



**Fergusson College (Autonomous)  
Pune**

**Curriculum for  
T. Y. B. Voc. Digital Art and Animation**

**With effect from June 2021**

**Deccan Education Society's**  
**FERGUSSON COLLEGE (AUTONOMOUS), PUNE 411004**  
**Scheme of Course Structure (Faculty of Science) 2021-22**  
**T. Y. B. Voc. - Digital Art & Animation**

<b>Semester</b>	<b>Course Code</b>	<b>Title</b>	<b>Paper No.</b>	<b>Credits</b>	<b>Exam (I / E)</b>	<b>Marks (I / E)</b>
V	BVA3501	Game Design	I	4	(I / E)	50+50
	BVA3502	Blender - 1	II	4	(I / E)	50+50
	BVA3503	Introduction to Python	III	4	(I / E)	50+50
	BVA3511	Game Production	IV	6	(I / E)	75+75
	BVA3512	Practical in Blender	V	6	(I / E)	75+75
	BVA3513	Photography - 1	VI	6	(I / E)	75+75
VI	BVA3601	VFX - I	I	4	(I / E)	50+50
	BVA3602	IPR & Cyber Security	II	4	(I / E)	50+50
	BVA3603	Digital Editing	III	4	(I / E)	50+50
	BVA3611	VFX - II	IV	6	(I / E)	75+75
	BVA3612	Photography - 2	V	6	(I / E)	75+75
	BVA3613	Project	VI	6	(I / E)	75+75

## T. Y. B. Voc. Digital Art and Animation Semester 5

<b>Title of the Course and Course Code</b>	<b>Game Design (BVA3501)</b>	<b>Number of Credits: 04</b>
<b>Course Outcomes (COs)</b>		
<b>On completion of the course, the students will be able to:</b>		
CO1	Describe gaming industry and its pipeline	
CO2	Explain tools of Unity game engine	
CO3	Carry out Production & post production of the game project.	
CO4	Compare different game engines	
CO5	Review Production & post production of games	
CO6	Build a complete 3d and 2d game	

Unit No.	Title of Unit and Contents	No. of Lectures
<b>I</b>	<b>Introduction to Gaming</b> Introduction of games, Classification of games, Game Development Process, Structure and functioning of gaming company, A simple Game Design Document (GDD) for a Game.	5
<b>II</b>	<b>Pre-production of Gaming</b> Pre-production - concept and idea, Concept Art Creation, Storyboard, Script Writing for Game Production	7
<b>III</b>	<b>Production and Logic Implementation</b> Production - Game Assets Creation, Scene Building Unity Game Engine-Game Logic Implementation with Programmatic movements and Actions. Game Testing and Building EXE	7
<b>IV</b>	<b>Introduction to UNITY:</b> Introduction to gaming and game development process, Unity Basics, Interface, Hierarchy & Inspector, Creating Projects	10
<b>V</b>	<b>Project Management and Importing Assets:</b> Importing Geometry, Importing Textures, Creating Materials - Bump and Specular	8
<b>VI</b>	<b>Programming and Game Building:</b> Basics of programming using c# scripts, Variables and Functions	8

### References:

1. The Art of Game Design: A Book of Lenses - Jesse Schell. Publisher: CRC Press (12<sup>th</sup> September 2008). ISBN-10: 0123694965 ISBN-13: 978-0123694966.
2. Game Mechanics: Advanced Game Design (Voices That Matter), Ernest Adams (Author), Joris Dormans (Author). Publisher: New Riders; 1 edition (15<sup>th</sup> June 2012). ISBN-10: 0321820274 ISBN-13: 978-0321820273.
3. Game Coding Complete, Fourth Edition Paperback Mike McShaffry (Author), David Graham (Author). Publisher: Cengage Learning PTR; 4 edition (March 5<sup>th</sup>, 2012) ISBN-10: 1133776574 ISBN-13: 978-1133776574.
4. Game Development Essentials: Game Story & Character Development Paperback Marianne Krawczyk (Author), Jeannie Novak (Author). Publisher: Cengage Learning; 1 edition (March 23<sup>rd</sup>, 2006). ISBN-10: 1401878857 ISBN-13: 978-1401878856.

