

SCHEME & SYLLABUS

Programme: M. Sc. Animation and Multimedia

Post-Graduate (PG) Programme as per NEP

National Higher Education Qualifications Framework (NHEQF) Level = 6.5

Programme Code:

(Academic Session 2025-26 onwards)



Department of Computer Science and Applications
University Institute of Computer Applications
& Information Sciences
Sant Baba Bhag Singh University
2025

Sant Baba Bhag Singh University

ABOUT THE DEPARTMENT

The Department of Computer Science and Applications strives for excellence in creating, applying and imparting knowledge in computer science through comprehensive educational programs, research & dissemination through scholarly publications and service to professional societies, the community, the state and the nation. The department imparts quality education ranging from the expertise in traditional software development to the modern computing technologies.

SALIENT FEATURES OF THE DEPARTMENT

Research oriented curriculum designed to enable students to acquire all the skills needed to collect and analyze the data.

The Institute draws upon its strength of highly qualified well-trained faculty, state of art infrastructure and innovative teaching methodology.

Elective courses that bridge the gap between industry requirements and academia.

Hands-on experience in most of the courses of computer applications so as to impart practical knowledge in the relevant field.

To keep the students at par with the emerging technologies prevailing in the market, the institute is furnished with various specialized research labs and software labs.

M.Sc. AM (M.Sc. Animation and Multimedia)

The program is designed to build programming skills for developing efficient and resource optimized software/website/cloud/mobile applications.

VISION

To prepare well groomed & technically proficient computer professionals to meet up with the demands of challenging industry and societal needs

MISSION

- To establish industry-academia interaction to facilitate the students to work proficiently in the industrial environment.
- To empower the youth in rural communities with computer education.
- Adopt the best pedagogical methods and provide the best facility, infrastructure and an ambience conducive to imbibe technical knowledge and practicing ethics.

ELIGIBILITY CRITERIA

Graduation in any stream or equivalent with 50% (45 % for SC/ST/OBC) marks in aggregate from any recognized board or university

Semester System

The M.Sc. Animation & Multimedia academic program in the University shall be based on Semester System, namely, even (Jan to June) and Odd (July to Dec) Semesters, in an academic year. The courses whether offered in regular semester shall be evaluated as per the policy and procedure laid down

Semester Duration

A semester will be of approximately 18-20 weeks duration. Of these, 90 days will be available for actual instructions including Mid Semester Exam.

Curriculum

The three years curriculum has been divided into six semesters and shall include lectures/ tutorials/ lab work/ field work/ outreach activity/ project work/ viva/ seminars/ presentations/ assignments etc. or a combination of some of these. The curriculum will also include other curricular, co-curricular and extra-curricular activities as may be prescribed by the university from time to time.

DURATION

1 Year/ 2 Years

CAREER PATHWAYS

The program is designed to meet the growing requirement of qualified professionals not only in the IT industry but also in other industries. M.Sc. Animation and Multimedia post graduates are hired both by Government and Private firms. They can take-up a career as

a Programmer, Software - Tester, Analyst, Engineer, Administrator and more. The growing number of educational institutes also offers a large number of opportunities for computer professionals to work as lecturers.

- **Corporate Jobs**

Multiple options or sub-pathways designed according to the competency of the students to prepare them for specific sectors/job profiles as per needs of industry.

- **Government Jobs**

Courses to prepare students for Civil services, Public Sector Undertakings and jobs in the Government sector.

- **Higher Studies**

This pathway prepares students for competitive examinations such as GATE, UGC-NET, CAT, MAT etc. and helps in their progression in higher studies / research.

- **Entrepreneurship**

To set up new ventures

PROGRAMME EDUCATIONAL OBJECTIVE (PEO)

PEO 1: Professional Excellence

Graduates will establish successful careers in the fields of animation, multimedia, visual effects, game design, and related domains by applying advanced artistic, technical, and storytelling skills.

PEO 2: Creative Innovation and Research

Graduates will demonstrate the ability to engage in lifelong learning, research, and innovation in animation and multimedia technologies, contributing original content and solutions to the media and entertainment industries.

PEO 3: Multidisciplinary Competence

Graduates will integrate knowledge from multiple disciplines including art, design, computer graphics, sound, and interactivity to create immersive and effective multimedia experiences.

PEO 4: Communication and Leadership

Graduates will exhibit effective communication, teamwork, and leadership abilities, enabling them to work productively in collaborative, interdisciplinary environments.

PEO 5: Ethical and Social Responsibility

Graduates will act as responsible professionals who uphold ethical values, appreciate cultural diversity, and contribute positively to society through their creative works.

PROGRAMME OUTCOMES (PO)

PO-1. Enhance knowledge of Animation and Multimedia Industry.

PO-2. Ability to work in the various fields of Animation and Multimedia.

PO-3. Ability to work in specific field like CG, Graphics and VFX as per their Specialization

PROGRAMME SPECIFIC OUTCOMES (PSO)

PSO-1. Understanding of photography and cinematography.

PSO-2. Work as of 2D and 3D Animation artist.

PSO-3. Potential to work on video editing and motion graphics.

PSO-4. Ability to work in 3D gaming Industry.

PSO-5. Potential to work as Composer and VFX artist in Industry.

INTRODUCTION

The CBCS provides an opportunity for the students to choose courses from the prescribed courses comprising core, elective/minor or skill-based courses. The courses can be evaluated following the grading system, which is considered to be better than the conventional marks system. The basic idea is to look into the needs of the students so as to keep up-to-date with development of higher education in India and abroad. CBCS aims to redefine the curriculum keeping pace with the liberalization and globalization in education. CBCS allows students an easy mode of mobility to various educational institutions spread across the world along with the facility of transfer of credits earned by students.

Curriculum Structure: M.Sc. Animation and Multimedia degree programme will have a curriculum with Syllabi consisting of following type of courses:

- A. Core Courses:** A course, which should be studied compulsorily by a candidate as a necessary requirement is termed as a core course.
- **Major:** Compulsory Course

- **Minor:** Use their minor course to focus or specialized certain area
- **Skill/ Vocational:** Skill Enhancement
- **Interdisciplinary Course:** Introduce for another course

B. Elective Course: Generally, a course which can be chosen from a pool of courses and which may be very specific or specialized or advanced or supportive to the discipline/ subject of study or which provides an extended scope or which enables an exposure to some other discipline/subject/domain or nurtures the candidate's proficiency/skill is called an Elective Course.

