Traced Shadows, Area Shadows, Advanced Ray Traced Shadows, Mental Ray Shadow Map

### **Unit 8: Interior Lighting**

(10 Lectures)

Working with Window Light, Bulb Light, Bounces, Shadows, Occlusion

### **Unit 9: Exterior Lighting**

(10 Lectures)

Working with Sunlight, Skylight, Dome Setup, Exterior Shadows, Environment Properties

### **Unit 10: Day Lighting**

(10 Lectures)

Working with Light Recreating Sunlight and Sky Lighting

### **Unit 11: Night Lighting**

(10 Lectures)

Recreating Moonlight and night Ambience

### **Unit 12: Photometric Lights**

(10 Lectures)

Lighting an architectural scene using Photometric Lights

### **Unit 13: V Ray**

(5 Lectures)

Using V ray for interior exterior designing

### **Unit 14: SkyLight and Environment Lighting**

(10 Lectures)

Using Photon Mapping, High Dynamic Range Images, Environment Lighting, Image Based Lighting, Sun and Sky Light, Vray Light, sky and HDRI

### **Unit 15: Rendering**

(5 Lectures)

Creating Render Layers, Managing and Rendering various Passes

### **Suggested Readings**

1. Autodesk 3ds Max 2016 Essentials Paperback by Dariush Derakhshani and Randi L. Derakhshani
2. Autodesk 3ds Max 2015 Essentials: Autodesk Official Press Paperback by Randi L. Derakhshani and Dariush Derakhshani
3. Architectural Rendering with 3ds Max and V-Ray: Photorealistic Visualization Paperback by Markus Kuhlo, Enrico Eggert
4. V-Ray My Way: A Practical Designer's Guide to Creating Realistic Imagery Using V-Ray & 3ds Max Paperback by Lee Wylde



Semester V-Bachelor in Arts (Animation & Interior Design)

Core Course XII: 3D Animation with AUTODESK MAYA

(Credits: Theory-1; Practical-5)

**THEORY LECTURES: 20**

**Unit 1: Introduction**

(2 Lectures)

Walk Cycle of a Biped Character and Quadruped Character

**Unit 2: Pose-to-Pose Animation**

(3 Lectures)

Theory of Pose to Pose, Keyframing

**Unit 3: Animation Editors**

(3 Lectures)

Trax editor, Graph editor, Hierarchy

**Unit 4: Walk cycle**

(3 Lectures)

Biped, Quadruped, Mechanical

**Unit 5: Animation loops**

(3 Lectures)

Creating various seamless animation loops

**Unit 6: Facial expressions**

(3 Lectures)

Morphing, Face animation, Lip sync

**Unit 7: Camera and Motion Path**

(3 Lectures)

Creating and animating camera, working with motion path

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## PRACTICAL LECTURES: 100

### **Unit 1: Introduction**

(5 Lectures)

Walk Cycle of a Biped Character and Quadruped Character

### **Unit 2: Pose-to-Pose Animation**

(20 Lectures)

Theory of Pose to Pose, Keyframing

### **Unit 3: Animation Editors**

(15 Lectures)

Trax editor, Graph editor, Hierarchy

### **Unit 4: Walk cycle**

(20 Lectures)

Biped, Quadruped, Mechanical

### **Unit 5: Animation loops**

(10 Lectures)

Creating various seamless animation loops

### **Unit 6: Facial expressions**

(20 Lectures)

Morphing, Face animation, Lip sync

### **Unit 7: Camera and Motion Path**

(10 Lectures)

Creating and animating camera, working with motion path

## Suggested Readings

1. Learning Maya Dynamics Paperback by Alias Wavefront
2. Maya Studio Projects: Dynamics Paperback by Todd Palamar

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**Semester V-Bachelor in Arts (Animation & Interior Design)**

**DSE I: Visual Effects with AUTODESK MAYA**

**(Credits: Theory-1; Practical-5)**

**THEORY LECTURES: 20**

**Unit 1: Introduction to Maya Dynamics**

**(2 Lectures)**

Introduction to Dynamics, Particle System, Simulation and Cache files

**Unit 2: Particle Dynamics**

**(3 Lectures)**

Maya Particles, Mass, Position, Velocity, Types of Particle Displays, Particle Animation Techniques, Particle-Force Interaction

