B.Sc., Visual Communication

<table>
<tr><td>Title of the Course</td><td colspan="8">Graphic Design and Typography</td></tr>
<tr><td>Paper No.</td><td colspan="8">Core I</td></tr>
<tr><td rowspan="2">Category</td><td rowspan="2">Core</td><td>Year</td><td>I</td><td rowspan="2">Credits</td><td rowspan="2">5</td><td rowspan="2">Course Code</td><td colspan="2" rowspan="2">23BVCA1</td></tr>
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3. To learn how to communicate effectively through graphic design
4. To acquire knowledge of different design elements and principles
To be able to apply design principles and skills to real-world graphic design projects\
Detailed Syllabus
Procedural Knowledge on Graphic Design and Typography
(Viva/Written Test Topics for Practical Examination)
Graphic Design and Typography Record
As a part of this course, students will be required to maintain a record of their Graphic Design and Typography exercises. This record will help students keep track of their progress and allow them to reflect on their work. The record can be maintained in a digital format such as a blog, portfolio website or cloud storage. The digital record should have at least Five Graphic Design and Typography Exercises-one from each unit developed using appropriate software. Students should ensure that their record is organised, labelled clearly and includes any relevant details such as date of the exercise, software used, and a brief description of the exercise. This record should be submitted at the end of the course for evaluation.
Practical Examination
Practical examination could be in the form of viva, testing students procedural knowledge, evaluation of Graphic Design and Typography. Students can also be asked to create a Graphic Design and Typography work for practical demonstration of their competency. Viva or Written examination can be based on the Procedural Knowledge on the software used for developing the content. Students should be able to explain what technique or pipeline/workflows were deployed.</td></tr>
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Unit I	**Understanding Graphic Design** Point, Line, Shape, Form, Light, Color, Texture, Scale, Space, Closure, Expression, Abstraction, Tone, Frame, Proportion, Image, Pattern Shape and space, Form and space, space and tension; Design using Gestalt perception
Unit II	**Design Process** The creative process: creative brief, research, Ideation, Production; Depth of Meaning – perception, sensation, emotion, intellect, identification, reverberation, spirituality; Importance of Research in the Design Process, Size and format
Unit III	**Typography** Typography: Letter Form, Anatomy of Typeface, Classification of Typefaces, Serif, Sans Serif and slab serif Font, Display type, Text type, Size and measurement of type, Kerning, Tracking, Leading, Hyphenations, Justifications, Indents, outdents, hanging punctuations, Paragraphs, Drop caps, Contrast and Scale, Expressiveness and emotion in type, Special characters, Optical Spacing, Type families: Width, weight and slopes, Type personality, Hierarchy and navigation
Unit IV	**Grid and Layout** Elements of a Grid: Margins, Flowlines, Columns, Modules, Spatial zones, Markers, Gutters and Alleys; Grid: Single-Column/Manuscript Grid, Multi column Grid, Modular Grid, Hierarchical Grid, Baseline Grid, Compound Grid, Layout: Pacing and Sequencing, Pattern and Form, Rhythm and Flow, Space, Alignment, Emphasis, Hierarchy and Scale
Unit V	**Composition and Color** Composition: Balance, Movement, Symmetry, Asymmetry, Tension, Contrast, Figure-Ground, Dominance, Rhythm, Unity; Color: Hue, Tone, Saturation, Tints; Primary, Secondary, Tertiary, Complementary, CMYK, RGB, Analogous, Monochromes; Color associations: emotions, connotations, denotations, contrast and harmony

Mapping

PSOs/COs	CO1	CO2	CO3	CO4	CO5
PSO 1	3	2	2	3	2
PSO 2	3	3	3	3	2
PSO 3	3	3	3	3	3
PSO 4	3	3	3	3	2
PSO 5	2	2	3	3	3

Key Textbooks

1. White, A. W. (2011). The Elements of Graphic Design. United States: Allworth Press.
2. Samara, T. (2012). Drawing for Graphic Design: Understanding Conceptual Principles and Practical Techniques to Create Unique, Effective Design Solu. United States: Rockport Publishers.
3. Stewart, S., Dabner, D., Vickress, A. (2020). Graphic Design School: A Foundation Course for Graphic Designers Working in Print, Moving Image and Digital Media. United Kingdom: Thames & Hudson.
4. Vienne, V., Heller, S. (2015). Becoming a Graphic and Digital Designer: A Guide to Careers in Design. Germany: Wiley.
5. Santoro, S. W., Santoro, E. (2013). Guide to Graphic Design. United States: Pearson Education.

References

1. Phillips, J. C., Lupton, E. (2015). Graphic Design: The New Basics: Second Edition, Revised and Expanded. United States: Princeton Architectural Press.
2. Casey, A., Calvert, S., Dabner, D. (2010). The New Graphic Design School: A Foundation Course in Principles and Practice. United Kingdom: Wiley.
3. Dabner, D., Stewart, S., Zempol, E. (2013). Graphic Design School: The Principles and Practice of Graphic Design. United States: Wiley.
4. Reveley, R. (2019). Learn Graphic Design (Page by Page): 50 Exercises in Colour, Composition, Typography, Branding, Packaging, Editorial Design and Contextual Studies. (n.p.): Independently Published.
5. Frasie, R. (2018). Graphic Design Handbook. United States: Independently Published.
6. Best Practices for Graphic Designers, Packaging: An Essential Guide for Implementing Effective Package Design Solutions. (2013). Taiwan: Rockport Publishers.

Web Resources

1. Journal of Graphic Design - https://www.journalofgraphicdesign.com/
2. Communication Arts - https://www.commarts.com/
3. Eye Magazine - https://www.eyemagazine.com/
4. Print Magazine - https://www.printmag.com/
5. How Design - https://www.howdesign.com/

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Practical Examination
Practical examination could be in the form of viva, testing students procedural knowledge, evaluation of Graphic Design and Typography. Students can also be asked to create a Graphic Design and Typography work for practical demonstration of their competency. Viva or Written examination can be based on the Procedural Knowledge on the software used for developing the content. Students should be able to explain what technique or pipeline/workflows were deployed.</td></tr>
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Practical Exercise -Record

1. Create a visual composition using basic elements of design (lines, shapes, and forms).
2. Design a balanced layout incorporating proximity and alignment principles.
3. Develop a color palette based on color theory and color associations.
4. Analyze an existing design and critique its use of design elements and principles.
5. Redesign a poorly balanced composition by applying design principles.
6. Draw a complex pattern using multiple shapes and forms.
7. Design a unique, hand-lettered alphabet.
8. Demonstrate ability to create different shapes and forms, and explore how to manipulate them to achieve different effects.

