K.R. MANGALAM UNIVERSITY

THE COMPLETE WORLD OF EDUCATION

# SCHOOL OF ARCHITECTURE & DESIGN

## Department of Design

### Bachelor of Game Design and Animation (B. Des GDA)

**Undergraduate Course**

**2023- 27 (B. Des GDA)**

**Approved by:**

**Board of Studies and Academic Council**

# PREFACE

K.R. Mangalam University envisions all its programs in the best interest of their students. It imbibes an outcome-based curriculum for all its programs to provide a focused, student-centric syllabus with an agenda to structure the teaching-learning experiences in a more outcome based.

The outcome-based curriculum strengthens students' experiences and prepares the students for both, academia and employability, sustainability and life-long learning.

Each program reflects the promise to accomplish the learning outcomes by studying the courses. The graduate attributes encompass values related to well-being, emotional stability, critical thinking, social justice and also skills for entrepreneurship.

The redesigned curriculum focusses on the multi-disciplinary nature of the field of design with emphasis on core design subjects with skills to represent the process of design graphically. Another important part is the aspect of realizing the concept and graphical representation into a workable design. Students are exposed to research and hands on project-based education with active studio sessions. Visiting faculty and external examiners are professionals and academicians chosen from the field of design. Students develop their design with inputs from highly driven team of faculty members and working professionals.

The K.R. Mangalam University hopes that the outcome-based curriculum will help students in realizing their careers as informed, sensitive and creative architects and designers.

## ACKNOWLEDGEMENT

Program: **Bachelor of Design in Game Design and Animation,**

Year/ Semester: **4 Years/ 8 Semesters**

Session: **2023-2027 (BDES-GDA)**

The development of an industry-led Curriculum for Undergraduate degree course in the Department of Design in association with ImaginXP is a result of thoughtful deliberations at various stages of dedicated and specialized experts. This model curriculum has been framed to meet the expectations of an academically challenging environment, develop problem-solving skills by students, align with current standards and to enrich the students to make them self-enablers and/or match job requirements on successful completion of their degrees.

We are greatly gratified Mr. Abhayjeet & Ms. Eshayat for her supervision contribution, guidance, and support throughout the development of this curriculum. Special thanks and gratitude to Prof. P. Prakash, Vice Chancellor, K.R. Mangalam University and Prof. Pushplata Tripathi, Pro-Vice Chancellor and Registrar, K.R. Mangalam University who have been instrumental and encouraging throughout the process of developing this curriculum. Last, but not the least, we also sincerely thank to , Mr. Pritom, Mr. Abdul who have contributed for development of this curriculum.

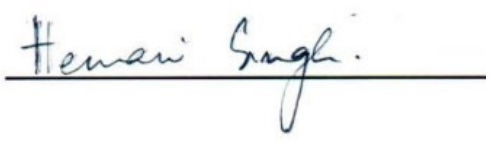
We acknowledge by signing below that we have received and access to a copy of syllabus of the Bachelor of Design Game Design and Animation Programme indicated above. Furthermore, we acknowledge that the contents of the BDES-GDA syllabus have been explained and/or read to us. We understand the requirements concerning textbook(s), assignments, practicum, evaluation and how the final grades will be determined with respect to achieving Course Outcomes.

Prepared by:

Curriculum Team_____
(IMAGINXP)

Verified by:

Prof. Hemani Singh



(Dean SOAP)

Approved by:

Vice Chancellor ----------

Pro- Vice chancellor ----------

# CONTENTS

## 1. Introduction

The K.R. Mangalam Group has made a name for itself in the field of education. Over a period of time, the various educational entities of the group have converged into a fully functional corporate academy. Resources at KRM have been continuously upgraded to optimize opportunities for the students. Our students are groomed in a truly inter-disciplinary environment where in they develop integrative skills through interaction with students from engineering, social sciences, management and other study streams.
The K.R. Mangalam story goes back to the chain of schools that offered an alternative option of world-class education, pitching itself against the established elite schools, which had enjoyed a position of monopoly till then. Having blazed a new trail in school education the focus of the group was aimed at higher education. With the mushrooming of institutions of Higher Education in the National Capital Region, the university considered it very important that students take informed decisions and pursue career objectives in an institution, where the concept of education has evolved as a natural process.
K.R. Mangalam University is established under the Haryana Private University Act 2006, received the approval of Haryana Legislature vide Amendment Act # 36 of 2013 and consent of the Hon'ble Governor of Haryana on 11th April 2013, which was published in the Gazette notification vide Leg. No.10/2013, dated 3rd May 2013.

**K. R. Mangalam University Is Unique Because of Its**
I. Enduring legacy of providing education to high achievers who demonstrate leadership in diverse fields.
II. Protective and nurturing environment for teaching, research, creativity, scholarship, social and economic justice.

## 2. Objectives

a) To impart undergraduate, post graduate and doctoral education in identified areas of higher education.
b) To undertake research program with industrial interface.
c) To integrate its growth with the global needs and expectations of the major stake holders through teaching, research, exchange & collaborative program with foreign, Indian Universities/ Institutions and MNCs.
d) To act as a nodal center for transfer of technology to the industry.
e) To provide job oriented professional education to the Indian student community with particular focus on Haryana.

## 3. About School

**School of Architecture & Design (SOAD)** includes:

**I. Department of Architecture**

i. Bachelor of Architecture (B. Arch): Council of Architecture (COA) approved five years Program.

**II. Department of Design**

i. Bachelor of Interior Design (BID) : 4 year program,
ii. Bachelor of Design in Game Design and Animation : 4 year program.
iii. B.Sc. Hons. (Interior Design) : 3 year program,
iv. Bachelor of Design (B. Des.) : 4 year program,
v. B. A (Fashion Design) : 3 year program.

### 3.1. School Vision

The School aspires to become a leading Architecture and Design school by empowering the students with knowledge, confidence and skillset required to navigate their professional path as innovative, creative, socially responsible professionals contributing to nation building through ethical design practices grounded in sustainability and multidisciplinary awareness.

### 3.2. School Mission

a) To establish a foundation for lifelong learning
b) To apply current educational theories that see learning as a process wherein the learner constructs or builds new concepts, focusing on learner-centric education vs. teacher-centric education.
c) To transform the role of teacher to that of facilitator, guide and mentor and not a transmitter of information
d) Enhance employability and entrepreneurship through interdisciplinary curriculum and progressive pedagogy with latest technology to produce graduates capable of critically synthesizing architecture, engineering systems, social sciences and entrepreneurial skills.
e) Developing active leadership skills as project leaders with understanding of various disciplines and collaboration with all stakeholders.
f) To encourage diverse learning styles, acknowledging Kolb's Experiential Learning Theory, which suggests that learning is cyclical and moving through this continuum over time every learner discovers the learning style best suitable to the person.
g) To enable students to learn to find meanings and connections by critical contemplation of available resources, strengthening the innate skills of reflection, evaluation, re-iteration and research.
h) To empower learning by doing. The Design studio is considered both a course and a place of study at the heart of an academic environment fostering design thinking that is simultaneously analytical and creative.
i) Develop ethical professional qualities among the students with understanding of environmental realities and context related design.

## 4. Department of Design

Department of Design offers undergraduate, Bachelor of Design in Game Design and Animation in association with ImaginXP, Bachelor of Interior Design (BID), B.Sc. Hons. (Interior Design), Bachelor of Design (B. Des.) and B. A (Fashion Design)

4.1 Graduate Attributes

GA1: Ethical Professionals
GA2: Collaborative with multidisciplinary knowledge.
GA3: Sensitive, Adaptable, Creative and Innovative
GA4: Communication; Interpersonal and graphic.
GA5: Solution oriented approach

**Programme Educational Objectives (PEO)**

**PEO 1**: To prepare competent designers who are sensitive to the needs of the society and environment and can respond to these through their creative design.
**PEO 2:** To instil in designers a commitment to professional ethics and values, and to prepare them to be responsible and ethical professionals.
**PEO 3:** To equip designers with the knowledge and skills needed to create a positive and inclusive working environment, and to effectively manage and deal with their teams and clients.
**PEO 4:** To instil analytical, critical and logical thinking in designers to enable them to take rational decisions.
**PEO 5:** To prepare designers to become effective collaborators and communicators who can work with other professionals to collaborate on all aspects of design.
**PEO 6:** To prepare designers to use latest software and technology effectively in drawing and presentation work, and to be able to integrate technology into their design and practices.

**4.2 Program Outcomes**

PROGRAMME OUTCOMES (POs) of School of Architecture and Design: Students of all **undergraduate, Game Design and Animation** program at the time of graduation will have-

**PO1. Design and Integration:** Work collaboratively toward design resolution which integrates an understanding of the requirements, contextual and environmental connections, construction systems and services with responsible approach to environmental, historical and cultural conservation.
**PO2. Drawing Work:** Produce professional quality graphic presentations and technical drawings/documents.
**PO3. Critical Analysis:** Demonstrate critical thinking through a self-reflective process of conceptualization and design thinking that is open to consideration of alternative perspectives by analyzing, evaluating, and synthesizing ideas and information.
**PO4. Employability and Interdisciplinary Approach:** Students can work effectively in a multi-disciplinary team in the building and design industry.
**PO5. Conduct**: Work in a manner that is consistent with the accepted professional standards and ethical responsibilities. Conduct independent and directed research to gather information related to the problems in design and allied fields.
**PO6. Communication and Teamwork**: Apply visual and verbal communication skills at various stages of the design and delivery process. Also work as an integral member in collaboration with multi-disciplinary design and execution teams in the building and design industry.
**PO7. Life-long learning**: Thrive in a rigorous intellectual climate which promotes inquiry through observation and research and to show curiosity to learn about new developments in design.

- **The Program:**

**5 Bachelor of Design in Game Design and Animation (BDES-GDA)**

To create a game or an animation, one requires to apply design elements, design aesthetics as well as programming principles to provide users with an overwhelming entertainment experience. To create

animated videos and animation-based games, designers need to visualize characters, creatures as well as backdrops in order to have an engaging game in place. It facilitates creative media, digital and non-digital tools to represent thoughts, characters, interesting plotlines and messages to various audiences. Through a collaborative, highly practical and industry-driven approach, Game Design and Animation will provide robust career opportunities for students not only to develop their aesthetic and technical competence, but to express creativity and conceptualize projects that integrate technology, arts and media to address local and international markets while creating a source of education, entertainment and employment.

**5.1 Eligibility Criteria:** Only candidates who have the following credentials shall be eligible for admission to BDES-GDA program.

A person who has finished 10+2 in any stream and is willing to proceed their career in a creative field. He/she should have a desire to bring in positive change in people's lives by creating engaging entertainment content with skillful use of advanced design tools and one's vision and imagination. He/she must possess excellent communication, observation and interpersonal skills in order to learn and deliver the best in animation & game development.

A person who is imaginative, has knowledge in game genres and latest trends in animation and has ability to visualize from abstract ideas must attend this program. This course is an excellent choice of career pavement for those who are passionate to learn advanced tools to create extraordinary characters and game system to provide the best entertainment experience.

**5.2 Career Options:**

- Game Artist - 2D and 3D Video Artist, Environment Artist, Asset Artist, Technical Artist, Character Artist
- Freelance designer - working for multiple companies as a freelancer
- Chief Creative Designer – Chief Designer, Head of Creative Operations, Head of Design
- Animator – Creator of Visual Effects of Various Forms of Media and Entertainment, Design Lead, Art Production Manager, Senior Design Manager, Creative Lead
- Character And Background Designer - Sketching and Development of Character, Scenario Developer, Scenic and Aesthetic Design of Background
- Game Designer - Mobile Phone Game Designer, Video Game Designer, Game Level Designer, Computer Game Designer
- Special Effects Artist - Special Effects Illustrator for Movies, Special Effects Illustrator for Television
- Art Director – Creative Director of Visual Style for Movies and Television, Design Director, Director of Creative Operations, Executive Creative Director

**5.3 Program Duration**: Program Duration for Bachelor of Design in Game Design and Animation (BDES-GDA) Program is 4 years (8 semesters). The fourth year is spent to introduce the student to professional training and understanding required to complete a project independently.

## 6 Program Specific Outcomes

**PSO1: Create desirable experience:** Students will be able to design animated games that are highly desirable in the gaming industry because of the overwhelming experience they provide.

**PSO2: Tools, Softwares and Technology:** Students will be able to work with ease on tools and softwares used in entertainment business as well as emerging technologies to provide a refined experience.
**PSO3: Comprehensive and narrative:** Students will be highly skilled in rudiments of narrative filmmaking in a comprehensive format and will apply these skills to deliver detail-oriented work.
**PSO4: Innovative:** Students will demonstrate the ability to be creative, to explore and emerge with renewed perceptions in order to innovate and add to game designing practice.
**PSO5: Practical and demonstrative:** As part of this practical-focused curriculum, students will develop professional quality designs that will demonstrate their thorough understanding of Game Design and Animation.
**PSO6: Trend Setters:** Students will create trends in the entertainment industry that will be followed by rest of the designers.

**i. Class Timings**
The classes will be held from Monday to Friday from 9.10 am to 4.10 pm.

ii. **Program scheme: -** For Program scheme see **Annexure A & Annexure B.**

## 8. Syllabus for Bachelor of Design in Game Design and Animation

The syllabi of all courses for first year for BDes Game Design and Animation in association with ImaginXP Program offered by SOAD are given in the following pages. For each course, the first line contains; Course Code, Tittle and credits (C) of the course. This is followed by the course objectives, syllabus (Unit I to V), Text book and reference books.