**Unit 3: Deformers**

**(2 Lectures)**

Properties of Deformers, Linear Deformer, Non-Linear Deformers, Properties of Lattice, Blend Shape, Cluster, Bend, Twist, Wave

**Unit 4: Soft Body and Rigid Body**

**(4 Lectures)**

Fundamentals and Application of Soft Body and Rigid Body Dynamics, Shape Node, Soft Body Creation, Spring, Collision, Active Rigid Body and Passive Rigid Body

**Unit 5: Constraints, Force and Damping**

**(3 Lectures)**

Fundamentals of Forces, Elasticity, Friction, Constraints

**Unit 6: Hair Dynamics**

**(2 Lectures)**

Introduction to Hair System, Hair Follicle, NURBS Curve, Paint Stroke Effects, Hair Constraints

**Unit 7: Fluid Effects**

**(2 Lectures)**

Fundamentals of Fluid Effects, Volume Emissions, Voxels, Texturing and Lighting Fluid Effects

**Unit 8: Cloth**

**(2 Lectures)**

Maya Cloth, Cloth Shelf, Cloth Simulation, State, Cloth Constraints

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## **PRACTICAL LECTURES: 100**

### **Unit 1: Particle Workspace**

(5 Lectures)

Workspace, Dynamic Tools

### **Unit 2: Using Particles**

(10 Lectures)

Creating Basic Particle Simulation, Using Emitter, Rate, Distance, Speed, Intensity, Turbulence, Surface Emission, Creating Multicolored Fireworks using Particle System

### **Unit 3: Tools**

(10 Lectures)

Working with Goal, Travel on Surface, Particle Instancing, Sprite Crowd Creation

### **Unit 4: Working with Deformers**

(10 Lectures)

Using Lattice, Blend Shape, Cluster, Bend, Twist, Wave, Gravity

### **Unit 5: Creating Soft and Rigid Bodies**

(10 Lectures)

Soft Body Creation, Working with Spring, Collision, Using Dynamic Relationship Editor, Creating Shatter Effects, Rigid Body Interaction with Soft Body.

### **Unit 6: Using Constraints, Force and Damping**

(10 Lectures)

Working with Air, Drag, Gravity, Newton, Radial, Turbulence, Uniform, Vortex, Elasticity, Friction, Nail Constraint, Pin Constraint, Hinge Constraint, Spring Constraint and Barrier Constraint

### **Unit 7: Creating Hair**

(10 Lectures)

Working with Hair System, Controlling Follicles, Using Hair Constraints, Using Paint Stroke Effects

### **Unit 8: Fluid Effects**

(15 Lectures)

Using Volume Emission, Heat, Density, Fuel, Shading and Lighting Effects for Fluids

### **Unit 9: Fur**

(5 Lectures)

Fur Description, Texturing Fur, Creating Fur, Adding and Removing Fur from Areas using Baldness Attribute

### **Unit 10: Creating Realistic Clothing for Characters**

(15 Lectures)

Using Maya Cloth and Cloth Constraints to Create Character Clothing

### **Suggested Readings**

3. Learning Maya Dynamics Paperback by Alias Wavefront

4. Maya Studio Projects: Dynamics Paperback by Todd Palamar

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Semester V-Bachelor in Arts (Animation & Interior Design)

DSE II: Interior and Exterior Design Visualization

(Credits: Theory-1; Practical-5)

**THEORY LECTURES: 20**

**Unit 1: Introduction**

**(2 Lectures)**

Introduction to Interior and Exterior Design Visualization, Uses in Architecture, Industry Standards and Requirements

**Unit 2: Basic Design and Aesthetics**

**(4 Lectures)**

Studying line work, sketching, Orthographic drawing, Axonometric drawing, Perspective drawing, Understanding Structures

**Unit 3: Understanding Symbols**

**(2 Lectures)**

Understanding the meanings of various design symbols, Standard Length Width and Height of Interior and Exterior Elements

**Unit 4: Fundamentals of Floor Plans and Elevations**

**(3 Lectures)**

Fundamentals of Developing Floor Plans and Front-Side Elevations in AutoCAD from the Visualization Designs