Subject Code	Subject Name	Category	Credits	Inst. Hours	Marks		
					CIA	External	Total
23BVCA2	**Print and Publication**	**Allied**	3	3	**25**	**75**	**100**
UNIT-I	INTRODUCTION TO PRINT MEDIA Print Media, Typography Signographic calligraphic typographic physical structure-design style functions of type composition. Layout: Press layout- page layout- dummy-cover layout-mock-up.						
UNIT-II	COLOUR AND DESIGN Colour in design: Functions of colour-colour vision-primary colour-secondary colour. Our responses to colour: Psychophysical response-socio-cultural response-individual Response - symbolic response. Colour combination: colour schemes complementary scheme colour perspective						
UNII-III	VARIOUS PRINTING PROCESS Printing process Type-setting methods, hot metal, photo composition and digital. Plate making process. Types of Printing Letter Press. Offset, Mini Offset, Gravure,Flexography and Screen printing. Colour printing process colour separation, colour correction and colour reproduction						
UNIT-IV	PAPER AND FINISHING Paper: Physical characteristics surface characteristics- paper varieties- paper sizes-traditional Brush size international size, weight and quantity calculation of paper requirement paper selection- folding- binding- finishing.						
UNIT-V	CONTEMPORARY PRINT PRODUCTION New technological development in printing process. Digital pre-press. Direct to plate. technologies. Recent trends printing processes. An over view of printing and publishing industry in India. An over view of electronic publishing.						

TEXT BOOK

Sarkar, N.N., "Art and Print Production", Second Edition, Oxford University Press.
New Delhi, 2013.

REFERENCE BOOKS

1. David Bann, "The All New Print Production Handbook", Rotovision, East Sussex, 2011.
2. Eiri Board, "Hand Book of Printing Technology", EIRI Books, New Delhi, 2008.
3. John DiMarco, "Digital Design for Print and Web", First Edition, John Wiley and sons. New Jersey, 2010.

Subject Code	Subject Name	Category	Credits	Inst. Hours	Marks		
					CIA	External	Total
23BVCAP2	**Publication Design (Practical)**	**Allied**	2	2	**25**	**75**	**100**

Course Description:

This course offers an introduction to publication design and advertising design, covering the history and definition of each, as well as the various types of publications and advertising media. The course is structured to provide an overview of the fundamental principles and tools used in publication and advertising design.

The course covers basic design principles such as composition, layout, typography, color theory, and palette selection. Additionally, students will be introduced to popular software used in the field of design such as Canva, Adobe InDesign, Illustrator, and Photoshop. The course will also delve into designing for print and digital media, advertising principles, layout and composition techniques, advanced typography, color theory, illustration and vector graphics, photography, image research, and print production techniques.

By the end of the course, students will have developed an understanding of the key concepts and techniques used in publication and advertising design and be able to apply their knowledge to create effective designs for various media. This course is ideal for beginners who are interested in learning the basics of publication and advertising design or for professionals who want to expand their skillset in the design industry.

Course Objectives:

Upon completion of the course, the students will be able to:

1. Explain the fundamental concepts and principles of publication design and advertising design, including the history, types, and media used in each.
2. Apply basic design principles such as composition, layout, typography, and color theory in creating effective designs for various publication and advertising media.
3. Utilize software and tools such as Adobe InDesign, Illustrator, and Photoshop to design and create print and digital media publications, advertising materials, and illustrations.
4. Analyze and evaluate the effectiveness of designs in terms of layout, composition, typography, and color palette selection.
5. Develop critical thinking and problem-solving skills by creating advertising campaigns and materials that are designed to meet the needs of a specific target audience, convey a message, and drive a call to action.

Procedural Knowledge on Publication Design
(Viva/Written Test Topics for Practical Examination)

UNIT-I	**Introduction to Publication Design** History of publication design, Types of publications (magazines, newspapers, books, etc.), Types of advertising (print, digital, outdoor, etc.); Basic Design Principles, Composition and layout, Typography and font selection, palette selection; Tools and Software for Publication Design and Advertising Design (Canva, Adobe InDesign, Illustrator, Photoshop, etc.), Setting up a workflow and project structure, Basic interface and navigation.

UNIT-II	**Designing for Print and Digital:** Understanding print production processes and considerations (paper stock, ink, etc.), Designing for different print formats (magazines, newspapers, books, etc.), creating print-ready files for commercial printing; Designing for Digital: Understanding digital design considerations (resolution, file formats, etc.), Designing for different digital platforms (websites, eBooks, social media, etc.), Creating digital-ready files for web and mobile; Designing for Advertising, Understanding advertising principles (target audience, messaging, call to action, etc.), Designing for different types of advertising (print, digital, outdoor, etc.), Creating advertising campaigns and materials;
UNII-III	**Layout, Composition and Typography** Understanding the principles of good layout and composition, Using grids and guides to create balanced and effective layouts, experimenting with different layout techniques (asymmetry, hierarchy, etc.) Advanced Typography, Understanding the principles of good typography, Selecting and pairing fonts for different purposes, Experimenting with different typographic techniques (scale, hierarchy, etc.)
UNIT-IV	**Color, Illustration and Vector Graphics:** Understanding the principles of color theory, Creating and using color palettes, experimenting with different color techniques (complementary colors, monochromatic schemes, etc.); Creating and editing vector graphics, Using illustration and vector graphics in publication and advertising design
UNIT-V	**Photography and Image Research & Print Production:** Introduction to photography and image research for publication and advertising design, Understanding copyright and usage rights for images, Finding and selecting appropriate images for different projects, Introduction to Print Production, Types of printing techniques (letterpress, lithography/offset, gravure, flexography, and screen-printing)Basic Production Steps, Color separation, Importance of color accuracy in print production, Aesthetic Principles and Technological Innovations in Print Production, Digital Art in Print Production

Detailed Exercises

1. Design analysis: Have students choose a publication or advertising design (e.g. a magazine, a newspaper, an advertisement) and write a critical analysis of the piece, considering elements such as composition, layout, typography, and visual hierarchy. This exercise can help students practice interpreting and analyzing design work.
2. Design project: Have students choose a design problem or challenge related to publications or advertising and create a solution using design principles and techniques. This exercise can help students apply their knowledge of publication and advertising design principles to real-world projects.
3. Layout exercise: Have students experiment with different layout techniques and create a series of designs for publications or advertising using only layout elements (e.g. grids, alignment, whitespace). This exercise can help students practice using layout effectively and creatively in a specific context.
4. Magazine or newspaper design: Have students design a layout for a magazine or newspaper, including cover design, article layout, and use of images and graphics. This exercise can help students practice creating effective and visually appealing publication layouts.
5. Marketing materials: Have students design a set of marketing materials (e.g. business cards, brochures, flyers) for a business or organization. This exercise can help students practice creating promotional materials that are consistent with a brand's visual identity.
6. Infographic design: Have students create an infographic to present complex information in a clear and visually appealing way. This exercise can help students practice using design elements to communicate information effectively.