### Courses at a Glance

### Four-Year B. Des Game Design and Animation

| | Courses | Credits |
|---|---|---|
| Semester I | 7 | 21 |
| Semester II | 8 | 28 |
| Semester III | 7 | 25 |
| Semester IV | 7 | 22 |
| Semester V | 6 | 21 |
| Semester VI | 5 | 17 |
| Semester VII | 6 | 22 |
| Semester VIII | 2 | 20 |
| **Total** | **46** | **176** |

## 8. Course Structure for Bachelor of Design in Game Design and Animation Program

| SEMESTER-I | | | |
|---|---|---|---|
| S.no | Course Code | Course Title | C |
| 1 | ADGA101A | FUNDAMENTALS OF DESIGN | 4 |
| 2 | ADGA103A | INTRODUCTION TO SKETCHING | 3 |
| 3 | ADGA105A | HISTORY OF ART, CULTURE & DESIGN | 3 |
| 4 | ADGA107A | FILM AND GAME APPRECIATION | 3 |
| 5 | ADGA109A | DIGITAL TOOLS- I | 3 |
| 6 | VAC151 | VAC-1 (EVS+DM) | 2 |
| 7 | AEC001 | NEW AGE LIFE SKILLS- I | 3 |
| | | TOTAL | 21 |

| SEMESTER-II | | | |
|---|---|---|---|
| S.no | Course Code | Course Title | C |
| 1 | ADGA102A | EFFECTS OF GAME: SOCIOLOGICAL, PSYCHOLOGICAL AND ANTHROPOLOGICAL | 3 |
| 2 | ADGA104A | BASIC KINEMATICS | 4 |
| 3 | ADGA106A | MATERIAL EXPLORATION | 3 |
| 4 | ADGA108A | DIGITAL TOOLS -II | 3 |
| 5 | ADGA110A | COLORS AND EMOTIONS | 4 |
| 6 | ADGA112A | DESIGN PROCESS: PROBLEM SOLVING PROJECT | 4 |
| 7 | AEC002 | NEW AGE LIFE SKILLS- II | 3 |
| 8 | OE-I | OPEN ELECTIVE-I | 4 |
| | | TOTAL | 28 |
| | | | |

| | | SEMESTER-III | |
|---|---|---|---|
| S.no | Course Code | Course Title | C |
| 1 | ADGA201A | PHOTOGRAPHY TECHNIQUES | 4 |
| 2 | ADGA203A | VISUAL DESIGN AND COMMUNICATION | 4 |
| 3 | ADGA205A | CHARACTER DESIGN | 3 |
| 4 | ADGA207A | CONCEPT ART FOR GAME | 4 |
| 5 | ADGA209A | PLOT BUILDING & STORYTELLING | 3 |
| 6 | ADGA211A | COMPUTER ANIMATION- 3D | 4 |
| 7 | AEC003 | NEW AGE LIFE SKILLS- III | 3 |
| | | TOTAL | 25 |

| SEMESTER IV | | | |
|---|---|---|---|
| S.no | Course Code | Course Title | C |
| 1 | ADGA202A | ENVIRONMENT & ASSET DESIGN FOR GAMES | 4 |
| 2 | ADGA204A | CONTEMPORARY GAME STUDIES | 2 |
| 3 | ADGA206A | ADVANCED KINEMATICS | 4 |
| 4 | ADGA208A | INTRODUCTION TO UX | 3 |
| 5 | ADGA210A | BOARD GAME DESIGN | 3 |
| 6 | ADGA212A | TECHNOLOGY IN ANIMATION & GAME DESIGN | 2 |
| 7 | OE-II | OPEN ELECTIVE-II | 4 |
| | | TOTAL | 22 |

| SEMESTER-V | | | |
|---|---|---|---|
| Sno | Course Code | Course Title | C |
| 1 | ADGA301A | BASICS OF 3D MODELLING, LIGHTING AND RENDERING | 4 |
| 2 | ADGA303A | BASICS OF VFX FOR FILM AND GAME DESIGN | 3 |
| 3 | ADGA305A | SOUND DESIGN | 3 |
| 4 | ADGA307A | MOTION GRAPHICS | 3 |
| 5 | ADGA309A | LEVEL DESIGN | 4 |
| 6 | ADGA311A | RIGGING AND ANIMATION | 4 |
| | | TOTAL | 21 |

| SEMESTER-VI | | | |
|---|---|---|---|
| S.no | Course Code | Course Title | C |
| 1 | ADGA302A | GAME ENGINE | 3 |
| 2 | ADGA304A | BASICS OF VIDEO EDITING | 3 |
| 3 | ADGA306A | COMPOSTING | 3 |
| 4 | ADGA308A | UX DESIGN FOR FUTURISTIC TECHNOLOGIES | 2 |
| 5 | ADGA310A | LIVE PROJECT 1<br>(Under the Mentorship of an Industry Expert) | 6 |
| | | TOTAL | 17 |

| SEMESTER-VII | | | |
|---|---|---|---|
| S.no | Course Code | Course Title | C |
| 1 | ADGA401A | ECONOMICS OF GAMES | 3 |

| | | | |
|---|---|---|---|
| 2 | ADGA403A | GAME INTERFACE DESIGN | 4 |
| 3 | ADGA405A | DESIGN OF GAMES ON MOBILE PHONES | 3 |
| 4 | ADGA407A | DESIGN MANAGEMENT | 3 |
| 5 | ADGA409A | ENTREPRENEURSHIP | 3 |
| 6 | ADGA411A | LIVE PROJECT 2<br>(Under the Mentorship of an Industry Expert) | 6 |
| | | TOTAL | 22 |

| SEMESTER VIII | | | |
|---|---|---|---|
| S.no | Course Code | Course Title | C |
| 1 | ADGA402A | INTERNSHIP<br>(Minimum of Three Months) | 12 |
| 2 | ADGA404A | GRADUATION PROJECT | 8 |
| | | TOTAL | 20 |

**DETAILED SYLLABUS**

**SEMESTER I**

| **ADGA103A** | **INTRODUCTION TO SKETCHING** | **L** | **T** | **S** | **P** | **C** |
|---|---|---|---|---|---|---|
| **Version 1.0** | | 0 | 0 | 3 | 0 | 3 |
| **Pre-requisites/Exposure** | | | | | | |
| **Co-requisites** | | | | | | |

**Course Objectives**

1. Demonstrate competence in linear methods of drawing images of the life model.
2. Demonstrate competence in tonal methods of drawing images of the life model.
3. Understand and be able to depict basic proportional relationships of the life model.
4. Understand rhythms of the body and natural forms and how they exist in the whole and parts of the figure.

**Course Outcomes**

CO1. To sequence the basic methods, techniques & tools of sketching and drawing

CO2. To illustrate the challenging and nuanced process of sketching and drawing
CO3. To develop a working concept of what it means to draw.
CO4. To reinforce the principles of traditional drawing skills.
CO5. To articulate new ways of thinking, seeing, and creating.

**Catalog Description**

This is to develop the skills of freehand drawing among students as a way to how to express their ideas of draw and showing its in appropriate way that represents the subject to complete what the student had received in the first stage in the same subject, with a particular focusing on the architectural drawings with three-dimensional 3D perspective.

**Course Content**

**Unit 1: Basics of Sketching and Drawing – 9 hours**

History of sketching & drawing, Sketching & its types, Drawing & its types, Difference between sketching and drawing, Common drawing media, Basics of drawing - Line, points, squares, circles, triangles, 2d sketching & drawing

**Unit 2: Shapes and forms – 9 hours**

Creating layout, shape, line & shadows, shine, Overlap, Texture detail, 3D sketching & drawing. Perspective using forms, cuboid, prisms, cones, sphere.

**Unit 3: Still- and real-life sketching – 9 hours**

Application learning with still life, real life sketching.

**Unit 4: Drawing Techniques – 9 hours**

Blind contour drawing, Negative space drawing, One point perspective, Two point perspective, three point perspective linear perspective, planar analysis and line variations, contours, freehand perspective, line into value., Gesture Drawing, Drawing from a photo, Double image drawing

**Unit 5: Drawing human figure – 9 hours**

Human Anatomy- Proportion drawing using shapes and drawing human figure composition. John Muir Laws and Assignments on 2D drawing, 3D drawing and human figure composition

**Text Books:**

1. Keys to drawing - Bert Dodson

**Reference Books:**

1. Sketching the basics - Koos Eissen and Roselien Steur
2. Artist's Drawing Techniques - Dorling Kindersley

**Modes of Evaluation: Quiz/Assignment/ presentation/ extempore/ Written Examination**
**Examination Scheme:**

| Components | Mid Term Jury | End Term Internal Jury | End Term Studio Exam | End Term External Jury |
|---|---|---|---|---|
| Weightage (%) | 20M | 30M | 20M | 30M |

| Components | Class Test 1 | Presentation 1 | Class Test 2 | Presentation 2 | Attendance | End Term Exam |
|---|---|---|---|---|---|---|
| Weightage (%) | NA | NA | NA | NA | NA | NA |

**Relationship between the Course Outcomes (COs) and Program Outcomes (POs)**

| Mapping between COs and POs | | |
|---|---|---|
| | **Course Outcomes (COs)** | **Mapped Program Outcomes** |
| **CO1** | To sequence the basic methods, techniques & tools of sketching and drawing | **PO2, PSO4** |
| **CO2** | To illustrate the challenging and nuanced process of sketching and drawing | **PSO3** |
| **CO3** | To develop a working concept of what it means to draw. | **PO3** |
| **CO4** | To reinforce the principles of traditional drawing skills. | **PO1** |
| **CO5** | To articulate new ways of thinking, seeing, and creating | **PO6** |

| | | Design and Integration | Drawing Work | Critical Analysis | Employability & Interdisciplinary Approach | Conduct | Communication and Teamwork | Life-long learning | Create desirable experience | Tools Softwares and Technology | Comprehensive and narrative | Innovative | Practical and demonstrative | Trend Setters |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Course Code | Course Title | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO 1 | PSO 2 | PSO 3 | PSO 4 | PSO 5 | PSO 6 |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ADGA103A | INTRODUCTION TO SKETCHING | 2 | 3 | 1 | | | 2 | | | | 3 | 3 | | |

| Course Code | Course Outcome | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ADGA103A | CO1 | | 3 | | | | | | | | | 3 | | |
| | CO2 | | | | | | | | | | 3 | | | |
| | CO3 | | | 1 | | | | | | | | | | |
| | CO4 | 2 | | | | | | | | | | | | |
| | CO5 | | | | | | 2 | | | | | | | |
| | CO6 | | | | | | | | | | | | | |

1=weakly mapped, 2= moderately mapped, 3=strongly mapped

| ADGA105A | HISTORY OF ART, CULTURE AND DESIGN | L | T | S | P | C |
|---|---|---|---|---|---|---|
| **Version 1.0** | | 3 | 0 | 0 | 0 | 3 |
| **Pre-requisites/Exposure** | -- | | | | | |
| **Co-requisites** | -- | | | | | |

**Course Objectives**

1. Understanding of core content and history of the discipline
2. Broad familiarity with diverse subfields within the discipline;
3. Opportunities to apply classroom learning in real-life setting
4. Deeper thinking and research in one specific area of study.

**Course Outcomes**

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

CO1. To sequence various art forms in history.
CO2. To understand art in cultural context.
CO3. To illustrate evolution in Design and UX.
CO4. To envisage the paradigm, shift in design as per the various technology changes.

**Catalogue Description**

Through this course students of art history not only learn to articulate histories of visual production, but also to think critically about the stakes of artistic creation and objects of culture more generally.

**Course Content**

**Unit 1: Art Forms in History – 6 hours**

Understanding history of different art forms – modern art, contemporary art, classical art, renaissance art

**Unit 2: Historical Interpretation of Art – 6 hours**

Art, architecture appreciation and historical interpretation of art in its cultural contexts.
Visit to museums, art galleries and historic monuments

**Unit 3: Evolution of Design in Everyday Things – 9 hours**

Understanding the evolution in design through forms and everyday things

**Unit 4: Paradigm Shift in Design from 19th century to modern time – 9 hours**

Journey of design across in the 19th century to modern times.

**Unit 5: Project - 15 hours**

Project submission on history of Art & design

**Text Books**

1. The story of the Art - Ernst Gombrich

**Reference Books/Materials**

1. Gardner's Art Through the Ages - Helen Gardner
2. Design by Evolution: Advances in Evolutionary Design - Luigi C. Barone

**Modes of Evaluation: Quiz/Assignment/ presentation/ extempore/ Written Examination**
**Examination Scheme:**

| Components | Mid Term Jury | End Term Internal Jury | End Term Studio Exam | End Term External Jury |
|---|---|---|---|---|

| Weightage (%) | NA | NA | NA | NA | | |
|---|---|---|---|---|---|---|
| **Components** | **Class Test 1** | **Presentation 1** | **Class Test 2** | **Presentation 2** | **Attendance** | **End Term Exam** |
| **Weightage (%)** | **10M** | **10M** | **10M** | **10M** | **10M** | **50M** |

**Relationship between the Course Outcomes (COs) and Program Outcomes (POs)**

| **Mapping between COs and POs** | | |
|---|---|---|
| | **Course Outcomes (COs)** | **Mapped Program Outcomes** |
| **CO1** | To sequence various art forms in history. | **PO7** |
| **CO2** | To understand art in cultural context. | **PO4** |
| **CO3** | To illustrate evolution in Design and UX. | **PO1, PSO4** |
| **CO4** | To envisage the paradigm, shift in design as per the various technology changes. | **PO3** |

| | | Design and Integration | Drawing Work | Critical Analysis | Employability & Interdisciplinary Approach | Conduct | Communication and Team work | Life-long learning | Create desirable experience | Tools Softwares and Technology | Comprehensive and narrative | Innovative | Practical and demonstrative | Trend Setters |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Course Code | Course Title | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
| ADGA105A | **HISTORY OF ART, CULTURE** | 2 | | 3 | 3 | | | 2 | | | | 3 | | |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **AND DESIGN** | | | | | | | | | | | | | |

| Course Code | Course Outcome | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ADGA105A | CO1 | | | | | | | 2 | | | | | | |
| | CO2 | | | | 3 | | | | | | | | | |
| | CO3 | 2 | | | | | | | | | | 3 | | |
| | CO4 | | | | 3 | | | | | | | | | |
| | CO5 | | | | | | | | | | | | | |
| | CO6 | | | | | | | | | | | | | |

1=weakly mapped 2= moderately mapped 3=strongly mapped

| **ADGA107A** | **FILM AND GAME APPRECIATION** | L | T | S | P | C |
|---|---|---|---|---|---|---|
| **Version 1.0** | | 3 | 0 | 0 | 0 | 3 |
| **Pre-requisites/Exposure** | -- | | | | | |
| **Co-requisites** | -- | | | | | |

**Course Objectives**

- To understand elements and genres of films.
- To learn narrative setting in films.
- To understand elements and types of game designs.
- To develop students' interest in aesthetics, technical aspects and narratives of film and games.

**Course Outcomes**

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

CO1. Appraise films and filmmakers from a technical, aesthetic, and cultural point-of-view.
CO2. Contextualize film in relation to historical periods, new technologies, economic and business structures, and other art forms and media.
CO3. Differentiate among the various phases of motion picture production.
CO4. Sequence various genres of games and comprehend the need of levels in games, what makes them engaging and factors that make it a success.

**Catalogue Description**

Through this course will make students aware of the complexity of film art and games. More sensitive to its nuances, textures, and rhythms, and more perceptive in "reading" its multilayered blend of image, sound, and motion.

