BOARD OF STUDIES

Journalism and Mass Communication

(For Animation and Design)

Kumaun University, Nainital

(11.06.2025)

SYLLABUS APPROVED

Integrated Four Year Undergraduate Programme-FYUP in Animation and Design

(Course Curriculum Design as per NEP 2020)

(Semesters VII to VIII)

List of Papers Semester Wise						
FOURTH YEAR	VII	DSC	History of Art, Animation & Design		Theory	4
		DSE/GE	VFX – Fusion	Animation Students can choose any three DSE subjects from given subjects OR, Two DSE subjects and one GE subject (From Pool of GE Subjects provided by University) OR, One DSE with two GE subjects From Pool of GE Subjects provided by University). Other department students can choose these subjects as GE subject also.	Practical	4
		DSE/GE	Game Design – Unity		Practical	4
		DSE/GE	Digital Graphics & Visual Design		Practical	4
		DSE/GE	Expressive Motion		Practical	4
		IAPC	Academic Project (Short Film Animation/VFX)		Project	6
		TOTAL CREDIT				**22**
	VIII	DSC	Marketing for Animation		Theory	4
		DSE/GE	Advanced Animation in Maya	Animation Students can choose any three DSE subjects from given subjects OR, Two DSE subjects and one GE subject (From Pool of GE Subjects provided by University)	Practical	4
		DSE/GE	Environment Design		Practical	4

		DSE/GE	Advanced VFX	OR, One DSE with two GE subjects From Pool of GE Subjects provided by University). Other department students can choose these subjects as GE subject also..	Practical	4
		DSE/GE	Virtual Reality Concept & Application		Theory	4
		IAPC	Academic Project		Project	6
		TOTAL CREDIT				**22**
Students on exit shall be awarded Undergraduate Bachelor of Animation & Design (Honours with Research/Academic Project) after securing the requisite 176 credit on completing of Semester VIII.						

Syllabus

Semester-VII

Bachelor of Animation & Design (Honours with Research/Academic Project)

DISCIPLIN SPECIFIC COURSE (DSC)- HISTORY OF ART, ANIMATION & DESIGN (THEORY)

No. of Hours-60

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course Title	Credits	Credit distribution of the Course			Eligibility criteria	Prerequisite of the course (if any)
		Lecture	Tutorial	Practical/Practice		
DSC: History of Art, Animation & Design (Theory)	4	4	0	0	Passed Bachelor Degree in any Stream	Nil

BACHELOR OF ANIMATION & DESIGN (HONOURS WITH RESEARCH/ACADEMIC PROJECT)		
Programme: *Bachelor of Animation & Design (Honours with Research/Academic Project)*	Year: IV	Semester: VII Paper: DSC
Subject: Animation & Design		
Course: DSC	History of Art, Animation & Design (Theory)	

Course Outcomes:

After studying this course, the students will be able to:

- Demonstrate a comprehensive understanding of major art movements, styles, and techniques throughout history.
- Analyze and interpret artworks within their cultural, historical, and social contexts.
- Evaluate the impact of technological advancements on the development of animation and design.
- Apply knowledge of art history and design principles to contemporary creative practices.

Credits: 4	**Discipline Specific Course**
Max. Marks: As per Univ. rules	**Min. Passing Marks: As per Univ. rules**

Unit	**Topic**	**No. of Hours**
Unit I	**Foundations of Art and Design** • Introduction to key concepts in art history, including the elements and principles of design. • Overview of ancient art and architecture, from prehistoric cave paintings to classical civilizations. • Exploration of foundational artistic techniques and materials.	15
Unit II	**Renaissance to Modern Art Movements** • Examination of the Renaissance, Baroque, Rococo, and Neoclassical periods. • Study of major art movements of the 19th and 20th centuries, such as Romanticism, Realism, Impressionism, Cubism, Surrealism, and Abstract Expressionism. • Analysis of influential artists and their contributions to the evolution of art and design.	15
Unit III	**Evolution of Animation** • History of animation from early experiments to contemporary digital techniques. • Exploration of key figures and studios in the development of animation as an art form. • Examination of different animation styles, including traditional hand-drawn, stop-motion, and computer-generated animation.	15
Unit IV	**Contemporary Trends and Future Directions** • Analysis of current trends and innovations in art, animation, and design. • Exploration of the role of technology and digital media in shaping contemporary creative practices. • Discussion of ethical and cultural issues in the production and consumption of visual culture.	15

