



**Fergusson College (Autonomous)
Pune**

**Curriculum for
T. Y. B. Sc. 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. Sc. - Animation

Sem.	Paper No.	Course Code	Title	Credits	CE maximum Marks	ESE maximum Marks	Total maximum Marks
V	DSE-1A	ANI3501	Web Design 1	2	50	50	100
	DSE-1B	ANI3502	Web Design 2	2	50	50	100
	DSE-2A	ANI3503	Blender 1	2	50	50	100
	DSE-2B	ANI3504	Blender 2	2	50	50	100
	DSE-3A	ANI3505	VFX I	2	50	50	100
	DSE-3B	ANI3506	VFX II	2	50	50	100
	DES 1	ANI3507	Practical in Web Design	2	50	50	100
	DES 2	ANI3508	Practical in Blender	2	50	50	100
	DES 3	ANI3509	Practical in VFX	2	50	50	100
	Sec - 1	ANI3511	IPR & Cyber Security	2	50	50	100
	Sec - 2	ANI3512	Python	2	50	50	100
VI	DSE-4A	ANI3601	Game Design	2	50	50	100
	DSE-4B	ANI3602	Animation in Media	2	50	50	100
	DSE-5A	ANI3603	UI Design	2	50	50	100
	DSE-5B	ANI3604	Digital Editing	2	50	50	100
	DSE-6A	ANI3605	Creative Writing	2	50	50	100
	DSE-6B	ANI3606	Pre-Production	2	50	50	100
	DES 4	ANI3607	Game Production	2	50	50	100
	DES 5	ANI3608	Digital Editing	2	50	50	100
	DES 6	ANI3609	Project	2	50	50	100
	Sec - 3	ANI3611	Industrial Training 1	2	50	50	100
	Sec - 4	ANI3612	Industrial Training 2	2	50	50	100

T. Y. B. Sc. Animation Semester 5

Title of the Course and Course Code	WEB-DESIGN 1 (ANI3501)	Number of Credits: 02
Course Outcomes (COs)		
On completion of the course, the students will be able to:		
CO1	Describe various web technology and application development issues and trends.	
CO2	Distinguish between server-side and client-side web technologies	
CO3	Apply CSS with its types and use them with HTML to provide the styles to the web pages at various levels	
CO4	Explain different components and technologies of World Wide Web as a platform	
CO5	Validate different web form fields using JavaScript	
CO6	Design and develop websites using fundamental web languages, technologies, and tools.	

Unit No.	Title of Unit and Contents	No. of Lectures
I	Introduction The Internet: Web clients, Web servers, Concept of WWW, Basic Internet protocols, Client Server Architecture - Two-Tier, Multi-Tier, HTTP Request and Response, URL, Features of Web	12
II	HTML5 Structuring an HTML Document - Elements and Attributes, Tags, The DOCTYPE Element, Creating and Saving an HTML Document, Understanding Elements, Working with Text, Defining the DIV Element and SPAN Element, Working with Links The Target Attribute, The id Attribute, Creating Tables, Working with Images, Colors and Canvas, Working with Forms, Working with Multimedia	12
III	CSS Evolution, Syntax, CSS Selectors, Inserting CSS in an HTML Document, Backgrounds and Color Gradients in CSS, Font Properties, Creating Boxes and Columns Using CSS, Displaying, Positioning and Floating an Element Effects, Frames and Controls in CSS	12

Books-

1. HTML 5, Black Book, Dreamtech Press
2. Internet & World Wide Web How to Program (4th Edition) by P. J. Deitel & H. M. Deitel, Pearson - Prentice Hall
3. JavaScript - The definitive Guide by David Flanagan - O'Reilley Publication - 5th Edition
4. Programming PHP by Rasmus Lerdorf and Kevin Tatroe, O'Reilly publication
5. Web Technologies, Black Book, Dreamtech Press

Web References:

<https://www.w3schools.com>

T. Y. B. Sc. Animation Semester 5

Title of the Course and Course Code	WEB-DESIGN 2 (ANI3502)	Number of Credits: 02
Course Outcomes (COs) On completion of the course, the students will be able to:		
CO1	Describe various web technology and application development issues and trends.	
CO2	Distinguish between server-side and client-side web technologies	
CO3	Apply CSS with its types and use them with HTML to provide the styles to the web pages at various levels	
CO4	Explain different components and technologies of World Wide Web as a platform	
CO5	Validate different web form fields using JavaScript	
CO6	Design and develop websites using fundamental web languages, technologies, and tools.	

Unit No.	Title of Unit and Contents	No. of Lectures
I	JavaScript Introduction to JavaScript, JavaScript Basics - Data Types, Control Structure, JavaScript Functions, Working with events, JS popup boxes, JavaScript Objects, JavaScript HTML DOM, Form Validation	12
II	Dreamweaver Introduction, Adobe DreamweaverCS3, Text Styles, Images and Links, Symbols and Lines, Tables, Forms	12
III	Server Side Technology HTTP Transactions, Multitier Application Architecture, Client-Side Scripting versus Server-Side Scripting, Accessing Web Servers, PHP - Introduction, Basics	12

Books-

1. HTML 5, Black Book, Dreamtech Press
2. Internet & World Wide Web How to Program (4th Edition) by P. J. Deitel & H. M. Deitel, Pearson - Prentice Hall
3. JavaScript - The definitive Guide by David Flanagan - O'Reilley Publication - 5th Edition
4. Programming PHP by Rasmus Lerdorf and Kevin Tatroe, O'Reilly publication
5. Web Technologies, Black Book, Dreamtech Press

Web References:

<https://www.w3schools.com>

T. Y. B. Sc. Animation Semester 5

Title of the Course and Course Code	BLENDER - 1(ANI3503)	Number of Credits: 02
Course Outcomes (COs)		
On completion of the course, the students will be able to:		
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
I	Overview of Blender Interface Blender's Interface, Workspace, Viewport Shading, Viewport Options, Adding Objects	2
II	Navigation and Editing tool Navigating Through 3D Space, Transforms, Pivot points, The Outliner, The 3D Cursor, Edit Mode	2
III	Modeling Overview Basic Modelling Concepts, Vertices, Edges And Faces, Edge Loops, Loop Cut and Slide, Separating and Joining, Mirroring Tools, Vertex Groups	6
IV	Modifiers Working with modifiers, Generate - Modifiers, Deform - Modifiers	8
V	Gaming assets in blenders 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
VI	Constraints Introduction to Blender's Constraints, Adding Constraints and Basics, Transform - Constraints, Tracking - Constraints	5
VII	Materials / Shaders and Node system 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. Sc. Animation Semester 5

Title of the Course and Course Code	BLENDER - 2 (ANI3504)	Number of Credits: 02
Course Outcomes (COs)		
On completion of the course, the students will be able to:		
CO1	Recall 3d concepts	
CO2	Discuss & Differentiate various tools used for 3d animation & dynamics in Blender	
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	No. of Lectures
I	Animation Animation Keyframes, Animation in The Timeline, Animation in The Dope Sheet Editor, Graph Editor, The Shape Key Editor	5
II	Dynamics / Simulation Hairs in blender, Introduction to simulation, Fluid Simulation, Simulation with Constraints	7
III	Lights and Cameras Adding Lights to the scene, Lighting in Cycles, World Settings and Ambient Occlusion, Shadows, Adding Cameras, Camera Navigation, Camera Properties, Animating and Switching cameras	6
IV	Cycles and Eevee Renders Introduction to the Eevee Render Engine, Introduction to the Cycles Render Engine, Rendering Basics, Sampling, Render Properties	10
V	Intro to sculpting using blender User interface, Tools, Mesh resolutions, Dyno topo, Adaptive sculpting, Editing, Painting, Rendering	8