## Course Content

**Unit 1: Introduction to Animated Films and Games – 9 hours**

Purpose of entertainment, films as a means of entertainment and advertisement, concept of games, genres of animated films and games

**Unit 2: Film Aesthetics – 12 hours**

Significance of director, Stages of Filmmaking, Perspectives in Cinema, Elements of Cinematography, Framing and Composition, Shots, Establishing Shot, Angles, Camera Movement, sounds, Introduction to Editing, case study - I robot, Finding Nemo

**Unit 3: Film Analysis – 9 hours**

Elements of Post-production, target audiences of animated films, psychoanalytical study of animated films, messaging and narrative building through animated films

**Unit 4: Game Genres – 6 hours**

Evolution of games through times, game media and technology, expectations and emotional journey while playing games

**Unit 5: Game Analysis – 9 hours**

Importance of complexity levels of games, what makes games engaging, study successful games in last decade and factors behind their success

## Text Books


1. Film Analysis A Norton Reader – Jeffrey Geiger
2. The Computer Animated Film : Industry, Style and Genre – Christopher Holliday
3. Writing for Video Game Genres : From FPS to RPG – International Game Developers Association (IGDA)


## Modes of Evaluation: Quiz/Assignment/ presentation/ extempore/ Written Examination

## Examination Scheme:

| Components | Mid Term Jury | End Term Internal Jury | End Term Studio Exam | End Term External Jury |
|---|---|---|---|---|
| Weightage (%) | 20M | 30M | 20M | 30M |

| Components | Class Test 1 | Presentation 1 | Class Test 2 | Presentation 2 | Attendance | End Term Exam |
|---|---|---|---|---|---|---|
| Weightage (%) | NA | NA | NA | NA | NA | NA |

## Relationship between the Course Outcomes (COs) and Program Outcomes (POs)

| Mapping between COs and POs |
|---|

| | Course Outcomes (COs) | Mapped Program Outcomes |
|---|---|---|
| **CO1** | Appraise films and filmmakers from a technical, aesthetic, and cultural point-of-view. | **PO1, PSO3** |
| **CO2** | Contextualize film in relation to historical periods, new technologies, economic and business structures, and other art forms and media. | **PO3,PSO3** |
| **CO3** | Differentiate among the various phases of motion picture production. | **PO7,PSO3** |
| **CO4** | Sequence various genres of games and comprehend the need of levels in games, what makes them engaging and factors that make it a success. | **PO3,PSO2** |

| | | Design and Integration | Drawing Work | Critical Analysis | Employability & Interdisciplinary Approach | Conduct | Communication and Teamwork | Life-long learning | Create desirable experience | Tools Softwares and Technology | Comprehensive and narrative | Innovative | Practical and demonstrative | Trend Setters |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Course Code | Course Title | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
| ADGA107A | **FILM AND GAME APPRECIATION** | 2 | | 2 | | | | 3 | | 2 | 3 | | | |

| Course Code | Course Outcome | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ADGA107A | CO1 | 2 | | | | | | | | | 3 | | | |
| | CO2 | | | 2 | | | | | | | 3 | | | |
| | CO3 | | | | | | | 3 | | | 3 | | | |
| | CO4 | | | 2 | | | | | | 2 | | | | |
| | CO5 | | | | | | | | | | | | | |
| | CO6 | | | | | | | | | | | | | |

1=weakly mapped 2= moderately mapped 3=strongly mapped

| ADGA101A | FUNDAMENTALS OF DESIGN | L | T | S | P | C |
|---|---|---|---|---|---|---|
| Version 1.0 | | 0 | 0 | 0 | 8 | 4 |
| Pre-requisites/Exposure | | | | | | |
| Co-requisites | | | | | | |

## Course Objectives

1. To explain elements, principles, laws and stages of action model of design
2. To interpret people's psychology and behaviour
3. To implement the laws and action model on real life problems.

## Course Outcomes

On successful completion of this course, the students have capability to

CO1. Sequence elements and principles of design
CO2. Comprehend stage model of action cycle
CO3. Illustrate design laws and their importance in design field
CO4. Articulate various rules of composition of design
CO5. Gain hands-on experience of fundamentals of design

## Catalog Description

This course will help students understand various elements and principles of design. They will study about multiple of stages of design action model and laws of design and learn how to design for people.

## Course Content

**Unit 1: Elements of Design – 6 hours**

Introduction to design, Colour and its attributes, elements of design - line, shape including categories such as texture, space, form.

**Unit 2: Design Action Model and Principles of Design – 12 hours**

7 Stage model of action cycle for design tools, Unity, harmony and methods, balance and its types, hierarchy, Scale/proportion, dominance/emphasis, rhythm, similarity and contrast

**Unit 3: Laws of Design – 12 hours**

Gestalt's principle – 1, Hick's law, The Pareto principle - 80/20 rule, The rule of thirds, Proximity, Feedback, Hicks law, Fitts' law, The golden ratio, Occam's razor, Fibonacci sequence, Mental models, emotional design, Composition of Design

**Unit 4: Designing for people- 12 hours**

Understanding people's psychology and Behaviour, Famous Case studies on people centric

**Unit 5: Project Work - 18 hours**

Project work on fundamentals of design

## Text Books:

1. Universal principles of Design - William Lidwell, Kritina Holden, Jill Butler

**Reference Books/Materials**

1. Design of Everyday life – Don Norman
2. Universal methods of design – Brus hanignton
3. Hundred things every designer needs to know about people – Susan Weins Chenk

**Modes of Evaluation: Quiz/Assignment/ presentation/ extempore/ Written Examination**
**Examination Scheme:**

| **Components** | **Mid Term Jury** | **End Term Internal Jury** | **End Term Studio Exam** | **End Term External Jury** |
|---|---|---|---|---|
| **Weightage (%)** | **20M** | **30M** | **20M** | **30M** |

| **Components** | **Class Test 1** | **Presentation 1** | **Class Test 2** | **Presentation 2** | **Attendance** | **End Term Exam** |
|---|---|---|---|---|---|---|
| **Weightage (%)** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

**Relationship between the Course Outcomes (COs) and Program Outcomes (POs)**

| **Mapping between COs and POs** | | |
|---|---|---|
| | **Course Outcomes (COs)** | **Mapped Program Outcomes** |
| **CO1** | Sequence elements and principles of design | **PO1** |
| **CO2** | Comprehend stage model of action cycle | **PO3** |
| **CO3** | Illustrate design laws and their importance in design field | **PO6** |
| **CO4** | Articulate various rules of composition of design | **PSO4** |
| **CO5** | Gain hands-on experience of fundamentals of design | **PSO5** |

| | | Design and Integration | Drawing Work | Critical Analysis | Employability & Interdisciplinary Approach | Conduct | Communication and Teamwork | Life-long learning | Create desirable experience | Tools Softwares and Technology | Comprehensive and narrative | Innovative | Practical and demonstrative | Trend Setters |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Course Code | Course Title | PO | PO | PO | PO4 | PO5 | PO | PO | PS | PS | PS | PS | PSO5 | PS |

| | | 1 | 2 | 3 | | | 6 | 7 | O1 | O2 | O3 | O4 | | O6 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ADGA101A | **FUNDAMENTALS OF DESIGN** | 2 | | 3 | | | 2 | | | | | 3 | 3 | |

| Course Code | Course Outcome | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ADGA101A | CO1 | 2 | | | | | | | | | | | | |
| | CO2 | | | 3 | | | | | | | | | | |
| | CO3 | | | | | | 2 | | | | | | | |
| | CO4 | | | | | | | | | | | 3 | | |
| | CO5 | | | | | | | | | | | | 3 | |
| | CO6 | | | | | | | | | | | | | |

1=weakly mapped , 2= moderately mapped, 3=strongly mapped

| **ADGA109A** | **DIGITAL TOOLS I – ADOBE PHOTOSHOP** | L | T | S | P | C |
|---|---|---|---|---|---|---|
| **Version 1.0** | | 0 | 0 | 2 | 2 | 3 |
| **Pre-requisites/Exposure** | | | | | | |
| **Co-requisites** | | | | | | |

**Course Objectives**

1. To illustrate the use of various tools in photoshop.
2. To demonstrate efficiency in managing the projects.
3. To design effective and engaging content for multiple platforms

**Course Outcomes**

On successful completion of this course, the students have capability to

CO1. Navigate through the many tools available in Photoshop, to create new projects and manage your work efficiently.

CO2. Create effective and engaging marketing content, edit and touch up images to get the perfect aesthetic.

CO3. Formulate professional-looking typography and designs that blend seamlessly with your graphics in a step-by-step process.

CO4. Construct custom designs for different projects, such as web design and social media.

**Catalog Description**

This course will teach students in and out of Adobe Photoshop. Students will learn how to use different tools of the software and how to use them to compose meaningful design content.

**Course Content**

**Unit 1: Photoshop Basics - 6 hours**

Understand the Photoshop Interface, customize workspace and Panels, create a new photoshop file, Place Photos and Graphics in project, Layer Panel, Aligning Layers in Photoshop, Linking Layers, Adding Layer styles and adjustments, using layer masks to erase parts of an Image

**Unit 2: Selection Tools and Editing Photos – 6 hours**

Intro to selection tools and removing subjects from the Background, Magic Wand and Object Selection Tools, Improving Edge Selections with the Refine Edge Tools, Selection a Specific Color, Automatic Object Selection, Easily Remove Objects from a photo, Intro to Editing Photos in Photoshop, Adjusting Exposure, Adjusting Colors and Making Photo Props, Cropping and Adjusting Photo Aspect Ratio, Basic Doding and Buring , Editing Raw Photos with Camera RAW, Easy Sky Replacement

**Unit 3: Shapes, Titles and Text, Layer Styles – 6 hours**

Intro to Shapes, Creating Custom Shapes with Pen and Curvature Tools, Shape Tools Update, Rounded Corners, Custom Shapes, how to add text, wrapping text, making text Follow a line or shape, How to Add a line around Layes, Adding Glow to Your Layers, Adding Bevel and Emboss to your Layers.

**Unit 4: Blend Modes, Filter Gallery, Retouching – 6 hours**

What is Blend Mode and how to use them, easily remove a Black or White Background with Blend Modes, create a Spotlight Effect with Blend Modes, Using Filters to Add Style to Photos and Graphics, Adjusting the Strength of a Filter, Neural Filters, Landscape Mixer, Harmonization, Color Match, Intro to retouching, How to remove blemishes in Photoshop, Smoothing Skin, Removing Bags under Eye. Professional Dodging and Burning to Enhance a Portrait, Enhancing Eye Color, Enhancing Lip Color, Saving and Exporting

**Unit 5: Project – 21 hours**

Lab work on photoshop tools, Project using Photoshop

**Text Books:** As it is a studio based subject, there are no specific text books.

**Reference Books/Materials**

1. The Adobe Photoshop CC Book for Digital Photographers - Scott Kelby

**Modes of Evaluation: Quiz/Assignment/ presentation/ extempore/ Written Examination**
**Examination Scheme:**

| **Components** | **Mid Term Jury** | **End Term Internal Jury** | **End Term Studio Exam** | **End Term External Jury** |
|---|---|---|---|---|
| **Weightage (%)** | **20M** | **30M** | **20M** | **30M** |

| **Components** | **Class Test 1** | **Presentation 1** | **Class Test 2** | **Presentation 2** | **Attendance** | **End Term Exam** |
|---|---|---|---|---|---|---|

| | | | | | | |
|---|---|---|---|---|---|---|
| **Weightage (%)** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

**Relationship between the Course Outcomes (COs) and Program Outcomes (POs)**

| **Mapping between COs and POs** | | |
|---|---|---|
| | **Course Outcomes (COs)** | **Mapped Program Outcomes** |
| **CO1** | Navigate through the many tools available in Photoshop, to create new projects and manage your work efficiently. | **PO5** |
| **CO2** | Create effective and engaging marketing content, edit and touch up images to get the perfect aesthetic. | **PO1, PSO2** |
| **CO3** | Formulate professional-looking typography and designs that blend seamlessly with your graphics in a step-by-step process. | **PO4, PSO4** |
| **CO4** | Construct custom designs for different projects, such as web design and social media. | **PO7** |

| | | Design and Integration | Drawing Work | Critical Analysis | Employability & Interdisciplinary Approach | Conduct | Communication and Team work | Life-long learning | Create desirable experience | Tools Softwares and Technology | Comprehensive and narrative | Innovative | Practical and demonstrative | Trend Setters |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Course Code | Course Title | PO1 | PO 2 | PO 3 | PO4 | PO 5 | PO6 | PO 7 | PSO 1 | PSO 2 | PSO3 | PS O4 | PSO5 | PS O 6 |
| ADGA109A | **DIGITAL TOOLS I – ADOBE PHO** | 3 | | | 2 | 1 | | 2 | | 3 | | 3 | | |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **TOS HOP** | | | | | | | | | | | | | |

| Course Code | Course Outcome | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ADGA101A | CO1 | | | | | 1 | | | | | | | | |
| | CO2 | 3 | | | | | | | | 3 | | | | |
| | CO3 | | | | 2 | | | | | | | 3 | | |
| | CO4 | | | | | | | 2 | | | | | | |
| | CO5 | | | | | | | | | | | | | |
| | CO6 | | | | | | | | | | | | | |

1=weakly mapped , 2= moderately mapped, 3=strongly mapped

**SEMESTER II**

| **ADGA102A** | **EFFECTS OF GAME: SOCIOLOGICAL, PSYCHOLOGICAL AND ANTHROPOLOGICAL** | L | T | S | P | C |
|---|---|---|---|---|---|---|
| **Version 1.0** | | 2 | 1 | 0 | 0 | 3 |
| **Pre-requisites/Exposure** | | | | | | |
| **Co-requisites** | | | | | | |

**Course Objectives**

1. Sensitizing students to be more observant to sociological, psychological and anthropological effects of game.

**Course Outcomes**

CO1. To interpret genres of games and what makes players attracted towards playing those games.
CO2. To sequence how games affect psychology of players.
CO3. To identify how games affect social skills and body of players.
CO4. To develop games in ethical manner that does not negatively affect players.

**Catalog Description**

This course introduces students to effects of games on the players. Students will be able to reconginse sociological, psychological and anthropological effects of games and will learn to create games in ethical manner.

**Course Content**

**Unit 1: Retaining Factors of Games – 9 hours**

What makes games interesting, how do games retain their users, How to find Retention Factor, Target & Stages, Bonuses & Gifts, addictive gaming

**Unit 2: Sociological Impacts of Games – 9 hours**

Impact on social skills and communication skills of gamers, development of social anxiety and Anti-socialness, how games affect Relationship building and maintaining skills of game players

**Unit 3: Psychological Impacts of Games – 9 hours**

Development of loneliness and depression, impacts of gaming culture – bullying and abuse, development of toxicity due to games – violent behaviour, recluse, rise of unrealistic expectations

**Unit 4: Anthropological Impacts of Games – 9 hours**

Physical games vs Video-games, Video-games as a means of surreal reality, Higher Heart beat and blood pressure due to excitement in games, muscle atrophy, obesity

**Unit 5: Ethics and Values of Game Design – 9 hours**

How to design games that are engaging and develop morality, avoiding stereotyping and violence, de-glorifying lawlessness and addiction

**Text Books:**

1. Getting Gamers : The Psychology of Video Games – Jamie Madigan

**Reference Books:**

1. Lost in A Good Game – Pete Etchells

**Modes of Evaluation: Quiz/Assignment/ presentation/ extempore/ Written Examination**
**Examination Scheme:**

| **Components** | **Mid Term Jury** | **End Term Internal Jury** | **End Term Studio Exam** | **End Term External Jury** |
|---|---|---|---|---|
| **Weightage (%)** | **20M** | **30M** | **20M** | **30M** |

| **Components** | **Class Test 1** | **Presentation 1** | **Class Test 2** | **Presentation 2** | **Attendance** | **End Term Exam** |
|---|---|---|---|---|---|---|
| **Weightage (%)** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

**Relationship between the Course Outcomes (COs) and Program Outcomes (POs)**

| **Mapping between COs and POs** | | |
|---|---|---|
| | **Course Outcomes (COs)** | **Mapped Program Outcomes** |
| **CO1** | To interpret genres of games and what makes players attracted towards playing those games. | **PO1, PSO4** |
| **CO2** | To sequence how games affect psychology of players. | **PO3** |
| **CO3** | To identify how games affect social skills and body of players. | **PO3** |
| **CO4** | To develop games in ethical manner that does not negatively affect players. | **PO5** |

| | | Design and Integration | Drawing Work | Critical Analysis | Employability & Interdisciplinary Approach | Conduct | Communication and Teamwork | Life-long learning | Create desirable experience | Tools Softwares and Technology | Comprehensive and narrative | Innovative | Practical and demonstrative | Trend Setters |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Course Code | Course Title | PO 1 | PO 2 | PO 3 | PO4 | PO 5 | PO6 | PO 7 | PSO1 | PSO 2 | PSO3 | PSO4 | PSO 5 | PSO 6 |
| **ADGA102A** | **EFFECTS OF GAME: SOCIOLOGICAL, PSYCHOLOGICAL AND ANTHROPOLOGICAL** | 2 | | 3 | | 2 | | | | | | 2 | | |

| Course Code | Course Outcome | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ADGA102A | CO1 | 2 | | | | | | | | | | 2 | | |
| | CO2 | | | 3 | | | | | | | | | | |
| | CO3 | | | 3 | | | | | | | | | | |
| | CO4 | | | | | 2 | | | | | | | | |
| | CO5 | | | | | | | | | | | | | |
| | CO6 | | | | | | | | | | | | | |

1=weakly mapped, 2= moderately mapped, 3=strongly mapped

| ADGA104A | BASIC KINEMATICS | L | T | S | P | C |
|---|---|---|---|---|---|---|
| Version 1.0 | | 0 | 0 | 4 | 0 | 4 |

| | |
|---|---|
| **Pre-requisites/Exposure** | |
| **Co-requisites** | |

**Course Objectives**

1. To acquaint the students to usage of terminology associated with movement of bodies.
2. To familiarize the students with series of motions of objects and camera

**Course Outcomes**

On completion of this course, the students will be able to
CO1. Comprehend the movement of bodies and the terminology.
CO2. Examine relative motion of objects and camera.
CO3. Articulate series of motions and induced motions.