## T. Y. B. Voc. Digital Art and Animation Semester 5

<b>Title of the Course and Course Code</b>	<b>BLENDER - 1 (BVA3502)</b>	<b>Number of Credits: 04</b>
<b>Course Outcomes (COs)</b>		
<b>On completion of the course, the students will be able to:</b>		
CO1	Recall 3d concepts	
CO2	Discuss & Differentiate various tools used for 3d modeling in Blender	
CO3	Execute modeling and texturing techniques for blender	
CO4	Compare blender techniques for gaming	
CO5	Review blender as open source software	
CO6	Create 3d models and textures	

Unit No.	Title of Unit and Contents	No. of Lectures
<b>I</b>	<b>Overview of Blender Interface</b> Blender's Interface, Workspace, Viewport Shading, Viewport Options, Adding Objects	2
<b>II</b>	<b>Navigation and Editing tool</b> Navigating Through 3D Space, Transforms, Pivot points, The Outliner The 3D Cursor, Edit Mode	2
<b>III</b>	<b>Modeling Overview</b> Basic Modelling Concepts, Vertices, Edges And Faces, Edge Loops, Loop Cut and Slide, Separating and Joining, Mirroring Tools, Vertex Groups	6
<b>IV</b>	<b>Modifiers</b> Working with modifiers, Generate - Modifiers, Deform - Modifiers	8
<b>V</b>	<b>Gaming assets in blenders</b> High poly to low poly bake, Texture baking, PBR workflow, Information about various maps like - normal maps, height map, roughness map, ambient occlusion, Albedo	8
<b>VI</b>	<b>Constraints</b> Introduction to Blender's Constraints, Adding Constraints and Basics, Transform - Constraints, Tracking - Constraints	5
<b>VII</b>	<b>Materials / Shaders and Node system</b> Introduction to materials, Principle shader, Mixing Shaders, Shader Editor, Shader Nodes, The node wrangler, Making a material with nodes	5

### Web References:

<https://www.blender.org/support/tutorials/>

### T. Y. B. Voc. Digital Art and Animation Semester 5

<b>Title of the Course and Course Code</b>	<b>Introduction to Python (BVA3503)</b>	<b>Number of Credits: 04</b>
<b>Course Outcomes (COs)</b> <b>On completion of the course, the students will be able to:</b>		
CO1	Define the syntax for python programming.	
CO2	Discuss data types and operators	
CO3	Demonstrate control structure	
CO4	Explain types of functions	
CO5	Determine different operation on array	
CO6	Compose various program	
<b>Unit No.</b>	<b>Title of Unit and Contents</b>	<b>No. of Lectures</b>
<b>I</b>	<b>Introduction</b> What is python, What python can do, Why python, Python and other language, syntax, comments	4
<b>II</b>	<b>Python getting started</b> Python variable, Python data type, List, Tuples, Set, Operators	6
<b>III</b>	<b>Control Structure</b> if-else, while loop, for loop	10
<b>IV</b>	<b>Functions</b> Built-in, User defined	6
<b>VI</b>	<b>Animation and scripting</b>	2

**Reference Books:**

1. Introduction to Python Programming: Gowrishankar S, Veena A
2. Python Crash Course, 2nd Edition: A Hands-On, Project-Based Introduction to Programming

### T. Y. B. Voc. Digital Art and Animation Semester 5

<b>Title of the Course and Course Code</b>	<b>GAME PRODUCTION (BVA3511)</b>	<b>Number of Credits: 06</b>
<b>Course Outcomes (COs)</b> <b>On completion of the course, the students will be able to:</b>		
CO1	Outline UNITY software for game.	
CO2	Explain tools of Unity game engine.	
CO3	Carry out Production & post production of the game project.	
CO4	Compare different game engines.	
CO5	Review Production & post production of games.	
CO6	Build a complete 3d and 2d game.	