Recommended Readings:

- *"The Illusion of Life: Disney Animation" by Frank Thomas and Ollie Johnston*
- *"Animation: A World History" by GiannalbertoBendazzi*
- *"The Animator's Survival Kit" by Richard Williams*

Suggested Continuous Evaluation Methods: Seminar/ Presentation on any topic related to syllabus, Examination/Practical/ Internal/External Test with MCQs/short & long questions, attendance and participation in the class.

Suggested equivalent online courses: *www.pdfdrive.com/art-history-contemporary-perspectives-on-method-art-history-special-issues*

Semester-VII

Bachelor of Animation & Design (Honours with Research/Academic Project)

DISCIPLINE SPECIFIC ELECTIVE / GENERIC ELECTIVE (DSE / GE)- VFX FUSION (PRACTICAL)

No. of Hours- 120

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course Title	Credits	Credit distribution of the Course			Eligibility criteria	Prerequisite of the course (if any)
		Lecture	Tutorial	Practical/Practice		
DSE/GE: VFX Fusion (Practical)	4	0	0	4	Passed Bachelor Degree in any Stream	Nil

BACHELOR OF ANIMATION & DESIGN (HONOURS WITH RESEARCH/ACADEMIC PROJECT)		
Programme: ***Bachelor of Animation & Design (Honours with Research/Academic Project)***	**Year: IV**	**Semester: VII** **Paper: DSE/GE**
Subject: Animation & Design		
Course: DSE/GE	**VFX Fusion (Practical)**	
Course Outcomes: After studying this course, the students will be able to: • Know about node-based compositing, tools, menu, rotoscoping, color correction, camera/object/animation of Maya/ Max into Fusion stereo tool, advance particle.		
Credits: 4	**Discipline Specific Elective / Generic Elective**	
Max. Marks: As per Univ. rules	**Min. Passing Marks: As per Univ. rules**	

Unit	Topic	No. of Hours
Unit I	• Fusion - What is node-based compositing? Interface overview & Bins working with tools & menu.	30
Unit II	• Timeline and rotoscoping, colour correction, keying, tracking and stabilize.	30
Unit III	• Rotoscope using tracking technique, use camera/object/animation of Maya/ Max into Fusion stereo tool, advance particle.	30
Unit IV	• Paint tool and clean up/Wire-rig remove.	30

Recommended Readings:

- *Digital Compositing with Blackmagic Fusion: Essential Techniques Author: Lee Lanier, Publisher: Routledge*

Suggested Continuous Evaluation Methods: Seminar/ Presentation on any topic related to syllabus, Examination/Practical/ Internal/External Test with MCQs/short & long questions, attendance and participation in the class.

Suggested equivalent online courses: *https://documents.blackmagicdesign.com/UserManuals*

Semester-VII

Bachelor of Animation & Design (Honours with Research/Academic Project)

DISCIPLINE SPECIFIC ELECTIVE / GENERIC ELECTIVE (DSE / GE)- GAME DESIGN - UNITY (PRACTICAL)

No. of Hours- 120

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course Title	Credits	Credit distribution of the Course			Eligibility criteria	Prerequisite of the course (if any)
		Lecture	Tutorial	Practical/Practice		
DSE/GE: Game Design - Unity (Practical)	4	0	0	4	Passed Bachelor Degree in any Stream	Nil

