ABEDA INAMDAR COLLEGE PUNE

PG Diploma in Visual Effects

(Faculty of Science & Technology)

Visual Effects

Choice Based Credit System Syllabus

To be implemented from Academic Year 2021-2022

Title of the Course: Post Graduate Diploma Course In

Visual Effects (VFX)

Preamble:

The field of cinema is rapidly changing. With the advent of 2D and 3D stereoscopic, the way of looking and experiencing films is altering. VFX has grown tremendously in the past decade because of the onslaught of new and changing technology. Visual effect is used in games, movies and television shows. With the advanced technology and equipment Hollywood and Bollywood uses VFX to create overwhelming effects and realistic environments. The VFX is usually done at the last stage that is the postproduction in editing but it is planned at the preproduction and production stage under the guidance of the director and VFX supervisor after the story is finalized. Therefore, the faculty of the computer science department has felt the requirement to start with a certificate course in VFX.

Introduction:

To prepare students for the field of visual arts and equip them with all the necessary tools that this field requires. Making seamless and photorealistic renders is the prime objective of this course. The aim of this 12-Month course is also to equip the students with skills that will help them find employment in the global market. However, adding VFX can be a humongous task and involves a lot of people for rendering a perfect shot. Therefore, artists should be able to have full control over their images. VFX is not only used for science fiction or fantasy films but is also used in period dramas. Upon completing the graduation, the passed-out students can work in TV channels/ Production houses VFX studios Gaming Industry Media and Advertising Also as an independent freelancer.

Prerequisite:

- Students must have basic operational knowledge of computers.
- Students must understand English language.
- Students must have basic knowledge of the Internet.

Duration: The Program comprises two semesters.

Evaluation: Two semesters program with the combination of 60% Semester End Examination and 40% Continuous Evaluation per semester.

Number of seats: 60

Eligibility: Graduation Any Stream

Semester - 1

Titles of Papers, Credit Allocation and Scheme of Evaluation

(Total credits=30)

Paper Code	Course Type	Paper title	Credits		Evaluation		
			T	P	CE	SEE	Total
21AUPGDVFX101	Core Credit Theory	The Fundamental of Filmmaking	4	-	40	60	100
21AUPGDVFX102	Core Credit Theory	The Art Direction for Film	4	-	40	60	100
21AUPGDVFX103	Core Credit Theory	Visual Communication	4	-	40	60	100
21AUPGDVFX104	Core Credit Practical	Video Editing in Premiere Pro (PR)	-	4	40	60	100
21AUPGDVFX105	Core Credit Practical	Rotoscoping in After Effects	-	4	40	60	100
21AUPGDVFX106	Core Credit Practical	VFX Compositing with After Effects	-	4	40	60	100
21AUPGDVFX107	Core Credit Practical	VFX & CG Compositing in Nuke	-	4	40	60	100
21AUPGDVFX108	Core Credit Practical	Project/Portfolio		2	20	30	50
Total			**12**	**18**	**300**	**450**	**750**

Abbreviation:

T: Theory

P: Practical

CE: Continuous evaluation

SEE: Semester End Examination

Semester - 2

Titles of Papers, Credit Allocation and Scheme of Evaluation

(Total credits=30)

Paper Code	Course Type	Paper title	Credits		Evaluation		
			T	P	CE	SEE	Total
21AUPGDVFX 109	Core Credit Theory	The Fundamental of Video Editing	4	-	40	60	100
21AUPGDVFX 110	Core Credit Theory	The Art of Motion Graphics Design	4	-	40	60	100
21AUPGDVFX 111	Core Credit Theory	Compositing Visual Effects	4	-	40	60	100
21AUPGDVFX 112	Core Credit Practical	VFX Roto and Compositing	-	4	40	60	100
21AUPGDVFX 113	Core Credit Practical	Project/Portfolio	-	8	80	120	200

21AUPGDVFX 114	Core Credit Practical	On job training	-	6	60	90	150
Total			**12**	**18**	**300**	**450**	**750**

Abbreviation:

T: Theory

P: Practical

CE: Continuous evaluation

SEE: Semester End Examination

Semester 1

Semester - I

Paper - I

Course Type: Core Course Theory **Course Code: 21AUPGDVFX101**

Course Title: The Art of Video Editing

Teaching Scheme	No. of Credits	Examination Scheme
5 Hours / Week	4	CE : 40Marks SEE: 60Marks

Course Objectives:

1. The prime objective of this unit is to introduce you to different aspects of camera work and also aim at developing or honing your skills related to your camera work.
2. The unit will include knowledge that can benefit both a beginner and a professional in this field.
3. The unit will explain all types of camera work irrespective of whether an individual aims at becoming an amateur movie maker or a hardcore professional in camera operations.
4. This course will teach students the basic knowledge and concepts of editing and develop their editing sense in practical editing assignments.

Course Outcomes: - On completion of this course, students will be able to:

1. Define the terms used in video production.
2. Understand the planning of a video shoot.
3. Know about the various camera functions.
4. Describe techniques of framing.
5. Analyze the ‘basic camera moves.
6. Elucidate various shooting techniques.

Course Contents

Chapter 1	**HANDLING VIDEO CAMERA**	**14 Hour**

1.1 Video Camera Terminology

1.1.1 Shot
1.1.2 Framing & Composition
1.1.3 Transitions

1.2 Planning

1.2.1 Shoot Plan
1.2.2 Planning to Edit.
1.2.3 Shot Plan

1.3 Camera Functions

1.3.1 Zoom
1.3.2 Focus
1.3.3 Iris
1.3.4 White Balance
1.3.5 Audio
1.3.6 Shutter
1.3.7 Effects

1.4 Framing

1.4.1 Basic Shots
1.4.2 Some Rules of Framing

1.5 Camera Moves

1.5.1 Camera Angles
1.5.2 The Rule of Thirds
1.5.3 Crossing the Line (Reverse Cut)
1.5.4 Sports and Multi-Camera Action

1.6 Video Camera Filters and Types of Shots

1.6.1 Types of Shots

1.8 Shooting Technique

1.8.1 Position Yourself and Your Camera
1.8.2 Frame Your Shot
1.8.3 Press Record
1.8.4 Use Both Eyes
1.8.5 Be prepared to experiment

Chapter 2	**VIDEO CAMERA FOCUS**	**12 Hour**

2.1 Video Camera Focus

2.1.1 How to Use the Manual Focus
2.1.2 Back Focus
2.1.3 Depth of Field
2.1.4 The Focus Pull

2.2 Video Camera Iris

2.2.1 How to Know the Correct Exposure
2.2.2 Backlight

2.3 Video Camera White Balance

2.3.1 Performing a Manual White Balance
2.3.2 How to Perform a Black Balance

2.4 Video Camera Viewfinder

2.4.1 electronic viewfinder
2.4.2 Diopter adjustment

2.4.3 Zebra Stripes

2.5 Video Camera Shutter

2.5.1 Shutter term Speed

2.5.2 Shutter Speed

Chapter 3	VIDEO CAMERA TRIPODS	10 Hour

3.1 Tripods

3.1.1 Tripod Parts

3.2 Choosing a Tripod

3.2.1 Head

3.2.2 Legs

3.3 Setting up a Camera Tripod

3.3.1 Tripod setup

3.3.2 Baseplate

3.4 How to Use a Tripod

3.4.1 Plan the Move

3.4.2 The Right Drag for the Job

3.5 Monopods

3.5.1 Single Legged

3.5.2 how to use a Monopod

3.5.3 Bipods

Chapter 4	VIDEO CHROMA—GREEN SCREEN	12 Hour

4.1 How to Make a Green Screen

4.1.1 Processing a green backdrop

4.1.2 Major Factors

4.1.3 Lighting

4.1.4 Camera

4.2 Planning the Studio Setting

4.2.1 Shoot in HD

4.2.2 No Wrinkles

4.2.3 Not Too Bright

4.3 Green Screen Material

4.3.1 Green Screen and Blue Screen Materials

4.3.2 Painted Walls, Cycs, and Floors

4.3.3 Digital Matte Keying Fabrics and Materials

4.3.4 Composite Components Fabrics

4.3.5 Rosco Digi Comp Products

4.3.6 Generic Green Muslin

4.3.7 Reflective Media

4.4 Lighting the Green Screen

- 4.4.1 Lighting a green screen
- 4.4.2 Lighting Green Screen Backdrops
- 4.4.3 Placing Green Screen Lights