**Unit 5: Lighting and Air conditioning**

**(3 Lectures)**

Lights, Air Conditioning, Types of doors and windows, water supply, and drainage

**Unit 6: False ceiling**

**(4 Lectures)**

Creating false ceiling and types of paneling

**Unit 7: Residential and Commercial Projects**

**(2 Lectures)**

Site Measurements, Market Survey

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## **PRACTICAL LECTURES: 100**

### **Unit 1: Getting Started**

**(5 Lectures)**

Introduction to Interior and Exterior Design Visualization, Studying various Design Visualizations for Reference

### **Unit 2: Drawing Design Visualizations for Interiors**

**(5 Lectures)**

Sketching for Interior Design Visualization, Distributing various Interior Elements in the given area, Calculating area for designing, Orthographic drawing, Axonometric drawing, Perspective drawing, Using Various Symbols in the design

### **Unit 3: Drawing Design Visualizations for Exteriors**

**(10 Lectures)**

Sketching for Exterior Design Visualization, Distributing various Exterior Elements in the given area, Calculating area for designing, Orthographic drawing, Axonometric drawing, Perspective drawing, Using Various Symbols in the design

### **Unit 4: Creating Floor Plans and Elevations**

**(20 Lectures)**

Developing Floor Plans and Front-Side Elevations in AutoCAD from the Visualization Designs

### **Unit 5: Lighting and Air conditioning**

**(20 Lectures)**

Lights, Air Conditioning, Types of doors and windows, water supply, and drainage

### **Unit 6: False ceiling**

**(20 Lectures)**

Creating false ceiling and types of paneling

### **Unit 7: Residential and Commercial Projects**

**(20 Lectures)**

Site Measurements, Market Survey

### **Suggested Readings**

1. Architectural Drawing Paperback by David Dernie
2. Complexity and Contradiction in Architecture (Museum of Modern Art Papers on Architecture) Paperback by Robert Venturi, Vincent Scully
3. Building Construction Illustrated Paperback by Francis D. K. Ching
4. Sketch Workshop Spiral-bound by 3DTotol Publishing
5. V-Ray My Way: A Practical Designer's Guide to Creating Realistic Imagery Using V-Ray & 3ds Max Paperback by Lee Wylde
6. 3ds Max Design Architectural Visualization: For Intermediate Users Hardcover by Brian L. Smith
7. Architectural Rendering with 3ds Max and V-Ray: Photorealistic Visualization Paperback by Markus Kuhlo, Enrico Eggert
8. Structural Engineering for Architects: A Handbook Paperback by William McLean, Peter Silver, Peter Evans

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Semester -VI- Bachelore in Arts (Animation & Interior Design)  
Core Course XIII: Interior Planning and Execution in AUTODESK 3DS MAX  
(Credits: Theory-1; Practical-5)

**THEORY LECTURES: 20**

**Unit 1: Planning of Interior**

(2 lectures)

Planning of Master Bedroom, Kids Room, Guest Room, Drawing Room Dinning Room, Bathroom With Furniture Placement

**Unit 2: Space Managment**

(4 lectures)

Space Managment of Master Bedroom, Kids Room, Guest Room, Drawing Room Dinning Room, Bathroom With Furniture.

**Unit 3: Material Details**

(3 lectures)

Understanding Of Material, Laminate, Fabrics, Linears, Pu Paints, Acrylic Laminate, A.c.p, Pvc Laminate, and many More.

**Unit 4: Electrical Layout and Placement With Light**

(4 lectures)

Understanding Of False celing Electrical Wiring and Place of Light Understanding of Light Placement and Knowledge of light and Placement of sockets.

**Unit 5: Understanding of New Material**

(3 lectures)

Understanding Of New material Louvers, wpc board , cnc cuttings, new Laminates, New Fabrics, wallpapers, Charcoal sheets, highlighter laminates, different sheets etc

**Unit 6: Placemenet of Right Material**

(2 lectures)

Understanding Of Material for beds, wardrobes, tv unit, walls, cellings, kitchens drawers and cabinet and many more.

**Unit 7: Camera Walkthrough, Render and Post Production**

(2 lectures)

Understanding Of camera walk through, batch render and post production in photoshop 360 Degree renders.