BACHELOR OF ANIMATION & DESIGN (HONOURS WITH RESEARCH/ACADEMIC PROJECT)		
Programme: ***Bachelor of Animation & Design (Honours with Research/Academic Project)***	**Year: IV**	**Semester: VII** **Paper: DSE/GE**
Subject: Animation & Design		
Course: DSE/GE	**Game Design - Unity (Practical)**	
Course Outcomes: After studying this course, the students will be able to: • Understand the principles of game design and how they apply to Unity. • Gain proficiency in using Unity's interface for game development. • Develop basic scripting skills in C# for game development. • Apply game development best practices to create engaging game play experiences.		
Credits: 4	**Discipline Specific Elective / Generic Elective**	
Max. Marks: As per Univ. rules	**Min. Passing Marks: As per Univ. rules**	

Unit	Topic	No. of Hours
Unit I	**Introduction to Game Design and Unity**	30

	• Overview of game design principles • Introduction to Unity interface and workspace • Creating and manipulating game objects • Implementing basic game mechanics	
Unit II	**Scripting in Unity with C#** • Introduction to C# scripting basics • Scripting game mechanics such as player movement, input handling, and basic AI • Understanding variables, functions, and object-oriented programming concepts • Integrating scripts with game objects in Unity	30
Unit III	**Advanced Unity Features and Gameplay Design** • Exploring advanced Unity features such as animations, particle systems, and audio • Designing gameplay mechanics for player progression and engagement • Implementing user interface elements and game feedback systems • Introduction to level design and environmental storytelling	30
Unit IV	**Game Optimization and Publishing** • Strategies for optimizing game performance in Unity • Testing and debugging game mechanics and scripts • Introduction to game publishing platforms and distribution methods • Packaging and preparing a game for deployment on multiple platforms • Assignment: Optimize and publish a final game project	30

Recommended Readings:

- *"Unity in Action" by Joseph Hocking*
- *"Game Design Workshop: A Playcentric Approach to Creating Innovative Games" by Tracy Fullerton*
- *"C# Programming for Unity Game Development" by Kelvin Sung and Jashua C. Medeiros*

Suggested Continuous Evaluation Methods: Seminar/ Presentation on any topic related to syllabus, Examination/Practical/ Internal/External Test with MCQs/short & long questions, attendance and participation in the class.

Semester-VII

Bachelor of Animation & Design (Honours with Research/Academic Project)

	DISCIPLINE SPECIFIC ELECTIVE / GENERIC ELECTIVE (DSE / GE)- Digital Graphics & Visual Design (Practical)

No. of Hours-120

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course Title	Credits	Credit distribution of the Course	Eligibility	Prerequisite

		Lecture	Tutorial	Practical/Practice	criteria	of the course (if any)
DSE/GE: Digital Graphics & Visual Design (Practical)	**4**	**0**	**0**	**4**	**Passed Bachelor Degree in any Stream**	**Nil**

BACHELOR OF ANIMATION & DESIGN (HONOURS WITH RESEARCH/ACADEMIC PROJECT)		
Programme: ***Bachelor of Animation & Design (Honours with Research/Academic Project)***	**Year: IV**	**Semester: VII** **Paper: DSE/GE**
Subject: Animation & Design		
Course: DSE/GE	**Digital Graphics & Visual Design (Practical)**	

Course Outcomes:

After studying this course, the students will be able to:

- Apply visual design principles to real-world media projects
- Use Adobe Photoshop professionally for image editing and composition
- Create industry-standard vector graphics using Adobe Illustrator
- Develop complete design projects and follow professional workflows

Credits: 4	**Discipline Specific Elective / Generic Elective**
Max. Marks: As per Univ. rules	**Min. Passing Marks: As per Univ. rules**

Unit	Topic	No. of Hours
Unit I	Introduction to Visual Design	20
Unit II	Adobe Photoshop – Raster Graphics	20
Unit III	Adobe Illustrator – Vector Graphics	20
Unit IV	Typography & Visual Communication	30
Unit V	Design Execution & Professional Practices	30

Recommended Readings:

- *Typography, Referenced: A Comprehensive Visual Guide to the Language, History*
- ***"Graphic Design: The New Basics"****By Ellen Lupton & Jennifer Cole Phillips*
- **"Designing Brand Identity"***By Alina Wheeler*

Suggested Continuous Evaluation Methods: Seminar/ Presentation on any topic related to syllabus, Examination/Practical/ Internal/External Test with MCQs/short & long questions, attendance and participation in the class.