4.5 Using Green Screen Footage

- 4.5.1 Record a Footage
- 4.5.2 Remove Chroma Keying
- 4.5.3 Editing Software

4.6 Duplicating a Person in the Same Frame

- 4.6.1 Duplicating Actors with a Split-Screen
- 4.6.2 Duplicating Actors by Keying

Chapter 5	**SHOOTING EVENTS**	**12 Hour**

5.1 Shooting Interviews

- 5.1.1 Preparation
- 5.1.2 Interview Structure

5.2 Interview Shots

- 5.2.1 Framing Interview Shots
- 5.2.2 Common Interview Shots
- 5.2.3 The Sequence of Shots
- 5.2.4 Appropriate framing

5.3 Studio Interview Settings

- 5.3.1 Setting up camera
- 5.3.2 Camera
- 5.3.3 Extra Camera
- 5.3.4 Arrangements

5.4 Mobile Interviewing Techniques

- 5.4.1 Shoulder-Mounted Camera
- 5.4.2 Tripod-Mounted Camera
- 5.4.3 Walking and Talking
- 5.4.4 Field Kit Checklist

5.5 Remote Interviews

- 5.5.1 Preparing the Guest
- 5.5.2 The Interview Sequence
- 5.5.3 Telephone and Audio-Only Interviews
- 5.5.4 New Technologies

5.6 Recording Sound for Interviews

- 5.6.1 Microphones
- 5.6.2 Built-in Camera Mic
- 5.6.3 Audio Traps to Avoid

5.7 Lighting for Interviews

- 5.7.1 Lights for Interviews
- 5.7.2 Shooting outside
- 5.7.3 Shooting inside
- 5.7.4 Without Lights Shoots
- 5.7.5 Camera-Mounted Lights

5.8 Editing Interviews

- 5.8.1 Establishing Shot
- 5.8.2 Cutting Between Interviewer and Guest
- 5.8.3 Back-Cut Questions
- 5.8.4 Noddies

5.9 General Tips for Shooting Interviews

- 5.9.1 Dealing with Newbie Guests
- 5.9.2 Pace Yourself
- 5.9.3 Clothing
- 5.9.4 Be Prepared

5.10 Shooting a Wedding Video

- 5.10.1 Planning a Wedding Video
- 5.10.2 Shooting the Wedding
- 5.10.3 Editing a Wedding Video
- 5.10.4 Wedding Video Tips

Reference Books:

1. Cinematography & Directing By: Dan Ablan
2. Make Your Digital Movies By: Pete Shaner and Gernald Everett Jones

Semester - I

Paper - II

Course Type: Core Course Theory **Course Code: 21AUPGDVFX102**

Course Title: The Art Direction for Film

Teaching Scheme	No. of Credits	Examination Scheme
5 Hours / Week	4	CE: 40Marks SEE: 60Marks

Course Objectives:

1. Art directing is somewhat like snowboarding or skydiving—the essence of the activity is in the doing. In that way, an art director is by nature an action figure.
2. On one hand, creativity reigns with few boundaries; on the other hand, practicality takes primary focus. Balancing pairs of opposites, like art and commerce, make the job of art directing unique and challenging.
3. the art director on a film project operates as a department manager in form but as an artist in substance. In other words, business decisions for the art department are made on a daily basis.

Course Outcomes:

1. Understand the Process of Pre Production.
2. Analyze the design Process for the film.
3. Know about the Art department Setup.
4. Know the term of CGI and Digital Filmmaking

Course Contents

Chapter 1	**Pre-Production Process**	**12 Hour**

1.1 STAGING

1.1.1 Main Functions
1.1.2 Patterns of Dramatic Movement
1.1.3 Changing the Stage Within a Scene
1.1.4 Staging as Part of a Film's Design
1.1.5 Working with a Location Floor Plan
1.1.6 Floor Plan and Staging for Notorious Patio Scene

1.2 THE CAMERA

1.2.1 The Camera as Narrator
1.2.2 The Reveal
1.2.3 Entrances
1.2.4 The Objective Camera
1.2.5 The Subjective Camera
1.2.6 Where Do I Put It?

1.3 Visual Design

1.3.1 Style
1.3.2 Coverage
1.3.3 Camera Height
1.3.4 Lenses
1.3.5 Composition
1.3.6 Where to Begin?

1.4 Working Toward Specificity in Visualization

1.4.1 Looking for Order
1.4.2 Dramatic Blocks and the Camera
1.4.3 Shot Lists and Storyboards
1.4.4 The Prose Storyboard

Chapter 2	**The Responsibilities, The Relationships, and the Setup**	**8 Hour**

2.1 Hierarchy of Responsibilities and Art Department Setup

- 2.1.1 First Responsibilities
- 2.1.2 Second Responsibilities
- 2.1.3 Third Responsibilities
- 2.1.4 Fourth Responsibilities

2.2 Art Department

- 2.2.1 Interdepartmental PR
- 2.2.2 Art Department Coordinator
- 2.2.3 Digital Artists
- 2.2.4 Set Designers
- 2.2.5 Set Decorator
- 2.2.6 Greensman

2.3 The Relationships

- 2.3.1 Art Department
- 2.3.2 Interdepartmental PR

2.4 The Setup

- 2.4.1 Head Accountant and Staff
- 2.4.2 Locations Manager and Staff
- 2.4.3 UPM, Production Supervisor, and Production Office Staff
- 2.4.4 First Assistant Director and Staff
- 2.4.5 Previsualization Supervisor and Staff

Chapter 3	**The Design Process**	**10 Hour**

3.1 Locations Department and Scouting

- 3.1.1 First Scouts
- 3.1.2 Second Scouts
- 3.1.3 Third Scouts
- 3.1.4 Fourth Scouts
- 3.1.5 Fifth Scouts

3.2 Beginning the Design Process

- 3.2.1 Research
- 3.2.2 Storyboarding
- 3.2.3 Animatics

3.3 Concept Illustrating

- 3.3.1 Computer Modeling
- 3.3.2 White Models 73
- 3.3.3 Hand Drafting

3.4 Designing for the Lens

3.4.1 Lenses 101
3.4.2 Aspect Ratio
3.4.3 Perspective 101
3.4.4 Lens Test

Chapter 4	A Legacy of Historical Techniques	8 Hour

4.1 Painted Glass

4.1.1 Gate Matting
4.1.2 The Process Camera
4.1.3 Traveling Mattes

4.2 Miniatures

4.2.1 Hanging Foreground Miniature
4.2.2 Foreground Miniature
4.2.3 Cutouts: A Variation on Miniatures
4.2.4 Forced Perspective
4.2.5 Mobile Miniatures