**Catalog Description**

This course introduced the concept of motion. Students will learn about basic body movements and degree of freedom.

**Course Content**

**Unit 1: Introduction to Motion – 12 hours**

Movements in Animation, Importance of Keeping movements, Projectile motion, Parabolic Movement, Trajectory, Rotation

**Unit 2: Basics of Bones and Joints – 9 hours**

Body proportions, How Bones build Body, Skeleton, Relative Motion of bones, Human Walk-cycle, Animal Walk-cycle

**Unit 3: Degrees of Freedom – 6 hours**

One, two and three degrees of freedom, gravity, rotation, Degrees of Freedom for Bones

**Unit 4: Rigid bodies, Bounce & Collisions – 9 hours**

Movement when a rigid body bounces off a static body (Wall, floor etc.), collision of projectiles, post-collision movement of bodies

**Unit 5: Project Work – 24 hours**

Project work on replicating simple kinematic motions.

**Text Books:** As it is a studio based subject, there are no specific text books.

**Reference Books/Materials**

1. Physics for Game Developers – Bryan Bywalec, David M. Bourg

**Modes of Evaluation: Quiz/Assignment/ presentation/ extempore/ Written Examination**
**Examination Scheme:**

| **Components** | **Mid Term Jury** | **End Term Internal Jury** | **End Term Studio Exam** | **End Term External Jury** |
|---|---|---|---|---|
| **Weightage (%)** | **20M** | **30M** | **20M** | **30M** |

| **Components** | **Class Test 1** | **Presentation 1** | **Class Test 2** | **Presentation 2** | **Attendance** | **End Term Exam** |
|---|---|---|---|---|---|---|
| **Weightage (%)** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

**Relationship between the Course Outcomes (COs) and Program Outcomes (POs)**

| **Mapping between COs and POs** | | |
|---|---|---|
| | **Course Outcomes (COs)** | **Mapped Program Outcomes** |
| **CO1** | Comprehend the movement of bodies and the terminology. | **PO1, PSO1, PSO2** |
| **CO2** | Examine relative motion of objects and camera. | **PO1, PO3, PSO2, PSO5** |
| **CO3** | Articulate series of motions and induced motions. | **PO3,PSO5** |

| | | Design and Integration | Drawing Work | Critical Analysis | Employability and Interdisciplinary | Conduct | Communication and Teamwork: | Life-long learning | Create desirable experience | Tools Softwares and Technology | Comprehensive and narrative | Innovative | Practical and demonstrative | Trend Setters |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Course Code | Course Title | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO 6 |
| **ADGA104A** | BASIC KINEMATICS | 3 | | 3 | | | | | 2 | 3 | | | 3 | |

| Course Code | Course Outcome | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ADGA104A | CO1 | 3 | | | | | | | 2 | 3 | | | | |
| | CO2 | 3 | | 3 | | | | | | 3 | | | 3 | |
| | CO3 | | | 3 | | | | | | | | | 3 | |
| | CO4 | | | | | | | | | | | | | |
| | CO5 | | | | | | | | | | | | | |
| | CO6 | | | | | | | | | | | | | |

1=weakly mapped 2= moderately mapped 3=strongly mapped

| BGDA203 | MATERIAL EXPLORATION | L | T | S | P | C |
|---|---|---|---|---|---|---|
| Version 1.0 | | 0 | 0 | 3 | 0 | 3 |
| Pre-requisites/Exposure | | | | | | |
| Co-requisites | | | | | | |

**Course Objectives**

1. To identify various types of materials and their properties.
2. To comprehend the use of tools to carve different materials
3. To describe the textures of material and apply properties of paint according to the type of material.

**Course Outcomes**

On successful completion of this course, the students have capability to:
CO1. Practically experience properties of different materials and their textures.

CO2. Manage various materials and acquire knowledge to transform their concept thought in 3 dimensional form.

CO3. Use the full range of materials available to make animation videos.

CO4. Apply various tools while changing state or form of material.

**Catalog Description**

This course will teach students about different types of material used in game design and their properties. Students will learn to use the tools of carve various materials and gain knowledge about their texturea and painting properties.

**Course Content**

**Unit 1: Understanding materials and their properties – 9 hours**

Handle and experience materials like cardboard, foam board, wood, clay and its various types, putty and its various types, plaster of Paris, plastics of various types especially used in 3D printers and resins of various types.

**Unit 2: Carving of the material – 9 hours**

Learning how to carve various materials according to its properties, Tools that are used to materials at different states of same material, Steps to shape the material from bring it to appropriate proportions to giving it more details of a desired design.

**Unit 3: Joineries and Structure Building – 9 hours**

Different types of joints, Technologies in joining, Joining dissimilar materials, use of staples, paper-clips, glues and tape

**Unit 4: Texturing materials – 9 hours**

Various types of textures, surface finish – glossy and matte, creating textures, learning how textures connect to emotions

**Unit 5: Coloring materials – 9 hours**

Types of paints, Direction of use for all types of paints, properties of paints according to its type.

**Text book [TB]:**

1. The Material Sourcebook for Design Professionals- Rob Thompson, Martin Thompson

**Modes of Evaluation: Quiz/Assignment/ presentation/ extempore/ Written Examination**

**Examination Scheme:**

| **Components** | **Mid Term Jury** | **End Term Internal Jury** | **End Term Studio Exam** | **End Term External Jury** |
|---|---|---|---|---|
| **Weightage (%)** | **20M** | **30M** | **20M** | **30M** |

| **Components** | **Class Test 1** | **Presentation 1** | **Class Test 2** | **Presentation 2** | **Attendance** | **End Term Exam** |
|---|---|---|---|---|---|---|
| **Weightage (%)** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

**Relationship between the Course Outcomes (COs) and Program Outcomes (POs)**

| **Mapping between COs and POs** | | |
|---|---|---|
| | **Course Outcomes (COs)** | **Mapped Program Outcomes** |
| **CO1** | Practically experience properties of different materials and their textures. | **PO1, PO7** |
| **CO2** | Manage various materials and acquire knowledge to transform their concept thought in 3-dimensional form. | **PO7, PSO1** |
| **CO3** | Use the full range of materials available to make animation videos. | **PO6, PSO2** |
| **CO4** | Apply various tools while changing state or form of material. | **PO6, PSO2** |

| | | Design and Integration | Drawing Work | Critical Analysis | Employability & Interdisciplinary Approach | Conduct | Communication and Teamwork | Life-long learning | Create desirable experience | Tools Softwares and Technology | Comprehensive and narrative | Innovative | Practical and demonstrative | Trend Setters |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Course Code | Course Title | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
| **ADGA106A** | MATERIAL EXPLORATIONS | 2 | | | | | 3 | 2 | 2 | 3 | | | | |

| Course Code | Course Outcome | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ADGA106A | CO1 | 2 | | | | | | 2 | | | | | | |
| | CO2 | | | | | | | 2 | 2 | | | | | |
| | CO3 | | | | | | 3 | | | 3 | | | | |
| | CO4 | | | | | | 3 | | | 3 | | | | |
| | CO5 | | | | | | | | | | | | | |
| | CO6 | | | | | | | | | | | | | |

1=weakly mapped, 2= moderately mapped, 3=strongly mapped

| ADGA108A | DIGITAL TOOLS – II ADOBE ILLUSTRATOR | L | T | S | P | C |
|---|---|---|---|---|---|---|
| **Version 1.0** | | 0 | 0 | 2 | 2 | 3 |
| **Pre-requisites/Exposure** | | | | | | |
| **Co-requisites** | | | | | | |

**Course Objectives**

1. To illustrate the use of various tools in photoshop.
2. To demonstrate efficiency in managing the projects.
3. To design effective and engaging content for multiple platforms

**Course Outcomes**

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

CO1. Build and develop assets like colors, patterns & drawings.

CO2. Compose 3D and flat objects.

CO3. Design graphics using the right colour schemes, fonts and animations.

**Catalog Description**

This course will teach students in and out of Adobe Illustrator. Students will learn how to use different tools of the software and how to use them to compose meaningful design content.

**Course Content**

**Unit 1: Introduction to Adobe Illustrator – 6 Hours**

Introduction to Adobe Illustrator, Evolution, Importance, how to setup Adobe Illustrator, Introduction to tools and components, keyboard shortcuts, drawing shaping using tools, drawing icons using tools, pen tools, curvature tools, live shape effects, Exporting for Print and Web

**Unit 2: Colours and Patterns – 6 Hours**

Colour theory for designers, RGB & CMYK, colour schemes and how to choose them, colour trends, using colour themes in illustrator, How to Make Gradients, how to make long shadows, colour blending, gradients along strokes

**Unit 3: Typography, Strokes and Lines – 9 Hours**

What is typography, Elements and characteristics of typography, How to Use Type & Fonts, Advanced fonts tricks & tips, tools for typography in Illustrator, creating strokes and lines

**Unit 4: Introduction to 3D and Animation in Illustrator – 9 Hours**

Introduction to 3D in Adobe Illustrator, how to make Semi flat 3D icons & UI design, how to make 3D gradient lettering blends, how to make a pie chart line graph & bar graph, Advanced Image tricks & tips, Masking an Image, Bend & Warp Shapes and Text, Drawing Repeating Shapes and Patterns, Vectorizing an Image

**Unit 5: Project – 15 Hours**

Lab work on Illustrator tools, Project using Illustrator

**Text Books:** As it is a studio based subject, there are no specific text books.

**Reference Books/Materials**

- Adobe Illustrator CC: Classroom in a Book by Brian Wood
- Learn Adobe Illustrator CC for Graphic Design and Illustration by Chad Chelius & Rob Schwartz

**Modes of Evaluation: Quiz/Assignment/ presentation/ extempore/ Written Examination**
**Examination Scheme:**

| **Components** | **Mid Term Jury** | **End Term Internal Jury** | **End Term Studio Exam** | **End Term External Jury** |
|---|---|---|---|---|
| **Weightage (%)** | **20M** | **30M** | **20M** | **30M** |

| **Components** | **Class Test 1** | **Presentation 1** | **Class Test 2** | **Presentation 2** | **Attendance** | **End Term Exam** |
|---|---|---|---|---|---|---|
| **Weightage (%)** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

**Relationship between the Course Outcomes (COs) and Program Outcomes (POs)**

| **Mapping between COs and POs** | | |
|---|---|---|
| | **Course Outcomes (COs)** | **Mapped Program Outcomes** |
| **CO1** | Build and develop assets like colors, patterns & drawings. | **PO2, PO6, PSO2, PSO4, PSO5** |
| **CO2** | Compose 3D and flat objects. | **PO2, PO6, PSO2, PSO4, PSO5** |
| **CO3** | Design graphics using the right colour schemes, fonts and animations. | **PO2, PO6, PO7, PSO2, PSO4, PSO5** |

| | | Design and Integration | Drawing Work | Critical Analysis | Employability & Interdisciplinary Approach | Conduct | Communication and Teamwork | Life-long learning | Create desirable experience | Tools Softwares and Technology | Comprehensive and narrative | Innovative | Practical and demonstrative | Trend Setters |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Course Code | Course Title | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
| **ADGA108A** | **DIGITAL TOOLS – II ADOBE ILLUSTRATOR** | | 3 | | | | 3 | 3 | | 3 | | 3 | 3 | |

| Course Code | Course Outcome | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ADGA108A | CO1 | | 3 | | | | 3 | | | 3 | | 3 | 3 | |
| | CO2 | | 3 | | | | 3 | | | 3 | | 3 | 3 | |
| | CO3 | | 3 | | | | 3 | 3 | | 3 | | 3 | 3 | |
| | CO4 | | | | | | | | | | | | | |
| | CO5 | | | | | | | | | | | | | |
| | CO6 | | | | | | | | | | | | | |

1=weakly mapped , 2= moderately map, 3=strongly mapped

| ADGA112A | DESIGN PROCESS: PROBLEM SOLVING PROJECT | L | T | S | P | C |
|---|---|---|---|---|---|---|
| **Version 1.0** | | 0 | 0 | 4 | 0 | 4 |
| **Pre-requisites/Exposure** | | | | | | |
| **Co-requisites** | | | | | | |

**Course Objectives**

1. To Introducing students to fundamental techniques of problem solving
2. Enhancing the skills in implementation of these techniques on problem statements

**Course Outcomes**

On successful completion of this course, the students have capability to

CO1. Design solutions with 6D process
CO2. Implementing different tools and techniques at correct form and place
CO3. Illustrate advance technology and hands-on implementation on the project
CO4. Concretize the skills learnt through practice sessions.

**Catalog Description**

Students will learn about 6D design process. They will understand the working of each stage and how it is implemented to solve to a design problem.