Semester-VII

Bachelor of Animation & Design (Honours with Research/Academic Project)

DISCIPLIN SPECIFIC ELECTIVE / GENERIC ELECTIVE (DSE / GE)- Expressive Motion (Practical)

No. of Hours-120

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course Title	Credits	Credit distribution of the Course			Eligibility criteria	Prerequisite of the course (if any)
		Lecture	Tutorial	Practical/Practice		
DSE/GE: Expressive Motion (Practical)	4	0	0	4	Passed Bachelor Degree in any Stream	Nil

BACHELOR OF ANIMATION & DESIGN (HONOURS WITH RESEARCH/ACADEMIC PROJECT)		
Programme: ***Bachelor of Animation & Design (Honours with Research/Academic Project)***	**Year: IV**	**Semester: VII** **Paper: DSE/GE**
Subject: Animation & Design		
Course: DSE/GE	**Expressive Motion (Practical)**	

Course Outcomes:

After studying this course, the students will be able to:

- Animate believable character performances
- Plan, stage, and execute complex animated scenes
- Produce a polished animation project showcasing expressive storytelling
- Design and animate emotionally driven sequences

Credits: 4	**Discipline Specific Elective / Generic Elective**
Max. Marks: As per Univ. rules	**Min. Passing Marks: As per Univ. rules**

Unit	Topic	No. of Hours
Unit I	Principles of Expressive Animation • Revisiting the 12 principles with focus on emotional storytelling • Body language, facial expressions, acting for animation • Advanced squash & stretch, anticipation, exaggeration • Case studies from Disney, Studio Ghibli, and anime	30
Unit II	Character Performance & Lip Sync • Dialogue-driven animation • Lip sync techniques in 2D • Phoneme study and breakdowns • Animating believable eye, brow, and mouth movement • Practicing with short audio clips	30
Unit III	**Scene Planning & Animatics** • Staging and shot composition for emotion • Camera movement in 2D space (pans, zooms, tracking) • Creating animatics (storyboard to motion)	30

	• Timing and pacing for expressive scenes	
Unit IV	**Advanced Character Animation Workflow** • Acting scenes: full-body character with emotion • Walk cycles with personality (happy, sad, tired, excited) • Secondary motion and follow-through (hair, cloth, props) • Interaction between characters or with objects • Final compositing and presentation	30

Recommended Readings:

- ***The Animator's Survival Kit****By Richard Williams*
- ***Acting for Animators****By Ed Hooks*
- ***Cartoon Animation****By Preston Blair*
- ***Character Animation Crash Course!****By Eric Goldberg*
- ***Timing for Animation****By Harold Whitaker and John Halas*

Suggested Continuous Evaluation Methods: Seminar/ Presentation on any topic related to syllabus, Examination/Practical/ Internal/External Test with MCQs/short & long questions, attendance and participation in the class.

Semester-VII

Bachelor of Animation & Design (Honours with Research/Academic Project)

INTERNSHIP/APPRENTICESHIP/PROJECT/COMMUNITY OUTREACH (IAPC)- ACADEMIC PROJECT I (SHORT FILM ANIMATION/VFX)

No. of Hours-90

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course Title	Credits	Credit distribution of the Course			Eligibility criteria	Prerequisite of the course (if any)
		Lecture	Tutorial	Practical/Practice		
IAPC: Academic Project I (Short Film Animation/VFX)	**6**	**0**	**0**	**6**	**Passed Bachelor Degree in any Stream**	**Nil**

BACHELOR OF ANIMATION & DESIGN (HONOURS WITH RESEARCH/ACADEMIC PROJECT)		
Programme: ***Bachelor of Animation & Design (Honours with Research/Academic Project)***	**Year: IV**	**Semester: VII** **Paper: IAPC**
Subject: Animation & Design		
Course: IAPC	**Academic Project I (Short Film Animation/VFX)**	
Course Outcomes: After studying this course, the students will be able to: • The course involves student researching in an area related to design and is expected to produce an		

insightful report or a paper on the topic. Students need to choose a topic suggested by a faculty member and work under faculty guidance. The work may involve primary and secondary research, creative exploration out alternatives, experimental set-ups and methodical documentation. Students are encouraged to explore new fields, materials and media, with a focus on analysis. The student is required to present a seminar on the topic at the end of the semester.	
Credits: 6	**IAPC Course**
Max. Marks: As per Univ. rules	**Min. Passing Marks: As per Univ. rules**