Web References:

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

T. Y. B. Sc. Animation Semester 5

Title of the Course and Course Code	VFX - I (ANI3505)	Number of Credits: 02
Course Outcomes (COs)		
On completion of the course, the students will be able to:		
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
I	Introduction What is Rotoscopy, Introduction to Interface, Workspace and Basic Set up of Rotoscopy	5
II	Shapes & Animation Creating New shapes, Shapes and Animation, Animation Workflow for Rotoscopy, Shapes Preferences and Set up	8
III	Tracking Basics Tracking Basics in node based software, Drawing Shapes and Combining for Tracking, Tracking & Roto Shapes - Multiple Shapes, Live video Sample footage	8
IV	Rotoscopy Sample Methods Understanding the Motion, Human Roto Basics, Drawing Shapes & Animating together, Corrections and Extra Shapes	6
V	Paint FX in node based software Paint Options, Tools for Painting Effects, Rope Removal Technique 1 - Clean plate, Rope Removal Technique 2 - Frame Reference	5
VI	Export & Over view 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 2nd 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. Sc. Animation Semester 5

Title of the Course and Course Code	VFX-II (ANI3506)	Number of Credits: 02
Course Outcomes (COs)		
On completion of the course, the students will be able to:		
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
I	Introduction to 3d equalizer Importing Footage, Choosing Environment, Basic to a full UI view, The 'Camera', 'Object Browser' panel, 'Attribute Editor' Panel	8
II	2d tracking Manual tracking, Point group object	5
III	Solving the Camera Film back Height', Focal Length	7
IV	Lens distortion Parameter Adjustment panel, 3D Distortion' button and scrubbing	7
V	Adding 3d geometry Lineup controls, 3d models	8

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 2nd 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. Sc. Animation Semester 5

Title of the Course and Course Code	PRACTICAL IN WEB DESIGN (ANI3507)	Number of Credits: 02
Course Outcomes (COs) On completion of the course, the students will be able to:		
CO1	Describe various web technology and application development issues and trends.	
CO2	Distinguish between server-side and client-side web technologies	
CO3	Apply CSS with its types and use them with HTML to provide the styles to the	
CO4	Explain different components and technologies of World Wide Web as a platform	
CO5	Validate different web form fields using JavaScript	
CO6	Design and develop websites using fundamental web languages, technologies, and	

Sr. No.	Name of Practical
1.	HTML List
2.	HTML Link
3.	HTML Form
4.	CSS properties - I
5.	CSS properties - II
6.	CSS properties - III
7.	JavaScript Alert Box
8.	JavaScript Array
9.	JavaScript Functions
10.	Table design using Dreamweaver
11.	Form design using Dreamweaver - I
12.	Form design using Dreamweaver - II
13.	PHP Form Processing - I
14.	PHP Form Processing - II
15.	PHP Form Validation

Books-

1. HTML 5, Black Book, Dreamtech Press
2. Internet & World Wide Web How to Program (4th Edition) by P. J. Deitel & H. M. Deitel, Pearson - Prentice Hall
3. JavaScript - The definitive Guide by David Flanagan - O'Reilley Publication - 5th Edition
4. Programming PHP by Rasmus Lerdorf and Kevin Tatroe, O'Reilly publication
5. Web Technologies, Black Book, Dreamtech Press

Web References:

<https://www.w3schools.com>

T. Y. B. Sc. Animation Semester 5

Title of the Course and Course Code	PRACTICAL IN BLENDER (ANI3508)	Number of Credits: 02
Course Outcomes (COs) On completion of the course, the students will be able to:		
CO1	Describe various web technology and application development issues and trends.	
CO2	Distinguish between server-side and client-side web technologies	
CO3	Apply CSS with its types and use them with HTML to provide the styles to the	
CO4	Explain different components and technologies of World Wide Web as a platform	
CO5	Validate different web form fields using JavaScript	
CO6	Design and develop websites using fundamental web languages, technologies, and	