- **Discipline Specific Elective (DSE) Course:** Elective courses may be offered by the main discipline/subject of study referred to as Discipline Specific Elective. The University/Institute may also offer discipline related Elective courses of interdisciplinary nature (to be offered by main discipline/subject of study).
- **Project:** An elective course designed to acquire special/advanced knowledge, such as supplement study/support study to a project work, and a candidate studies such a course on his own with an advisory support by a teacher/faculty member is called project.

C. Major Specific Elective courses (MSE): Elective courses offered under the major: Management/ Economics/History/Sociology/Political science/Philosophy/Public administration shall be referred to as major specific electives.

D. Open Elective Courses (OE): Open elective courses offered under the related stream/disciplines (Languages/Performing and visual arts) and those under the unrelated streams/disciplines to seek exposure beyond the main discipline of choice shall be referred to as open elective courses.

COURSE SCHEME

M.Sc. (Animation & Multimedia)

Semester 1

I. Theory Subjects

S No	Course Type	Sub Code	Subject Name	Contact Hours (L:T:P)	Credits (L:T:P)	Total Contact Hours	Total Credit Hours
1.	Major Course	AMT501	Fundamentals of Animation & Principles of Design	4:0:0	4:0:0	4	4
2.	Minor Course	AMT503	Digital Art & Visual Communication	3:0:0	3:0:0	3	3
3.	VAC	VAC007	Value Added Course (E-Marketing)	3:0:0	3:0:0	3	3

II. Practical Subjects

S No	Course Type	Sub Code	Subject Name	Contact Hours (L:T:P)	Credits (L:T:P)	Total Contact Hours	Total Credit Hours
1.	Major Course	AMT505	2D Digital Art & Concept Sketching	0:0:2	0:0:2	4	2
2.	Major Course	AMT507	Raster and Vector Graphics Design	0:0:2	0:0:2	4	2
3.	Major Course	AMT509	Digital Photography & Image Editing	0:0:2	0:0:2	4	2
4.	Major Course	AMT511	Introduction to 3D Modeling	0:0:2	0:0:2	4	2
5.	Major Course	AMT513	Motion Graphics using After Effects	0:0:2	0:0:2	4	2

Total Credits: 20
Total Contact Hours: 30

UNIVERSITY
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COURSE SCHEME

M.Sc. (Animation & Multimedia)

Semester 2

I. Theory Subjects

S No	Course Type	Sub Code	Subject Name	Contact Hours (L:T:P)	Credits (L:T:P)	Total Contact Hours	Total Credit Hours
1.	Major Course	AMT502	Scriptwriting, Storyboarding & Pre-Production	4:0:0	4:0:0	4	4
2.	Minor Course	AMT504	Aesthetics & Film Language	4:0:0	4:0:0	4	4
3.	MDC		Multi-Disciplinary Course	3:0:0	3:0:0	3	3

II. Practical Subjects

S No	Course Type	Sub Code	Subject Name	Contact Hours (L:T:P)	Credits (L:T:P)	Total Contact Hours	Total Credit Hours
1.	Major Course	AMT506	3D Modeling & Texturing	0:0:2	0:0:2	4	2
2.	Major Course	AMT508	Compositing & Green Screen Techniques	0:0:2	0:0:2	4	2
3.	Major Course	AMT510	Advanced Photography Techniques	0:0:2	0:0:2	4	2
4.	Major Course	AMT512	Advanced Graphic Design (Posters & Ads)	0:0:2	0:0:2	4	2
5.	Major Course	AMT514	Lighting & Rendering Techniques	0:0:2	0:0:2	4	2

Total Credits: 21
Total Contact Hours: 31

COURSE SCHEME

M.Sc. (Animation& Multimedia)

Semester 3

I. Theory Subjects

S No	Course Type	Sub Code	Subject Name	Contact Hours (L:T:P)	Credits (L:T:P)	Total Contact Hours	Total Credit Hours
1.	Major Course	AMT601	VFX for Film	4:0:0	4:0:0	4	4
2.	Major Course	AMT603	Digital Compositing for Film - 1	3:0:0	3:0:0	3	3
3.	MDC		Multi-Disciplinary Course	3:0:0	3:0:0	3	3
4	VAC		Value Added Course	3:0:0	3:0:0	3	3

II. Practical Subjects

S No	Course Type	Sub Code	Subject Name	Contact Hours (L:T:P)	Credits (L:T:P)	Total Contact Hours	Total Credit Hours
1.	Major Course	AMT605	Short Film Production & Photo Portfolio	0:0:2	0:0:2	4	2
2.	Major Course	AMT607	Environment Creation & 3d Camera in After Effects	0:0:2	0:0:2	4	2
3.	Major Course	AMT609	Advanced Branding & Packaging Design	0:0:2	0:0:2	4	2
4.	Major Course	AMT611	Traditional Animation	0:0:2	0:0:2	4	2
5.	Major Course	AMT613	Advanced 3D Character Animation	0:0:2	0:0:2	4	2

Total Credits: 23
Total Contact Hours: 33

COURSE SCHEME

M.Sc. (Animation & Multimedia)

Semester 4

I. Theory Subjects

S No	Course Type	Sub Code	Subject Name	Contact Hours (L:T:P)	Credits (L:T:P)	Total Contact Hours	Total Credit Hours
1.	Major Course	AMT602	Industrial Training/Major Project with documentation	-	-	-	20

Total Credits: 20

I. Industrial Training:

- Industrial training is a core course, to be done typically during 4th semester. A student should undergo industrial training for 24 weeks in 4th semester. Training of 4th semester shall be graded and is essential part of the degree requirement.
- It is the responsibility of the Training & Placement Cell to arrange training for all the students. In the beginning of each academic session, Training & Placement Cell will prepare a program wise list of potential training organizations. These organizations will be approached by the Training & Placement Cell with a request to provide training seats. Consolidated lists of training offers will be made available to the eligible students in the beginning of even semester of the session. If a student is interested in making his/her own arrangement for the training seat, he/she will need to have the training organization approved by routing the application to the Dean of Faculty of Animation & Multimedia for approval.
- The students will be required to get their training activity and results reviewed by organization in which they have attended the training. Each Faculty shall nominate training coordinator from amongst the faculty members. The faculty will scrutinize the training report and the certificate issued by the corporate and will award a marks, which must be sent to the controller of examination office. The industrial training, submission of training report and obtaining pass grade is mandatory requirement for award of M.Sc. Animation & Multimedia degree.