Unit	Topic	No. of Hours
Unit I	Student need to submit ideation, script, story, storyboard	40
Unit II	Need to submit final short film min 2 max 5 mins.	50

Suggested Continuous Evaluation Methods: Evaluation will be based on final output (Project) Suggested

Semester-VIII

Bachelor of Animation & Design (Honours with Research/Academic Project)

DISCIPLINE SPECIFIC COURSE (DSC) –MARKETING FOR ANIMATION (THEORY)

No. of Hours-60

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course Title	Credits	Credit distribution of the Course			Eligibility criteria	Prerequisite of the course (if any)
		Lecture	Tutorial	Practical/Practice		
DSC: Marketing for Animation (Theory)	**4**	**4**	**0**	**0**	**Bachelor Degree**	**Nil**

BACHELOR OF ANIMATION & DESIGN (HONOURS WITH RESEARCH/ACADEMIC PROJECT)		
Programme: ***Bachelor of Animation & Design (Honours with Research/Academic Project)***	**Year: IV**	**Semester: VIII Paper: DSC**
Subject: Animation & Design		
Course: DSC	**Marketing for Animation (Theory)**	
Course Outcomes: After studying this course, the students will be able to: • Learn about Marketing principles, Understanding Animation History, Clientage and Theory of Marketing Management.		
Credits: 4	**Discipline Specific Course**	

Max. Marks: As per Univ. rules		Min. Passing Marks: As per Univ. rules
Unit	**Topic**	**No. of Hours**
Unit I	**Marketing Principle:** Animate Your Logo, advertise on social media, Explain Your Business, and Place Animated Videos on Landing Pages, Keep Your Videos Short and Simple, Keep Auto play's Features.	15
Unit II	**Understanding Animation Industry:** Professional animators and animation studios Required Autodesk 3D Studio Max & Autodesk Maya for the industry standard. This 3Danimation software's is ideal for character creation, modeling, Props modeling, Simulation, motion graphics, and many more. It's been used to create animation for movies including "Shrek" "Finding Nemo" "Monsters, Inc.," "Avatar and many more movies" the following list of the tools for animators use: -3ds Max (Autodesk), Maya(Autodesk), Adobe After Effects, Adobe Animate CC	15
Unit III	**Clientage:** This will make you more visible on the web to clients who are looking for animators. The best freelancers to showcase on their site to find the clientage, which saves companies time as well money also. Some web link given to search for clientage on Fiverr.com, Behance.com, Freelancer.com, SimplyHired.com etc.	15
Unit IV	**Theory of marketing management:** R&D for new technology and invest money to develop new products to cater for the existing market. Need to know competitor's product and merging resources to create a new product that better meets the need of the existing market Making new strategic for partnerships with other firms to gain access to each partner's distribution channels for branding	15

Recommended Readings:

- *Animation and Advertising (Palgrave Animation) Editor: Malcolm Cook, Publisher: Palgrave Macmillan*

Suggested Continuous Evaluation Methods: Seminar/ Presentation on any topic related to syllabus, Examination/Practical/ Internal/External Test with MCQs/short & long questions, attendance and participation in the class.