Sr. No.	Name of Practical
1.	Create Isometric low poly scene with materials and lighting.
2.	Animate bouncing ball OR Human Animation
3.	Create hairs for a character OR Fluid simulation
4.	Create 3D Environment in blender
5.	Create short Product Animation video of 30-60 seconds.
6.	Sculpting Bell pepper and Painting using Brushes.
7.	Sculpting Human Bust.
8.	Painting Human Bust using Projection.
9.	Sculpting and posing T-Rex.
10.	Sculpting your favorite/Fantasy/imaginative character or creature.

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

T. Y. B. Sc. Animation Semester 5

Title of the Course and Course Code	PRACTICAL IN VFX (ANI3509)	Number of Credits: 02
Course Outcomes (COs) On completion of the course, the students will be able to:		
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.	

Sr. No.	Name of Practical
1.	Blur - Blurring any part of a video
2.	VFX Roto - Extracting the main object / character from background
3.	Film Colorization - Coloring a black and white footage
4.	Chroma Keying - Removal of Green / Blue screen chroma
5.	Wire Removal / Plate Cleaning - Roto Paint - Clone Stamp Tool
6.	Changing Color of eye / Object
7.	Color Correction - of composed FG and BG
8.	Day to Night Conversion
9.	Color Grading - Sepia, Night look, Retro Look, Horror look, etc.
10.	Retime - Making a video footage fast / slow.
11.	Stabilization - Stabilizing a shaky footage.
12.	Corner Pin
13.	2D - Tracking

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 2nd 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. Sc. Animation Semester 5

Title of the Course and Course Code	IPR & Cyber Security (ANI3511)	Number of Credits : 02
Course Outcomes (COs)		
On completion of the course, the students will be able to:		
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
I	Introduction to Intellectual Property Rights Introduction to IPR, Need of Intellectual Property Protection, Introduction to Patents & Copyright, History of IPR, Trade and Investment	4
II	Introduction to Copyright, Software and Internet Introduction, Copyright as a Stimulus To Creation, Copyright and Computer Software	2
III	The Patent System Scope of Patentability, Exceptions to Patent Rights, Patenting in India, Process of Patenting in India	3
IV	Overview of Networking Concepts Basics of Communication Systems, Transmission Media, Network Topologies, Network Types, ISO / OSI and TCP / IP Protocol Stacks, Internetworking	5
V	Basics of Information Security Overview of Information Security, Information Security Services, Types of Attacks, Goals for Security, E-commerce Security, Computer Forensics	5
VI	Security Threats and Vulnerabilities Overview of Security threats, Hacking Techniques, Password Cracking, Insecure Network connections, Malicious Code, Programming Bugs, Cybercrime and Cyber terrorism, Information Warfare and Surveillance	7
VII	Security Management Security Management Practices, Security Laws and Standards, Access Control and Intrusion Detection, Server Management and Firewalls, Security in Multimedia Network, System and Application Security	6
VIII	Cases of Security Systems 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	4

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. Sc. Animation Semester 5

Title of the Course and Course Code	Introduction to Python (ANI3512)	Number of Credits: 02
Course Outcomes (COs) On completion of the course, the students will be able to:		
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	
Unit No.	Title of Unit and Contents	No. of Lectures
I	Introduction What is python, What python can do, Why python, Python and other language, syntax, comments	4
II	Python getting started Python variable, Python data type, List, Tuples, Set, Operators	6
III	Control Structure if-else, while loop, for loop	10
IV	Functions Built-in, User defined	6
V	Arrays What is an array, Array length, Looping array elements, Different operations on array, Array Methods	8
VI	Animation and scripting	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. Sc. Animation Semester 6