II. Major Project

- If the student will undertake major project during their final year at the University, then it shall be a long investigative project that culminate in a final product, presentation, or performance. A major project shall be a multifaceted assignment that serves as a culminating academic and intellectual experience for students. In projects under the guidance of a faculty member, a final year student is required to do some innovative work with application of knowledge earned while undergoing various courses and labs in the earlier years. The student is expected to do literature survey and carry out development and/or experimentation. Through the project work the student must exhibit both the analytical and practical skills. The student will have to do his/her project under the guidance of the faculty member from the same department unless specifically permitted by the Head of the Department for alternate arrangements.

Summary of Scheme

Semester	L	T	P	Contact Hours Per Week	Credits
1	10	0	10	30	20
2	11	0	10	31	21
3	13	0	10	33	23
4	0	0	20	0	20
Total	34	0	50	94	84





Course Code	AMT501
Course Title	Fundamentals of Animation & Principles of Design
Type of Course	Major Course
L T P	4:0:0
Credits	4
Course pre - requisite	Knowledge of drawing, visual arts, and a creative interest in animation and storytelling.
Course Objective (CO)	- To understand the history and types of animation. - To learn the 12 principles that help make good animation. - To understand the basic rules of design, like color, shape, and balance. - To explore how animation and design work together to tell stories visually.
Course Outcomes (CO)	- Explain how animation began and how it grew over time. - Identify and describe the 12 principles of animation. - Understand basic design elements and how to use them. - Use design ideas to plan and think about animation scenes. - Analyse animated scenes by applying animation and design principles.

Syllabus

UNIT-I

Introduction to Animation

- What is animation?
- Early animation techniques (Flipbook, Zoetrope)
- History of animation – from traditional to digital
- Famous animators and studios (Walt Disney, Pixar, Ghibli)
- Types of animation: 2D, 3D, Stop-motion, Cut-out

UNIT-II

The 12 Principles of Animation

- What are animation principles and why they matter
- The 12 principles of animation: Squash & Stretch, Anticipation, Staging, Straight Ahead & Pose-to-Pose, Follow Through & Overlapping Action, Slow In & Slow Out, Arcs, Secondary Action, Timing, Exaggeration, Solid Drawing, Appeal
- Examples from cartoons and films

UNIT-III

Basics of Design for Animation

- Elements of Design: Line, Shape, Color, Texture, Space, Form
- Principles of Design: Balance, Contrast, Emphasis, Unity, Movement, Rhythm
- Color theory: warm/cool colors, complementary colors, moods
- Shape language: How shapes show character personality

UNIT-IV

Combining Animation and Design

- Importance of design in animation
- Composition in scenes: rule of thirds, focal point, layout
- Character design basics using shape and color
- Storyboarding: Planning animation with visuals
- Visual storytelling with design and animation

RECOMMENDED BOOKS				
S.No.	Book Title	Author(s)	Publisher	Year
1.	The Animator's Survival Kit	Richard Williams	Faber & Faber	2001
2.	Cartoon Animation	Preston Blair	Walter Foster Publishing	1994
3.	Design Basics	David A. Lauer & Stephen Pentak	Cengage Learning (9th Edition)	2015
4.	Color: A Workshop for Artists and Designers	David Hornung	Laurence King Publishing (2nd Edition)	2012
5.	The Illusion of Life: Disney Animation	Frank Thomas & Ollie Johnston	Disney Editions (Revised Edition)	1995



Course Code	AMT503
Course Title	Digital Art & Visual Communication
Type of Course	Major Course
L T P	4:0:0
Credits	4
Course pre - requisite	Understanding of drawing, computer usage, and an interest in visual storytelling and design.
Course Objective (CO)	• Introduce digital art tools and techniques • Teach how to create effective visual messages • Apply design principles to digital compositions • Encourage storytelling through visual communication
Course Outcomes (CO)	• Create original digital artworks using design software. • Apply visual communication techniques in creative projects. • Use design principles to make strong visual layouts. • Apply color theory effectively in digital designs. • Develop and present visual stories and digital illustrations.

Syllabus

UNIT-I

Introduction to Digital Art

- What is digital art? Traditional vs. digital
- Tools used: Graphic tablets, Photoshop, Illustrator, Krita, etc.
- Basics of digital tools: Layers, brushes, colors, file formats
- Mood boards, references, and visual inspiration

UNIT-II

Elements of Visual Communication

- Understanding visual messages: text, images, icons
- Basics of layout and visual hierarchy
- Typography in digital design
- Branding and communication design basics