Publication design Record: As a part of this course, students will be required to maintain a record of their publication design exercises. This record will help students keep track of their progress and allow them to reflect on their work. The record can be maintained in a digital format such as a blog, portfolio website or cloud storage. The digital record should have at least five publication design Exercises-one from each unit. Students should ensure that their record is organised, labelled clearly and includes any relevant details such as date of the exercise, software used, and a brief description of the exercise. This record should be submitted at the end of the course for evaluation.

Publication Design Record (Any ten of the following exercises should be included in the record in print or in Digital Format)

1. Design a Flyer for a new product launch.
2. Create an advertisement for a clothing brand.
3. Design a layout for a Magazine article on Interior Design.
4. Create a business card for a freelance graphic designer.
5. Design a poster for an upcoming music festival.
6. Create a billboard advertisement for a new car model.
7. Design a social media card for a real estate company.
8. Create a packaging design for a new food product.
9. Design a book cover for a fiction novel.
10. Create a magazine spread on travel destinations.
11. Design a poster promoting a local charity event.
12. Create an advertisement for a new smartphone model.
13. Design a menu for a new cafe.
14. Create a billboard advertisement for a sports brand.
15. Design a brochure for a new car dealership.
16. Create a packaging design for a new beauty product.
17. Design a book cover for a self-help book.
18. Create a magazine spread on healthy living.
19. Design a poster promoting a movie premiere.
20. Create an advertisement for a new restaurant.
21. Design a poster for PR Campaign, Even ManagementCompany, Social AwarenessCampaign
22. Design a Men's wear/ Women's Wear/ Children'sWear, Design any object for Interior decoration, Design portrait in digital painting mode, Design poster for Movie

Practical Examination

Practical examination could be in the form of viva, testing students procedural knowledge, evaluation of publication deliverables mentioned above. Students can also be asked to design any of the above tasks based on specific topics as a practical demonstration of their competency in publication design. Viva or Written examination can be based on the Procedural Knowledge on Publication design software. Students can use any publication design software, but open-source apps like Canva or InkSpace are recommended. Students should be able to explain what technique or pipeline/workflows were deployed.

Course Outcomes

1. Demonstrate an understanding of the concepts and principles of publication design and advertising design, and analyze how they are applied to create effective designs for various media.
2. Create original designs using basic design principles such as composition, layout, typography, and color theory in various media formats such as print and digital media.
3. Utilize software and tools such as Adobe InDesign, Illustrator, and Photoshop to design and create effective publications, advertising materials, and illustrations.
4. Evaluate the effectiveness of designs in terms of layout, composition, typography, and color palette selection, and make recommendations for improvement.
5. Develop and present advertising campaigns and materials that meet the needs of a specific target audience, convey a message, and drive a call to action.

Key Textbooks

1. Tavakoli, T. (2016). Graphic design with Canva: Design professional graphics for web and print. Packt Publishing Ltd.
2. Brelsford, N. (2018). Canva: The ultimate guide to visual content marketing. Apress.
3. Kello, S. (2017). Content marketing with Canva: Create stunning visuals on a budget. Business Expert Press.
4. Gatten, C. (2016). Canva master class: A step-by-step guide to becoming a Canva expert. Amazon Digital Services LLC.
5. Hoppe, J. (2020). Adobe Illustrator. Rocky Nook, Inc.

References

1. Brandt, G. (2018). Digital Print Production: The Definitive Guide. Hoboken, New Jersey: John Wiley & Sons, Inc.
2. Padgett, P. (2018). Print Production Basics. Burlington, MA: Focal Press.
3. Paterson, J. (2019). Mastering Print Production: A Guide to Prepress and Production Processes. Amsterdam: John Wiley & Sons, Inc.
4. Corrigan, J. (2016). The Complete Guide to Color Management and Print Production. Amsterdam: Focal Press.
5. Farace, J. (2017). Digital Printing and Publishing. Amsterdam: Focal Press.
6. Kalsi, M. (2016). Digital Printing: A Comprehensive Guide. Burlington, MA: Focal Press.
7. Main, J. (2016). Digital Print Processes: Print Production Concepts. Amsterdam: Focal Press.
8. Smith, M. (2018). Digital Printing for Graphic Designers: Understanding the Print Production Process. Amsterdam: John Wiley & Sons, Inc.
9. White, C. (2017). Digital Print Production: Design Tips and Techniques. Amsterdam: Focal Press.
10. Naughton, J. (2015). Introduction to Digital Print Production. Amsterdam: Focal Press.

Web Resources

1. Canva Tutorials, **https://www.canva.com/learn/**
2. 10 Tips for Creating Professional Publication Designs, **https://www.Canva.com/blog/professional-publication-designs/**
3. 20 Best Practices for Publication Design, **https://www.creativebloq.com/advice/20-best-practices-for-publication-design**
4. 8 Steps to Perfect Publication Design, **https://www.creativemarket.com/blog/8-steps-to-perfect-publication-design**

Expert Tips for Professional Publication Design, **https://www.canopybranding.com/expert-tips-for-professional-publication-design/**

Mapping

PSO	CO1	CO2	CO3	CO4	CO5
PSO1	2	3	3	2	1
PSO2	2	3	3	2	2
PSO3	3	3	3	2	3
PSO4	1	1	3	3	2
PSO5	2	3	3	2	2
PSO6	1	1	2	2	1
PSO7	2	3	3	2	3

Subject Code	Subject Name	Category	Credits	Inst. Hours	Marks		
					CIA	External	Total
23BVCA3	**2D and 3D Modelling**	**Allied**	3	3	**25**	**75**	**100**

Course Description:

This Basic Blender Modelling for 2D and 3D Modelling course is designed for beginners who want to learn how to create stunning 2D and 3D models with Blender, the world's leading open-source 3D creation software. This 20-lesson course is divided into five units, each containing four lessons, which will take you through the basics of Blender's interface, object creation, editing and modifiers, materials and textures, lighting, cameras, render settings, and advanced modelling techniques such as particle systems, constraints, and armatures. You will also learn how to use Blender's game engine, motion tracking, and compositing techniques. The course will be taught by a highly experienced Blender modelling expert with over 30 years of experience in the industry. By the end of the course, you will have a strong foundation in Blender modelling, enabling you to create professional quality 2D and 3D models and animations that will impress clients, employers, or personal projects.

Course Objectives:

1. Develop a solid understanding of Blender's interface, tools, and navigation, and be able to create and edit 2D and 3D objects with various modifiers and transformations.
2. Apply fundamental rendering techniques and optimize render settings to create high-quality output for different projects, including lighting and camera settings, sky and atmosphere settings, and post-processing techniques.
3. Explore advanced modelling techniques such as particle systems, constraints, and armatures, and apply them to create realistic animations and simulations.
4. Use Blender's game engine, motion tracking, and compositing tools to create interactive 3D content and integrate 3D elements into real-life footage.
5. Demonstrate an ability to apply critical thinking and creativity to design and execute a final project that showcases the skills and techniques learned throughout the course.