<b>Unit No.</b>	<b>Name of Practical</b>
<b>I</b>	<b>Creating first 2D Game:</b> Importing assets and Setting up scene, Physics and Rigid body in Unity, Basic Animation, Basic Script for Bg Scroll, Movement, Opponent collision and Score, Adding Sound, Creating Levels & Menu, Creating game builds for target platforms
<b>II</b>	<b>Unity 3D:</b> Terrains, Character Controller, Importing Animations from 3D Software, Lighting and

	Baking Lights in the Scene
<b>III</b>	<b>Creating first 3D Game:</b> Importing assets and Setting up scene, Basic Script for Rigid body, Movement, collision and Score, Adding Sound, Creating Levels & Menu, Creating game builds for target platforms

**Reference Books:**

1. The Art of Game Design: A Book of Lenses - Jesse Schell. Publisher: CRC Press (12<sup>th</sup> September 2008). ISBN-10: 0123694965 ISBN-13: 978-0123694966.
2. Game Mechanics: Advanced Game Design (Voices That Matter), Ernest Adams (Author), Joris Dormans (Author). Publisher: New Riders; 1 edition (15<sup>th</sup> June 2012). ISBN-10: 0321820274 ISBN-13: 978-0321820273.

T. Y. B. Voc. Digital Art and Animation Semester 5		
<b>Title of the Course and Course Code</b>	<b>PRACTICAL IN BLENDER (BVA3512)</b>	<b>Number of Credits: 06</b>
<b>Course Outcomes (COs)</b> <b>On completion of the course, the students will be able to:</b>		
CO1	Recall 3d concepts	
CO2	Discuss & Differentiate various tools used for 3d animation & dynamics in	
CO3	Execute animation, and lighting techniques for blender	
CO4	Compare blender techniques for dynamics	
CO5	Review blender as open source software	
CO6	Create 3d setups with lighting and animations	

Unit No.	Title of Unit and Contents
<b>I</b>	<b>Animation</b> Animation Keyframes, Animation in The Timeline, Animation in The Dope Sheet Editor, Graph Editor, The Shape Key Editor
<b>II</b>	<b>Dynamics / Simulation</b> Hairs in blender, Introduction to simulation, Fluid Simulation, Simulation with Constraints
<b>III</b>	<b>Lights and Cameras</b> Adding Lights to the scene, Lighting in Cycles, World Settings and Ambient Occlusion, Shadows, Adding Cameras, Camera Navigation, Camera Properties, Animating and Switching cameras
<b>IV</b>	<b>Cycles and Eevee Renders</b> Introduction to the Eevee Render Engine, Introduction to the Cycles Render Engine, Rendering Basics, Sampling, Render Properties
<b>V</b>	<b>Intro to sculpting using blender</b> User interface, Tools, Mesh resolutions, Dynotopo, Adaptive sculpting, Editing, Painting, Rendering
<b>VI</b>	<b>Assignments:</b> Create Isometric low poly scene, Execute materials and lighting for all props and complete scene, Animate bouncing ball or example of 12 principals of animation, Animate Human Animation - Walk cycle, Lifting weight, Run cycle, Create hairs for a character, Create Fluid simulation for any related object, Create 3D Environment in blender, Create short Product Animation video of 30-60 seconds.

**Reference Links:**

<https://www.blender.org/support/tutorials/>

T. Y. B. Voc. Digital Art and Animation Semester 5		
<b>Title of the Course and Course Code</b>	<b>PHOTOGRAPHY - 01 (BVA3513)</b>	<b>Number of Credits: 06</b>
<b>Course Outcomes (COs)</b>		
<b>On completion of the course, the students will be able to:</b>		
CO1	Recall history of Photography	
CO2	Explain camera functioning	
CO3	Operate camera and its accessories	
CO4	Compare lighting techniques and types of lenses	
CO5	Review colour theory	
CO6	Generate photographs using the given techniques	

Unit No.	Title of Unit and Contents	No. of Lectures
<b>I</b>	<b>History of Photography</b> Evolution of Photography, Camera obscura - Pinhole - Box camera - DSLR, Digital Photography Recording Formats	08
<b>II</b>	<b>Camera Functioning, Composition rules and principles</b> Basics of Image Formation. Technical properties / Aesthetical properties, White Balance, Exposure Compensation / Exposure triangle, DSLR (working and mechanism of each part), Aperture, Shutter Speed, ISO	10
<b>III</b>	<b>Lenses, Filters, Metering</b> Types of Lenses (Distortions, properties, focal length, Depth), Crop Factor and effective focal length calculation, Introduction to Metering Mode	08
<b>IV</b>	<b>Color Theory</b> Color Space, Color symbolism, Color harmonies, Histogram, Focus Modes (AF vs MF), Introduction to Focusing Area Modes	09
<b>V</b>	<b>Lightning Techniques</b> Sources of Lights, Types of Lights in Photography (Main / Key Light, Fill Light, Cut Light / Kick Light, Background Light), Introduction to Flash Compensation, Green Screen Lighting	10