4.3 Front Projection

4.3.1 Rear Projection and Mirrors
4.3.2 Camera Projection
4.3.3 Perspective

4.4 Conversations on the Visionary Frontier

4.4.1 Alex McDowell
4.4.2 Colin Green
4.4.3 Doug Chiang
4.4.4 The Cutting Edge

Chapter 5	Paperwork and Production Tasks	12 Hour

5.1 The Onset of Principal Photography

5.1.1 Production Meetings
5.1.2 Camera Techniques
5.1.3 Rule of Third

5.2 The Schedule and Lists

5.2.1 Script Breakdown
5.2.2 One-Liner Schedule
5.2.3 Shooting Schedule
5.2.4 Day Out of Days
5.2.5 Call Sheet 197
5.2.6 Cell Phone and Pager List

5.3 Art Department Production Tasks

5.3.1 Clearances and Product Placement
5.3.2 Keeping Ahead of the Camera 200
5.3.3 On-Set Presence
5.3.4 Cover Sets
5.3.5 Communication with the Trinity
5.3.6 Telling the Truth

5.4 Art Department Tactical Strategy

5.4.1 Handling Changes
5.4.2 Vendors
5.4.3 Minding the Budget
5.4.4 Keeping a Chronicle
5.4.5 Protecting the Crew

5.5 Post-Production

5.5.1 Finishing Up
5.5.2 Archiving
5.5.3 Wrapping the Art Department
5.5.4 Wrapping Hero Sets
5.5.5 Re-shoots
5.5.6 Sequels
5.5.7 Landing the Next Job or Taking a Vacation
5.5.8 Editing
5.5.9 Music and Sound
5.5.10 Locking Picture, or How Do You Know When It is Over?
5.5.11 An Audience and a Big Screen

Chapter 6	**Art Director's Plans**	**10 Hour**

6.1 Networking and Self-Promotion

6.1.1 Interviewing
6.1.2 Planning
6.1.3 Social Media

6.2 The Networking Process

6.2.1 Gae Buckley
6.2.2 Phil Dagort
6.2.3 Steve Saklad
6.2.4 Christa Munro
6.2.5 Linda Berger
6.2.6 Paying Dues

6.3 Production Value = Budget + Scheduling

6.3.1 Budget
6.3.2 Schedule
6.3.3 Designing Films

6.4 The Art Directors Guild

6.4.1 Classes of Membership
6.4.2 Initiation Fee and Dues
6.4.3 The Roster
6.4.4 Taft–Hartley
6.4.5 Training
6.4.6 Basic Collective Bargaining Agreement Selected Provisions

Reference Books: Film DirectingFundamentals. By: Nicholas T. Proferes
The Art Direction Handbook for Film By: Michael Rizzo

Semester - I

Paper - III

Course Type: Core Course Theory **Course Code: 21AUPGDVFX103**

Course Title: Visual Communication

Teaching Scheme	No. of Credits	Examination Scheme
5 Hours / Week	4	CE: 40Marks SEE: 60Marks

Course Objectives:

1. Visual communication is the communication done with the help of visual aid. It can be described as the conveyance of information and ideas in a manner, which can be read or looked upon. Such communication totally relies on vision and, thus, is basically expressed or presented with two-dimensional images.
2. Signs, drawings, typography, graphic design, illustration, electronic resources and color are the basic components of visual communication. The idea that a visual message, which accompanies the text always has a greater power to educate, inform or persuade an audience or person, is also empowered by visual communication.

Course Outcomes:

1. Understand the basic concept of visual communication.
2. Learn the characteristics of dots in visuals.
3. Explain how to create a line in a visual
4. Describe the functions of shape and space.
5. Identify the functions of shape and space.
6. Learn how to utilize different types of textures in pictures.
7. learn about the use and significance of main components of color.
8. Understand the basics of scale.
9. Identify how dimension and motion can add value to a visual picture

Course Contents		
Chapter 1	**BASIC VISUAL ELEMENTS**	**10 Hour**

1.1 Basics of Visual Communication

1.1.1 How You See: Visual Relationships

1.1.2 Telling a Story: Visual Hierarchy

1.1.3Syntactic Theory of Visual Communication

1.2 Basic Visual Elements: An Introduction

1.2.1 Dot

1.2.2 Line

1.2.3 Shapes and Space

1.2.4 Direction

1.2.5 Understanding Texture

1.3 Color: Hue, Value and Saturation

1.3.1 Hue

1.3.2 Saturation

1.3.3 Value

1.3.4 Form: Light and Dark

1.3.5 Numerical Values assigned to Hue, Saturation and Value

1.4 Basic of Scale

1.4.1 create contrast.

1.4.2 add emphasis.

1.4.3 provide proportion.

1.4.4 create visual hierarchy.

1.4.5 create structure and order.

1.4.6 create tension through the exaggerated & unexpected size of an object.

1.5 Dimension and Motion

1.5.1 Infographics.

1.5.2 Process Diagrams.

1.5.3 Flow Charts.

1.5.4 Roadmaps.

1.5.5 Charts and Graphs.

1.6 Composition and Principles of Design

1.6.1 Balance

1.6.2 Symmetrical balance

1.6.3 Asymmetrical balance

1.6.4 Movement

1.6.5 Rhythm

1.6.6 Contrast

1.6.7 Emphasis

1.6.8 Pattern

1.6.9 Unity

Chapter 2	ORAL AND VISUAL CULTURE: A DOMINANT FORM OF COMMUNICATION	14 Hour

2.1 Oral Communication

2.1.1 Oral Communication Definition
2.1.2 Oral Communication Models
2.1.3 Noise in Oral Communication
2.1.4 How to Make Oral Communication Effective?
2.1.5 Advantages of Oral Communication

2.2 Power of Orality

2.2.1 Additive
2.2.2 Redundant
2.2.3 Theory of the Characteristics of Oral Culture
2.2.4 Difference between Orality and Oratory
2.2.5 Unfamiliar with Syllogisms

2.3 Modes of Oral Communication

2.3.1 Telephone/Cellular phone
2.3.2 Messages
2.3.3 Intercom
2.3.4 Face-to-face discussion
2.3.5 Meetings/Conferences
2.3.6 Presentation
2.3.7 Dictaphone/Dictation
2.3.8 Conversation

2.4 Visual Rhetoric

2.4.1 What is visual rhetoric?
2.4.2 Visual literacy
2.4.3 Visual thinking
2.4.4 Metaphoric thinking

2.5 Visual Communication

2.5.1 Infographics.
2.5.2 Process Diagrams.
2.5.3 Flow Charts.
2.5.4 Roadmaps.
2.5.5 Charts and Graphs.
2.5.6 Visual Reports.
2.5.7 Presentations.
2.5.8 Mind Maps.