UNIT-III

Principles of Design in Digital Art

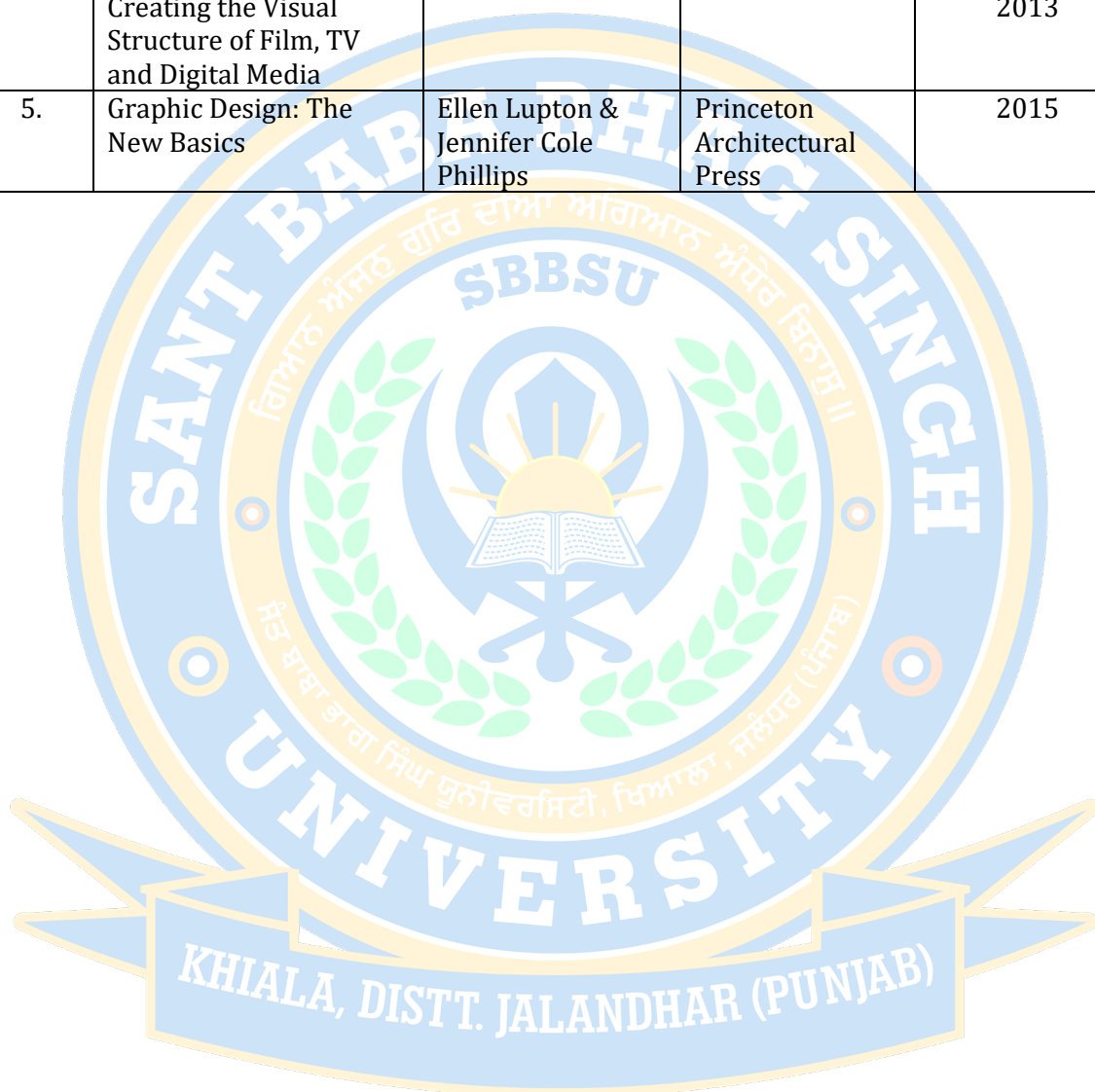
- Design principles: balance, contrast, unity, rhythm, emphasis
- Composition and layout in digital artworks
- Color theory in digital media: mood, harmony, gradients
- Creating visual impact using design rules

UNIT-IV

Storytelling Through Digital Visuals

- Visual storytelling and narrative design
- Creating comic strips, story panels, or infographics
- Planning scenes: flow, emotion, and clarity
- Using shape, color, and composition to tell a story

RECOMMENDED BOOKS				
S. No.	Book Title	Author(s)	Publisher	Year
1.	Digital Painting Techniques: Practical Techniques of Digital Art Masters	3dtotal Publishing (Editor/Publisher)	3dtotal Publishing	1st Edition, 2013
2.	Understanding Comics: The Invisible Art	Scott McCloud	HarperPerennial	1993
3.	Design Basics	David A. Lauer & Stephen Pentak	Cengage Learning	11th Edition, 2018
4.	The Visual Story: Creating the Visual Structure of Film, TV and Digital Media	Bruce Block	Focal Press	3rd Edition, 2013
5.	Graphic Design: The New Basics	Ellen Lupton & Jennifer Cole Phillips	Princeton Architectural Press	2015



Course Code	AMT505
Course Title	2D Digital Art & Concept Sketching
Type of Course	Major Course
L T P	0:0:4
Credits	2
Course pre-requisite	Knowledge of drawing and familiarity with using a computer or digital device for creative work.
Course Objectives	- To build confidence in drawing directly on digital platforms - To explore different types of sketching: characters, backgrounds, and props - To develop concepts that can be used in animation and storytelling - To prepare students for real industry projects with clean, presentable work
Course Outcomes (CO)	- Create digital sketches using tablets and drawing software. - Design original characters with expressions and poses. - Draw environment scenes using perspective and lighting. - Develop visual concepts for animation and storytelling. - Build and present a professional concept art portfolio.

Syllabus

Getting Started with Digital Drawing

- Introduction to graphic tablets and digital drawing software (Adobe Photoshop)
- Understanding layers, brushes, and file formats
- Practice with basic shapes, lines, textures, and strokes
- Sketching exercises: objects, gestures, poses

Mini Project: Create a digital sketchbook with 10 simple objects and 5 gesture poses.

Character Sketching & Design

- Basics of character design: shape, silhouette, expression
- Drawing facial features, poses, and costumes
- Developing unique characters based on stories or themes
- Full character turnaround: front, side, and back view

Mini Project: Design an original character and create a turnaround sheet with expressions.

Environment & Background Design

- Sketching nature, cityscapes, and indoor scenes
- Using perspective (1-point and 2-point) in digital layout
- Adding light, shadow, and mood through color
- Visual storytelling using background design

Mini Project: Draw a themed environment scene with props and mood lighting.

Concept Art Portfolio Project

- Bringing everything together into a concept sketch package
- Creating a mini visual story: characters, backgrounds, objects
- Preparing files for portfolio: clean layers, labels, and export
- Final presentation in PDF or slideshow format

Final Project: Create a concept art portfolio for a short animation idea.

Course Code	AMT507
Course Title	Raster and Vector Graphics Design
Type of Course	Major Course
L T P	0:0:4
Credits	2
Course pre-requisite	Computer skills and a creative interest in digital drawing and design.
Course Objectives	• To develop skills in creating raster and vector-based artworks • To understand the difference and use-cases of both graphic types • To apply visual design principles while creating digital art • To prepare production-ready graphics for animation and multimedia projects
Course Outcomes (CO)	• Create basic digital artworks using raster and vector tools. • Use Photoshop for painting and photo editing. • Design clean vector graphics like logos and icons. • Understand and apply design principles in digital work. • Export graphics in proper formats for animation and multimedia use.

Syllabus

Introduction to Raster & Vector Graphics

- Difference between raster and vector graphics
- Overview of tools: Adobe Photoshop, Adobe Illustrator.
- Understanding resolution, DPI, file formats (JPEG, PNG, SVG, PSD, AI)
- Setting up a digital canvas for raster/vector art
- Drawing basic shapes, lines, and color fills

Mini Project: Create a simple digital postcard using both raster (background) and vector (text/icons).