**References:**

1. Fundamentals of Photography Book by Tom Ang.
2. Cinematography: Theory and Practice: Image Making for Cinematographers and Directors, by Blain Brown.
3. The Filmmaker's Handbook: A Comprehensive Guide for the Digital Age: 2013 Edition.
4. Guide to Postproduction for TV and Film: Managing the Process by Barbara Clark.

## T. Y. B. Voc. Digital Art and Animation Semester 6

<b>Title of the Course and Course Code</b>	<b>VFX - I (BVA3601)</b>	<b>Number of Credits: 04</b>
<b>Course Outcomes (COs)</b>		
<b>On completion of the course, the students will be able to:</b>		
CO1	Define Concept & terminology of Visual Effects.	
CO2	Explain various tools of VFX industry.	
CO3	Demonstrate concepts of Compositing.	
CO4	Differentiate node based and layer based compositing softwares.	
CO5	Compare the techniques of layer based software with the node based.	
CO6	Compile methods of VFX for live action & Animation Films.	

Unit No.	Title of Unit and Contents	No. of Lectures
<b>I</b>	<b>Introduction</b> What is Rotoscopy, Introduction to Interface, Workspace and Basic Set up of Rotoscopy	5
<b>II</b>	<b>Shapes &amp; Animation</b> Creating New shapes, Shapes and Animation, Animation Workflow for Rotoscopy, Shapes Preferences and Set up	8
<b>III</b>	<b>Tracking Basics</b> Tracking Basics in node based software, Drawing Shapes and Combining for Tracking, Tracking & Roto Shapes - Multiple Shapes, Live video Sample footage	8
<b>IV</b>	<b>Chapter 4 Rotoscopy Sample Methods</b> Understanding the Motion, Human Roto Basics, Drawing Shapes & Animating together, Corrections and Extra Shapes	6
<b>V</b>	<b>Paint FX in node based software</b> Paint Options, Tools for Painting Effects, Rope Removal Technique 1 - Clean plate, Rope Removal Technique 2 - Frame Reference	5
<b>VI</b>	<b>Export &amp; Over view</b> Exporting Shapes, Nuke & Silhouette Shapes, Testing Roto Final Sample, Render Set up	4

### Reference Books:

1. ISBN-10: 1480157090 Digital Stereoscopy Scene to Screen 3D Production Workflows
2. ISBN-10: 111835205X Match moving: The Invisible Art of Camera Tracking
3. ISBN-10: 0240817818 Compositing Visual Effects: Essentials for the Aspiring Artist 2<sup>nd</sup> Edition
4. ISBN-10: 0415812291 Production Pipeline Fundamentals for Film and Games
5. Natron Documentation Release 3.0 The Natron documentation authors

**Reference Link:** <https://opensource.com/life/15/7/getting-started-with-natron>



## T. Y. B. Voc. Digital Art and Animation Semester 6

<b>Title of the Course and Course Code</b>	<b>IPR &amp; Cyber Securities (BVA3602)</b>	<b>Number of Credits: 04</b>
<b>Course Outcomes (COs)</b>		
<b>On completion of the course, the students will be able to:</b>		
CO1	Define Intellectual Property Rights.	
CO2	Discuss process of registration of Intellectual Property	
CO3	Demonstrate terms related to computer networks.	
CO4	Explain information security and its principles.	
CO5	Appraise security threats.	
CO6	Specify security management.	