2.6 Visual and Oral Means of Communication

2.6.1 Means of Oral Communication
2.6.2 Verbal communication
2.6.3 Nonverbal communication
2.6.4 Written communication
2.6.5 Visual communication

Chapter 3	CLASSICAL PHILOSOPHICAL THEORIES OF PERCEPTION	12 Hour

3.1 Overview of Perception
- 3.1.1 Types of Perception
- 3.1.2 Perception and Reality
- 3.1.3 Cognitive Processing and Epiphenomenalism
- 3.1.4 Evolving Perception

3.2 Philosophy of Perception
- 3.2.1 Contents as Accuracy Conditions
- 3.2.2 Varieties of Content
- 3.2.3 The Representation of Properties
- 3.2.4 The Representation of Objects
- 3.2.5 Concepts and Content

3.3 Visual Perception: Role in Reading
- 3.3.1 Sensation and Perception: A process Approach
- 3.3.2 Content and Phenomenology
- 3.3.3 Theories of Intentionality in Experience
- 3.3.4 Directions for Future Research

3.4 Directness and Indirectness
- 3.4.1 Directness between equals
- 3.4.2 Indirectness
- 3.4.3 Case in point

3.6 Realism and Idealism
- 3.6.1 Idealism: behavior
- 3.6.2 Realism: behavior

3.7 Direct Realism
- 3.7.1 perceive the world directly.
- 3.7.2 Philosophy
- 3.7.3 scientific realism or direct and indirect realism
- 3.7.4 Virtual Reality and Realism
- 3.7.5 Direct realist responses to criticism

Chapter 4	PHOTOGRAPHIC COMPOSITION	12 Hour

4.1 Introduction to Photography

4.1.1 Camera Controls for Good Photography

4.1.2 Processing an Image

4.2 Photographic Composition

4.2.1 Subject

4.2.2 Simplicity

4.2.3 Leading Lines

4.2.4 Frame

4.2.5 Point of View

4.2.6 Camera Angles

4.2.7 Balance

4.3 Composition Rules

4.3.1 Two-Dimensional Composition

4.3.2 Three-Dimensional Composition

4.3.3 Rules of thirds

4.3.1 Three-Dimensional Composition

4.3.2 Layers of textures/lighting

4.3.3 Silhouettes

4.3.4 Depth of field

Chapter 5	**TYPES OF PHOTOGRAPHY**	**12 Hour**

5.1 Introduction to Types of Photography

5.1.1 Styles of Photography

5.1.2 Types of photography

5.1.3 Types of camera

5.1.4 Single lens reflex

5.2 Aerial Photography

5.2.1 Skills and Techniques Required for Aerial Photography

5.2.2 Commercial aerial photography

5.3 Astrophotography

5.3.1 What is Astrophotography?

5.3.2 Types of Night Sky Photography

5.3.3 Equipment and Camera Considerations

5.3.4 Astrophotography Tips and Techniques

5.3.5 Light Painting

5.4 Commercial Photography

5.4.1 Event Photography

5.4.2 Wedding Photography

5.4.3 Sports Photography

5.5 Underwater photography

5.5.1 Lighting 5.5.2 Equipment 5.5.3 Underwater flash 5.5.4 Skills and training 5.5.5 Timeline
Reference Books: The Visual Story by Bruce Block, Essentials of Visual Communication Book by Bo Bergström

Semester- I

Paper - IV

Course Type: Core Course Practical **Course Code: 21AUPGDVFX104**

Title: Video Editing in Premiere Pro

Teaching Scheme 4hrs 20 mins hrs. / week	No. of Credits 4	Examination Scheme CE: 40Marks SEE: 60Marks

Course Objectives

1. This course will take you through the basics of learning video editing with one of the mostelite and professional video editing softwares available.
2. Premiere Pro is easy to use and there is so much room to grow into the professional videoeditor you always wanted to be.
3. Adobe Premiere Pro is the best video editing program you can use & it's so compatible withthe Adobe family which a great plus for the program and makes your workflow easy and productive.

Course Outcomes: -

On completion of this course, students will be able to:

1. Creating a project.
2. Organizing files and importing the footage
3. Getting to know the interface.
4. Creating sequences
5. Basic editing tools and shortcuts
6. Adding effects to your footage and familiarizing keyframes.
7. Basic audio effects and controls
8. Exporting video and presets for different platforms

Guidelines:

Lab Book: The lab book is to be used as a hands-on resource, reference and record of assignment submission and completion by the student. The lab book contains the set of assignments which the student must complete as a part of this course.

Submission: Length. Your video should be 4–7 minutes in length, plus time for a "credit roll" to show your references. Style. There are no restrictions on the style of the video (i.e., you may use a narrated slideshow, a recorded lecture, a digital whiteboard, a stop motion animation (Claymation), a sock puppet show, animated graphics, a scripted scene, filmed artist drawings on paper, "man on the street" interviews, a combination of the above, etc.) Title slide. Your video should begin with a descriptive title, your name(s), the name of the school, and the year in which it was created. Original content. Aim to create your own resources. That means using your own drawings, pictures, music, animations, filmed scenes, and interviews. Where this is not possible, be sure that you only use material which falls under Creative Commons license (that you can use and modify without breaking copyright laws.Credits. Acknowledge the people who contributed to the video, including yourself, your interviewees, narrators and actors, people who supported the production, and your instructor, and specify that the video was made within the context of this course (course number, institution, date).

File format. Your video must be submitted in one of the following file formats: .mov, .mv4, mp4, .wmv.

Note that these are rendered movies, that is, files that will play on someone else's computer. Be sure to test your finished product ahead of the deadline.

Assessment:
Continuous assessment of Computer lab work is to be done based on overall performance and lab assignments performance of students. Each lab assignment assessment will be assigned grade/marks based on parameters with appropriate weightage. Suggested parameters for overall assessment as well as each lab assignment assessment include- timely completion, performance, creativity.

Operating Environment:
For Editing and Making Final Video
Operating system: Windows 10
Software: Premiere Pro

Suggested List of Assignments:

Assignment 1.
Check the Interface of Premiere, Tools, Panels and Effects

Assignment 2.
Create a Sequence and a Basic Video Line up

Assignment 3.
Adding video transitions & Basic CC

Assignment 4.
Adding Audio & Audio Transition

Assignment 5.
Adding professional and modern titles

Assignment 6.
Stop Motion - Image Sequence- Trimming Images - Time Duration

Assignment 7.
keying Green Chroma - Using Ultra Keyer

Assignment 8.
Cloning (Create Duplicating Person)

Assignment 9.

Color correction (Effect) **Assignment 10.** **Slide Presentation** **Assignment 11.** **Lens & Text Effects** **Assignment 12.** **Intro Title Sequence** **Assignment 13.** **Time Remapping** **Assignment 14.** **Track Matt Effect** **Assignment 15.** **Lower Third**
Reference Books: Lab handbook

Semester- I
Paper - V

Course Type: Core Course Practical **Course Code: 21AUPGDVFX105**

Title: Rotoscoping in After Effects

Teaching Scheme 4hrs 20 mins Hrs / week	No. of Credits 4	Examination Scheme CE: 40Marks SEE: 60Marks

Course Objectives

1. In this course, you will learn everything from Mask types to manual roto to fully automated workflows, showcasing After Effects, the industry-standard software for rotoscoping, and its comprehensive roto module.
2. The course begins with an in-depth roto foundations class, then transitions to an extensive tour of the After Effects interface and shot approach tips.
3. The fundamentals of all the Mask types, rotoscoping methodologies including shape creation and keyframing, multiple tracking methods, how to successfully roto a shot from beginning to end.

Course Outcomes: -

On completion of this course, students will be able to:

1. Know what, when and how to do proper rotoscoping.
2. The rotoscoping technique in Adobe After Effects
3. Know how to use After Effects and Mocha AE for rotoscoping live action shots
4. Basic and advanced techniques in rotoscoping

Guidelines:

Lab Book: The lab book is to be used as a hands-on resource, reference and record of assignment submission and completion by the student. The lab book contains the set of assignments which the student must complete as a part of this course.

Submission: Your video should be 4–7 Sec in length, plus time for a "credit roll" to show your references. Render should be in Alpha, Color, and with Shapes for final video.

File format. Your video must be submitted in one of the following file formats: .mov, .mv4, mp4, .wmv. Note that these are rendered movies, that is, files that will play on someone else's computer. Be sure t test your finished product ahead of the deadline.

Assessment:
Continuous assessment of Computer lab work is to be done based on overall performance and lab assignments performance of students. Each lab assignment assessment will be assigned grade/marks based on parameters with appropriate weightage. Suggested parameters for overall assessment as well as each lab assignment assessment include- timely completion, performance, creativity.