Title of the Course and Course Code	Game Design (ANI3601)	Number of Credits: 02
Course Outcomes (COs) On completion of the course, the students will be able to:		
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
I	Introduction to Gaming Introduction of games, Classification of games, Game Development Process, Structure and functioning of gaming company, A simple Game Design Document (GDD) for a Game.	4
II	Pre-production of Gaming Pre-production - concept and idea, Concept Art Creation, Storyboard, Script Writing for Game Production	6
III	Production and Logic Implementation Production - Game Assets Creation, Scene Building - Unity Game Engine-Game Logic Implementation with Programmatic movements and Actions. Game Testing and Building EXE	10
IV	Introduction to UNITY: Introduction to gaming and game development process, Unity Basics, Interface, Hierarchy & Inspector, Creating Projects	6
V	Project Management and Importing Assets: Importing Geometry, Importing Textures, Creating Materials - Bump and Specular	8
VI	Programming and Game Building: Basics of programming using C# scripts, Variables and Functions	2

Reference Books:

1. The Art of Game Design: A Book of Lenses - Jesse Schell. Publisher: CRC Press (12th 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 (15th 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 5th, 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 23rd, 2006). ISBN-10: 1401878857 ISBN-13: 978-1401878856.

T. Y. B. Sc. Animation Semester 6

Title of the Course and Course Code	ANIMATION IN MEDIA INDUSTRY (ANI3602)	Number of Credits: 02
Course Outcomes (COs) On completion of the course, the students will be able to:		
CO1	Outline animation in media industry	
CO2	Compare different types of media	
CO3	Examine different media categories for animation uses	
CO4	Explain Internet and social media	
CO5	Review various media platforms	
CO6	Create a report on use of animation in media	

Unit No.	Title of Unit and Contents	No. of Lectures
I	Print Media Newspaper, Magazine, Posters	5
II	Broadcast Media Television - News channels, Entertainment Channels, Commercials	5
III	Films / Cinema Titles, Trailers, Special Effects, OTT platforms	10
IV	Internet Blogs, V-logs, Podcast, Websites	10
V	Social Media Facebook, Instagram, Other social networking sites	6

Reference Books:

1. Nath, Shyam. Assessing the State of Web Journalism. Authors Press, New Delhi, 2002.
2. Chakravarthy, Jagdish. Net, Media and the Mass Communication. Authors Press, New Delhi, 2004.
3. Bhargava, Gopal. Mass Media and Information Revolution. Isha Books, New Delhi, 2004.
4. Menon, Narayana. The Communication Revolution. National Book Trust.
5. Pavlik J. V. Media in the Digital Age. Columbia University Press.
6. Newspaper and magazine articles about New Media.

T. Y. B. Sc. Animation Semester 6

Title of the Course and Course Code	UI DESIGN (ANI3603)	Number of Credits: 02
Course Outcomes (COs)		
On completion of the course, the students will be able to:		
CO1	Define principles of UI Design in order to design with intention	
CO2	Explain the MVC (model-view-controller) design pattern and its importance to sound user interface software design and implementation	
CO3	Apply a user centered design process (design strategy development that provides solutions to meet business and user goals) in the creation of basic to complex software applications	
CO4	Explain about unsatisfactory user interface design and how the observed problems could have been avoided by following sound user interface design principles	
CO5	Compare between usability and user experience	
CO6	Design and develop user interfaces optimized for a range of devices and platforms	

Unit No.	Title of Unit and Contents	No. of Lectures
I	Design Principles Usability - Dimensions of Usability Learnability - Learning Approaches, Interaction Styles, Conceptual Models Efficiency - Chunking, Pointing and Steering, Shortcuts Heuristic Evaluation	10
II	Design Techniques User Centered Design - Iterative design, Needfinding, Brainstorming Safety - Human Error, Error Prevention, Error Messages Prototyping - Prototype fidelity, Kinds of prototypes User Testing - Kinds of User Tests, Ethics, Formative Evaluation Graphic Design - Simplicity, Contrast & Visual Variables More Safety - User Control and Freedom, Undo	12
III	Implementation techniques UI Software Architecture - View Tree and the Listener Pattern, Model - View, GUI, Implementation Approaches Input - Input Events, Event Dispatch and Propagation, State Machines Output - Output Representations, Drawing, Strokes, Pixel, Animation Principles, Animation Implementation, Debugging Output Layout - Debugging Output, White Space, Alignment and Grids Color - Human Vision, Color Models, Design Guidelines Typography - Readability, Font, Spacing, Typeface, Font Selection	14