Unit No.	Title of Unit and Contents	No. of Lectures
<b>I</b>	<b>Introduction to Intellectual Property Rights</b> Introduction to IPR, Need of Intellectual Property Protection, Introduction to Patents & Copyright, History of IPR, Trade and Investment	[05]
<b>II</b>	<b>Introduction to Copyright, Software and Internet</b> Introduction, Copyright as a Stimulus To Creation, Copyright and Computer Software	[04]
<b>III</b>	<b>The Patent System</b> Introduction, Scope of Patentability, Patentability Standards Exceptions to Patent Rights, Patenting in India, Process of Patenting in India	[05]
<b>IV</b>	<b>Overview of Networking Concepts</b> Basics of Communication Systems, Transmission Media Network Topologies, Network Types, ISO / OSI and TCP / IP Protocol Stacks, Internetworking, Packet Formats, Wireless Networks, Internet	[08]
<b>V</b>	<b>Basics of Information Security</b> Overview of Information Security, Information Security Services, Types of Attacks, Goals for Security, E-commerce Security, Computer Forensics	[05]
<b>VI</b>	<b>Security Threats and Vulnerabilities</b> Overview of Security threats, Hacking Techniques Password Cracking, Insecure Network connections, Malicious Code, Programming Bugs, Cybercrime and Cyber terrorism, Information Warfare and Surveillance	[06]

<p><b>VII</b></p>	<p><b>Security Management</b>  Security Management Practices - Overview of Security Management, Information Classification Process, Security Policy, Risk Management, Security Procedures and Guidelines, Business Continuity Planning (BCP), Disaster, Recovery Planning  Security Laws and Standards- Security Assurance ,Security Laws, International Standards, Security Audit, OCTAVE approach, Introduction to SSE-CMM, IT Act 2000 – Key Provisions  Access Control and Intrusion Detection- Overview of Identification and Authorization , Intrusion Detection Systems, Intrusion Prevention Systems  Server Management and Firewalls- Introduction to Firewalls, Overview of Firewalls, Types of Firewalls, DMZ and firewall features  Security for VPN ,VPN Security, Security in Multimedia Network  System and Application Security- Desktop Security, Operating System security, Mobile security, email security, Web Security: web authentication, SSL and SET, Database Security</p>	<p>[11]</p>
<p><b>VIII</b></p>	<p><b>Cases of Security Systems</b>  Cases of Security Systems in e-Banking, Cases of Security Systems in e-Commerce, Cases of Security Systems in e-Business, Cases of Security Systems in ICT devices in Business</p>	<p>[04]</p>

**References:**

1. Book-1 - Laws Relating to Intellectual Property by Dr. B. L. Wadehra, Fourth Edition, Universal Law Publishing Co.
2. Book-2 - Cyber Security: Understanding Cyber Crimes, Computer Forensics and Legal Perspectives by Sunit Belpure and Nina Godbole, Wiley India Pvt. Ltd.
3. Book-3 - Information Systems Security: Security Management, Metrics, Framework and Best Practices by Nina Godbole, Wiley India Pvt. Ltd.
4. Book-4 - Network Security Essentials, Applications and Standards By William Stallings, Pearson Education.

**Additional References:**

1. Introduction to Computer Security, Matt Bishop, Pearson Education
2. Information Security: Principles and Practices, Pearson Education
3. Principles of Information Security Fourth Edition by Michael Whitman, Herbert J. Mattord, Cengage Learning
4. Intellectual Property Rights by M. M. Karki, Atlantic Publication (2009)
5. Intellectual Property Rights in India: General Issues and Implications by Prankrishna Pal, Regal Publications
6. Intellectual Property Issues and Cyberspace, The Indian Perspective, by Rohas Nagpal, Published 2009, Asian School of Cyber Laws

**Important Links:**

1. <https://en.wikipedia.org/wiki/Watermark>
2. <https://www.cl.cam.ac.uk/teaching/0910/R08/work/essay-ma485-watermarking.pdf>
3. <http://www.ijaiem.org/volume3issue2/IJAIEM-2014-02-27-062.pdf>
4. <https://en.wikipedia.org/wiki/Steganograph>