Raster Graphics with Adobe Photoshop

- Brush tools, layers, blending modes, selection tools
- Photo editing, and retouching basics
- Use of filters, layer masks, and adjustments
- Composition for posters, flyers, and character painting

Mini Project: Design a digital poster and Image Retouching using raster techniques.

Graphics with Adobe Illustrator

- Pen tool, shapes, paths, strokes, and fills
- Creating clean and scalable artwork: logos, icons, patterns
- Typography and vector text effects
- Working with layers, symbols, and color palettes

Final Project: Design a brand identity pack: Print Assets (Business Cards, Letterhead), Social Media Templates.

Course Code	AMT509
Course Title	Digital Photography & Image Editing
Type of Course	Major Course
L T P	0:0:4
Credits	2
Course pre-requisite	Knowledge of computers and a keen interest in photography and visual storytelling.
Course Objectives	• To understand the fundamental settings and functions of a digital camera. • To apply creative composition and lighting techniques in photography. • To capture high-quality images suitable for animation and multimedia use. • To learn basic and advanced photo editing using Lightroom and Photoshop. • To develop a mini portfolio showcasing edited photographs and textures.
Course Outcomes (CO)	• Capture well-composed and properly exposed digital photographs. • Use camera settings and lighting techniques creatively. • Edit and enhance images using professional software tools. • Prepare photo assets for use in animation and multimedia projects. • Build a mini portfolio with original and edited photographic works.

Syllabus

Camera Confidence

- How a camera sees: ISO, aperture, shutter speed
- Lenses and focal length stories
- Rule of thirds, leading lines, symmetry

Mini Project: Capture 20 “storytelling” shots around campus using three different exposure settings.

Light & Field Work

- Natural light vs. flash
- Golden hour, blue hour, night trails
- Simple studio: one-light portraits, product shots

Mini Project: Team up for an outdoor portrait session; hand in best 5 RAW files plus contact sheet.

Image Editing Magic

- Lightroom basics: catalog, cropping, colour balance
- Photoshop layers, masks, non-destructive retouching
- Removing objects, sky replacement, colour grading looks

Mini Project: Turn a dull RAW into a “wow” poster—submit a PSD with organised layers.

Production-Ready Portfolio

- Turning photos into texture maps & matte-paint assets
- File formats & naming for animation comps
- Laying out your mini-portfolio PDF

Final Project: 3 characters’ portrait, 2 Environmental Photography, 3 textures, before/after edits.

Course Code	AMT511
Course Title	Introduction to 3D Modeling
Type of Course	Major Course
L T P	0:0:4
Credits	2
Course pre-requisite	computer skills and a creative interest in 3D art and animation.
Course Objectives	• To introduce students to 3D modeling software and workspace. • To teach basic tools and techniques for creating 3D objects. • To develop skills in modeling props, characters, and environments. • To understand clean topology, edge flow, and model organization. • To prepare students for presenting and exporting 3D models professionally.
Course Outcomes (CO)	• Create basic 3D models using industry-standard software. • Use polygon modeling tools to build clean, structured models. • Design simple characters, props, and environments in 3D. • Apply proper edge flow and topology for animation-friendly models. • Render and present 3D assets in a professional format.

Syllabus

Getting Started with 3D Modeling

- Introduction to 3D space: viewports, navigation, interface
- Difference between polygon, NURBS, and sculpting
- Basic objects: cube, sphere, cylinder – editing shapes
- Tools: move, scale, rotate, extrude, insert edge loops

Mini Project: Create a digital 3D table and chair using basic shapes.

Polygon Modeling Techniques

- Understanding edge flow, quads vs triangles
- Hard surface modeling: tools for clean geometry
- Modeling a low-poly prop (e.g., sword, treasure chest)
- Grouping, naming, and using modifiers (mirror, bevel)

Mini Project: Model a detailed prop like a robot hand or fantasy weapon.

Organic & Character Modeling

- Basic character structure and proportions
- Modeling a simple character base mesh (T-pose)
- Face and body modeling basics
- Blocking and refining organic shapes

Mini Project: Create a stylized character or creature base mesh.

Scene Building & Model Presentation

- Arranging models in a simple 3D environment
- Adding basic textures and materials (no advanced texturing)
- Setting up lighting and camera for turntable renders
- Exporting files and organizing a model portfolio

Final Project: Create a 3D still scene (e.g., mini room or diorama) with props, character, and render output.

Course Code	AMT513
Course Title	Motion Graphics using After Effects
Type of Course	Major Course
L T P	0:0:4
Credits	2
Course pre-requisite	knowledge of graphic design and interest in animation or video editing.
Course Objectives	- To introduce students to the tools and workspace of Adobe After Effects. - To develop skills in animating text, shapes, and images. - To explore motion design techniques for titles, logos, and infographics. - To teach timing, easing, and keyframe-based animation. - To guide students in creating and exporting professional motion graphics videos.
Course Outcomes (CO)	- Create animated text, logos, and graphic elements using After Effects. - Apply keyframing, easing, and motion paths to bring designs to life. - Design smooth transitions and infographic animations. - Sync visuals with audio for dynamic video output. - Develop and present a short motion graphics showreel.

Syllabus

Getting Started with Motion Graphics

- Introduction to After Effects interface and timeline
- Working with compositions, layers, and assets
- Keyframing basics and transform properties
- Animating shapes, text, and images
- Exporting animations in MP4, GIF, and MOV formats

Mini Project: Animate your name/title using shapes and text (15-second animation).

Typography & Logo Animation

- Kinetic typography and animated text effects
- Creating bounce, fade, slide, and typewriter animations
- Logo reveal techniques (masking, alpha matte, stroke paths)
- Using animation presets and custom expressions for automation

Mini Project: Animate a logo reveal with sound.

Transitions, Effects & Infographics

- Motion transitions between scenes and text
- Using effects: glow, blur, noise, displacement, etc.
- Shape layer animation, graphs, bars.

Mini Project: Design a 30-second infographic animation.

Final Project – Motion Design Showreel

- Combining text, shape, sound, and movement
- Working with audio syncing and timing
- Final output rendering and portfolio presentation

Final Project: Create a 45–60 second motion graphics video on a topic of your choice (promo, explainer, intro).