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## **PRACTICAL LECTURES: 100**

### **Unit 1: Planning of Interior**

**(10 lectures)**

Planning of Master Bedroom, Kids Room, Guest Room, Drawing Room, Dining Room, Bathroom With Furniture Placement

### **Unit 2: Space Management**

**(10 lectures)**

Space Management of Master Bedroom, Kids Room, Guest Room, Drawing Room

Dining Room, Bathroom With Furniture.

**(20 lectures)**

### **Unit 3: Material Details**

Understanding Of Material, Laminate, Fabrics, Liners, PU Paints, Acrylic Laminate, A.c.p, Pvc Laminate, and many More.

### **Unit 4: Electrical Layout and Placement With Light**

**(40 Lectures)**

Understanding Of False ceiling Electrical Wiring and Place of Light Understanding of Light Placement and Knowledge of light and Placement of sockets.

**(10 lectures)**

### **Unit 5: Understanding of New Material**

Understanding Of New material Louvers, wpc board, cnc cuttings, new Laminates, New Fabrics, wallpapers, Charcoal sheets, highlighter laminates, different sheets etc

### **Unit 6: Placement of Right Material**

**(5 lectures)**

Understanding Of Material for beds, wardrobes, tv unit, walls, ceilings, kitchens drawers and cabinet and many more.

### **Unit 7: Camera Walkthrough, Render and Post Production**

**(5 lectures)**

Understanding Of camera walk through, batch render and post production in photoshop 360 Degree renders.

## **Suggested Readings**

1. Read Archmodel interior bedroom and view ever Perspective of Models, Materials, Lights, and setup.
2. Read Designing for the KING from Chaos to order by designing Within BY DEANA MURPHY
3. 3DS MAX and V-Ray training for interior designers By Udemy.

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**Semester VI-Bachelor in Arts (Animation & Interior Design)**

**Core Course XIV: Compositing**

**(Credits: Theory-1; Practical-5)**

**THEORY LECTURES: 20**

**Unit 1: Essentials of Compositing**

**(2 Lectures)**

Digital Compositing, Keying Process, Color Depth, Floating Point Workflow, Fields, Pixel Aspect Ratio

**Unit 2: Node Based Composite**

**(2 Lectures)**

Bins, Adding Assets, Properties and Setting of Composition, Supported File Formats for Import and Export, Handling Workspace

**Unit 3: Tools**

**(2 Lectures)**

Background, Foreground, Merge, Mask, Graph timeline editor, Corner and Bezier handles, Transform Concatenation, Transform, Warp, Blur, Glow, Deep Pixels

**Unit 4: Mask**

**(2 Lectures)**

Basics of Alpha, Matte, Effect Mask Basics, Concepts of Rotoscopy

**Unit 5: Color Correction**

**(4 Lectures)**

Properties of Color Correction in Fusion, Shadow, Midtones, Highlight, Exposure, Equalize

**Unit 6: Tracking and Stabilization**

**(2 Lectures)**

Track Basics, Uses, Process, Methods and Requisites during Production stage

**Unit 7: Render Passes**

**(2 Lectures)**

Basics of various Light Passes, Reflection Pass, Refraction Pass, Diffuse Pass, Normal Pass, Shadow Pass, Z-Depth

**Unit 8: Camera Projection**

**(4 Lectures)**

Concept and Uses of Projection, Conversion 2D Image into 3D shot, Image Plane, Clean Plate

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## **PRACTICAL LECTURES: 100**

### **Unit 1: Nuke Interface**

(5 Lectures)

Viewer, Flow, Console, Timeline, Spline Region, Controls Area, Time Ruler, S1-S6 Buttons

### **Unit 2: Creating a Composite**

(5 Lectures)

Working with a Node Based Composition, Using Loader, Saver, Importing Files and Footages, Exporting

### **Unit 3: Basic Animation in Fusion**

(5 Lectures)

Foreground, Background, Merge, Mask, Graph timeline editor, Corner and Bezier handles, Transform Concatenation

### **Unit 4: Mask**

(10 Lectures)

Working with Polyline Mask, Bitmap Mask, Ellipse, Garbage Matte, Using Mask for Rotoscopy

### **Unit 5: Text**

(5 Lectures)

Generate Characters, Provide Advanced transformation and shading options, Write-on animation, Loop, Stylized Texts

### **Unit 6: Color Corrector**

(5 Lectures)