### T. Y. B. Voc. Digital Art and Animation Semester 6

Title of the Course and Course Code	DIGITAL EDITING - (BVA3603)	Number of Credits: 04
<b>Course Outcomes (COs)</b> <b>On completion of the course, the students will be able to:</b>		
CO1	Define terminology and concepts of Digital editing.	
CO2	Classify principles of video production.	
CO3	Apply compression schemes for various output.	
CO4	Analyze Film sequences from editing point of view.	
CO5	Compare various cuts used for video editing.	
CO6	Produce Digital editing examples within the limits of premiere-pro.	
Unit No.	Title of Unit and Contents	No. of Lectures
<b>I</b>	<b>Introduction to Digital Editing</b> Introduction to digital editing, History and Evolution of Editing, Principle of Video Editing, Linear & Nonlinear Editing	6
<b>II</b>	<b>Introduction to Editing Software (Premier Pro CC)</b> <b>Digital Video Editing Terminology and Basic Concepts</b> Measuring video time, Measuring frame size and resolution Video data compression, Capturing video, Components of a video editing timeline, Output devices and video delivery technology, transitions, filters, sub clips	8
<b>III</b>	<b>Aesthetics of Editing</b> Aesthetics of Editing, Editing –Continuity match, Match cut Pace and Rhythm	9
<b>IV</b>	<b>Fiction Video Editing Basic Editing Techniques</b> Capturing, Trimming, Assembling, Output, Transitions, Incorporating transitions into the editing process, Recognizing various standard transitions	8
<b>V</b>	<b>Editing Styles</b> Documentary Editing Style, Role of Sound in Video Editing Sound Editing, Working with Multi Layers	5
<b>VI</b>	<b>Dramatic Sequence, Action Sequence Advanced Editing Techniques</b> Titles and still graphics, Creating titles for video	9

**Reference Books:**

1. Premiere Pro CS6 Digital Classroom. Author: Jerron Smith, AGI Creative Team

### T. Y. B. Voc. Digital Art and Animation Semester 6

Title of the Course and Course Code	VFX II - (BVA3611)	Number of Credits: 06
<b>Course Outcomes (COs)</b> <b>On completion of the course, the students will be able to:</b>		
CO1	Define Concept & terminology of Visual Effects.	
CO2	Explain various tools of VFX industry	
CO3	Demonstrate concepts of Compositing	
CO4	Differentiate node based and layer based compositing softwares.	
CO5	Compare the techniques of layer based software with the node based	
CO6	Compile methods of VFX for live action & Animation Films	

<b>Unit No.</b>	<b>Title of Unit and Contents</b>	<b>No. of Lectures</b>
<b>I</b>	<b>Introduction to 3d equalizer</b> 1. Importing Footage 2. Choosing Environment. 3. Basic to a full UI view. 4. The 'Camera' 5. 'Object Browser' panel. 6. 'Attribute Editor' Panel	8
<b>II</b>	<b>2d tracking</b> 1. Manual tracking 2. Point group object	5
<b>III</b>	<b>Solving the Camera</b> 1. Film back Height' 2. Focal Length	7
<b>IV</b>	<b>Lens distortion</b> 1. Parameter Adjustment panel 2. 3D Distortion' button and scrubbing	5
<b>V</b>	<b>Adding 3d geometry</b> 1. Lineup controls 2. 3d models	5
<b>VI</b>	<b>Assignments part 01</b> 1. VFX Roto - Extracting the main object / character from background 2. Film Colorization - Coloring a black and white footage 3. Chroma Keying - Removal of Green / Blue screen chroma 4. Wire Removal / Plate Cleaning - Roto Paint-Clone Stamp Tool 5. Changing Color of eye / Object	15
<b>VII</b>	<b>Assignments part 02</b> 1. Color Correction - of composed FG and BG 2. Day to Night Conversion 3. Color Grading - Sepia, Night look, Retro Look, Horror look, etc. 4. Retime - Making a video footage fast / slow. 5. Stabilization - Stabilizing a shaky footage. 6. Corner Pin & 2D - Tracking	15

**Reference Books:**

1. ISBN-10: 1480157090 Digital Stereoscopy Scene to Screen 3D Production Workflows
2. ISBN-10: 111835205X Match moving: The Invisible Art of Camera Tracking
3. ISBN-10: 0240817818 Compositing Visual Effects: Essentials for the Aspiring Artist 2<sup>nd</sup> Edition
4. ISBN-10: 0415812291 Production Pipeline Fundamentals for Film and Games
5. Natron Documentation Release 3.0 The Natron documentation authors