Note: While open-source modelling software Blender is the recommended software, each institution/Colleges can choose to train the students in any other open-sourced or commercial alternative such as 3D Max, Maya, zBrush, Adobe Creative Cloud Suite Apps

Detailed Syllabus

Procedural Knowledge on 2D and 3D Modelling

(Viva/Written Test Topics for Practical Examination)

2D and 3D Modelling Record

As a part of this course, students will be required to maintain a record of their 2D and 3D modelling exercises. This record will help students keep track of their progress and allow them to reflect on their work. The record can be maintained in a digital format such as a blog, portfolio website or cloud storage. **The digital record should have at least 10 digital asserts developed using 2D and 3D software.** Students should ensure that their record is organised, labeled clearly and includes any relevant details such as date of the exercise, software used, and a brief description of the exercise. This record should be submitted at the end of the course for evaluation.

Practical Examination Practical examination could be in the form of viva, testing students procedural knowledge, evaluation of 2D and 3 D modelling techniques. Students can also be asked to create a 2D or 3D models for practical demonstration of their competency. Viva or Written examination can be based on the Procedural Knowledge on the modelling software. Students should be able to explain what technique or pipeline/workflows were deployed.	
UNIT-I	**Introduction to Blender and Interface** Introduction to Blender, History of Blender, Installing Blender, Understanding Blender's Interface, Navigation and Shortcuts Viewports and Object Creation, Viewports in Blender, Creating 2D and 3D Objects, Basic Transformations, Creating and Modifying Meshes Editing Objects and Modifiers, Selection Tools, Editing Objects, Modifiers: Subdivision, Mirror, Array, Bevel Materials and Textures, Understanding Materials and Textures, Creating and Applying Materials, Adding Textures to Objects, UV Mapping
UNIT-II	**Rendering and World Settings** Render Engines and Output Settings, Introduction to Render Engines in Blender, Output Settings, Basic Render Settings, Optimization Techniques Lighting and Cameras, Introduction to Lighting, Types of Lights in Blender, Camera Settings, Camera Movement and Animation World Settings, Introduction to World Settings, Sky and Atmosphere, Background Images, Compositing and Post-Processing Ray-Tracing and Render Optimization, Understanding Ray-Tracing, Using Ray-Tracing in Blender, Optimizing Render Settings for Speed and Quality, Render Farm and Distributed Rendering
UNII-III	**Advanced Modelling Techniques** Object Animation Basics, Introduction to Object Animation, Basic Animation Keyframes, Animation Curves and Graph Editor, Advanced Animation Techniques Nurbs and Meta Shapes, Introduction to Nurbs and Meta Shapes, Creating Curves and Surfaces, Modifying Nurbs and Meta Shapes, Advanced Modelling Techniques Particle Systems and Physics, Introduction to Particle Systems, Particle Emitter Properties, Physics Simulation in Blender, Fluid Simulation and Smoke Simulation Constraints and Armatures, Introduction to Constraints, Types of Constraints, Armature Creation and Rigging, Animating with Armatures
UNIT-IV	**Textures, Physics** Vertex (Shape) Keys, Introduction to Vertex (Shape) Keys, Creating and Modifying Shape Keys, Animating with Shape Keys, Advanced Techniques Object Physics and Cloth Simulation, Introduction to Object Physics, Rigid Body Simulation, Cloth Simulation, Advanced Physics Techniques Springs, Screws, Gears and Animation, Introduction to Springs, Screws and Gears, Creating and Animating Springs, Creating and Animating Screws and Gears, Advanced Techniques Motion Tracking and Compositing, Introduction to Motion Tracking, Setting up the Camera for Tracking, Tracking Objects and Creating 3D Scenes, Compositing and Post-Processing

UNIT-V	**Game Engines and UV Textures** Game Engine Basics, Introduction to Game Engines in Blender, Creating Game Objects, Creating Game Environments, Basic Logic Bricks Advanced Game Engine Techniques, Advanced Logic Bricks, Python Scripting in Blender Game Engine, Creating Game Levels and Scenes, Exporting Games UV Textures and Unwrapping, Introduction to UV Textures, Unwrapping Techniques, Applying Textures to Objects, Advanced Techniques Workflow, Pipelines, Geometric Modes, Procedural Modelling Basics. Finishing Project.

Detailed Project Work for Basic Blender Modelling Software

1. *Model a Simple Scene:* Challenge students to create a simple 3D scene, such as a room or outdoor environment, using basic Blender modelling tools. This project should require students to master the principles of modelling, texturing, and lighting, as well as the use of camera angles and composition to create a visually interesting scene.
2. *Create a 3D Object:* Challenge students to create a 3D object, such as a chair or table, using basic Blender modelling tools. This project should require students to master the art of modelling complex shapes, working with materials and textures, and basic rendering.
3. *Sculpting:* Challenge students to create a 3D model of a character or creature using Blender's sculpting tools. This project should require students to master the principles of digital sculpting, as well as the use of brushes, textures, and materials to create a detailed and realistic model.
4. *Animation:* Challenge students to create a short-animated sequence, such as a bouncing ball or simple character animation, using Blender's animation tools. This project should require students to master the principles of keyframe animation, timing, and motion, as well as the use of the graph editor to fine-tune their animations.
5. *Game Asset Creation:* Challenge students to create a simple game asset, such as a weapon or environmental prop, using Blender's low-poly modelling tools. This project should require students to master the art of efficient modelling, UV mapping, and texture baking, as well as the use of game engines like Unity or Unreal to import and use their assets.
6. *Particle Effects:* Challenge students to create a dynamic, visually stunning particle effect using Blender's particle system. This project should require students to master the principles of particle physics, as well as the use of particle emitters, force fields, and particle interactions to create complex, realistic effects.
7. *Vehicle Modelling:* Challenge students to create a detailed 3D model of a vehicle, such as a car, airplane, or boat, using Blender. This project should require students to master the intricacies of modelling complex shapes, working with materials and textures, and animating moving parts.

Course Outcomes:

1. Demonstrate a proficiency in Blender's interface, tools, and navigation, and apply this knowledge to create and edit 2D and 3D objects with various modifiers and transformations.
2. Develop a comprehensive understanding of rendering techniques, including lighting and camera settings, and use this knowledge to create high-quality output for different projects.
3. Apply advanced modelling techniques, including particle systems, constraints, and armatures, to create realistic animations and simulations, and demonstrate a mastery of the skills needed to bring these models to life.
4. Create interactive 3D content using Blender's game engine, motion tracking, and compositing tools, and integrate 3D elements into real-life footage to produce professional-quality video content.
5. Design and execute a final project that showcases the skills and techniques learned throughout the course, demonstrating an ability to apply critical thinking and creativity to 2D and 3D modelling and animation projects.