Working with Levels, Hue, Saturation, Gain, Brightness, Contrast, Curves, Histogram, Suppress, Equalize, Match color

### **Unit 7: Chroma Removal**

(10 Lectures)

Ultrakeyer, Luma Keyer, Matte Control, Keying, Lightwrap Process, Extracting Contact Shadows, Faking Reflections,

### **Unit 8: Tracking and Stabilizing**

(10 Lectures)

Working with Trackers, Stabilization, Wire Removal, Dirt and Scratch removal, Roto Cleanup

### **Unit 9: Compositing Render Passes**

(10 Lectures)

Compositing Render Passes using Merge, Handling Various Light Passes, Reflection Pass, Refraction Pass, Diffuse Pass, Normal Pass, Shadow Pass, Z-Depth

### **Unit 10: Set Extension**

(5 Lectures)

Working with Paint Tool, Copy Polyline Tool, Flip, Transform, Multi Stroke Brush

### **Unit 11: Camera Projection**

(5 Lectures)

Camera Setup, Turning 2D Image into 3D shot, Image Plane, Clean Plate Generation

### **Unit 12: Day to Night Conversion**

(10 Lectures)

Using Color Corrector for Conversion, Levels, Hue, Saturation, Creating Night Lights, Changing Sky

### **Suggested Readings**

1. The eyeon Fusion 6.3: A Tutorial Approach Paperback by Prof. Sham Tickoo Purdue Univ., CADCIM Technologies
2. Blackmagic Design Fusion 7 Studio: A Tutorial Approach by Prof. Sham Tickoo Purdue Univ. (Author), CADCIM Technologies (Author)

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Semester-VI-Bachelor in Arts (Animation & Interior Design)

DSE III: Architectural Walkthrough and On-Job Training

(Credits: Theory-1; Practical-5)

ARCHITECTURAL WALKTHROUGH THEORY LECTURES: 20

**Unit 1: Reference**

(2 Lectures)

Attributes of a proper Reference, Finding Proper References

**Unit 2: Case Study**

(6 Lectures)

Studying various Architectural Walkthroughs for visualization and understanding workflow

**Unit 3: Modeling**

(2 Lectures)

Overview of Architectural Walkthrough Modeling, Doubts Solving regarding Modeling

**Unit 4: Shading**

(2 Lectures)

Overview of Architectural Walkthrough Shading, Doubts Solving regarding Texturing

**Unit 5: Lighting**

(2 Lectures)

Overview of Architectural Walkthrough Lighting, Doubts Solving regarding Lighting

**Unit 6: Camera**

(2 Lectures)

Overview of Architectural Walkthrough Animation, Doubts Solving regarding Camera Animation

**Unit 7: Rendering**

(2 Lectures)

Overview of Rendering Passes

**Unit 8: Compositing**

(2 Lectures)

Overview of Compositing, Troubleshooting regarding Compositing

**ON-JOB TRAINING:**

Mandatory 60 days On-Job Training with a firm in Ranchi

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## ARCHITECTURAL WALKTHROUGH PRACTICAL LECTURES: 100

### **Unit 1: Reference**

(10 Lectures)

Creating Floor Plans and Elevations in AutoCAD

### **Unit 2: Modeling**

(20 Lectures)

Importing References in Max/Maya, 3D Modeling

### **Unit 3: Shading**

(10 Lectures)

Applying Textures on the 3D Model

### **Unit 4: Lighting**

(20 Lectures)

Creating CG Lights, Working on Shadows, Developing Look and Feel

### **Unit 5: Camera**

(10 Lectures)

Creating a Camera Animation to create a Walkthrough

### **Unit 6: Rendering**

(10 Lectures)

Manage Layers, Passes Creation, Rendering various passes

### **Unit 7: Compositing**

(15 Lectures)

Multilayer Compositing of Various Render Passes, Applying Effects, Final Touch ups

### **Unit 8: Output**

(5 Lectures)

Rendering the Final Output in a Video Format

### Suggested Readings

1. Autodesk 3ds Max 2014 Bible Paperback by Kelly L. Murdock
2. Mastering Autodesk 3Ds Max 2013 Paperback by Jeffrey M. Harper
3. Realistic Architectural Rendering with 3ds Max and V-Ray (Autodesk Media and Entertainment Techniques) by Jamie Cardoso and Roger Cusson
4. Rendering with mental ray and 3ds Max (Autodesk Media and Entertainment Techniques) by Joep van der Steen and Ted Boardman