Suggested equivalent online courses:*www.researchgate.net/publication/337994833_Introduction_to_Animation_and_Advertising*

Semester-VIII

Bachelor of Animation & Design (Honours with Research/Academic Project)

DISCIPLIN SPECIFIC COURSE/GENERIC ELECTIVE (DSE/GE) – ADVANCEDANIMATION IN MAYA (PRACTICAL)

No. of Hours- 120

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course Title	Credits	Credit distribution of the Course			Eligibility criteria	Prerequisite of the course (if any)
		Lecture	Tutorial	Practical/Practice		
DSE/GE: AdvancedAnimation in Maya (Practical)	4	0	0	4	Passed Bachelor Degree in any Stream	Nil

BACHELOR OF ANIMATION & DESIGN (HONOURS WITH RESEARCH/ACADEMIC PROJECT)		
Programme: ***Bachelor of Animation & Design (Honours with Research/Academic Project)***	**Year: IV**	**Semester: VIII** **Paper: DSE/GE**
Subject: Animation & Design		
Course: DSE/GE	**Advanced Animation in Maya (Practical)**	

Course Outcomes:

After studying this course, the students will be able to:

- Develop advanced skills in character animation using Autodesk Maya.
- Understand the principles of character rigging and dynamics simulation.
- Create sophisticated animation sequences for various media platforms.
- Explore motion graphics techniques and integrate 3D elements into motion graphic projects.

Credits: 4	**Discipline Specific Course/Generic Elective Course**
Max. Marks: As per Univ. rules	**Min. Passing Marks: As per Univ. rules**

Unit	Topic	No. of Hours
Unit I	**Character Animation** • Understanding character rigging and skinning • Advanced keyframing techniques for character animation • Principles of character acting and performance Lip-syncing and facial animation	30
Unit II	**Rigging and Dynamics** • Advanced rigging techniques for complex characters and creatures • Introduction to dynamic simulations for animation • Cloth, hair, and fluid simulations Integrating dynamics into character animation	30
Unit III	**Advanced Motion Graphics** • Introduction to motion graphics in Maya • Utilizing Maya's animation and simulation tools for motion graphics	30

	• Creating complex motion graphic sequences Integrating 3D elements into motion graphics projects	
Unit IV	**Special Topics in Animation** • Exploring advanced animation plugins and scripts • Industry-standard workflows and pipelines • Collaboration and teamwork in animation projects • Critique and refinement of animation work Final project: Self-directed animation project showcasing advanced skills	30

Recommended Readings:

- *Autodesk Maya 2022 Basics Guide, Author: Kelly L. Murdock*

Suggested Continuous Evaluation Methods: Seminar/ Presentation on any topic related to syllabus, Examination/Practical/ Internal/External Test with MCQs/short & long questions, attendance and participation in the class.

Suggested equivalent online courses:
https://graphics.stanford.edu/courses/cs448b-01-fall/LEARNINGMAYA2.pdf

Semester-VIII

Bachelor of Animation & Design (Honours with Research/Academic Project)

DISCIPLIN SPECIFIC COURSE/GENERIC ELECTIVE (DSE/GE) – ENVIRONMENT DESIGN (PRACTICAL)

No. of Hours- 120

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course Title	Credits	Credit distribution of the Course			Eligibility criteria	Prerequisite of the course (if any)
		Lecture	Tutorial	Practical/Practice		
DSE/GE: Environment Design (Practical)	4	0	0	4	Passed Bachelor Degree in any Stream	Nil

BACHELOR OF ANIMATION & DESIGN (HONOURS WITH RESEARCH/ACADEMIC PROJECT)		
Programme: ***Bachelor of Animation & Design (Honours with Research/Academic Project)***	**Year: IV**	**Semester: VIII** **Paper: DSE/GE**
Subject: Animation & Design		
Course: DSE/GE	**Environment Design (Practical)**	

Course Outcomes:

After studying this course, the students will be able to:

- Understand the principles of environmental design and their application in 3D modeling.
- Create spatial compositions using 3D modeling software.
- Apply lighting techniques to enhance the visual appeal and realism of environments.
- Texture environments effectively to convey different materials and surfaces.