**Course Content**

**Unit 1: Discover – 6 Hours**

Gap Finding, empathize with stakeholders and users to understand the problem, Find the unmet needs and expectations of the user, analyze data and trends, ask questions relevant to receive insights to the problem

**Unit 2: Define – 9 Hours**

Problem Statement, Define the problem using mental models, Define the user, Define the context of the user, define the User Personas, User Scenarios, Task Analysis

**Unit 3: Dream and Design – 9 Hours**

Ideate for maximum number of solutions, define an evaluation criterion, Strategize the idea to base your design solution on, Create the Information Architecture and set priorities, Wireframing and Prototyping, Mockups

**Unit 4: Develop and Deliver – 6 Hours**

Test and Iterate, A/B Testing, Tool Based Testing, Design Documentation, Assets and Specs, Designer-Developer Handoff

**Unit 5: Project – 15 Hours**

Project on implementation of 6D process in any service/product

**Text Books:** As it is a studio-based subject, there are no specific text books.

**Reference Books/Materials**

1. Designing for Digital Age: How to create human-centered products and services - Kim Goodwin
2. The design of everyday things - Don Norman

**Modes of Evaluation: Quiz/Assignment/ presentation/ extempore/ Written Examination**
**Examination Scheme:**

| **Components** | **Mid Term Jury** | **End Term Internal Jury** | **End Term Studio Exam** | **End Term External Jury** |
|---|---|---|---|---|
| **Weightage (%)** | **20M** | **30M** | **20M** | **30M** |

| **Components** | **Class Test 1** | **Presentation 1** | **Class Test 2** | **Presentation 2** | **Attendance** | **End Term Exam** |
|---|---|---|---|---|---|---|
| **Weightage (%)** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

**Relationship between the Course Outcomes (COs) and Program Outcomes (POs)**

| **Mapping between COs and POs** | | |
|---|---|---|
| | **Course Outcomes (COs)** | **Mapped Program Outcomes** |
| **CO1** | Design solutions with 6D process | **PO1,PO2,PO6PO3** |
| **CO2** | Implementing different tools and techniques at correct form and place | **PSO2, PSO5** |
| **CO3** | Illustrate advance technology and hands-on implementation on the project | **PO5,PO6** |
| **CO4** | Concretize the skills learnt through practice sessions. | **PO7** |

| | | Design and Integration | Drawing Work | Critical Analysis | Employability & Interdisciplinary Approach | Conduct | Communication and Teamwork | Life-long learning | Create desirable experience | Tools Softwares and Technology | Comprehensive and narrative | Innovative | Practical and demonstrative | Trend Setters |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

| Course Code | Course Title | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **ADAGA112A** | **DESIGN PROCESS: PROBLEM SOLVING PROJECT** | 3 | 3 | 3 | | 3 | 3 | 3 | | 3 | | | 3 | |

| Course Code | Course Outcome | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ADGA112A | CO1 | 3 | 3 | 3 | | | 3 | | | | | | | |
| | CO2 | | | | | | | | | 3 | | | 3 | |
| | CO3 | | | | | 3 | 3 | | | | | | | |
| | CO4 | | | | | | | 3 | | | | | | |
| | CO5 | | | | | | | | | | | | | |
| | CO6 | | | | | | | | | | | | | |

1=weakly mapped 2= moderately mapped 3=strongly mapped

| ADGA114A | ENVIRONMENTAL SCIENCE | L | T | S | P | C |
|---|---|---|---|---|---|---|
| Version 2.0 | | 2 | 1 | 0 | 0 | 3 |
| Pre-requisites/Exposure | | | | | | |
| Co-requisites | | | | | | |

**Course Objectives**

1. To build a comprehensive understanding of various facets of life forms, ecological processes and how humans have impacted them during the Anthropocene era.
2. To identify relevant environmental issues, analyse the various underlying causes, evaluate the practices and policies, and develop framework to make informed decisions.
3. To develop empathy for various life forms and appreciate the various ecological linkages within the web of life.

**Course Outcomes**

On successful completion of this course, the students have capability to

CO1. Identify concepts and methods from ecological and physical sciences and their application in environmental problem solving.

CO2. Illustrate the scientific and historical context of environmental issues and the links between human and natural systems.

CO3. Comprehend the character of environmental problems and ways of addressing them.

CO4. Implement concepts and methodologies to analyze and understand interactions between social and environmental processes.

**Catalog Description**

This compulsory course on Environmental Science aims to train students to cater to the need for ecological citizenship through developing a strong foundation on the critical linkages between ecology-society-economy

**Course Content**

**Unit 1: Fundamentals of Environmental Sciences – 6 Hours**

The Fundamentals of Environmental Sciences, Spheres of the Earth, Laws of Thermodynamics, Meteorological Parameters, Biogeographic Provinces, Agroclimatic Zones of India, Sustainable Development, Natural Resources and their Assessment

**Unit 2: Environmental Geosciences – 12 Hours**

Composition of Air and Soil, Toxic Chemicals, Ecosystem Structure and Functions, Origin of Earth, Geochemical Classification of Elements, Weathering Reactions, Erosion, Transportation, and Deposition of Sediments, Soil Formation, Clay Minerals, Soil Physical, and Chemical Properties, The abundance of Elements In Earth, Crust, Hydrosphere and Biosphere, Partitioning of Elements, Geochemical Recycling Of Elements, Paleoclimate, Catastrophic Geological Hazards, Prediction Of Hazards And Mitigation Of Their Impacts

**Unit 3: Energy and Environment – 9 Hours**

Solar Radiation and its Spectral Characteristics, Principles of Generation of Hydro-Power, Fission and Fusion, Nuclear Fuels, Principles and Types of Nuclear Reactors, Methods to Produce Energy from Biomass, Energy Use Pattern, Emissions of CO2 in Developed and Developing Countries, Radioactive Forcing and Global Warming, Large-Scale Exploitation of Energy Sources

**Unit 4: Environmental Pollution and Control – 12 Hours**

Air Pollution, Noise Pollution, Water Pollution, Soil Pollution, Thermal, Marine, and Radioactive Pollution, Solid Waste Management, Generation Rates, Solid Waste Components, Solid Waste Collection and Transportation, Solid Waste Processing and Recovery, E-Waste - Classification, Methods of Handling, And Disposal, Plastic Waste - Sources, Consequences, And Management

**Unit 5: Environmental Assessment, Management, and Legislation – 6 Hours**

Environmental Impact Statement and Environmental Management Plan, Environmental Impact Guidelines, Impact Assessment Methodologies, Procedure for Reviewing Environmental Impact of Developmental Projects, Life-cycle Analysis, Cost-Benefit Analysis, Guidelines for Environmental Audit, Hazard Identification, Hazard Accounting, Scenarios of Exposure, Risk Characterization and Risk Management, Overview of Environmental Laws in India

**Text Books:**

1. Environmental Pollution Control Engineering by C. S. Rao

**Reference book(s) [RB]:**

1. Environmental Science - Toward a Sustainable Future Twelfth Edition (English, Paperback, Richard T. Wright, Dorothy F. Boorse)
2. Environmental Science and Engineering by N. Arumugam, V. Kumaresan

**Modes of Evaluation: Quiz/Assignment/ presentation/ extempore/ Written Examination**
**Examination Scheme:**

| **Components** | **Mid Term Jury** | **End Term Internal Jury** | **End Term Studio Exam** | **End Term External Jury** |
|---|---|---|---|---|
| **Weightage (%)** | **20M** | **30M** | **20M** | **30M** |

| **Components** | **Class Test 1** | **Presentation 1** | **Class Test 2** | **Presentation 2** | **Attendance** | **End Term Exam** |
|---|---|---|---|---|---|---|
| **Weightage (%)** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

**Relationship between the Course Outcomes (COs) and Program Outcomes (POs)**

| **Mapping between COs and POs** | | |
|---|---|---|
| | **Course Outcomes (COs)** | **Mapped Program Outcomes** |

| | | |
|---|---|---|
| **CO1** | Identify concepts and methods from ecological and physical sciences and their application in environmental problem solving. | **PO4** |
| **CO2** | Illustrate the scientific and historical context of environmental issues and the links between human and natural systems. | **PSO4** |
| **CO3** | Comprehend the character of environmental problems and ways of addressing them. | **PO3** |
| **CO4** | Implement concepts and methodologies to analyze and understand interactions between social and environmental processes. | **PO4, PO7** |

| | | Design and Integration | Drawing Work | Critical Analysis | Employability & Interdisciplinary Approach | Conduct | Communication and Teamwork | Life-long learning | Create desirable experience | Tools Softwares and Technology | Comprehensive and narrative | Innovative | Practical and demonstrative | Trend Setters |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Course Code | Course Title | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
| **ADGA 114A** | **ENVIRONMENTAL SCIENCE** | | | 2 | 3 | | | 3 | | | | 3 | | |

| Course Code | Course Outcome | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ADGA114A | CO1 | | | | 3 | | | | | | | | | |
| | CO2 | | | | | | | | | | | 3 | | |
| | CO3 | | | 2 | | | | | | | | | | |
| | CO4 | | | | 3 | | | 3 | | | | | | |
| | CO5 | | | | | | | | | | | | | |
| | CO6 | | | | | | | | | | | | | |

1=weakly mapped, 2= moderately mapped, 3=strongly mapped

| | | | | | | |
|---|---|---|---|---|---|---|
| **ADGA110A** | **COLORS AND EMOTIONS** | L | T | P | S | C |

| | | | | | | |
|---|---|---|---|---|---|---|
| **Version 1.0** | | 0 | 0 | 4 | 0 | 4 |
| **Pre-requisites/Exposure** | | | | | | |
| **Co-requisites** | | | | | | |

**Course Objectives**

1. To understand the basics of color theory and how it is implemented in game design
2. To understand how the choice of color effectives the emotions of players.

**Course Outcomes**

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

CO1. To comprehend what is color theory and how it is used in game design
CO2. To illustrate how to select color palette for game design
CO3. To articulate how emotion plays an important role in game design
CO4. To get acquainted with emotion detection and modelling
CO5. To implement emotional adaptation and expression in game

**Catalog Description**

This course will develop an understanding of color theory and how it affects the emotions of the players will playing a game. Students will study how to select the color palette and various models used to detect emotion.

**Course Content**

**Unit 1: Color Theory for Game Design - 12 hours**

The basics of color theory, Color Elements, Color Combination Schemes, Color Temperature, Hue Shifting Technique, Ready to use color palettes

**Unit 2: The Psychology of Color for Game Development – 12 hours**

Introduction, Chromathearpy, How Culture Reponses to color Psychology Impacts Game Development, Personal Experiences, Fit, Adobe Color

**Unit 3: Picking Color Palette – 12 hours**

An Introduction to Color Palettes, Picking Palettes with Tools – Kuler , Color Scheme Designer 3, Color Blender, Common Types of Color Schemes, Color Schemes Based on Themes, Creating Perfect Color Palettes

**Unit 4: Emotions in Game – 12 hours**

Introduction, what games can do for emotion research, what can emotion research do for games, The Affective loop in games, Games as Emotion Elicitors – Game Content, Game non-player characters

**Unit 5: Emotion Detection & Modelling and Emotional Adaptation & Expression in Games - 12 hours**

Emotion Detection and Modelling in Games – Model- based Top-down Approaches, Model –free (bottom – up) Approaches, The Model's Input, The Model's output, Modelling Tools, Emotional Adaptation and

Expression in Games- Adapting and Expressing Emotion through Agents and NPCs, Adapting and Expressing Emotion Through Game Content, Integration in the Affective Loop: When and How to Adapt, Evaluating Adaptation

**Text Books:**

1. Color: A Workshop for Artists and Designers by David Hornung.

**Reference Books/Materials**

1. On the Way to Fun: An Emotion-Based Approach to Successful Game Design – Roberto Dillon

**Modes of Evaluation: Quiz/Assignment/ presentation/ extempore/ Written Examination**
**Examination Scheme:**

| **Components** | **Mid Term Jury** | **End Term Internal Jury** | **End Term Studio Exam** | **End Term External Jury** |
|---|---|---|---|---|
| **Weightage (%)** | **20M** | **30M** | **20M** | **30M** |

| **Components** | **Class Test 1** | **Presentation 1** | **Class Test 2** | **Presentation 2** | **Attendance** | **End Term Exam** |
|---|---|---|---|---|---|---|
| **Weightage (%)** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

**Relationship between the Course Outcomes (COs) and Program Outcomes (POs)**

| **Mapping between COs and POs** | | |
|---|---|---|
| | **Course Outcomes (COs)** | **Mapped Program Outcomes** |
| **CO1** | To comprehend what is color theory and how it is used in game design | **PO1** |
| **CO2** | To illustrate how to select color palette for game design | **PO3** |
| **CO3** | To articulate how emotion plays an important role in game design | **PO7** |
| **CO4** | To get acquainted with emotion detection and modelling | **PSO4** |
| **CO5** | To implement emotional adaptation and expression in game | **PSO6** |

| | | Design and Integration | Drawing Work | Critical Analysis | Employability & Interdisciplinary Approach | Conduct | Communication and Team work | Life-long learning | Create desirable experience | Tools Softwares and Technology | Comprehensive and narrative | Innovative | Practical and demonstrative | Trend Setters |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Course Code | Course Title | PO1 | PO 2 | PO 3 | PO4 | PO 5 | PO6 | PO 7 | PSO 1 | PSO 2 | PSO3 | PS O4 | PSO5 | PS O 6 |
| **ADGA110A** | **COLORS AND EMOTIONS** | 2 | | 1 | | | | 2 | | | | 3 | | 2 |

| Course Code | Course Outcome | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ADGA110A | CO1 | 2 | | | | | | | | | | | | |
| | CO2 | | | 1 | | | | | | | | | | |
| | CO3 | | | | | | | 2 | | | | | | |
| | CO4 | | | | | | | | | | | 3 | | |
| | CO5 | | | | | | | | | | | | | 2 |
| | CO6 | | | | | | | | | | | | | |

1=weakly mapped 2= moderately, mapped 3=strongly mapped

**SEMESTER III**

| ADGA201A | PHOTOGRAPHY TECHNIQUES | L | T | S | P | C |
|---|---|---|---|---|---|---|
| **Version 1.0** | | 0 | 0 | 4 | 0 | 4 |
| **Pre-requisites/Exposure** | | | | | | |
| **Co-requisites** | | | | | | |

**Course Objectives**

1. To select and use appropriate photographic equipment and techniques to capture quality images of a variety of subjects, in studio and on location.
2. To use post-production techniques to edit and finish images in formats that meet industry standards and the needs of the client.
3. To create lighting schemes using appropriate techniques, equipment and accessories to produce quality images that meet the needs of the client.

**Course Outcomes**

CO1. Students will comprehend how today's photographic camera works and records images.
CO2. Students will explain the correct exposure in terms of light sensitive surface, light sensitivity, light metering, and qualities of light.
CO3. Students will describe alternative correct exposure in terms of depth of field and recording of movement.
CO4. Students will classify technological features on the camera, the process of film and print, and digital photography and defines the general composition rules of photography.
CO5. Students will learn to operate the camera and edit photos.

**Catalog Description**

Students gain knowledge and interest in photography and image creation. They will experience hands-on learning focused on the technical skills, and creative portfolio images.