Operating Environment:
For VFX Rotoscoping and Tracking
Operating system: Windows 10
Software: After Effects

Suggested List of Assignments:

Assignment 1.
Check the Interface of After Effects, create a single Mask using Pen Tools.

Assignment 2.
Create a ball animation using shapes.

Assignment 3.
Create a multi mask using a solid layer.

Assignment 4.
Basics of using tracking and rotoscoping together.

Assignment 5.
Using multiple trackers to capture rotation and scaling.

Assignment 6.
Using multi-Masking creates human rotoscoping.

Assignment 7.
Create a Stereo Roto on human character.

Reference Books: Lab handbook

Semester- I
Paper - VI

Course Type: Core Course Practical **Course Code: 21AUPGDVFX106**

Course Title: VFX Compositing with After Effects

Teaching Scheme 4hrs 20 mins Hrs / week	No. of Credits 4	Examination Scheme CE: 40Marks SEE: 60Marks

Course Objectives

1. After Effects is a Compositing, VFX, and Motion graphics application developed and owned by Adobe Systems.
2. It is generally used in the post-production stage of the film making and TV production pipeline. Besides the features mentioned above, After Effects can effectively perform a handful of jobs as keying, tracking, compositing, and animation.
3. With this software application, you can even work on some non-linear editing in Video and Audio platforms.

Course Outcomes: -

On completion of this course, students will be able to:

1. Apply basic and high-level techniques in compositing.
2. Know what, when and how to do simple to advanced compositing in Adobe After Effects
3. This course gives an in-depth knowledge of Compositing & Motion Graphics using Adobe After Effects CC.
4. Know how to use Adobe After Effects for simple to advanced compositing of live-action shots

Guidelines:

Lab Book: The lab book is to be used as a hands-on resource, reference and record of assignment submission and completion by the student. The lab book contains the set of assignments which the student must complete as a part of this course.

Submission:

Your video should be 4–7 Sec in length, plus time for a "credit roll" to show your references. Render should be in Alpha, Color, and with Shapes for final video.

File format. Your video must be submitted in one of the following file formats: .mov, .mv4, mp4, .wmv. Note that these are rendered movies, that is, files that will play on someone else's computer. Be sure to test your finished product ahead of the deadline.

Assessment:

Continuous assessment of Computer lab work is to be done based on overall performance and lab assignments performance of students. Each lab assignment assessment will be assigned grade/marks based on parameters with appropriate weightage. Suggested parameters for overall assessment as well as each lab assignment assessment include- timely completion, performance, creativity

Operating Environment:

For VFX Compositing

Operating system: Windows 10

Software: After Effects

Suggested List of Assignments:

Assignment 1.
Change to Color Effects

Assignment 2.
Chroma Removal of character

Assignment 3.
Using Multi Elements Compositing shot

Assignment 4.
Tracking 1 Point and 2 Point with chroma

Assignment 5.
3D tracking using camera tracker.

Assignment 6.
Compositing Cg Passes

Assignment 7.
Camera Projection

Semester- I
Paper - VII

Course Type: Core Course Practical **Course Code: 21AUPGDVFX107**

Title: VFX & CG Compositing in Nuke

Teaching Scheme 4hrs 20 mins Hrs / week	No. of Credits 4	Examination Scheme CE: 40Marks SEE: 60Marks

Course Objectives

1. Nuke is a Compositing, VFX, application developed and owned by The Foundry.
2. It is generally used in the post-production stage of the film making and TV production pipeline. Besides the features mentioned above, Nuke can effectively perform a handful of jobs such as keying, tracking, compositing, Camera Projection, and animation.

Course Outcomes: -

On completion of this course, students will be able to:

1. Apply basic and high-level techniques in compositing.
2. Know what, when and how to do simple to advanced compositing in Nuke
3. This course gives an in-depth knowledge of VFX Compositing & CG Compositing using Nuke.
4. Know how to use Nuke for simple to advanced compositing of live-action shots

Guidelines:

Lab Book: The lab book is to be used as a hands-on resource, reference and record of assignment submission and completion by the student. The lab book contains the set of assignments which the student must complete as a part of this course.

Submission:

Your video should be 4–7 Sec in length, plus time for a "credit roll" to show your references. Render should be in Alpha, Color, and with Shapes for final video.
File format. Your video must be submitted in one of the following file formats: .mov, .mv4, mp4, .wmv. Note that these are rendered movies, that is, files that will play on someone else's computer. Be sure to test your finished product ahead of the deadline.

Assessment:
Continuous assessment of Computer lab work is to be done based on overall performance and lab assignments performance of student. Each lab assignment assessment will be assigned grade/marks based on parameters with appropriate weightage. Suggested parameters for overall assessment as well as each lab assignment assessment include- timely completion, performance, creativity.

Operating Environment:
For VFX Compositing and CG Compositing
Operating system: Windows 10
Software: Nuke

Suggested List of Assignments:

Assignment 1.
VFX Rotoscoping

Assignment 2.
Multi-Part greenscreen keying

Assignment 3.
2d Tracker

Assignment 4.
3d Camera Tracker

Assignment 5.
Camera Projection

Assignment 6.
Multi-channel Compositing

Assignment 7.
VFX Compositing

Visual Effects (PG Diploma Question Paper Pattern)

a. **Evaluation Criteria :** The evaluation of students will be based on three parameters:-
   - Continuous Internal Evaluation (CIE).
   - Practical / Project Examination
   - Semester End Examination.

i. **For Continuous Internal Evaluation (CIE):** Internal assessment will be as follows:

Theory Examination

Credits :4 **Duration : 1Hr/Exam** **Marks:40**			
10 Marks **Academic Performance**	**10 Marks** **Spirit of Collaboration**	**10 Marks** **Quiz Submission**	**10 Marks** **Class Test**
Attendance	Active participation in class activities.	Submission of end module quizzes on regular basis	Minimum 40% marks required to get marks for class test.

ii. **For Practical/Project Examination:** Internal assessment will be as follows:

Practical **Credits :4** **Marks:40**			**Project** **Credits :6** **Marks:60**		
10 marks	**20 Marks**	**10 Marks**	**20 marks**	**20 Marks**	**20 Marks**
Attendance	Assignment submission on time	Lab Course Book / Journal	Idea and Originality	**accuracy** and reliability	Presentation

For Semester End Examination: The Duration of the SEE will be as follows:

For Theory Examination

Credits: 4		**Marks : 60**
Duration : 2.5 hrs		
Q1	**Q2**	**Q3**
10 marks	**20 marks**	**30 marks**
Short answers **(any 5)** Each carry 4 marks)	Descriptive **(any 2)** Each carry 10 marks	Multi choice questions **(any 15**) Each carry 2 marks

For Practical/Project Examination

Practical **Credits : 4 Marks:60** **Duration : 3.5 Hours**						**Project** **Credits :4 Marks :60** **Duration : 3.5 Hours**	
Q1	**Q2**	**Q3**	**Q4**	**Q5**	**Q6**	**Portfolio**	**Project Presentation And Design**
10 marks	10 marks	10 marks	10 marks	10 marks	10 marks	30 marks	30

Semester 2

Semester - II

Paper - I

Course Type: Core Course Theory **Course Code: 21AUPGDVFX109**

Course Title: The Fundamental of Video Editing

Teaching Scheme	No. of Credits	Examination Scheme
5 Hours / Week	4	CE : 40Marks SEE: 60Marks

Course Objectives:

1. There's enormous demand for high-quality video content, and todays.video producers and editors work in an ever-changing landscape of old and new technologies.
2. Despite all this rapid change, however, the goal of video editing is the same: You want to take your footage and shape it, guided by your original vision, so that you can effectively communicate with your audience.
3. The latest technology and cameras with powerful tools that are easy to use. These tools integrate perfectly with almost every type of media, as well as a wide range of third-party plug-ins and other post production tools.
4. You will begin by reviewing the essential post-production workflow that most editors follow, and then you'll learn about the main components of the Premiere Pro interface and how to create custom workspaces.