Books -

1. Wilbent O. Galitz, "The Essential Guide to User Interface Design", John Wiley & Sons, 2007
2. Ben Sheiderman, "Design The User Interface", Pearson Education, 1998
3. Alan Cooper, "The Essential Of User Interface Design", Wiley - Dream Tech Ltd., 2002
4. Everett N. McKay, "UI is Communication: How to Design Intuitive, User Centered Interfaces by Focusing on Effective Communication 1st Edition", 2013

5. Jenifer Tidwell, "Designing Interfaces", O'Reilly Publication, 2005

Web References:

1. <https://userbrain.net>
2. <http://www.tutorials.com>

E-Resources:

1. <http://web.mit.edu/6.813/www/sp17/>
2. <https://course.ccs.neu.edu/cs5500sp17/09-UX.pdf>

T. Y. B. Sc. Animation Semester 6		
Title of the Course and Course Code	DIGITAL EDITING (ANI3604)	Number of Credits: 02
Course Outcomes (COs) On completion of the course, the students will be able to:		
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
I	Introduction to Digital Editing Introduction to digital editing, History and Evolution of Editing, Principal of Video Editing, Linear & Nonlinear Editing	6
II	Introduction to Editing Software (Premier Pro CC) Digital Video Editing Terminology and Basic Concepts 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, subclips	7
III	Aesthetics of Editing Aesthetics of Editing, Editing, Continuity match, Match cut, Pace and Rhythm	8
IV	Fiction Video Editing: Basic Editing Techniques Capturing, Trimming, Assembling, Output, Transitions, Incorporating transitions into the editing process, Recognizing various standard transitions	7
V	Editing Styles Documentary Editing Style, Role of Sound in Video Editing, Sound Editing, Working with Multi Layers	5
VI	Dramatic Sequence, Action Sequence, Advanced Editing Techniques Titles and still graphics, Creating titles for video	3

References:

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

T. Y. B. Sc. Animation Semester 6

Title of the Course and Course Code	CREATIVE WRITING (ANI3605)	Number of Credits: 02
Course Outcomes (COs)		
On completion of the course, the students will be able to:		
CO1	Define creative writing skills for Animated films.	
CO2	Explain Basic literary concepts.	
CO3	Apply writing theory for animation writing.	
CO4	Analyse reader Response, Theory Editing & Proofreading.	
CO5	Review Sources of Creativity from given books.	
CO6	Write a creative script for creating animated films.	

Unit No.	Title of Unit and Contents	No. of Lectures
I	Introduction Creative Thinking, Techniques of Creative Thinking, Creative Writing, Power of Ideas and Writing, Understanding the Target Audience	9
II	Tools of Writing Accuracy, Brevity and Clarity, Cohesion and Coherence in Paragraph Writing, Figures of Speech, Types of Writing	8
III	Literary Aspects: Subjectivity and Objectivity, Theme, Story and Plot, Characters and Character Development, Point of View, Fiction, Genre, Dialogues	7
IV	Analysis Reader Response Theory, Editing for structured writing, Proofreading	4
V	Sources of Creativity: 'The Happy Prince' by Oscar Wilde, 'The Eyes Have It' by Ruskin Bond, 'The Tell-Tale Heart' by E.A. Poe	5
VI	Application of creative writing: Online Blogs, Literary Magazine, Advertisements	3

References:

1. Reading and Language Skills Book by B Philip
2. English Language Skills by Koneru

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Title of the Course and Course Code	PROJECT PRE-PRODUCTION (ANI3606)	Number of Credits: 02
Course Outcomes (COs) On completion of the course, the students will be able to:		
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	

Unit No.	Title of Unit and Contents	No. of Lectures
I	Selection of Project Review previous projects, Brainstorming for the idea, Finalization of story / concept	8
II	Pre-production 01 Writing a story, Write a script & Screenplay, Scene Division, Create Storyboard	12
III	Pre- production 02 Referencing, Character Design, Character Bible, Props Design, Background Design	12
IV	Final Documentation for the project	4

References:

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

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Title of the Course and Course Code	GAME PRODUCTION (ANI3607)	Number of Credits: 02
Course Outcomes (COs) On completion of the course, the students will be able to:		
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.	

Unit No.	Title of Unit and Contents	No. of Lectures
I	Creating first 2D Game: 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	12
II	Unity 3D: Terrains, Character Controller, Importing Animations from 3D Software, Lighting and Baking Lights in the Scene	12
III	Creating first 3D Game: 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	12

References:

1. The Art of Game Design: A Book of Lenses - Jesse Schell. Publisher: CRC Press (12th 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 (15th 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 5th, 2012) ISBN-10: 1133776574 ISBN-13: 978-1133776574

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Title of the Course and Course Code	PRACTICAL IN DIGITAL EDITING (ANI3608)	Number of Credits: 02
Course Outcomes (COs) On completion of the course, the students will be able to:		
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.	

Sr. No.	Name of Practical
1.	Create a trailer of an existing movie. See to it that is different than the original trailer of the movie.
2.	Create a music video using any mps3 song and video footage belonging to another movie or video. Create meaningful content.
3.	Create a meaningful video using an mp3 song and suitable images (Use transitions, effects etc.)
4.	Synchronize and animate the lyrics of any song within the limits of premiere-pro (using transitions, video effects and title options)
5.	Draw a storyboard of your own story. Create an animatics video using premiere-pro
6.	Take any movie. Recognize and submit the individual clips of following examples: Jump cut Hard cut Match cut Cutting on action Cut away
7.	Take 5 minutes' footage of any film and change the texture / feel of the movie color correction techniques. (use different effects for different scenes)
8.	Shoot your own 1-minute film with a proper script. (edit on premiere-pro, add titles and credits as well)
9.	Create hard subtitles for 1 minute footage of any film.
10.	Create an informative video of 5 minutes using videos, images text etc. on any topic.

References:

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

T. Y. B. Sc. Animation Semester 6

Title of the Course and Course Code	PROJECT (PRODUCTION) - (ANI3609)	Number of Credits: 02
Course Outcomes (COs) On completion of the course, the students will be able to:		
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	

Guidelines for Animation Project

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 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

T. Y. B. Sc. Animation Semester 6

Title of the Course and Course Code	INDUSTRIAL TRAINING - (ANI3611 & ANI 3612)	Number of Credits: 04
Course Outcomes (COs) On completion of the course, the students will be able to:		
CO1	Describe the different skills, attitude and knowledge to understand the professionalism in the Animation industry.	
CO2	Discuss the working culture of the Industry in view to maintain quality standards.	
CO3	Implement the confidence, presentation skills and logical thinking while working on animation projects	
CO4	Differentiate between the academics and professional work culture in timely delivery of projects.	
CO5	Compare and contrast the professional development of the programs and project.	
CO6	Combine the techniques to enhance oneself as a thorough animation professional	

Guidelines for Industrial Training

1. Students must select any of the Studio / Company / Industry / Startups related to Animation industry strictly.
2. They have to complete minimum 144 working hours in that company
 - Industrial Training 01 = 72hrs
 - Industrial training 02 = 72hrs
 - Total = 144hrs
3. Students have to write daily tasks while they are on Industrial training.
4. They have to maintain journals for the same.
5. They have to submit in detail report of the total duration spent for industrial training