**Course Content**

**Unit 1: Exposure and Composition – 12 Hours**

How does a camera work, Exposure, Aperture, Shutter Speed, exposure triangle, Using the Camera's Light Meter, Metering Modes, Exposure Compensation, Camera Exposure Modes: Automatic, Manual, Dynamic Range, HDR and Bracketing, what is Composition? Rule of Thirds, Negative Space, Perspective & Angle, The Golden Ratio, Creating Depth with Layering, Depth of Field, Manual Focus vs. Auto Focus, shooting objects in low light and shooting fast objects

**Unit 2: Camera Anatomy and Equipment – 12 Hours**

Camera Anatomy, Features of a Camera, Histogram, Reading Exposure with the Histogram, Manual Focus vs. Auto Focus, Camera Scene Modes, File Types, Camera's Sensor and its Sizes, Photo Resolution, White Balance and Color, Light Temperature, Shooting in Natural Light, Shooting with Your Camera's Flash and External Flash, Shooting with a Flash Outdoors, Prime vs Zoom, Kit vs. Pro Lens, Lens Stabilization, Lens Filters and Creative Filters, Memory Cards, Batteries & Chargers, Flashes and Lighting

**Unit 3: Types of Photography – Part 1– 12 Hours**

Shooting Portraits, Shooting Long Exposures – Day and Night time, Shooting Landscape Photos, Shooting Product Photos – Natural and Artificial Lights, Shooting in Low Light, Shooting Sports & Action,

**Unit 4: Types of Photography – Part 2– 12 Hours**

Shooting Macro Photos, Architecture and Street Photography, Shooting Events, Intro to Aerial & Drone Photography, Nature and Wildlife Photography, Time-lapse Photography

**Unit 5: Photo Editing – 12 Hours**

Introduction to Adobe Lightroom, Importing, Organizing & Filtering Photos, Crop & Rotate, White Balance, Saturation & Vibrance, Light Adjustments & Tone Curve, HSL Color Adjustments, Effects: Dehaze, Vignettes & Grain, Split Toning, Details: Sharpening & Noise Reduction, Optics: Lens Corrections & Chromatic Aberration, Geometry: Upright Tool, Saving & Sharing Photos, Removing Blemishes with the Healing Brush, Brush Adjustments for Targeted Edits, Linear and Radial Adjustments, Copying Settings, Presets

**Text Books:** As it is a studio-based subject, there are no specific text books.

**Reference Books:**

1. The Art of Photography By Bruce Barnbaum
2. Photography Theory By James Elkins
3. Visual Thinking by Rudolf Arnheim

**Modes of Evaluation: Quiz/Assignment/ presentation/ extempore/ Written Examination**
**Examination Scheme:**

| **Components** | **Mid Term Jury** | **End Term Internal Jury** | **End Term Studio Exam** | **End Term External Jury** |
|---|---|---|---|---|
| **Weightage (%)** | **20M** | **30M** | **20M** | **30M** |

| **Components** | **Class Test 1** | **Presentation 1** | **Class Test 2** | **Presentation 2** | **Attendance** | **End Term Exam** |
|---|---|---|---|---|---|---|
| **Weightage (%)** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

**Relationship between the Course Outcomes (COs) and Program Outcomes (POs)**

| **Mapping between COs and POs** | | |
|---|---|---|
| | **Course Outcomes (COs)** | **Mapped Program Outcomes** |
| **CO1** | Students will comprehend how today's photographic camera works and records images. | **PSO3** |
| **CO2** | Students will explain the correct exposure in terms of light sensitive surface, light sensitivity, light metering, and qualities of light. | **PO1, PO4** |
| **CO3** | Students will describe alternative correct exposure in terms of depth of field and recording of movement. | **PO1, PO4** |
| **CO4** | Students will classify technological features on the camera, the process of film and print, and digital photography and defines the general composition rules of photography. | **PSO2, PSO3** |
| **CO5** | Students will learn to operate the camera and edit photos. | **PSO5,PO7** |

| | | Design and Integration | Drawing Work | Critical Analysis | Employability & Interdisciplinary Approach | Conduct | Communication and Teamwork | Life-long learning | Create desirable experience | Tools Softwares and Technology | Comprehensive and narrative | Innovative | Practical and demonstrative | Trend Setters |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Course Code | Course Title | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
| ADGA201A | PHOTOGRAPHY TECHNIQUES | 3 | | | 3 | | | 3 | | 3 | 3 | | 3 | |

| Course Code | Course Outcome | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ADGA201A | CO1 | | | | | | | | | | 3 | | | |
| | CO2 | 3 | | | 3 | | | | | | | | | |
| | CO3 | 3 | | | 3 | | | | | | | | | |
| | CO4 | | | | | | | | | 3 | 3 | | | |
| | CO5 | | | | | | | 3 | | | | | 3 | |
| | CO6 | | | | | | | | | | | | | |

1=weakly mapped, 2= moderately mapped, 3=strongly mapped

| ADGA203A | VISUAL DESIGN AND COMMUNICATION | L | T | S | P | C |
|---|---|---|---|---|---|---|
| Version 1.0 | | 0 | 0 | 4 | 0 | 4 |
| Pre-requisites/Exposure | | | | | | |
| Co-requisites | | | | | | |

**Course Objectives**

1. To comprehend and effectively communicate the design ideas
2. To design effective and engaging content for multiple platforms
3. To grasp the methods of presenting complex information visually
4. To apprehend the application of design communication and visualization

**Course Outcomes**

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

CO1. Compose meaningful, useful, and attractive visual designs to create and convey a message or a story, making it visually stand.
CO2. Evaluate the aesthetic content of artistic works within a specific historical, cultural, and/or commercial context.
CO3. Demonstrate an effective transference of ideas.
CO4. Recognize and apply aesthetic principles within non-original and original works, respectively.
CO5. Display a professional demeanor in managing time, materials, and information, as it reveals motivation, attitude, and work ethic.
CO6. Determine the mode of production required to achieve a specific product and to demonstrate level-appropriate mastery of skills—manual and/or digital—necessary to achieve those products.

**Catalog Description**

This course is focused on teaching participants how to create a book of visual standards and how to use it to create graphics with specific purposes like posters, social media posts and brochures. It will also give students an understanding of the processes and tools required to create interactive visualizations and explanations of data. It will allow students to appreciate correct visualizations, and to identify biased or manipulated interpretations.

**Course Content**

**Unit 1: Introduction to Visual Design and its Elements – 9 hours**

Visual Design, aesthetic appeal, Why Visual Communication Matters, How elements such as line, shape, colors can build visuals, visual conceptualization process

**Unit 2: Typography, Composition and Layout – 9 hours**

Different types with their names and character, mode, weight, orientation, position & sizes, readability and messaging to convey, Importance of layout, rules of composition, grids and types of grid, golden ratio

**Unit 3: Visualization techniques and Ideation Methods– 9 Hours**

Learning visualization techniques through - visual identity design, metamorphism visualization techniques, Innovation and creativity, exploring cross industry innovation, Brainstorming and mind mapping, crazy 8 method

**Unit 4: Information Visualization and Communicating Design Ideas – 9 Hours**

Information visualization through infographics and designing brand communication

**Unit 5: Project Work – 9 hours**

**Text Books:**

1. Graphic Design : The New Basics – Ellen Lupton, Jennifer Cole Phillips

**Reference Books/Materials**

1. The Visual Communication Book - Mark Edwards

**Modes of Evaluation: Quiz/Assignment/ presentation/ extempore/ Written Examination**
**Examination Scheme:**

| **Components** | **Mid Term Jury** | **End Term Internal Jury** | **End Term Studio Exam** | **End Term External Jury** |
|---|---|---|---|---|
| **Weightage (%)** | **20M** | **30M** | **20M** | **30M** |

| **Components** | **Class Test 1** | **Presentation 1** | **Class Test 2** | **Presentation 2** | **Attendance** | **End Term Exam** |
|---|---|---|---|---|---|---|
| **Weightage (%)** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

**Relationship between the Course Outcomes (COs) and Program Outcomes (POs)**

| **Mapping between COs and POs** | | |
|---|---|---|
| | **Course Outcomes (COs)** | **Mapped Program Outcomes** |
| **CO1** | Compose meaningful, useful, and attractive visual designs to create and convey a message or a story, making it visually stand. | |
| **CO2** | Evaluate the aesthetic content of artistic works within a specific historical, cultural, and/or commercial context. | |
| **CO3** | Demonstrate an effective transference of ideas | |
| **CO4** | Recognize and apply aesthetic principles within non-original and original works, respectively. | |

| | | |
|---|---|---|
| **CO5** | Display a professional demeanor in managing time, materials, and information, as it reveals motivation, attitude, and work ethic. | |
| **CO6** | Determine the mode of production required to achieve a specific product and to demonstrate level-appropriate mastery of skills—manual and/or digital—necessary to achieve those products. | |

| | | Design and Integration | Drawing Work | Critical Analysis | Employability & Interdisciplinary Approach | Conduct | Communication and Teamwork | Life-long learning | Create desirable experience | Tools Softwares and Technology | Comprehensive and narrative | Innovative | Practical and demonstrative | Trend Setters |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Course Code | Course Title | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
| **ADGA 203A** | VISUAL DESIGN AND COMMUNICATION | | | | | | | | | | | | | |

| Course Code | Course Outcome | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ADGA203A | CO1 | 3 | 3 | 2 | 3 | 2 | 3 | 2 | 3 | 2 | 2 | 1 | 2 | 2 |
| | CO2 | 2 | | 3 | 2 | 3 | 3 | 3 | | | 3 | | | |
| | CO3 | 3 | 3 | 3 | 3 | | 3 | 3 | 3 | | 3 | | 3 | 2 |
| | CO4 | 3 | 3 | 3 | 3 | | | 3 | 2 | | | | 3 | 3 |
| | CO5 | 1 | | 3 | 3 | 2 | | 3 | 2 | | 2 | | 3 | |
| | CO6 | | | 3 | 3 | 3 | 2 | 2 | 2 | 3 | 1 | | 2 | 1 |

1=weakly mapped 2= moderately mapped 3=strongly mapped

| ADGA205A | CHARACTER DESIGN | L | T | S | P | C |
|---|---|---|---|---|---|---|
| Version .0 | | 0 | 0 | 3 | 0 | 3 |
| Pre-requisites/Exposure | | | | | | |
| Co-requisites | | | | | | |

**Course Objectives**

1. To familiarize the students about basic techniques of drawing characters and silhouettes
2. To design pose and expressions of characters
3. To build story around the character.

**Course Outcomes**

On successful completion of this course, the students have capability to:

CO1. Demonstrate the ability to render believable characters through a variety of mark making media, styles and techniques
CO2. Purposefully explore a variety of compositional formats of their character including perspective, foreground, midground, background
CO3. Create believable characters in a narrative setting
CO4. Evaluate own work and the work of others through peer assessment and critique
CO5. Establish drawing practice, process and development

**Catalog Description**

In this course students will learn the process of designing characters through conceptualisation and iteration. Using imaginative and observational skills students will create a visual narrative around their created character. Students will also produce visual outcomes that visually communicate the character design.

**Course Content**

**Unit 1: Drawing Characters and Silhouettes – 9 Hours**

Research and Development – Who is your character, who is your target audience, keys to drawing with volume, Foreshortening, placement, shading, surface, size, contour, overlap, density, horizon, shadow, building designs from simple shapes, how shape affects our designs, how shapes define silhouettes, The importance of character silhouettes, how shape and silhouettes are important to creating a unique and strong character line up, how to bring an individual identity to a character's face

**Unit 2: Expressions and Colours – 9 Hours**

Line Weight, Symmetry vs. Asymmetry, Flow of Lines, Busy to Simple, Balance in Contrast, Balance in Colour, Actual Balance, Artist Balance, hands, feet, eyes, and mouth, Color Theory and design decisions for your character, color choices to reflect your characters' feelings and how you want your audience to react to them

**Unit 3: Gestures and Building Relationships – 6 Hours**

How design decisions relate to each other, Creating your character's gestures, Pose, movement & gesture, Positive negative space, props and cloth, archetypes, designing an animal using simple shapes

**Unit 4: Creating a Story – 6 Hours**

Storytelling, plot development, designing contrasting characters and placing them in a story telling moment, what a character turn around is, why it is important in character design, and how it is applied in designing for a production

**Unit 5: Project – 15 Hours**

Sketch and design a character with colours, create expressions, gestures and a story on it

**Text Books**

1. Character Design from the Ground Up by Kevin Crossley
2. Making Comics: Storytelling Secrets of Comics, Manga and Graphic Novels by Scott McCloud
3. Masters of Anatomy by Adam Hughes

**Modes of Evaluation: Quiz/Assignment/ presentation/ extempore/ Written Examination**
**Examination Scheme:**

| **Components** | **Mid Term Jury** | **End Term Internal Jury** | **End Term Studio Exam** | **End Term External Jury** |
|---|---|---|---|---|
| **Weightage (%)** | **20M** | **30M** | **20M** | **30M** |

| **Components** | **Class Test 1** | **Presentation 1** | **Class Test 2** | **Presentation 2** | **Attendance** | **End Term Exam** |
|---|---|---|---|---|---|---|
| **Weightage (%)** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

**Relationship between the Course Outcomes (COs) and Program Outcomes (POs)**

| **Mapping between COs and POs** | | |
|---|---|---|
| | **Course Outcomes (COs)** | **Mapped Program Outcomes** |
| **CO1** | Demonstrate the ability to render believable characters through a variety of mark making media, styles and techniques | **PO1, PO2, PSO1** |
| **CO2** | Purposefully explore a variety of compositional formats of their character including perspective, foreground, midground, background | **PO2, PSO4** |
| **CO3** | Create believable characters in a narrative setting. | **PO2, PO6, PSO4** |
| **CO4** | Evaluate own work and the work of others through peer assessment and critique | **PO3, PO6, PSO5** |
| **CO5** | Establish drawing practice, process and development | **PO6,PO7, PSO5, PSO6** |

| | | Design and Integration | Drawing Work | Critical Analysis | Employability & Interdisciplinary Approach | Conduct | Communication and Teamwork | Life-long learning | Create desirable experience | Tools Softwares and Technology | Comprehensive and narrative | Innovative | Practical and demonstrative | Trend Setters |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
| **ADGA205A** | CHARACTER DESIGN | 3 | 3 | 3 | | | 3 | 3 | 3 | | | 2 | 3 | 3 |

| Course Code | Course Outcome | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ADGA205A | CO1 | 3 | 3 | | | | | | 3 | | | | | |
| | CO2 | | 3 | | | | | | | | | 2 | | |
| | CO3 | | 3 | | | | 3 | | | | | 2 | | |
| | CO4 | | | 3 | | | 3 | | | | | | 3 | |
| | CO5 | | | | | | 3 | 3 | | | | | 3 | 3 |
| | CO6 | | | | | | | | | | | | | |

1=weakly mapped, 2= moderately mapped, 3=strongly mapped

| ADGA207A | CONCEPT ART FOR GAME (ADOBE PHOTOSHOP SOFTWARE) | L | T | S | P | C |
|---|---|---|---|---|---|---|
| **Version 1.0** | | 0 | 0 | 3 | 2 | 4 |
| **Pre-requisites/Exposure** | | | | | | |
| **Co-requisites** | | | | | | |

**Course Objectives:**

- To understand what is concept art and how it is used in games
- To learn various tools to design 3D concept art
- To implement the concepts of modelling in Photoshop
- To learn how to give final additions to concept art

**Course Outcomes**

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

CO1. Understand the basic principles of Design, the design process & concept creation.
CO2. Comprehend how to develop a concept from initial idea through the design cycle into a well-rounded and effective concept.
CO3. Develop the core skills need to operate in the area of concept art creation. Understand and develop creative and engaging concept art elements and assets.
CO4. Understand the process and gain expertise in the creation of assets using relevant production methods and software.
CO5. Operate as a concept artist, through drawing and sketching, life drawing, object drawing and concept art creation.

**Catalog Description**

This course will provide student with a well-rounded knowledge of the design process, concept art and digital illustration. Gain a knowledge of development tools and software needed to create digital content and assets for games. Using creative projects the students will create engaging and creative answers to industry relevant projects. Understand the process and skills involved that are needed to become a concept artist. Develop a skill set that allows the student to be a creative concept artist.