Course Outcomes: In this lesson, you'll learn about the following:

1. Performing nonlinear editing
2. Exploring the standard digital video workflow
3. Enhancing the workflow with high-level features
4. Checking out the workspace
5. Customizing your workspace
6. Setting keyboard shortcuts

Course Contents

Chapter 1	Introduction to Premiere Pro	12 Hour

1.1 Performing nonlinear editing in premiere pro

- digital video workflow
- enhancing the workflow
- expanding the workflow
- Components into the editing workflow

1.2 Workspace of Premiere Pro

- Launch Premiere Pro
- Click Open Project
- Timeline panel
- Tracks
- Monitor Panel
- Project panel
- Media Browser
- Libraries
- Effects panel
- Audio Clip Mixer
- Effect Controls panel

1.3 Introducing preferences

- Choose Edit.
- Interactive Controls and Focus Indicators
- Auto Save preferences

1.4 keyboard shortcuts

- Mouse operations.
- celluloid film-editing
- Specialized keyboards.

Chapter 2	Setting Up a Project	12 Hour

2.1 Creating a new project.

2.1.1 Recent file
2.1.2 CC Files
2.1.3 New Project
2.1.4 New Project dialog box

2.2 Exploring video rendering and playback settings.

2.2.1 Real-time playback
2.2.2 dropping frames
2.2.3 Sequence
2.2.4 Mercury Playback Engine GPU
2.2.5 • Mercury Playback Engine Software Only
2.2.6 Playback performance

2.2.7 64-bit and multithreading
2.2.8 CUDA, OpenCL, Apple Metal, and Intel graphics

2.3 The video display format option

2.3.1 Timecode
2.3.2 Feet + Frames 16 mm or Feet + Frames 35 mm
2.3.3 Frames
2.3.4 Video Display Format

2.4 The Audio Display Format option

2.4.1 Audio Samples
2.4.2 Milliseconds
2.4.3 Setting the capture format.
2.4.4 Capturing from third-party hardware

2.5 Setting up Project Auto Save location

2.5.1 CC Libraries downloads
2.5.2 Using a project-based setup
2.5.3 Using a system-based setup

2.6 Setting up a sequence

2.6.1 Creating a sequence
2.6.2 Choosing the correct preset
2.6.3 Customizing a sequence preset

2.7 Understanding track types

2.7.1 Standard
2.7.2 Adaptive
2.7.3 Mono
2.7.4 Stereo Submix
2.7.5 Adaptive Submix

Chapter 3	**Importing Media**	**12 Hour**

3.1 Importing Assets

3.1.1 Standard importing
3.1.2 Media Browser
3.1.3 Import command

3.2 working with ingest option and proxy media

3.2.1 Importing from Adobe Prelude
3.2.2 Project Settings
3.2.3 Copy
3.2.4 Transcode
3.2.5 Create Proxies
3.2.6 Copy and Create Proxies

3.3 Working With the media browser

3.3.1 A file-based camera workflow
3.3.2 Understanding supported video file types
3.3.3 Finding assets with the Media Browser

3.4 Importing Images

3.4.1 Importing flattened Adobe Photoshop files
3.4.2 Importing layered Adobe Photoshop files
3.4.3 Merge All Layers
3.4.4 Merged Layers
3.4.5 Individual Layers
3.4.6 Sequence
3.4.7 Document Size

3.5 Importing Adobe Illustrator files

3.5.1 Import a vector graphic.
3.5.2 Importing subfolders
3.5.3 Import Folder button

3.6 Using Adobe Stock

3.6.1 Libraries panel
3.6.2 License and Save

Chapter 4	**Organizing Media**	**12 Hour**

4.1 Using the Project Panel

4.1.1 Customizing the Project panel
4.1.2 Finding assets in the Project panel
4.1.3 Filtering bin content

4.2 Filtering bin content

4.2.1 Using advanced Find
4.2.2 Column
4.2.3 Operator
4.2.4 Match
4.2.5 Case Sensitive
4.2.6 Creating bins

4.3 Managing media in bins

4.3.1 Changing bin views
4.3.2 List view
4.3.3 Icon view
4.3.4 Switch to List view

4.4 Assigning labels

4.4.1 Changing names
4.4.2 Customizing bins
4.4.3 Having multiple bins open at once

4.5 Customizing the monitors

4.5.1 Settings menu
4.5.2 Source Monitor and Program Monitor
4.5.3 Button Editor

4.6 Modifying Clips

4.6.1 Adjusting audio channels
4.6.2 Merging clips
4.6.3 Interpreting video footage
4.6.4 Working with raw files

Chapter 5	Mastering the Essentials of Video Editing	12 Hour

5.1 Using the source monitor

5.1.1 Loading a clip
5.1.2 Loading multiple clips
5.1.3 Source Monitor

5.2 Using Source Monitor controls

5.2.1 Add Marker
5.2.2 Mark In
5.2.3 Mark Out
5.2.4 Insert
5.2.5 Overwrite
5.2.6 Export Frame

5.3 Selecting a range in a clip

5.3.1 Creating subclips
5.3.2 Packet moved
5.3.3 make subclip

5.4 Navigating the Timeline

5.4.1 what is sequence
5.4.2 Opening a sequence in the Timeline panel

5.5 Understanding tracks

5.5.1 Targeting tracks
5.5.2 Using In and Out marks
5.5.3 Setting In and Out marks
5.5.4 Clearing In and Out marks
5.5.5 Using time rulers

5.6 Using essential editing commands

5.6.1 Overwrite edit

5.6.2 Insert edit

5.6.3 Three-point editing

5.7 Storyboard editing

5.7.1 Using a storyboard to build a rough cut

5.7.2 Arranging your storyboard

5.8 Automating your storyboard to a sequence

5.8.1 Ordering

5.8.2 Placement

5.8.3 Method

5.8.4 Clip Overlap

5.8.5 Still Clip Duration

5.8.6 Transitions

5.8.7 Ignore Option.

Reference Books: Digital Video Editing Fundamentals by Wallace Jackson

Semester - II

Paper - II

Course Type: Core Course Theory **Course Code: 21AUPGDVFX110**

Course Title: The Art of Motion Graphics Design

Teaching Scheme	No. of Credits	Examination Scheme
5 Hours / Week	4	CE : 40Marks SEE: 60Marks

Course Objectives:

1. This book is here to bridge the gap between what you can figure out with learning by doing and what you need to know to become a professional motion graphics artist.
2. While its core mission is to give you a solid foundation in animation and design, the book also touches on other topics that are important to running a successful motion graphics business - like using storyboards to be more efficient and clearly communicate with your client, for example.
3. We also, somewhat surprisingly, talk a lot about how our brains work - because ultimately when you understand how humans react to motion, you can create better motion graphics. And always keep in mind: a big part of success is not just to create good animations, but also to convince your clients.
4. So it's tremendously helpful if you can deliver not just a great animation, but also an explanation of how and why your animation produces the intended effects.