Course Code	AMT502
Course Title	Scriptwriting, Storyboarding & Pre-Production
Type of Course	Major Course
L T P	4:0:0
Credits	4
Coursepre-requisite	Understanding of visual storytelling or media production fundamentals.
Course Objective (CO)	- To introduce students to the fundamentals of storytelling and screenplay writing. - To understand visual storytelling through storyboarding. - To develop pre-production planning and project development skills. - To learn formatting and structural tools used in the industry. - To creatively visualize and communicate ideas before production begins.
Course Outcomes (CO)	- Create compelling scripts for animation and multimedia projects. - Translate written scripts into visual storyboards. - Apply pre-production planning techniques for creative projects. - Understand industry-standard formats for script and storyboard. - Collaborate creatively in concept development and pitch presentations.

Syllabus

UNIT-I

Introduction to Scriptwriting

- Fundamentals of storytelling
- Types of scripts: Feature, Short, Animation, Documentary
- 3-Act structure and Hero's Journey
- Character development and dialogue writing

UNIT-II

Visual Language & Storyboarding

- Basics of visual storytelling
- Cinematic language: shots, angles, and composition
- Elements of a storyboard: frames, action, dialogue, camera movement

UNIT-III

Pre-Production Pipeline & Planning

- Understanding the animation pipeline (Pre to Post)
- Role of Pre-production in project success
- Character design sheets, mood boards, animatics
- Budgeting and scheduling basics

UNIT-IV

Pitching and Presentation Techniques

- Pitch bible creation: concept, characters, environments, and tone
- Presentation formats for studios or clients
- Case studies: Successful animated film pitches

RECOMMENDED BOOKS				
S.No.	Book Title	Author(s)	Publisher	Year
1.	The Art of Storyboard	John Hart	Focal Press	1999
2	Save the Cat! The Last Book on Screenwriting You'll Ever Need	Blake Snyder	Michael Wiese Productions	2005
3	Directing the Story: Professional Storytelling and Storyboarding Techniques	Francis Glebas	Focal Press	2008
4	Story: Substance, Structure, Style and the Principles of Screenwriting	Robert McKee	HarperCollins	1997
5	The Visual Story: Creating the Visual Structure of Film, TV and Digital Media	Bruce Block	Routledge (Focal Press Imprint)	2001



Course Code	AMT504
Course Title	Aesthetics & Film Language
Type of Course	Major Course
L T P	4:0:0
Credits	4
Coursepre-requisite	Understanding of visual art or film.
Course Objective (CO)	• Understand the fundamentals of aesthetics and film theory. • Learn the visual grammar of cinema and animation. • Explore how emotions are created through visuals and sound. • Analyse famous scenes and decode their meaning. • Apply cinematic principles to storytelling in animation and multimedia.
Course Outcomes (CO)	• Identify and use elements of film language (shots, color, sound, etc.). • Analyze and interpret the visual and narrative style of films. • Understand cultural and historical contexts of aesthetics. • Apply aesthetic decisions in their own animation work. • Present critiques and written analysis using proper film vocabulary.

Syllabus

UNIT-I

Introduction to Aesthetics

- What is Aesthetics?
- Classical vs. Modern art aesthetics
- Principles of design and beauty in motion
- The emotional power of visuals
- Role of aesthetics in animation

UNIT-II

Film Language & Cinematic Tools

- Visual grammar: shots, angles, movement
- Composition and framing
- Mise-en-scène: set, lighting, costume
- Color theory and mood
- Symbolism and metaphors in visual storytelling

UNIT-III

Editing, Sound & Visual Rhythm

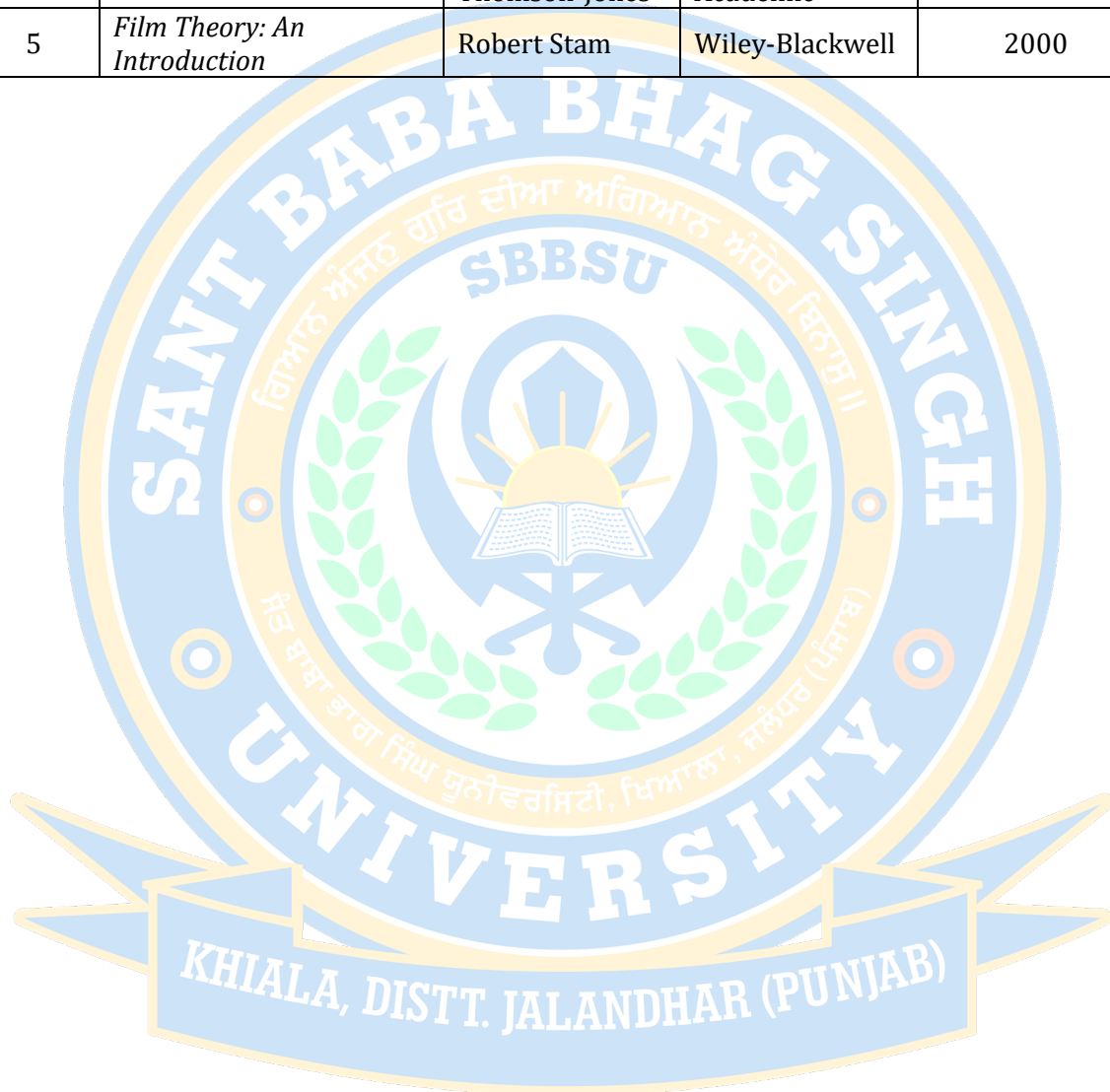
- Continuity and montage editing
- Types of cuts and transitions
- Use of sound: diegetic and non-diegetic
- Rhythm, timing, and pacing in animation
- Audio-visual harmony in storytelling