**Course Content**

**Unit 1: Compositional Studies for Concept Art - 6 hours**

What is Concept Art? Importance of Concept Art, Advantages of Concept Art, How it used in game design, Learning with Examples

**Unit 2: Intro to 3D for Concept Art – 12 hours**

The Drawing Tools, The Modifying Tools, The Offset Tool, Move, Scale and Rotate, Groups and Components, Materials and Styles

**Unit 3: Modelling and Exporting – 12 hours**

Modeling the Platforms, Modeling the Temple, Framing the Composition, Exporting the Images, Importing to Photoshop

**Unit 4: Painting the concept – 12 hours**

Setting Up the Layers, Lighting the Foreground, Painting the Bridge Pt01, Painting the Bridge Pt02, Detailing the Cliff, Lighting the Cliff, The Background, Finishing

**Unit 5: Project – 18 hours**

Project on implementation of concept art using Photoshop

## Text Books

1. **The Big Bad World of Concept Art for Video Games: How to Start Your Career as a Concept Artist - Eliott Lilly**

## Modes of Evaluation: Quiz/Assignment/ presentation/ extempore/ Written Examination

## Examination Scheme:

| Components | Mid Term Jury | End Term Internal Jury | End Term Studio Exam | End Term External Jury |
|---|---|---|---|---|
| Weightage (%) | 20M | 30M | 20M | 30M |

| Components | Class Test 1 | Presentation 1 | Class Test 2 | Presentation 2 | Attendance | End Term Exam |
|---|---|---|---|---|---|---|
| Weightage (%) | NA | NA | NA | NA | NA | NA |

## Relationship between the Course Outcomes (COs) and Program Outcomes (POs)

| Mapping between COs and POs | | |
|---|---|---|
| | **Course Outcomes (COs)** | **Mapped Program Outcomes** |
| **CO1** | Understand the basic principles of Design, the design process & concept creation. | **PO1, PSO4** |
| **CO2** | Comprehend how to develop a concept from initial idea through the design cycle into a well-rounded and effective concept. | **PO1, PSO4** |
| **CO3** | Develop the core skills need to operate in the area of concept art creation. Understand and develop creative and engaging concept art elements and assets | **PO2, PO3, PSO4, PSO2** |
| **CO4** | Understand the process and gain expertise in the creation of assets using relevant production methods and software. | **PO3** |
| **CO5** | Operate as a concept artist, through drawing and sketching, life drawing, object drawing and concept art creation. | **PO5, PO6, PSO5, PSO6** |

| | | Design and Integration | Drawing Work | Critical Analysis | Employability & Interdisciplinary Approach | Conduct | Communication and Teamwork | Life-long learning | Create desirable experience | Tools Softwares and Technology | Comprehensive and narrative | Innovative | Practical and demonstrative | Trend Setters |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Course Code | Course Title | PO 1 | PO 2 | PO 3 | PO4 | PO 5 | PO 6 | PO 7 | PS O1 | PS O2 | PS O3 | PS O4 | PSO5 | PSO 6 |
| **ADGA207A** | CONCEPT ART FOR GAME | 3 | 3 | 3 | | 3 | 3 | | | 3 | | 3 | 3 | 3 |

| Course Code | Course Outcome | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ADGA207A | CO1 | 3 | | | | | | | | | | 3 | | |
| | CO2 | 3 | | | | | | | | | | 3 | | |
| | CO3 | | 3 | 3 | | | | | | 3 | | 3 | | |
| | CO4 | | | 3 | | | | | | | | | | |
| | CO5 | | | | | 3 | 3 | | | | | | 3 | 3 |
| | CO6 | | | | | | | | | | | | | |

1=weakly mapped 2= moderately mapped 3=strongly mapped

| ADGA209A | PLOT BUILDING AND STORYTELLING | L | T | S | P | C |
|---|---|---|---|---|---|---|
| **Version 1.0** | | 0 | 0 | 3 | 0 | 3 |
| **Pre-requisites/Exposure** | | | | | | |
| **Co-requisites** | | | | | | |

**Course Objectives**

1. To give the rationale for the telling of stories.
2. To evaluate a story for its storytelling potential.
3. To outline a story in preparation for storytelling.
4. To present a story before an audience.

**Course Outcomes**

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

CO1. Illustrate how writing for games differs from writing for other media.

CO2. Identify which aspects of a game contribute to a memorable narrative.

CO3. Discover how story is conveyed through games.

CO4. Practice developing an idea from start to end.

**Catalog Description**

In this course, students develop their own storytelling talents, apply the techniques of storytelling, create storytelling guides, and perform a story for an audience.

**Course Content**

**Unit 1: Plot building - 9 hours**

What is a Plot? 4 Key Steps of Writing a Great Plot, Helpful Game Plot Lessons, what is Narrative Structure? Types of Narrative Structure, Types of Narrative Arcs for Plot Development

**Unit 2: Story Structure – 9 hours**

What is narrative structure? Basic story structure, seven story structures every writer should know Freytag's Pyramid, The Hero's Journey, Three-Act Structure, The Dan Harmon Story Circle, The Fichtean Curve, Save the Cat, The 7-Point Story Structure

**Unit 3: Character Development – 9 hours**

Character Types, Cipher Character, Fixed Character, Custom Character, Fixed Customization Character, Character Psychology, Character Traits, Creating Diverse Characters, Stereotypes, Tropes, Character DNA

**Unit 4: Dialogues – 9 hours**

What is dialogue, Types of Dialogue, Ambient Dialogue, Interactive Dialogue, Cutscenes, The Two Page Scene, Effective vs Non - Effective Dialogue, Script Process, Theme and Tone, Writing Ambient Dialogue, Writing Interactive Dialogue, MMO Dialogue, Mobile Dialogue, writing inside the Boxes, Giving Voice to a Character

**Unit 5: Project Work – 9 hours**

Project on implementation of concepts learned in class

**Text Books:**

1. Video Game Storytelling: What Every Developer Needs to Know about Narrative Techniques – Evan Skolnick
2. Slay the Dragon: Writing Great Video Games - Robert Denton Bryant and Keith Giglio

**Modes of Evaluation: Quiz/Assignment/ presentation/ extempore/ Written Examination**
**Examination Scheme:**

| **Components** | **Mid Term Jury** | **End Term Internal Jury** | **End Term Studio Exam** | **End Term External Jury** |
|---|---|---|---|---|
| **Weightage (%)** | **20M** | **30M** | **20M** | **30M** |

| **Components** | **Class Test 1** | **Presentation 1** | **Class Test 2** | **Presentation 2** | **Attendance** | **End Term Exam** |
|---|---|---|---|---|---|---|
| **Weightage (%)** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

**Relationship between the Course Outcomes (COs) and Program Outcomes (POs)**

| **Mapping between COs and POs** | | |
|---|---|---|
| | **Course Outcomes (COs)** | **Mapped Program Outcomes** |
| **CO1** | Illustrate how writing for games differs from writing for other media. | **PO1, PO3** |
| **CO2** | Identify which aspects of a game contribute to a memorable narrative. | **PO3, PO4** |
| **CO3** | Discover how story is conveyed through games. | **PSO1, PSO3** |
| **CO4** | Practice developing an idea from start to end. | **PO7, PSO3,PSO4, PSO5** |

| | | Design and Integration | Drawing Work | Critical Analysis | Employability & Interdisciplinary Approach | Conduct | Communication and Teamwork | Life-long learning | Create desirable experience | Tools Softwares and Technology | Comprehensive and narrative | Innovative | Practical and demonstrative | Trend Setters |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Course Code | Course Title | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
| **ADGA209A** | **PLOT BUILDING AND STORYTELLING** | 3 | | 3 | 3 | | | 3 | 2 | | 2 | 3 | 3 | |

| Course Code | Course Outcome | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ADGA209A | CO1 | 3 | | 3 | | | | | | | | | | |
| | CO2 | | | 3 | 3 | | | | | | | | | |
| | CO3 | | | | | | | | 2 | | 2 | | | |
| | CO4 | | | | | | | 3 | | | 2 | 3 | 3 | |
| | CO5 | | | | | | | | | | | | | |
| | CO6 | | | | | | | | | | | | | |

1=weakly mapped 2= moderately mapped 3=strongly mapped

| ADGA211A | COMPUTER ANIMATION –3D (AUTODESK MAYA SOFTWARE) | L | T | S | P | C |
|---|---|---|---|---|---|---|
| Version 1.0 | | 0 | 0 | 3 | 2 | 4 |
| Pre-requisites/Exposure | | | | | | |
| Co-requisites | | | | | | |

**Course Objectives**

1. To develop three-dimensional moving images in a digital environment.
2. To practice how to create 3D models within a scene.
3. To illustrate how to apply texturing, lighting and how to render them for animation.

**Course Outcomes**

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

CO1. Execute creative concepts and ideas through a variety and combination of techniques including hand drawn, computer generated, 2D and 3D storyboards and animatics.
CO2. Create sophisticated models for the entertainment, medical, and architectural industries.
CO3. Design 3D characters and creatures ranging from life-like and anatomically correct, to cartoon and anime styles.
CO4. Combine texture mapping, shaders, lighting environments, animating cameras and 'rigs' for 3D models and characters in animation sequences.

**Catalog Description**

This subject covers the major areas of 3D computer animation. It provides students with the opportunity to learn a major commercial 3D modelling, animation and rendering package. It also covers the principles and practice of pre-production planning, production management, and post-production of an animation project. The subject is project-based, and each student develops an animation of their choice.

**Course Content**

**Unit 1: Introduction to 3D Animation**

Introduction to Animation, 2D vs 3D animation, what are 3D objects and their properties, process of 3D modelling

**Unit 2: 3D Modelling**

Getting to know Autodesk Maya software and its interface, hands-on exploring the tools, creating 3D objects in Maya, How 3D objects are created within a scene

**Unit 3: Layout and Animation**

Positioning of objects and characters within a scene, camera movement, Conceptualizing and creating the storyboard, Getting to know tools in Autodesk Maya for animation

**Unit 4: Rendering**

Texturing, Lighting and setting up the cameras, Rendering objects, applying special effects

**Unit 5: Project Work**

Project on creating simple animation in Autodesk Maya.

**Text Books** - As it is a studio-based subject, there are no specific text books.

**Modes of Evaluation: Quiz/Assignment/ presentation/ extempore/ Written Examination**
**Examination Scheme:**

| **Components** | **Mid Term Jury** | **End Term Internal Jury** | **End Term Studio Exam** | **End Term External Jury** |
|---|---|---|---|---|
| **Weightage (%)** | **20M** | **30M** | **20M** | **30M** |

| **Components** | **Class Test 1** | **Presentation 1** | **Class Test 2** | **Presentation 2** | **Attendance** | **End Term Exam** |
|---|---|---|---|---|---|---|
| **Weightage (%)** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

**Relationship between the Course Outcomes (COs) and Program Outcomes (POs)**

| **Mapping between COs and POs** | | |
|---|---|---|
| | **Course Outcomes (COs)** | **Mapped Program Outcomes** |
| **CO1** | Execute creative concepts and ideas through a variety and combination of techniques including hand drawn, computer generated, 2D and 3D storyboards and animatics. | **PO1, PO6, PO7, PSO1, PSO2, PSO4, PSO5** |
| **CO2** | Create sophisticated models for the entertainment, medical, and architectural industries. | **PO2, PO4, PO6, PO7, PSO1, PSO2, PSO4, PSO5** |
| **CO3** | Design 3D characters and creatures ranging from life-like and anatomically correct, to cartoon and anime styles. | **PO6, PO7, PSO1, PSO2, PSO4, PSO5** |
| **CO4** | Combine texture mapping, shaders, lighting environments, animating cameras and 'rigs' for 3D models and characters in animation sequence | **PSO2, PSO4, PSO5, PSO6** |

| | | Design and Integration | Drawing Work | Critical Analysis | Employability & Interdisciplinary Approach | Conduct | Communication and Teamwork | Life-long learning | Create desirable experience | Tools Softwares and Technology | Comprehensive and narrative | Innovative | Practical and demonstrative | Trend Setters |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Course Code | Course Title | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
| **ADGA211A** | **COMPUTER ANIMATION –3D (AUTODESK MAYA SOFTWARE)** | 3 | 2 | | 3 | | 3 | 3 | 3 | 3 | | 3 | 3 | |

| Course Code | Course Outcome | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ADGA211A | CO1 | 3 | | | | | 3 | 3 | 3 | 3 | | 3 | 3 | |
| | CO2 | | 2 | | 3 | | 3 | 3 | 3 | 3 | | 3 | 3 | |
| | CO3 | | | | | | 3 | 3 | 3 | 3 | | 3 | 3 | |
| | CO4 | 3 | 2 | | 3 | | 3 | 3 | 3 | 3 | | 3 | 3 | |
| | CO5 | | | | | | | | | | | | | |
| | CO6 | | | | | | | | | | | | | |

1=weakly mapped 2= moderately map 3=strongly mapped

**SEMESTER IV**

| ADGA202A | ENVIRONMENT & ASSET DESIGN FOR GAMES (UNITY SOFTWARE) | L | T | S | P | C |
|---|---|---|---|---|---|---|
| **Version 1.0** | | 0 | 0 | 3 | 2 | 4 |
| **Pre-requisites/Exposure** | | | | | | |
| **Co-requisites** | | | | | | |

**Course Objectives**

1. The objective of the course is to develop a thorough understanding about Game Engines and its Components.
2. To implement 3D Environmental Design principles.
3. To use weather systems and post-processing to reach AAA quality of level design.

**Course Outcomes**

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

CO1. Design a beautiful forest scene in Unity using the tools provided in the course.

CO2. Use the tree maker in the course to build plants and bushes for your scenes.

CO3. Develop effective post-processing tools to make your environment look great.

**Catalog Description**

Over the period of the course, you will learn about Game Engines and understand Unity 3D's Interface. Our next step will be to research our theme, create mood boards, and bring our vision to life.We will add realistic textures, rocks, foliage, water, and lighting to bring our level to life. After our base level will be created, we will learn advanced topics such as weather systems and post-processing.

**Course Content**

**Unit 1: Introduction to Unity Engine - 6 hours**

About Unity, Rapid Production, Editor Setup and Basics, Inspector, Scene and Game Objects, Coordinates and Views, Scripts and Visual Studio, Lights, Baking - Light Mapping, Prefabs and GUI, Input and NGUI

**Unit 2: Working with Unity Assets - 12 hours**

Unity Standard Assets, Install Assets, installing assets using latest versions of Unity, Changing the Layout, Working with Terrains, The Bridge Tool, sculpting a Path, Texturing the Path, Baking a Lightmap,

**Unit 3: Designing Terrain and its Elements – Part 1 – 12 hours**

Sculpting the Terrain, Post Processing, creating a Stream, Adding Cliffs, Adding Rocks, Adding Ground Details, adding more Trees, Conifer Leaves Task, Adding Ferns, Painting Ground Moss, creating a bush, creating plants, Creating a small plant, Painting Plants, Painting Ivy

**Unit 4: Designing Terrain and its Elements – Part 2 – 12 hours**

Speed Design, Fixing FPS Issue, GPU Instancing, Painting Grass, Speed Design part 2, Adding More Cliffs, adding a Sea, Customizing the Water, Painting the Sand, Adding Details, Final Adjustments Adding a Wind Zone, Hedera

**Unit 5: Project Work - 18 hours**

Project in Environment & Asset Design for Games

**Text Books:** As it is a studio-based subject, there are no specific text books.

**Reference Books:**

1. Environment Art in the Game Industry - A Guide to Rich and Realistic Environments Using Substance Designer - Henry Kelly

**Modes of Evaluation: Quiz/Assignment/ presentation/ extempore/ Written Examination**
**Examination Scheme:**

| **Components** | **Mid Term Jury** | **End Term Internal Jury** | **End Term Studio Exam** | **End Term External Jury** |
|---|---|---|---|---|
| **Weightage (%)** | **20M** | **30M** | **20M** | **30M** |

| **Components** | **Class Test 1** | **Presentation 1** | **Class Test 2** | **Presentation 2** | **Attendance** | **End Term Exam** |
|---|---|---|---|---|---|---|
| **Weightage (%)** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

**Relationship between the Course Outcomes (COs) and Program Outcomes (POs)**

| **Mapping between COs and POs** | | |
|---|---|---|
| | **Course Outcomes (COs)** | **Mapped Program Outcomes** |
| **CO1** | Design a beautiful forest scene in Unity using the tools provided in the course. | **PO1, PO2,PSO1, PSO2, PSO4, PSO5, PSO6** |
| **CO2** | Use the tree maker in the course to build plants and bushes for your scenes | **PO1, PO2,PO3, PSO1, PSO2, PSO4, PSO5, PSO6** |
| **CO3** | Develop effective post-processing tools to make your environment look great. | **PO1, PO2, PO3, PSO1, PSO2, PSO4, PSO5, PSO6** |

| | | Design and Integration | Drawing Work | Critical Analysis | Employability & Interdisciplinary Approach | Conduct | Communication and Teamwork | Life-long learning | Create desirable experience | Tools Softwares and Technology | Comprehensive and narrative | Innovative | Practical and demonstrative | Trend Setters |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Course Code | Course Title | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
| **ADGA202A** | ENVIRONMENT & ASSET DESIGN FOR GAMES (UNITY SOFTWARE) | 3 | 3 | 3 | | | | | 3 | 3 | | 3 | 3 | 3 |

| Course Code | Course Outcome | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ADGA202A | CO1 | 3 | 3 | | | | | | 3 | 3 | | 3 | 3 | 3 |
| | CO2 | 3 | 3 | 3 | | | | | 3 | 3 | | 3 | 3 | 3 |
| | CO3 | 3 | 3 | 3 | | | | | 3 | 3 | | 3 | 3 | 3 |
| | CO4 | | | | | | | | | | | | | |
| | CO5 | | | | | | | | | | | | | |
| | CO6 | | | | | | | | | | | | | |

1=weakly mapped , 2= moderately mapped, 3=strongly mapped

| ADGA204A | CONTEMPORY GAME STUDIES | L | T | S | P | C |
|---|---|---|---|---|---|---|
| Version 1.0 | | 2 | 0 | 0 | 0 | 2 |
| Pre-requisites/Exposure | | | | | | |
| Co-requisites | | | | | | |

**Course Objectives**

1. To familiarize the students how games have evolved and what is their current standing in the market.
2. To familiarize the students how games have become a popular culture and can be used as a means of income.