Course Outcomes: In this lesson, you'll learn about the following:

1. How to use all of After Effects CC - in a dynamic, hands on approach.
2. Work with the latest Responsive Design Techniques
3. Create Motion Graphics to enhance your videos using a step by step, easy-to-use method.
4. Boost your creativity by completing 50+ Practice Activities and projects from simple to complex.
5. Practice compositing techniques to achieve stunning video effects.
6. Master Visual Time Effects on Videos and Motion Graphics.
7. How to use specialized visual effects such as Motion Tracking, Camera Tracking, Chromakeying,

Rotoscoping, Stabilizing and many more…

8. Work in 3D space with Cameras, Lights and Shadows and practice your new skills with 3D Motion Graphics Projects.
9. How to Import and animate Illustrator Vector Graphics.
10. Create advanced Type Animation in 2D & 3D – cool stuff only in After Effects.
11. And much more for you to become an expert in Motion Graphics, Visual Effects and Compositing

Course Contents

Chapter 1	**A Brief History of Motion Graphics**	**12 Hour**

1.1 Precursors of Animation

- 1.1.1 persistence of vision
- 1.1.2 Early optical invention
- 1.1.3 Cinematic inventions

1.2 Experimental animation

- 1.2.1 Pioneers of pure cinema
- 1.2.2 Computer animation pioneers

1.3 Motion Graphics in Film Titles

- 1.3.1 Terry Gilliam's contribution to animation
- 1.3.2 Groundbreaking title sequence
- 1.3.3 Designing the opening title

1.4 Motion graphics in television

- 1.4.1 Early cinematic techniques
- 1.4.2 Network identities
- 1.4.3 Optical devices

Chapter 2	**Motion Graphics in Film and Television**	**12 Hour**

2.1 Film titles

- 2.1.1 Film opening titles
- 2.1.2 The titles for your eyes only
- 2.1.3 Today, motion graphics
- 2.1.4 Lines of typography

2.2 Network Branding

- 2.2.1 Station IDs
- 2.2.2 Show openers
- 2.2.3 Show package
- 2.2.4 Interstitials
- 2.2.5 Bumpers
- 2.2.6 Lower thirds
- 2.2.7 Mortises

2.2.8 Promotional campaign

2.3 Commercials

2.3.1 Public service announcements

2.3.2 Increasing role in television

2.4 Music Videos

2.4.1 Cinematic tradition

2.4.2 Expresses the dark

Chapter 3	**The Interactive Environment**	**12 Hour**

3.1 Motion over the web

3.1.1 Conceived of the idea

3.1.2 The unique web

3.1.3 Frames from made in space

3.1.4 Resn's use of animation

3.1.5 Design for RoTo Architects

3.1.6 Animation Formats

3.1.7 Voice over the web

3.2 Animation navigation system

3.2.1 Prototype navigation design

3.2.2 Floating menus

3.2.3 Animation transition

3.3 Splash page animation

3.3.1 Frames from a flash

3.3.2 An elegant mix of typography

3.4 Banners

3.4.1 Key element of internet advertising

3.4.2 Effective banner designs

3.4.3 Banner styles

3.4.4 Flash banners

3.5 Advertisements

3.5.1 Web advertisements

3.5.2 Frames from an online advertisement for censive

3.6 Motion in Multimedia

3.6.1 Concept sketch

3.6.2 Screens from candle

3.6.3 opening for PlayStation

3.7 Motion in DVD-Video

3.7.1 Frames from the DVD
3.7.2 Motion Menus
3.7.3 DVD title design
3.7.4 Frames from cathedral

Chapter 4	Motion Graphics in the Environment	12 Hour

4.1 Immersive Environments
4.1.1 Interior design
4.1.2 LED displays
4.1.3 Frames from screens
4.1.4 Exhibit design
4.4.5 Art Installations

4.2 Educational installation
4.2.1 A dynamic
4.2.2 Vital signs

4.3 Retail Environments
4.3.1 Marketing tool
4.3.2 Continually change
4.3.3 Inside store
4.3.4 Cleaver marketing

4.4 Animation Exterior
4.4.1 Today's animation
4.4.2 High resolution
4.4.3 Animated pattern
4.4.4 Lighting system
4.4.5 Digital Signage

4.5 Performance
4.5.1 The integration of motion graphics
4.5.2 Alternate spaces

Chapter 5	Motion Literacy	12 Hour

5.1 The Language of motion

5.1.1 Universal language

5.1.2 Motion linguistics

5.1.3 The concept of Kinetic behavior

5.2 Spatial Considerations

5.2.1 Spatial transformations

5.2.2 Dynamic typography

5.2.3 Direction

5.2.4 Frame Mobility

5.2.5 Time

5.2.6 Velocity

5.3 Temporal considerations

5.3.1 The linear velocity

5.3.2 The dots along this motion

5.4 Coordinating Movement

5.4.1 Basic animation principles

5.4.2 Squash and Stretch.

5.4.3 Pause

5.4.4 Timing

5.4.5 Acceleration and declaration

5.4.6 Secondary action

Reference Books: Motion Graphics Design Applied history and Aesthetics By Jon Krasner

Semester - II

Paper - III

Course Type: Core Course Theory **Course Code: 21AUPGDVFX111**

Course Title: Compositing Visual Effects

Teaching Scheme	No. of Credits	Examination Scheme
5 Hours / Week	4	CE : 40Marks SEE: 60Marks

Course Objectives:

1. Digital compositing for visual effects students new to the industry
2. Someone considering digital compositing as a career and would like to see what it is all about
3. Entertainment industry professionals that would like to understand digital compositing, such as producers, directors, editors, colorists, and post-production supervisors.
4. The curious, the interested, the explorer.
5. The newcomer, it is also packed full of information and techniques specifically designed to be useful to those new to compositing and visual effects.

Course Outcomes: In this lesson, you'll learn about the following:

1. Nuke's User Interface
2. Concepts and techniques for digital compositing
3. Additive color theory
4. Image formats / resolutions / colors
5. 2d Tracking
6. Roto paint and Rotoscoping
7. Keyframe animation
8. Color correction / color grading techniques
9. Introduction to Chroma Keying / Green Screen removal
10. Camera traits (Lens distortion, grain, sensor noise)
11. Clean plating and removing objects from a scene.
12. Rendering

Course Contents

Chapter 1	Visual Effects Today	12 Hour

1.1 Digital Compositing with CGI
- 1.1.1 CGI Compositing
- 1.1.2 Set Extension
- 1.1.3 Match Move

1.2 Compositing Visual Effects
- 1.2.1 Blue Screen Compositing
- 1.2.2 Motion Tracking
- 1.2.3 Warping and Morphing
- 1.2.4 Bullet Time Shots
- 1.2.5 Crowd Duplication
- 1.2.6 Atmospherics
- 1.2.7 Rotoscoping
- 1.2.8 Wire Removal
- 1.2.9 Scene Salvage

1.3 Compositing Programs
- 1.3.1 Node-based Compositors
- 1.3.2 Layer-based Compositors
- 1.3.3 3D Compositing

1.4 Stereo Compositing
- 1.4.1 Stereo Roto
- 1.4.2 Stereo Paint
- 1.4.3 Dept Comp
- 1.4.4 Stereo Conversion

Chapter 2	Digital Images	12 Hour

2.1 Structure of Digital Images
- 2.1.1 The Pixel
- 2.1.2 Grayscale Images
- 2.1.3 Color Images
- 2.1.4 Four-channel Images