Key Textbooks

1. Blain, J. M. (2022). The Complete Guide to Blender Graphics: Computer Modeling & Animation. CRC Press.

2. Belec, A. (2022). Blender 3D Incredible Models: A comprehensive guide to hard-surface modeling, procedural texturing, and rendering. Packt Publishing Ltd.

3. Baechler, O. (2022). LEARN GREASE PENCIL IN BLENDER 3.X: A Guide to 2d Animation, Illustration, Storyboarding, and 3d... Hybrid Pipelines Using the Grease Pencil Tools. Packt Publishing Limited.

4. Baechler, O., & Greer, X. (2020). Blender 3D By Example: A project-based guide to learning the latest Blender 3D, EEVEE rendering engine, and Grease Pencil. Packt Publishing Ltd.

5. Blain, J. M. (2021). Blender 2D Animation: The Complete Guide to the Grease Pencil. CRC Press.

References

1. Brito, A. (2019a). Blender 2.8 for Architecture: Modeling and Rendering with Eevee and Cycles. Independently Published.
2. Conlan, C. (2017). The Blender Python API: Precision 3D Modeling and Add-on Development. Apress.
3. Fisher, G. (2013). Blender 3D Printing Essentials. Packt Publishing Ltd.
4. Grey, S. (2021). Mind-Melding Unity and Blender for 3D Game Development: Unleash the power of Unity and Blender to create amazing games. Packt Publishing Ltd.
5. Guevarra, E. T. M. (2019). Modeling and Animation Using Blender: Blender 2.80: The Rise of Eevee. Apress.

Web Resources

1. BlenderNation - https://www.blendernation.com/

2. Blender Artists - https://blenderartists.org/

3. Blender Guru - https://www.blenderguru.com/

4. 3D Artist - https://www.3dartistonline.com/

5. Computer Graphics World - https://www.cgw.com/

Mapping:

PSOs/COs	CO1	CO2	CO3	CO4	CO5
PSO1	3	3	2	2	1
PSO2	2	3	2	2	3
PSO3	1	2	3	1	2
PSO4	3	1	2	3	1
PSO5	1	2	1	2	3

Subject Code	Subject Name	Category	Credits	Inst. Hours	Marks		
					CIA	External	Total
23BVCAP3	**2D and 3D Modelling (Practical)**	**Allied Practical**	2	2	**25**	**75**	**100**

Course Description:

This Basic Blender Modelling for 2D and 3D Modelling course is designed for beginners who want to learn how to create stunning 2D and 3D models with Blender, the world's leading open-source 3D creation software. This 20-lesson course is divided into five units, each containing four lessons, which will take you through the basics of Blender's interface, object creation, editing and modifiers, materials and textures, lighting, cameras, render settings, and advanced modelling techniques such as particle systems, constraints, and armatures. You will also learn how to use Blender's game engine, motion tracking, and compositing techniques. The course will be taught by a highly experienced Blender modelling expert with over 30 years of experience in the industry. By the end of the course, you will have a strong foundation in Blender modelling, enabling you to create professional quality 2D and 3D models and animations that will impress clients, employers, or personal projects.

Course Objectives:

1. Develop a solid understanding of Blender's interface, tools, and navigation, and be able to create and edit 2D and 3D objects with various modifiers and transformations.
2. Apply fundamental rendering techniques and optimize render settings to create high-quality output for different projects, including lighting and camera settings, sky and atmosphere settings, and post-processing techniques.
3. Explore advanced modelling techniques such as particle systems, constraints, and armatures, and apply them to create realistic animations and simulations.
4. Use Blender's game engine, motion tracking, and compositing tools to create interactive 3D content and integrate 3D elements into real-life footage.
5. Demonstrate an ability to apply critical thinking and creativity to design and execute a final project that showcases the skills and techniques learned throughout the course.

Note: While open-source modelling software Blender is the recommended software, each institution/Colleges can choose to train the students in any other open-sourced or commercial alternative such as 3D Max, Maya, zBrush, Adobe Creative Cloud Suite Apps

Detailed Syllabus

Procedural Knowledge on 2D and 3D Modelling

(Viva/Written Test Topics for Practical Examination)

2D and 3D Modelling Record

As a part of this course, students will be required to maintain a record of their 2D and 3D modelling exercises. This record will help students keep track of their progress and allow them to reflect on their work. The record can be maintained in a digital format such as a blog, portfolio website or cloud storage. **The digital record should have at least 10 digital asserts developed using 2D and 3D software.** Students should ensure that their record is organised, labeled clearly and includes any relevant details such as date of the exercise, software used, and a brief description of the exercise. This record should be submitted at the end of the course for evaluation.

Practical Examination

Practical examination could be in the form of viva, testing students procedural knowledge, evaluation of 2D and 3 D modelling techniques. Students can also be asked to create a 2D or 3D models for practical demonstration of their competency. Viva or Written examination can be based on the Procedural Knowledge on the modelling software. Students should be able to explain what technique or pipeline/workflows were deployed.

Detailed Project Work for Basic Blender Modelling Software

1. *Model a Simple Scene:* Challenge students to create a simple 3D scene, such as a room or outdoor environment, using basic Blender modelling tools. This project should require students to master the principles of modelling, texturing, and lighting, as well as the use of camera angles and composition to create a visually interesting scene.
2. *Create a 3D Object:* Challenge students to create a 3D object, such as a chair or table, using basic Blender modelling tools. This project should require students to master the art of modelling complex shapes, working with materials and textures, and basic rendering.
3. *Sculpting:* Challenge students to create a 3D model of a character or creature using Blender's sculpting tools. This project should require students to master the principles of digital sculpting, as well as the use of brushes, textures, and materials to create a detailed and realistic model.
4. *Animation:* Challenge students to create a short-animated sequence, such as a bouncing ball or simple character animation, using Blender's animation tools. This project should require students to master the principles of keyframe animation, timing, and motion, as well as the use of the graph editor to fine-tune their animations.
5. *Game Asset Creation:* Challenge students to create a simple game asset, such as a weapon or environmental prop, using Blender's low-poly modelling tools. This project should require students to master the art of efficient modelling, UV mapping, and texture baking, as well as the use of game engines like Unity or Unreal to import and use their assets.
6. *Particle Effects:* Challenge students to create a dynamic, visually stunning particle effect using Blender's particle system. This project should require students to master the principles of particle physics, as well as the use of particle emitters, force fields, and particle interactions to create complex, realistic effects.
7. *Vehicle Modelling:* Challenge students to create a detailed 3D model of a vehicle, such as a car, airplane, or boat, using Blender. This project should require students to master the intricacies of modelling complex shapes, working with materials and textures, and animating moving parts.