UNIT-IV

Film Analysis & Cultural Perspectives

- Analysis of global film scenes (Hollywood, Anime, Indian Cinema, European art films)
- Representation, ideology, and culture
- Film genres and their visual identity
- Animation vs. live-action aesthetics
- Visual storytelling in multimedia platforms

RECOMMENDED BOOKS				
S.No.	Title	Author(s)	Publisher	Year
1	<i>Film Art: An Introduction</i>	David Bordwell & Kristin Thompson	McGraw-Hill Education	2024
2	<i>The Visual Story: Creating the Visual Structure of Film, TV and Digital Media</i>	Bruce Block	Routledge (Focal Press)	2020
3	<i>Understanding Movies</i>	Louis Giannetti	Pearson	2017
4	<i>Aesthetics and Film</i>	Katherine Thomson-Jones	Bloomsbury Academic	2008
5	<i>Film Theory: An Introduction</i>	Robert Stam	Wiley-Blackwell	2000



Course Code	AMT506
Course Title	3D Modeling & Texturing
Type of Course	Major Course
L T P	0:0:4
Credits	2
Course pre-requisite	knowledge of drawing or digital design fundamentals.
Course Objectives	• Understand the principles and workflow of 3D modeling. • Learn to model objects, characters, and environments using 3D software. • Explore the use of UV mapping and texturing techniques. • Develop a strong visual sense of form, proportion, and detailing. • Create professional-quality assets ready for animation or games.
Course Outcomes (CO)	• Create 3D models of props, characters, and environments. • Apply accurate UV unwrapping and layout techniques. • Use textures to enhance realism and stylization. • Demonstrate creative and technical skills in asset creation. • Prepare a professional 3D asset portfolio for production pipelines.

Syllabus

Introduction to 3D Modeling

- Interface of 3D software (e.g., Autodesk Maya)
- Basic shapes and transformations
- Modeling methods: box modeling, edge extrusion, spline modeling
- Hard surface modeling: props, furniture, tools

Mini Project: Model a basic object (e.g., table, cup, toy) using primitives and modifiers.

Organic & Character Modeling

- Introduction to anatomy for 3D modeling
- Face and body proportions
- Sculpting basics and topology flow
- Low-poly vs high-poly modeling

Mini Project: Model a simple cartoon or stylized character.

UV Mapping & Unwrapping

- Understanding UVs and their importance
- Seam placement and unwrapping techniques
- UV layout optimization
- Texture baking and projection

Mini Project: Unwrap the 3D character model and arrange clean UV shells.

Texturing & Material Creation

- Introduction to textures: diffuse, bump, normal, specular
- Hand-painted vs photo-realistic textures
- Using texture painting software (e.g., Substance Painter, Photoshop)
- Shader creation and material application

Mini Project: Texture a 3D character using at least 3 material types.

Course Code	AMT508
Course Title	Compositing & Green Screen Techniques
Type of Course	Major Course
L T P	0:0:4
Credits	2
Course pre-requisite	knowledge of video editing and digital imaging.
Course Objectives	• Understand the fundamentals of compositing and its role in visual effects. • Learn the principles of chroma keying (green/blue screen) and background replacement. • Explore multi-layer compositing, tracking, and matte creation. • Practice integrating live-action with 3D/2D elements. • Develop creative problem-solving for real-world post-production challenges.
Course Outcomes (CO)	• Shoot and prepare green screen footage for compositing. • Remove backgrounds using keying tools with precision. • Combine multiple layers (live-action, CGI, effects) into one seamless shot. • Match color, lighting, and perspective for realistic integration. • Create professional-quality composited video scenes for film or TV.

Syllabus

Introduction to Compositing

- What is compositing? Where is it used?
- Layers, masks, alphas, and blending modes
- Overview of compositing software: After Effects
- Shot planning and visual storytelling through composition

Mini Project: Recreate a basic multi-layer composite using stock footage and images.

Green Screen Fundamentals

- Understanding green/blue screen and color theory
- Lighting setup for chroma key shoots
- Camera setup, exposure, and shadows
- Common issues: spill, blur, noise, and transparency

Mini Project: Shoot a green screen clip in class and prep it for keying.

Keying & Matte Techniques

- Using Keylight, Ultra Key, Primatte (software-based tools)
- Garbage mattes and core mattes
- Advanced matte refinement (edge blur, choke, feather)
- Luma keying and color range keying for difficult footage

Mini Project: Extract a clean subject from green screen and place into a virtual background.

Layer Integration & Effects

- Compositing live-action with CGI
- Shadow, reflection, and depth creation
- Color grading & matching shots
- Light wrap, motion blur, and edge blending

Final Project: Composite an object into a 3D-rendered or fantasy background with matching light & color.