2.2 Attributes of Digital Images
- 2.2.1 Digitizing Images
- 2.2.2 Image Resolution
- 2.2.3 Image Aspect Ratio

2.2.4 Pixel Aspect Ratio
2.2.5 Display Aspect Ratio
2.2.6 Bit Depth
2.2.7 Floating Point
2.2.8 Multiplying Images

2.3 Image File Formats
2.3.1 Photographic Images vs. Graphics
2.3.2 Indexed Color Images (CLUT)
2.3.3 Compression
2.3.4 EXR
2.3.5 File Formats

Chapter 3	**Compositing CGI**	**12 Hour**

3.1 The CGI Composite
3.1.1 Scaling the Background
3.1.2 Semi-transparent Pixels
3.1.3 Summing the Layers

3.2 Multipass Compositing
3.2.1 Diffuse and Specular Passes
3.2.2 Occlusion and Shadow Passes
3.2.3 Reflection Pass
3.2.4 Creative Control

3.3 Depth Compositing
3.3.1 Multiplane Compositing
3.3.2 Sims
3.3.3 Particle Systems

3.4 Working with Premultiplied CGI
3.4.1 Color Correcting
3.4.2 Transformations and Filters
3.4.3 The Common Mistake

3.5 3D Compositing
3.5.1 The 3D Compositing Environment
3.5.2 Placing 3D in Live Action
3.5.3 Placing Live Action in 3D

3.5.4 Set Extensions
3.5.5 Camera Tracking
3.5.6 Small 3D Tasks
3.5.7 Conclusion

Chapter 4	**Blue Screen Compositing**	**12 Hour**

4.1 The Blue Screen Composite
4.1.1 Pulling the Matte.
4.1.2 The Basic Composite

4.2 About Keyers
4.2.1 How Keyers Work
4.2.2 Despill
4.2.3 Color Correction
4.2.4 Scaling the Foreground and Background
4.2.5 Sum the Layers
4.2.6 The Final Composite

4.3 Helping the Keyer
4.3.1 Garbage Mattes
4.3.2 Procedural Garbage Mattes
4.3.3 Holdout Mattes
4.3.4 Degrain

4.4 Compositing Outside the Keyer
4.4.1 Merging Multiple Mattes
4.4.2 Performing the Despill
4.4.3 Color Correcting
4.4.4 The Composite

4.5 Shooting Bluescreens (and Green Screens)
4.5.1 Lighting the Backing
4.5.2 Lighting the Talent
4.5.3 The Backing Material
4.5.4 Bluescreen vs. Greenscreen
4.5.5 Blue Screen Floors
4.5.6 Film Issues
4.5.7 Video Issues
4.5.8 Photography Tips

Chapter 5	Creating Masks	12 Hour

5.1 Key, Matte, Alpha, and Mask
- 5.1.1 Keylight
- 5.1.2 Ultra Keyer
- 5.1.3 Primmate
- 5.1.4 Color Matte

5.2 Creating a Luma-key
- 5.2.1 Luma matte
- 5.2.2 Luma Keyer
- 5.2.3 Color Keyer

5.3 Creating a Chroma-key
- 5.3.1 Green Screen
- 5.3.2 Blue Screen

5.4 Creating a Mask
- 5.4.1 The Difference Mask
- 5.4.2 The Color Difference Mask
- 5.4.3 Geometric Primitives
- 5.4.4 Drawing Shapes
- 5.4.5 Painting a Mask
- 5.4.6 Combo Masks

Reference Books: Compositing Visual Effects Essentials for the Aspiring Artist By Steve Wright

Semester- II
Paper - IV

Course Type: Core Course Practical **Course Code:** 21AUPGDVFX112

Title: VFX Roto and Compositing

Teaching Scheme 4hrs 20 mins Hrs / week	No. of Credits 4	Examination Scheme CE: 40Marks SEE: 60Marks

Course Objectives

1. Silhouette FX and Nuke is a Roto and Compositing, VFX, application developed and owned by The Foundry.
2. It is generally used in the post-production stage of the film making and TV production pipeline. Besides the features mentioned above, Nuke can effectively perform a handful of jobs such as keying, tracking, compositing, Camera Projection, and animation.

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Course Outcomes: -

On completion of this course, students will be able to:

1. Apply basic and high-level techniques in compositing.
2. Know what, when and how to do simple to advanced compositing in Nuke.
3. This course gives an in-depth knowledge of VFX Compositing & CG Compositing using Nuke.
4. Know how to use Nuke for simple to advanced compositing of live action shots

Guidelines:

Lab Book: The lab book is to be used as a hands-on resource, reference and record of assignment submission and completion by the student. The lab book contains the set of assignments which the student must complete as a part of this course.

Submission:

Your video should be 4–7 Sec in length, plus time for a "credit roll" to show your references. Render should be in Alpha, Color, and with Shapes for final video.
File format. Your video must be submitted in one of the following file formats: .mov, .mv4, mp4, .wmv. Note that these are rendered movies, that is, files that will play on someone else's computer. Be sure to test your finished product ahead of the deadline.

Assessment:
Continuous assessment of Computer lab work is to be done based on overall performance and lab assignments performance of students. Each lab assignment assessment will be assigned grade/marks based on parameters with appropriate weightage. Suggested parameters for overall assessment as well as each lab assignment assessment include- timely completion, performance, creativity.

Operating Environment:
For VFX ROTO and Compositing
Operating system: Windows 10
Software: Nuke and Silhouette FX

Suggested List of Assignments:

Assignment 1.
VFX Rotoscoping

Assignment 2.
Stereo Rot

Assignment 3.
1 point & 2 Point Tracker for Roto

Assignment 4.
Planner Tracker

Assignment 5.
Mocha Tracker

Assignment 6.
3d Camera Tracker

Assignment 7.
Multi Green Chroma Removal

Assignment 8.
Camera Projection

Assignment 9.
Multi-channel Compositing

Assignment 10.
VFX Compositing

Assignment 11.
Color Correction

Visual Effects (PG Diploma Question Paper Pattern)

b. **Evaluation Criteria :** The evaluation of students will be based on three parameters:-
- Continuous Internal Evaluation (CIE).
- Practical / Project Examination
- Semester End Examination.

iii. **For Continuous Internal Evaluation (CIE):** Internal assessment will be as follows:

Theory Examination

Credits :4 **Duration : 1Hr/Exam** **Marks:40**			
10 Marks **Academic Performance**	**10 Marks** **Spirit of Collaboration**	**10 Marks** **Quiz Submission**	**10 Marks** **Class Test**
Attendance	Active participation in class activities.	Submission of end module quizzes on regular basis	Minimum 40% marks required to get marks for class test.

iv. **For Practical/Project Examination:** Internal assessment will be as follows:

Practical	**Project**

Credits :4		Marks:40	Credits :6		Marks:60
10 marks	**20 Marks**	**10 Marks**	**20 marks**	**20 Marks**	**20 Marks**
Attendance	Assignment submission on time	Lab Course Book / Journal	Idea and Originality	**accuracy** and reliability	Presentation

For Semester End Examination: The Duration of the SEE will be as follows:

For Theory Examination

Credits: 4		**Marks : 60**
Duration : 2.5 hrs		
Q1	**Q2**	**Q3**
10 marks	**20 marks**	**30 marks**
Short answers **(any 5)** Each carry 4 marks)	Descriptive **(any 2)** Each carry 10 marks	Multi choice questions **(any 15**) Each carry 2 marks

For Practical/Project Examination

Practical **Credits : 4 Marks:60** **Duration : 3.5 Hours**						**Project** **Credits :4 Marks :60** **Duration : 3.5 Hours**	
Q1	**Q2**	**Q3**	**Q4**	**Q5**	**Q6**	**Portfolio**	**Project Presentation And Design**

10 marks	10 marks	10 marks	10 marks	10 marks	10 marks	30 marks	30