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(Credits: Theory-1; Practical-5)

## Overview of Compositing, Troubleshooting regarding Compositing

*Johnnie*  
*12.11.11*



## **PRACTICAL LECTURES: 100**

### **Unit 1: Reference**

(10 Lectures)

*Creating Model Sheets and Collecting References*

### **Unit 2: Modeling**

(20 Lectures)

*Importing References in Max/Maya, 3D Modeling*

### **Unit 3: Shading**

(10 Lectures)

*Applying Textures on the 3D Model*

### **Unit 4: Lighting**

(20 Lectures)

*Creating CG Lights, Working on Shadows, Developing Look and Feel*

### **Unit 5: Camera**

(10 Lectures)

*Creating a Camera Animation to create a Portfolio*

### **Unit 6: Rendering**

(10 Lectures)

*Manage Layers, Passes Creation, Rendering various passes*

### **Unit 7: Compositing**

(15 Lectures)

*Multilayer Compositing of Various Render Passes, Applying Effects, Final Touch ups*

### **Unit 8: Output**

(5 Lectures)

*Rendering the Final Output in a Video Format*

## **Suggested Readings**

1. *Mental Ray for Maya, 3ds Max, and XSI: A 3D Artist's Guide to Rendering : Introducing Autodesk Maya*
2. *2014* by Boaz Livny
3. *Mastering Autodesk Maya 2014: Autodesk Official Press (Sybex Press Edition)* by Todd Palamar
4. *Introducing Autodesk Maya 2014*
5. *The Art of Maya: An Introduction to 3D Computer Graphics* by T. Hawken
6. *Maya Studio Projects: Game Environments and Props* by Michael McKinley

*Boaz Livny*  
14/11/25

*Todd Palamar*  
14/11/25

*Michael McKinley*  
14-11-25

*Michael McKinley*  
14-11-2025

*T. Hawken*  
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*T. Hawken*  
14/11/25

*T.M.D. Ryan*  
14/11/2025

*Michael McKinley*  
14-11-25

*Michael McKinley*  
14-11



**Dept of Animation and Interior Design**

**Examiners List 2025-26**

**Sem 1:**

**Paper C1 (Image Editing): Kumar Sumveg, Ajay Tirkey**

**Paper C2 (Basics of 2D): Sumit Kullu, Yameen Urfi**

**Sem 2**

**Paper C3 (Advanced 2D Animation)—Sumit Kullu, Yameen Urfi**

**Paper C4(3D Modeling) -Ajay Tirkey, Sumit Kullu**

**Sem 3**

**PaperC5 (3D Lighting) — Md Riyaz Quereshi, Ajay Tirkey**

**Paper C6 (Autodesk)—Ajay Tirkey, Md. Riyaz Quereshi**

**Paper C7 2D Computer Aided Architecture)—Pankaj Gupta, Yameen Urfi**

**Sem 4**

**Paper C8 (3D Modeling) – Md. Riyaz Quereshi, Pankaj Gupta**

**Paper C9 (Motion Graphics) –Yameen Urfi, Md. Riyaz Quereshi**

**Paper C10 (Advanced 2D and 3D) —Pankaj Gupta, Sumit Kullu**

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### Sem 5

Paper 11 (3D Texturing) —Md. Riyaz Quereshi, Ajay Tirkey

Paper C12 (Animation with Autodesk Maya)—Ajay Tirkey, Md. Riyaz

DSE 1(Visual Effects)—Ajay Tirkey, Md. Riyaz

DSE 2( Interior & Exterior) —Ms. Komal, Sumit kullu

### Sem 6:

Paper C13 (Advanced Visual Effect)—Md. Riyaz, Yameen Urfi

Paper C14 (Compositing Process)—Yameen Urfi, Sumit Kullu

DSE 3(Architectural Walk)—Md. Riyaz, Sumit Kullu

DSE 4 (3D Portfolio) —Ajay Tirkey, Yameen Urfi

  
Md. Riyaz  
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Sumit Kullu  
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Sumit Kullu  
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Ajay Tirkey  
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Sumit Kullu  
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