Credits: 4	**Discipline Specific Course/Generic Elective Course**
Max. Marks: As per Univ. rules	**Min. Passing Marks: As per Univ. rules**

Unit	Topic	No. of Hours
Unit I	**Introduction to Environmental Design** Overview of environmental design principles Importance of 3D modeling in environmental design Introduction to 3D modeling software (e.g., Autodesk Maya, Blender)Basics of navigation, modeling tools, and interface	30
Unit II	**Spatial Composition and Layout** Principles of spatial composition Creating layouts and scenes Incorporating architectural elements (e.g., buildings, landscapes)Understanding scale and proportion	30
Unit III	**Lighting and Texturing** Fundamentals of lighting in 3D environments Types of lighting sources and their effects Techniques for creating realistic textures Mapping textures onto 3D models	30
Unit IV	**Rendering and Presentation** Introduction to rendering engines (e.g., Arnold, V-Ray) Rendering techniques for achieving realism Post-processing effects and compositing Presentation techniques for showcasing 3D environments	30

Recommended Readings:

- *"ZBrush Character Sculpting: Volume 1" by Rafael Grassetti*
- *"Introducing ZBrush 4" by Eric Keller*
- *"ZBrush Digital Sculpting Human Anatomy" by Scott Spencer*

Suggested Continuous Evaluation Methods: Seminar/ Presentation on any topic related to syllabus, Examination/Practical/ Internal/External Test with MCQs/short & long questions, attendance and participation in the class.

Suggested equivalent online courses:

www.pdfdrive.com/zbrush-character-creation-advanced-digital-sculpting

Semester-VIII

Bachelor of Animation & Design (Honours with Research/Academic Project)

DISCIPLIN SPECIFIC COURSE/GENERIC ELECTIVE (DSE/GE) – ADVANCED VFX (PRACTICAL)

No. of Hours- 120

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course Title	Credits	Credit distribution of the Course			Eligibility criteria	Prerequisite of the course (if any)
		Lecture	Tutorial	Practical/Practice		
DSE/GE: Advanced VFX (Practical)	4	0	0	4	Passed Bachelor Degree in any Stream	Nil

BACHELOR OF ANIMATION & DESIGN (HONOURS WITH RESEARCH/ACADEMIC PROJECT)		
Programme: ***Bachelor of Animation & Design (Honours with Research/Academic Project)***	**Year: IV**	**Semester: VIII** **Paper: DSE/GE**
Subject: Animation & Design		
Course: DSE/GE	**Advanced VFX (Practical)**	

Course Outcomes:

After studying this course, the students will be able to:

- Learn about special effects that are applied to Music Videos, YouTube Videos, Advertisements, Games and Movies post-production to make them more presentable. Students can learn a perfect creation of many scenes, which could not have been possible in reality. In other words, it makes things look real in a convenient way and at a lesser cost.

Credits: 4	**Discipline Specific Course/Generic Elective Course**
Max. Marks: As per Univ. rules	**Min. Passing Marks: As per Univ. rules**

Unit	Topic	No. of Hours
Unit I	Introduction of Nuke, Nuke workflow, Merge tools with basic composition	30
Unit II	Transformation & animation, Rotoscope, shuffle & Shuffle copy Color management, Compose render passes, Keying,	30
Unit III	Tracking, Stabilize, Cleanup, Introduction to 3D	30
Unit IV	Project based on learning	30

Recommended Readings:

- *101: Professional Compositing and Visual Effects (Digital Video & Audio Editing Courses)Author: Ron Ganbar, Publisher: Peach pit Press*

Suggested Continuous Evaluation Methods: Seminar/ Presentation on any topic related to syllabus, Examination/Practical/ Internal/External Test with MCQs/short & long questions, attendance and participation in the class.

Suggested equivalent online courses:

www.pdfdrive.com/digital-compositing-with-nuke-101-d34416145.html

Semester-VIII

Bachelor of Animation & Design (Honours with Research/Academic Project)

DISCIPLIN SPECIFIC COURSE/GENERIC ELECTIVE (DSE/GE) –VIRTUAL REALITY CONCEPT & APPLICATION (THEORY)

No. of Hours-60

CREDIT DISTRIBUTION,ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course Title	Credits	Credit distribution of the Course			Eligibility criteria	Prerequisite of the course (if any)
		Lecture	Tutorial	Practical/Practice		
DSE/GE: Virtual Reality Concept & Application (Theory)	4	4	0	0	Passed Bachelor Degree in any Stream	Nil