Course Code	AMT510
Course Title	Advanced Photography Techniques
Type of Course	Major Course
L T P	0:0:4
Credits	2
Course pre-requisite	knowledge of DSLR/Mirrorless camera operations and exposure settings.
Course Objectives	- To deepen technical camera knowledge for creative control. - To master lighting techniques in both studio and natural environments. - To explore different genres like portrait, product, fashion, and low-light photography. - To enhance storytelling using visual composition and color theory. - To train in post-processing for professional image enhancement.
Course Outcomes (CO)	- Capture high-quality images in complex lighting conditions. - Use studio equipment and modifiers to shape creative lighting setups. - Produce thematic photo series for editorial, commercial, or artistic use. - Apply advanced composition rules to guide viewer focus and emotion. - Retouch and present portfolio-ready images for multiple platforms.

Syllabus

Camera as a Creative Tool

- Manual shooting modes (Aperture Priority, Shutter Priority, Manual)
- Advanced exposure techniques: bracketing, exposure blending
- Creative lenses: prime, macro, wide-angle, telephoto
- Camera RAW vs JPEG shooting
- Using histograms and live preview effectively

Mini Project: Click 9 photos of a subject — with every set of 3 photos taken from the same distance using different aperture settings to show variations in depth of field.

Mastering Light — Studio & Natural

- Studio lighting setups: one-light, two-light, and three-point lighting
- Light modifiers: softboxes, umbrellas, reflectors, grids
- Natural light shooting: golden hour, harsh light, backlighting
- Using gels and colored lighting for mood
- White balance for storytelling

Mini Project: Shoot a dramatic character portrait using both studio and natural light setups.

Genre Photography Exploration

- Portrait & fashion photography
- Product & commercial photography
- Street & environmental photography
- Long exposure and motion blur techniques
- Low-light and night photography

Mini Project: Select a genre and produce a themed 6-photo portfolio with captions.

Visual Storytelling & Post-Processing

- Visual storytelling through sequence and framing
- Composition tools: rule of thirds, golden spiral, symmetry
- Retouching techniques: skin, color, texture, object removal
- Color grading and visual tone mapping.

Final Project: Develop and edit a short photo essay (4–6 images) on a concept like “Emotion in Isolation” or “Urban Rhythm.”

Course Code	AMT512
Course Title	Advanced Graphic Design (Posters & Ads)
Type of Course	Major Course
L T P	0:0:4
Credits	2
Course pre-requisite	Solid knowledge of graphic design tools like Adobe Illustrator, Photoshop, and understanding of visual elements.
Course Objectives	- To strengthen visual storytelling through creative poster and ad design. - To explore industry-level layout, typography, and branding techniques. - To experiment with various poster genres—commercial, social, editorial, etc. - To understand campaign design for both print and digital formats. - To develop a portfolio-ready set of creative advertisement materials.
Course Outcomes (CO)	- Create professional-level posters and advertisements for real-world contexts. - Use typography, imagery, and layout effectively for visual communication. - Design cohesive multi-format ad campaigns (print, social, web). - Develop and refine concepts from rough sketch to final artwork. - Present design ideas clearly with mockups and client-style presentations.

Syllabus

Poster Design Principles & Concept Sketching

- Introduction to poster types: event, film, campaign, editorial
- Understanding size formats, resolution, and printing basics
- Thumbnail sketching, mood boards, and composition planning
- Visual hierarchy and layout basics

Mini Project: Design a campaign poster for a social cause (e.g., environmental or mental health awareness) using a strong visual message.

Typography & Branding in Advertising

- Typography as design: creative use of fonts and lettering
- Font pairing, kerning, tracking, leading
- Logo placement and branding rules
- Designing visual identity across ads

Mini Project: Create a brand poster series (3 sizes: A3, A4, and square social format) for a fictional product or brand.

Color Psychology & Ad Composition

- Color meaning and mood for targeted communication
- Designing for emotion, urgency, trust, luxury, youth, etc.
- Working with grids, alignment, and white space
- Using contrast and balance to direct attention

Mini Project: Design two contrasting advertisement posters for the same product: one for a luxury audience and one for youth.

Digital Ads & Portfolio Development

- Adapting posters to digital platforms (Instagram, web banners, stories)
- File formats, responsive layouts, optimizing for screens
- Using mockups and templates for presentation

Final Project:

Create a full ad campaign including:

- 1 Print Poster (A2 or A3)
- 1 Social Media Ad (Instagram)
- 1 Web Banner (horizontal format)

Course Code	AMT514
Course Title	Lighting & Rendering Techniques
Type of Course	Major Course
L T P	0:0:4
Credits	2
Course pre-requisite	Understanding of 3D modeling and texturing using any 3D software like Maya or Blender.
Course Objectives	- To understand the role of lighting in setting mood, depth, and realism in 3D scenes. - To explore different types of lights, shadows, and their real-world behavior. - To learn how to create cinematic lighting setups for animation and visual storytelling. - To master rendering techniques using different render engines (e.g., Arnold, Cycles). - To optimize renders for quality, speed, and production-ready output.
Course Outcomes (CO)	- Create realistic and stylized lighting setups in a 3D environment. - Use global illumination, shadows, and reflections effectively. - Render high-quality stills and animations using advanced settings. - Match lighting with the mood and narrative of a scene. - Deliver professional-quality renders suitable for films, games, or product visuals.

Syllabus

Basics of 3D Lighting

- Types of 3D lights: Point, Spot, Directional, Area, HDRI
- Intensity, color temperature, falloff, shadows
- Three-point lighting setup
- Lighting references and inspiration

Mini Project: Light a basic still-life 3D scene using three different lighting styles: realistic, dramatic, and cartoon.

Cinematic Lighting & Mood Creation

- Story-driven lighting: warm vs. cold scenes
- Natural light vs artificial light simulation
- Volumetric lighting, fog, and atmosphere
- Day-Night lighting transitions

Mini Project: Design a single 3D scene lit in two different moods: one happy and one mysterious.

Rendering Fundamentals

- Introduction to render engines (Arnold, V-Ray)
- Render settings: resolution, samples, passes, formats
- Using AOVs and render layers
- Depth of field, motion blur, ambient occlusion

Mini Project: Render a realistic product visual (e.g., bottle, phone) with reflections, shadows, and depth of field.

Final Scene Lighting & Render Optimization

- Scene assembly with camera animation
- Lighting for animation vs. stills
- Batch rendering, file formats, compositing basics
- Render optimization for speed and quality

Final Project: Create a short 3D environment or character scene (5–10 seconds) with full lighting and rendering, matching a chosen mood or story concept.