Course Outcomes:

1. Demonstrate a proficiency in Blender's interface, tools, and navigation, and apply this knowledge to create and edit 2D and 3D objects with various modifiers and transformations.
2. Develop a comprehensive understanding of rendering techniques, including lighting and camera settings, and use this knowledge to create high-quality output for different projects.
3. Apply advanced modelling techniques, including particle systems, constraints, and armatures, to create realistic animations and simulations, and demonstrate a mastery of the skills needed to bring these models to life.
4. Create interactive 3D content using Blender's game engine, motion tracking, and compositing tools, and integrate 3D elements into real-life footage to produce professional-quality video content.
5. Design and execute a final project that showcases the skills and techniques learned throughout the course, demonstrating an ability to apply critical thinking and creativity to 2D and 3D modelling and animation projects.

Subject Code	Subject Name	Category	Credits	Inst. Hours	Marks		
					CIA	External	Total
23BVCA4	**Compositing and Visual Effects**	**Allied**	3	3	**25**	**75**	**100**

Course Description

This Compositing and Visual Effects course is designed to equip learners with the procedural knowledge and technical skills necessary to become a professional in the industry. The course covers topics such as keying techniques, color correction, camera effects, and advanced compositing, and visual effects techniques.

Through a series of practical exercises, learners will learn to use industry-standard software such as Nuke, Maya, Adobe After Effects, and DaVinci Resolve. They will learn to create complex composites and visual effects, including rotoscoping, chroma keying, 3D compositing, and stereo compositing. They will also develop skills in color grading, image manipulation, and video editing. Learners will have the opportunity to collaborate with teams and clients, build their demo reel and portfolio, and explore the future of compositing and visual effects. The course is ideal for anyone looking to pursue a career in film and television post-production, advertising, and gaming industries.

Course Objectives

1. Develop the ability to effectively use keying techniques to create clean mattes and composite foreground elements onto new backgrounds.
2. Analyze color correction methods and utilize them to create a desired look in a composite.
3. Evaluate technical terminologies and apply them to execute advanced compositing techniques.
4. Create a deep composite, perform stereoscopic compositing, and composite CGI elements with live-action footage using advanced compositing techniques.
5. Synthesize knowledge on workflow and pipeline to demonstrate collaboration with teams and clients, building a demo reel and portfolio, and ethical responsibility in Compositing and VFX.

UNIT-I	**Making a Great Composite** Keying Techniques Working with Keyers Refining Mattes Spill Suppression and Despill Artifacts The Composite
UNIT-II	**The Quest for Realism** Compositing CGI and D Compositing Color Correction Sweetening the Comp Camera Effects Digital Color
UNII-III	**Technical Terminologies** Image Blending Transforms and Tracking Digital Images Advanced Keying Techniques Creating Effects

UNIT-IV	**Advanced Composting** Advanced Compositing Techniques Stereoscopic Compositing Advanced CGI Techniques Advanced Lighting Techniques Advanced Rendering Techniques
UNIT-V	**Workflow and Pipeline** The Production Pipeline Collaborating with Teams and Clients Building Your Demo Reel and Portfolio The Future of Compositing and VFX Ethics and Responsibility in Compositing and VFX

Key Textbooks

1. Lanier, L. (2017). Advanced Visual Effects Compositing: Techniques for Working with Problematic Footage. Taylor & Francis.
2. Lanier, L. (2018). Digital Compositing with Blackmagic Fusion: Essential Techniques. Routledge.
3. Okun, J. A., & Zwerman, S. (2020). The VES Handbook of Visual Effects: Industry Standard VFX Practices and Procedures. Taylor & Francis Group.
4. Wright, S. (2013). Compositing Visual Effects: Essentials for the Aspiring Artist. Taylor & Francis.

References

1. Birn, J. (2013). Digital Lighting and Rendering. New Riders.
2. Brinkmann, R. (2008). The Art and Science of Digital Compositing: Techniques for Visual Effects, Animation and Motion Graphics. Morgan Kaufmann.
3. Dinur, E. (2017). The Filmmaker's Guide to Visual Effects: The Art and Techniques of VFX for Directors, Producers, Editors and Cinematographers. Taylor & Francis.
4. Dinur, E. (2021). The Complete Guide to Photorealism for Visual Effects, Visualization and Games. Routledge.
5. Foster, J. (2010). The Green Screen Handbook: Real-World Production Techniques. John Wiley & Sons.

Web Resources

1. Journal of Visual Effects: https://www.jove.com/journal/visual-effects
2. International Journal of Computer Graphics & Animation: https://www.omicsonline.org/computer-graphics-animation.php
3. VFX Voice: http://vfxvoice.com/
4. Creative Cow: https://www.creativecow.net/
5. 3D Artist: https://3dartistonline.com/
6. Visual Effects Society: https://www.visualeffectssociety.com/
7. Motion Graphic Design Association: https://motiongraphicsassociation.org/
8. Society of Motion Picture and Television Engineers: https://www.smpte.org/
9. Women in Animation: https://womeninanimation.org/
10. National Association of Broadcasters: https://www.nab.org/

Course Outcomes:

1. Apply a range of keying techniques and refine mattes to create clean and accurate composites.
2. Create realistic composites by integrating CGI elements with live-action footage and performing color correction and camera effects.
3. Use technical terminology related to compositing and VFX to effectively communicate with team members and clients.
4. Utilize advanced compositing techniques, such as stereoscopic compositing and deep compositing, to create complex and visually stunning composites.
5. Develop a professional portfolio and demo reel showcasing their compositing and VFX skills, while adhering to ethical and responsible practices within the industry.

Subject Code	Subject Name	Category	Credits	Inst. Hours	Marks		
					CIA	External	Total
23BVCAP4	**Compositing and Visual Effects (Practical)**	**Allied**	2	2	**25**	**75**	**100**

Course Description

This Compositing and Visual Effects course is designed to equip learners with the procedural knowledge and technical skills necessary to become a professional in the industry. The course covers topics such as keying techniques, color correction, camera effects, and advanced compositing, and visual effects techniques.

Through a series of practical exercises, learners will learn to use industry-standard software such as Nuke, Maya, Adobe After Effects, and DaVinci Resolve. They will learn to create complex composites and visual effects, including rotoscoping, chroma keying, 3D compositing, and stereo compositing. They will also develop skills in color grading, image manipulation, and video editing. Learners will have the opportunity to collaborate with teams and clients, build their demo reel and portfolio, and explore the future of compositing and visual effects. The course is ideal for anyone looking to pursue a career in film and television post-production, advertising, and gaming industries.