BACHELOR OF ANIMATION & DESIGN (HONOURS WITH RESEARCH/ACADEMIC PROJECT)		
Programme: ***Bachelor of Animation & Design (Honours with Research/Academic Project)***	**Year: IV**	**Semester: VIII** **Paper: DSE/GE**
Subject: Animation & Design		
Course: DSE/GE	**Virtual Reality Concept & Application (Theory)**	

Course Outcomes:

After studying this course, the students will be able to:

- Understand how the design of VR technology relates to human perception and cognition.
- Discuss applications of VR to the conduct of scientific research, training, and industrial design.
- Gain first-hand experience with using virtual environment technology, including 3D rendering software, tracking hardware, and input/output functions for capturing user data.
- Learn the fundamental aspects of designing and implementing rigorous empirical experiments using VR.
- Learn about multimodal virtual displays for conveying and presenting information and techniques for evaluating good and bad virtual interfaces.

Credits: 4	**Discipline Specific Course/Generic Elective Course**
Max. Marks: As per Univ. rules	**Min. Passing Marks: As per Univ. rules**

Unit	Topic	No. of Hours

Unit I	**Introduction to Virtual Reality** History of VR, Types of VR technology	15
Unit II	**Introduction to Unity UI** Creating a new project, importing standard assets, adding a playercharacterObjects, lighting, scenes, prefabs, asset store	15
Unit III	**Presence in VR:** What is it? How do you quantify it? How do you fosterit? Tracking, Latency, Field of View in Real life, HMDs, Caves, DesktopVR, Fidelity, depth, isolation, smell, range of motion (DoF) Sensory Influence: Kinetics, Spatial Audio, Haptics, Other senses?	15
Unit IV	Creating a New Script, (naming) Syntax, Functions, Variables,Key/Mouse, Input, Unity, Support Object-Oriented Scripting in Unity Public variables, the inspector Unity support Project	15

Recommended Readings:

1. *Unity Virtual Reality Projects*
2. *Building Virtual Reality with Unity and Steam VR by Jeff W Murray*

Suggested Continuous Evaluation Methods: Seminar/ Presentation on any topic related to syllabus, Examination/Practical/ Internal/External Test with MCQs/short & long questions, attendance and participation in the class.

Semester-VIII

Bachelor of Animation & Design (Honours with Research/Academic Project)

INTERNSHIP/APPRENTICESHIP/PROJECT/COMMUNITY OUTREACH (IAPC) – ACADEMIC PROJECT (PORTFOLIO)

No. of Hours- 90

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course Title	Credits	Credit distribution of the Course			Eligibility criteria	Prerequisite of the course (if any)
		Lecture	Tutorial	Practical/Practice		
IAPC: Academic Project(Portfolio)	**6**	**0**	**0**	**6**	**Passed Bachelor Degree in any Stream**	**Nil**

BACHELOR OF ANIMATION & DESIGN (HONOURS WITH RESEARCH/ACADEMIC PROJECT)			
Programme: ***Bachelor of Animation & Design (Honours with Research/Academic Project)***		**Year: IV**	**Semester: VIII** **Paper: IAPC**
Subject: Animation & Design			
Course: IAPC	**Academic Project (Portfolio)**		

Course Outcomes:

After studying this course, the students will be able to:

- The course involves student researching in an area related to design and is expected to produce an insightful report or a paper on the topic. Students need to choose a topic suggested by a faculty member and work under faculty guidance. The work may involve primary and secondary research, creative exploration out alternatives, experimental set-ups and methodical documentation. Students are encouraged to explore new fields, materials and media, with a focus on analysis. The student is required to present a seminar on the topic at the end of the semester.

Credits: 6	**IAPC Course**
Max. Marks: As per Univ. rules	**Min. Passing Marks: As per Univ. rules**

Unit	**Topic**	**No. of Hours**
Unit I	Final Show reel of any chosen topic from the curriculum.	40
Unit II	Final dissertation of any chosen topic from the curriculum.	50

Suggested Continuous Evaluation Methods: Evaluation will be based on final output (Project).