**Reference Link:** <https://opensource.com/life/15/7/getting-started-with-natron>

## T. Y. B. Voc. Digital Art and Animation Semester 6

<b>Title of the Course and Course Code</b>	<b>PHOTOGRAPHY II - (BVA3612)</b>	<b>Number of Credits: 06</b>
<b>Course Outcomes (COs)</b>		
<b>On completion of the course, the students will be able to:</b>		
CO1	Recall basics of Camera	
CO2	Explain lighting & cinematography techniques	
CO3	Execute video shoots with lighting setups	
CO4	Compare different cameras with lenses	
CO5	Review post production techniques & stages	
CO6	Compose video footages to create final outputs	

Unit No.	Title of Unit and Contents	No. of Lectures
<b>I</b>	<b>Basic Grammar of Video</b> <ol style="list-style-type: none"> <li>1. Camera Angles</li> <li>2. Types of Shots</li> <li>3. Composition Rules ( + Revision )</li> </ol>	11
<b>II</b>	<b>Advance Lighting</b> <ol style="list-style-type: none"> <li>1. Conventional, Soft and Diffused, Bounce, Source, Hard and Creative Lightings and Use of colours in Films</li> <li>2. Outdoor Lighting Wide and Huge Sets - Day Effect, Night Effect and Creative Lighting. Matching Indoor With Outdoor</li> <li>3. Exposure Metering - Incident Light, Reflected Light, Spot Light, etc. Study about different kinds of Lights - Incandescent Lamps, Tungsten Halogen, HMI, PAR Lights, Kinoflo, etc.</li> </ol>	09
<b>III</b>	<b>Cinematography</b> <ol style="list-style-type: none"> <li>1. Different Types of Film Movie Cameras.</li> <li>2. Basics of Aspect ratios ( Cinemascope / IMAX / 4:3 / 16:9 / 1:1)</li> <li>3. Slow and Fast Motions, Changing of Shutter Angles and Ramping</li> <li>4. Special Effects using In-Camera techniques</li> <li>5. Camera Movements ( Simple to Complex )</li> </ol>	10
<b>IV</b>	<ol style="list-style-type: none"> <li>1. Responsibility of the Cinematographer</li> <li>2. Story boarding</li> <li>3. Pre-Production, Production and Post Production stages Budget, Timelines, Recce</li> </ol>	06

<b>V</b>	<b>Post Production, Color Grading, Digital Intermediate</b> <ol style="list-style-type: none"> <li>1. Image Processing</li> <li>2. Color Gradations</li> <li>3. Digital Audio recording, Editing and Reproduction</li> <li>4. Video Editing - Media Management, Working in the audio, Effects &amp; Transition, Animation, Titles Special Effects</li> </ol>	09
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**References:**

1. Picture Perfect Practice and Picture Perfect Posing by Roberto Valenzuela.
2. Understanding Exposure by Bryan Peterson.
3. Film is not Dead by Jonathon Canlas.
4. The Art of Color by Itten.

<b>T. Y. B. Voc. Digital Art and Animation Semester 6</b>		
<b>Title of the Course and Course Code</b>	<b>PROJECT - (BVA3613)</b>	<b>Number of Credits: 06</b>
<b>Course Outcomes (COs)</b>		
<b>On completion of the course, the students will be able to:</b>		
CO1	Recall pre production concepts	
CO2	Articulate for the individual project	
CO3	Carry out research for the projects	
CO4	Break down process for the respective pipelines	
CO5	Review individual pre production process	
CO6	Build pre production document	

<b>Guidelines for Project</b>	
1.	Two Students in One group for group project.
2.	Pre-Production work should include story, script, story board, concept art, character bible, props design & background design etc. Hard copy of pre-production should be submitted before starting actual production work in Semester V.
3.	There should be an Originality in Concept & Content.
4.	Duration of project minimum 2-4 minutes.
5.	Project should be a core Animation project including VFX & Compositing with Audio Effect.
6.	Project may not contain unnecessary violence, obscenity, nudity or racially disparaging material.
7.	Project may not contain trademarks, logos or trade dress owned by others without their permission; or any commercial content that promotes any product or service.
8.	Project should not promote smoking or drinking habits in any forms.
9.	Project may not content copyrighted material owned by others including photographs, sculptures, paintings and other works of arts or images published on internet.
10.	Project should not promote any political activity.

**References:**

1. The Art of DreamWorks Animation
2. The Art of Rise of the Guardians