Procedural Knowledge on Compositing and Visual Effects

(Viva/Written Test Topics for Practical Examination)

Compositing and Visual Effects Record

As a part of this course, students will be required to maintain a record of their Compositing and Visual Effects exercises. This record will help students keep track of their progress and allow them to reflect on their work. The record can be maintained in a digital format such as a blog, portfolio website or cloud storage. The digital record should have at least Five Compositing and Visual Effects Exercises-one from each unit developed using appropriate software. Students should ensure that their record is organised, labelled clearly and includes any relevant details such as date of the exercise, software used, and a brief description of the exercise. This record should be submitted at the end of the course for evaluation.

Practical Examination

Practical examination could be in the form of viva, testing students procedural knowledge, evaluation of Compositing and Visual Effects. Students can also be asked to create a Compositing and Visual Effects work for practical demonstration of their competency. Viva or Written examination can be based on the Procedural Knowledge on the software used for developing the content. Students should be able to explain what technique or pipeline/workflows were deployed. **Practical Exercises on Compositing and Visual Effects.**

(At least Five Exercises-One from Each Unit-Should be included in the Digital Record)

UNIT-I	**Keying and Matte Creation (Any One Exercise from this Unit)** *Exercise 1:* Pulling a Key, Choose a challenging footage with uneven lighting and complex edges, Use a combination of keying techniques to create a clean matte, Refine the matte using various techniques such as spill suppression and edge refinement, Composite the foreground onto a new background *Exercise 2:* Creating a Difference Matte, Choose a footage with moving elements and a stationary background, Create a difference matte using various techniques such as color difference keys and blur and grow technique, Refine the matte using various techniques such as filtering and bump mattes, Composite the moving element onto a new background *Exercise 3:* Chroma Keying, Choose a footage with a green or blue screen background, Create a chroma key using various techniques such as luma keys and chroma difference keys, Refine the key using various techniques such as despill and spill suppression, Composite the foreground onto a new background *Exercise 4:* Rotoscoping, Choose a footage with complex foreground elements such as hair or fur, Create a clean matte using various techniques such as the rotobrush tool and manual painting, Refine the matte using various techniques such as edge refinement and spill suppression, Composite the foreground onto a new background *Exercise 5:* D Keying, Choose a footage with a depth map or 3D information, Create a 3D composite using various techniques such as camera projection and depth compositing, Refine the composite using various techniques such as color correction and grain management, Output the composite in a 3D format such as anaglyph or VR
UNIT-II	**Color Correction (Any One Exercise from this Unit)** *Exercise 6:* Color Grading, Choose a footage with a specific color palette or mood, Use various techniques such as lift, gamma, gain, and color grading to achieve the desired look, Refine the grade using various techniques such as selective color correction and secondary color correction, Output the graded footage in a desired format such as log or HDR *Exercise 7:* Edge Blending and Shadow Creation, Choose a footage with foreground elements that need to be integrated with the background, Use various techniques such as edge blending and light wrap to create a seamless integration, Create realistic shadows using various techniques such as density and color adjustments, Refine the integration using various techniques such as faux shadows and atmospheric haze *Exercise 8:* Lens Effects and Grain Management, Choose a footage with a specific lens or filter effect, Use various techniques such as lens distortion correction and lens flares to create the desired effect, Manage the grain using various techniques such as regraining and grain rescue, Refine the effect using various techniques such as sharpening and defocus simulation *Exercise 9:* Camera Effects and Motion Tracking, Choose a footage with a specific camera effect such as depth of field or motion blur, Use various techniques such as camera tracking and motion blur control to achieve the desired effect, Refine the effect using various techniques such as defocus simulation and sharpening, Output the final footage in a desired format such as slow motion or time lapse *Exercise 10:* Matte Painting and Set Extension, Choose a footage with a specific environment that needs to be expanded or modified, Create a matte painting or 3D environment using various techniques such as set extension and camera projection, Integrate the environment with the original footage using various techniques such as edge blending and lighting matching, Refine the integration using various techniques such as atmospheric haze and color grading

UNII-III	**Compositing CGI** *Exercise 1:* Multi-Pass Compositing, Use Nuke to composite a CGI sequence rendered in multiple passes, Use the Merge node to combine the beauty, lighting, reflection, and shadow passes, Use the Shuffle node to extract specific image channels for adjustment, Use the Grade node to adjust the color, contrast, and brightness of the passes, Use the Transform node to position and scale the CGI elements within the scene *Exercise 2:* Deep Compositing, Use Nuke to composite a CGI sequence rendered with deep images, Use the DeepMerge node to combine the deep images for each element, Use the DeepExpression node to manipulate the depth information, Use the DeepTransform node to position and scale the elements within the scene, Use the DeepHoldout node to selectively remove elements from the scene *Exercise 3:* Camera Projection, Use Maya to create a 3D scene with a camera move, Use the Render settings to render out the scene as a camera projection matte, Use Nuke to composite a live-action plate onto the camera projection matte, Use the Transform node to adjust the position and scale of the live-action plate, Use the Roto node to mask out any areas of the live-action plate that intersect with the CGI elements *Exercise 4:* Set Extension, Use Maya to create a 3D environment for a live-action scene, Use the Render settings to render out the environment as a set extension matte, Use Nuke to composite the set extension onto the live-action footage, Use the Transform node to position and scale the set extension, Use the Color Correction tools to match the color and lighting of the set extension to the live-action footage *Exercise 5:* Stereoscopic Compositing, Use Nuke to composite a stereoscopic CGI sequence onto a live-action plate, Use the Disparity Generator node to create a disparity map for the CGI elements, Use the Disparity Blur node to add a depth of field effect to the CGI elements, Use the Depth To Points node to convert the disparity map into a point cloud, Use the Point Cloud Render node to render the point cloud as a depth map for the final composite
UNIT-IV	**Advanced Techniques in Compositing and Visual Effects (Any One Exercise from this Unit)** *Exercise 1:* Creating a Deep Composite, Create a deep image using a 3D application, Composite the deep image with live-action footage in Nuke, Use the depth information to adjust the focus of the live-action footage, Add depth-of-field and lens distortion to the composite *Exercise 2:* Advanced Keying Techniques, Use a green screen footage to create a composite with complex hair, Use a difference matte to create a clean plate for the hair, Create a custom keyer to improve the key, Use despill techniques to remove green reflections on the subject, Integrate the keyed subject into a complex background *Exercise 3:* Stereo Compositing, Use a 3D camera tracker to create a 3D scene from a live-action footage, Create a depth map for the scene, Use the depth map to add 3D objects into the scene, Create a left and right eye view for the scene, Composite the left and right eye view to create a stereo 3D effect *Exercise 4:* Compositing CGI with Live Action, Use a 3D application to create a 3D object, Create a multi-pass render of the 3D object, Composite the 3D object into a live-action footage in Nuke, Use the AOV passes to adjust the lighting and shadow of the 3D object, Add camera effects such as lens distortion and depth of field to the composite *Exercise 5*: Motion Graphics, Create a motion graphics sequence using Adobe After Effects, Use keyframe animation and motion graphics templates to create complex animations, Integrate live-action footage into the motion graphics sequence, Use expressions and scripts to automate animation and make adjustments, Export the motion graphics sequence for use in other compositing and editing software.

UNIT-V	**Camera Effects and Image Manipulation (Any One Exercise from this Unit)** *Exercise 1:* Depth of Field Simulation, Use Nuke to simulate depth of field for a live-action footage, Use a depth map to create a realistic depth-of-field effect, Experiment with different lens blur algorithms and settings, Use masks to selectively apply the depth-of-field effect to specific areas of the footage, Use the ZDefocus node to achieve realistic bokeh effects *Exercise 2:* Lens Distortion Correction, Use Nuke to correct lens distortion in a live-action footage, Use the LensDistortion node to create a distortion model based on lens calibration data, Adjust the distortion model to match the actual distortion in the footage, Use the LensDistortion node to apply the distortion correction to the footage, Use masks to limit the distortion correction to specific areas of the footage *Exercise 3:* Chromatic Aberration Simulation, Use Nuke to simulate chromatic aberration for a live-action footage, Use the LensDistortion node to create a distortion model that includes chromatic aberration, Adjust the chromatic aberration settings to achieve the desired effect, Use masks to selectively apply the chromatic aberration effect to specific areas of the footage, Use compositing techniques to blend the chromatic aberration effect with the original footage *Exercise 4:* Image Stabilization, Use Nuke to stabilize shaky footage, Use the Tracker node to track a feature in the footage, Apply the tracking data to a Transform node to stabilize the footage, Use the Crop node to remove any black borders introduced by the stabilization, Use a roto node to refine the stabilization around moving objects *Exercise 5:* Image Enhancement, Use Photoshop to enhance the detail and texture of a still image, Use the High Pass filter to extract the details from the image, Use the Overlay blending mode to apply the detail to the original image, Use the Clone Stamp tool to remove unwanted elements from the image, Use the Curves adjustment to enhance the contrast and color of the image, **Digital Images and Video (Any One Exercise from this Unit)** *Exercise 1:* Color Grading, Use DaVinci Resolve to perform a color grade on a live-action footage, Use the Color page to adjust the brightness, contrast, and color balance of the footage, Use the Curves tool to adjust the tonal range of the image, Use the Power Windows tool to isolate specific areas of the image for grading, Use the Keyframe tool to animate changes over time *Exercise 2*: Deinterlacing and Frame Rate Conversion, Use Adobe After Effects to deinterlace interlaced footage, Use the Field Options settings to separate the fields of the footage, Use the Frame Blending settings to interpolate new frames, Use the Pixel Motion settings to improve the quality of the frame blending, Use the Timewarp effect to adjust the frame rate of the footage *Exercise 3:* Keying and Compositing, Use Nuke to composite a live-action footage over a background plate, Use the Keyer node to extract a clean matte of the actor or object, Use the Merge node to combine the matte with the background plate, Use the Transform node to position and scale the footage, Use the Color Correction tools to match the color and lighting of the footage to the background plate *Exercise 4:* Digital Cinema Workflow, Use ACES Color Management to manage the color space of a live-action footage, Use the ACES workflow to convert the footage to a standardized color space, Use the Color page in DaVinci Resolve to perform a color grade on the footage, Use the ACES Output Transform to convert the graded footage back to the original color space, Use the Render settings to export the graded footage in the desired format *Exercise 5:* Digital Camera Workflow, Use Adobe Premiere Pro to import and edit footage shot with a digital camera, Use the Lumetri Color tools to adjust the color and lighting of the footage, Use the Warp Stabilizer to stabilize shaky footage, Use the Essential Graphics panel to add titles and graphics to the footage, Use the Export settings to export the edited footage in the desired format.

Key Textbooks

1. Lanier, L. (2017). Advanced Visual Effects Compositing: Techniques for Working with Problematic Footage. Taylor & Francis.
2. Lanier, L. (2018). Digital Compositing with Blackmagic Fusion: Essential Techniques. Routledge.
3. Okun, J. A., & Zwerman, S. (2020). The VES Handbook of Visual Effects: Industry Standard VFX Practices and Procedures. Taylor & Francis Group.
4. Wright, S. (2013). Compositing Visual Effects: Essentials for the Aspiring Artist. Taylor & Francis.

References

1. Birn, J. (2013). Digital Lighting and Rendering. New Riders.
2. Brinkmann, R. (2008). The Art and Science of Digital Compositing: Techniques for Visual Effects, Animation and Motion Graphics. Morgan Kaufmann.
3. Dinur, E. (2017). The Filmmaker's Guide to Visual Effects: The Art and Techniques of VFX for Directors, Producers, Editors and Cinematographers. Taylor & Francis.
4. Dinur, E. (2021). The Complete Guide to Photorealism for Visual Effects, Visualization and Games. Routledge.
5. Foster, J. (2010). The Green Screen Handbook: Real-World Production Techniques. John Wiley & Sons.

Web Resources

1. Journal of Visual Effects: https://www.jove.com/journal/visual-effects
2. International Journal of Computer Graphics & Animation: https://www.omicsonline.org/computer-graphics-animation.php
3. VFX Voice: http://vfxvoice.com/
4. Creative Cow: https://www.creativecow.net/
5. 3D Artist: https://3dartistonline.com/
6. Visual Effects Society: https://www.visualeffectssociety.com/
7. Motion Graphic Design Association: https://motiongraphicsassociation.org/
8. Society of Motion Picture and Television Engineers: https://www.smpte.org/
9. Women in Animation: https://womeninanimation.org/
10. National Association of Broadcasters: https://www.nab.org/

Course Outcomes:

1. Apply a range of keying techniques and refine mattes to create clean and accurate composites.
2. Create realistic composites by integrating CGI elements with live-action footage and performing color correction and camera effects.
3. Use technical terminology related to compositing and VFX to effectively communicate with team members and clients.
4. Utilize advanced compositing techniques, such as stereoscopic compositing and deep compositing, to create complex and visually stunning composites.
5. Develop a professional portfolio and demo reel showcasing their compositing and VFX skills, while adhering to ethical and responsible practices within the industry.

Mapping

Program Specific Outcomes	CO 1	CO 2	CO 3	CO 4	CO 5
PSO 1	3	3	3	2	1
PSO 2	3	3	3	2	3
PSO 3	3	3	3	3	1
PSO 4	2	3	3	3	1
PSO 5	2	2	1	2	3