**Course Outcomes**

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

CO1. Comprehend how games have evolved over time.

CO2. Explore how games create and affect popular culture.

CO3. Illustrate the basic ecosystem of games and how games earn money.

**Catalog Description**

This course covers concepts of video games and their history. It talks about games market and culture and how playing games can be a means of income.

**Course Content**

**Unit 1: History of Video Games – 6 Hours**

Journey from Game Arcade to Play Station, How evolution of technology has pegged widespread of video games, Evolution of Complexity and immersive-ness of video games

**Unit 2: Games Market – 9 Hours**

Free vs paid games, modes, medium of payment, types of video game payment systems, marketing of games, industry trends, reach of video games, game merchandise

**Unit 3: Game Culture – 4 Hours**

Subculture in video games, popularity of game characters in culture, adaptation of video game plots into films

**Unit 4: Games as a means of income – 6 Hours**

Game events and competitions, Participation in Gaming Tournaments, Sponsorships, Games Journalism, Video Game Guides and Tutorials, Game testing

**Unit 5: Cognitive Benefits of Games – 5 Hours**

improvement of visual contrast sensitivity, spatial attention, Focus and Observation Skills, increase speed of thought and focused critical thinking

**Modes of Evaluation: Quiz/Assignment/ presentation/ extempore/ Written Examination**

**Examination Scheme:**

| Components | Mid Term Jury | End Term Internal Jury | End Term Studio Exam | End Term External Jury |
|---|---|---|---|---|
| Weightage (%) | 20M | 30M | 20M | 30M |

| Components | Class Test 1 | Presentation 1 | Class Test 2 | Presentation 2 | Attendance | End Term Exam |
|---|---|---|---|---|---|---|
| Weightage (%) | NA | NA | NA | NA | NA | NA |

**Relationship between the Course Outcomes (COs) and Program Outcomes (POs)**

| Mapping between COs and POs | | |
|---|---|---|
| | **Course Outcomes (COs)** | **Mapped Program Outcomes** |
| **CO1** | Comprehend how games have evolved over time. | **PSO1, PO1, PO3** |
| **CO2** | Explore how games create and affect popular culture. | **PSO1, PSO4, PO1, PO3** |
| **CO3** | Illustrate the basic ecosystem of games and how games earn money. | **PSO4, PO1, PO3** |

| | | Design and Integration | Drawing Work | Critical Analysis | Employability & Interdisciplinary Approach | Conduct | Communication and Teamwork | Life-long learning | Create desirable experience | Tools Softwares and Technology | Comprehensive and narrative | Innovative | Practical and demonstrative | Trend Setters |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Course Code | Course Title | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
| **ADGA204A** | CONTEMPORY GAME STUDIES | 3 | | 3 | | | | | 3 | | | 3 | | |

| Course Code | Course Outcome | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ADGA204A | CO1 | 3 | | 3 | | | | | 3 | | | | | |
| | CO2 | 3 | | 3 | | | | | 3 | | | 3 | | |
| | CO3 | 3 | | 3 | | | | | | | | 3 | | |
| | CO4 | | | | | | | | | | | | | |
| | CO5 | | | | | | | | | | | | | |
| | CO6 | | | | | | | | | | | | | |

1=weakly mapped 2= moderately mapped 3=strongly mapped

| ADGA206A | ADVANCED KINEMATICS | L | T | S | P | C |
|---|---|---|---|---|---|---|
| Version 2.0 | | 0 | 0 | 4 | 0 | 4 |
| Pre-requisites/Exposure | | | | | | |
| Co-requisites | | | | | | |

**Course Objectives**

1. To understand movements of clothes, accessories and jewelry on a body
2. To understand constrains and restrictions in kinematics
3. To use inverse kinematics in character animation

**Course Outcomes**

On successful completion of this course, the students have capability to:

CO1. Implement real-time application of kinematics in games.
CO2. Comprehend kinematics in games to make the game environment come alive

CO3. Design new game mechanics while designing games.

**Catalog Description**

This course will help students develop advance movements of a character in game design and animation.

**Course Content**

**Unit 1: Movement and its Effects – 12 Hours**

Momentum, Effects of motion on Clothes, accessories, jewelry

**Unit 2: Constraints and Restrictions -**

Interpolation problems, limitations to movement due to degree of freedom

**Unit 3: Role in Character Animation**

Importance of believable movements of objects in Character Design, Feet and the ground, hand and grabbing, procedural animation,

**Unit 4: Inverse Kinematics**

Forward and Inverse Kinematics, Preparing a Rig, The end effector, chain of joints, pivot point of joints, hierarchy of bone movement

**Unit 5: Project Work**

**Reference Books**


1. Game Inverse Kinematics : A Practical Introduction – Ken Wright


**Modes of Evaluation: Quiz/Assignment/ presentation/ extempore/ Written Examination**
**Examination Scheme:**

| **Components** | **Mid Term Jury** | **End Term Internal Jury** | **End Term Studio Exam** | **End Term External Jury** |
|---|---|---|---|---|
| **Weightage (%)** | **20M** | **30M** | **20M** | **30M** |

| **Components** | **Class Test 1** | **Presentation 1** | **Class Test 2** | **Presentation 2** | **Attendance** | **End Term Exam** |
|---|---|---|---|---|---|---|
| **Weightage (%)** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

**Relationship between the Course Outcomes (COs) and Program Outcomes (POs)**

| **Mapping between COs and POs** | | |
|---|---|---|
| | **Course Outcomes (COs)** | **Mapped Program Outcomes** |
| **CO1** | Implement real-time application of kinematics in games. | **PO1, PSO1, PSO2, PSO4, PSO5** |
| **CO2** | Comprehend kinematics in games to make the game environment come alive | **PO3, PSO1, PSO2, PSO4, PSO5** |
| **CO3** | Design new game mechanics while designing games. | **PO6, PO7,PSO4, PSO5** |

| | | Design and Integration | Drawing Work | Critical Analysis | Employability & Interdisciplinary Approach | Conduct | Communication and Teamwork | Life-long learning | Create desirable experience | Tools Softwares and Technology | Comprehensive and narrative | Innovative | Practical and demonstrative | Trend Setters |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Course Code | Course Title | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
| **ADGA206A** | ADVANCED KINEMATICS | 2 | | 3 | | | 3 | 3 | 3 | 3 | | 3 | 3 | |

| Course Code | Course Outcome | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ADGA204A | CO1 | 2 | | | | | | | 3 | 3 | | 3 | 3 | |
| | CO2 | | | 3 | | | | | 3 | 3 | | 3 | 3 | |
| | CO3 | | | | | | 3 | 3 | | | | 3 | 3 | |
| | CO4 | | | | | | | | | | | | | |
| | CO5 | | | | | | | | | | | | | |
| | CO6 | | | | | | | | | | | | | |

1=weakly mapped, 2= moderately mapped, 3=strongly mapped

| ADGA208A | INTRODUCTION TO UX | L | T | S | P | C |
|---|---|---|---|---|---|---|
| Version 1.0 | | 0 | 0 | 3 | 0 | 3 |
| Pre-requisites/Exposure | | | | | | |
| Co-requisites | | | | | | |

**Course Objectives**

1. To understand what makes a website/app usable
2. To learn common patterns that users look for
3. To measure the success of a site/app
4. To sell design or implementation changes to team members based on data

**Course Outcomes**

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

CO1. Describe the concept of UX design and how it has evolved

CO2. Interpret UX design process and methodology

CO3. Comprehend how UX industry work

CO4. Summarize the job, roles and responsibilities in UX industry

CO5. Identify importance of UX in digitalization and different types of industries

**Catalog Description**

User Experience (UX) used to be a term that was largely associated with designers. Today, UX has gone beyond design and extended its reach into building quality experiences for customers. When used correctly, UX best practices can optimise almost every aspect of a business – it's a vital aspect of fulfilling a business's objectives.

**Course Content**

**Unit 1: Introduction to UX Design – 6 Hours**

Understand the evolution of UX design as an industry practice and learning about UX industry experts, Design around us, Job roles and responsibilities in the UX industry, UX industry trends in various sectors, Ergonomics for UX Designers

**Unit 2: Processes and Methodologies – 9 Hours**

Understanding UX design processes and methodologies – user centred design, 5S model

**Unit 3: Tools and Technology in UX Design – 9 Hours**

Tools, prototype, Industry standards, Technology, NFC, Chatbot, Introduction to Voice User Interface and Gesture Based Interfaces

**Unit 4: Multiple Domains and Trends in UX Design – 6 Hours**

UX industry trends in various sectors

**Unit 5: Project – 15 Hours**

Project on UX design process, industry trends

**Text Books**

- Designing for Digital Age: How to create human-centered products and services - Kim Goodwin
- Sketching the User experiences - Bill Buxton
- The design of everyday things - Don Norman
- The elements of user experience - Jesse James Garrett

**Modes of Evaluation: Quiz/Assignment/ presentation/ extempore/ Written Examination**
**Examination Scheme:**

| **Components** | **Mid Term Jury** | **End Term Internal Jury** | **End Term Studio Exam** | **End Term External Jury** |
|---|---|---|---|---|
| **Weightage (%)** | **20M** | **30M** | **20M** | **30M** |

| **Components** | **Class Test 1** | **Presentation 1** | **Class Test 2** | **Presentation 2** | **Attendance** | **End Term Exam** |
|---|---|---|---|---|---|---|
| **Weightage (%)** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

**Relationship between the Course Outcomes (COs) and Program Outcomes (POs)**

| **Mapping between COs and POs** | | |
|---|---|---|
| | **Course Outcomes (COs)** | **Mapped Program Outcomes** |
| **CO1** | Describe the concept of UX design and how it has evolved | **PO1, PSO1** |
| **CO2** | Interpret UX design process and methodology | **PO3, PSO1** |
| **CO3** | Comprehend how UX industry work | **PO1, PO4, PSO2** |
| **CO4** | Summarize the job, roles and responsibilities in UX industry | **PO1** |
| **CO5** | Identify importance of UX in digitalization and different types of industries | **PO1, PO7** |

| | | Design and Integration | Drawing Work | Critical Analysis | Employability & Interdisciplinary Approach | Conduct | Communication and Teamwork | Life-long learning | Create desirable experience | Tools Softwares and Technology | Comprehensive and narrative | Innovative | Practical and demonstrative | Trend Setters |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Course Code | Course Title | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
| **ADGA208A** | INTRODUCTION TO UX | 3 | | 3 | 2 | | | 3 | 3 | 2 | | | | |

| Course Code | Course Outcome | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ADGA208A | CO1 | 3 | | | | | | | 3 | | | | | |
| | CO2 | | | 3 | | | | | 3 | | | | | |
| | CO3 | 3 | | | 2 | | | | | 2 | | | | |
| | CO4 | 3 | | | | | | | | | | | | |
| | CO5 | 3 | | | | | | 3 | | | | | | |
| | CO6 | | | | | | | | | | | | | |

1=weakly mapped 2= moderately mapped 3=strongly mapped

| ADGA210A | BOARD GAME DESIGN | L | T | S | P | C |
|---|---|---|---|---|---|---|
| Version 1.0 | | 0 | 0 | 3 | 0 | 3 |
| Pre-requisites/Exposure | | | | | | |
| Co-requisites | | | | | | |

**Course Objectives**

1. To comprehend the foundations and components of board games
2. To illustrate the concepts of mathematics involved in board game design
3. To design prototypes and playtest it

**Course Outcomes**

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

CO1. Develop complete board or card games prototypes

CO2. Build game projects with game design document and canvas

CO3. Comprehend what are physical game components and when to use them

CO4. Balance your game using math, randomness and probabilities

CO5. Publish your game with a publisher or by yourself

**Catalog Description**

This course introduces the concept of board games. Students will learn mathmetics involved in creating board games. They will come across foundations and components of board games and how to create a prototype and test it.

**Course Content**

**Unit 1: Introduction to Board Games and Mathematics - 9 Hours**

Introduction to Board Games, History of board games, Introduction to Math, Percentages and Simplification, Multiple Events, Probability, Possibilities Interval, Balancing a Game

**Unit 2: Game Foundations and Components - 12 Hours**

Game Components, Components Feel, Game Aesthetics, Game Genres, Game Tutorials, Game Moments, Game Mechanics, Generating and Capturing Ideas

**Unit 3: Prototyping and Playtesting - 9 Hours**

Paint Prototypes, Icons for the Game, Marketing and Card Templates, Game Assets, Graphics and Templates, Physical Components, Game Design Document and Canvas, Playtests, Game Scope and Expansions, Crowdfunding Platforms, Publishing Costs and Distribution

**Unit 4: Project – 15 Hours**

Create a board game concept

**Text Books**

1. The Board Game Designer's Guide eBook by Jamey Stegmaier
2. The Top 10 Mistakes New Board Game Designers Make (and How to Avoid Them) ebook by Joe Slack

**Modes of Evaluation: Quiz/Assignment/ presentation/ extempore/ Written Examination**
**Examination Scheme:**

| **Components** | **Mid Term Jury** | **End Term Internal Jury** | **End Term Studio Exam** | **End Term External Jury** |
|---|---|---|---|---|
| **Weightage (%)** | **20M** | **30M** | **20M** | **30M** |

| **Components** | **Class Test 1** | **Presentation 1** | **Class Test 2** | **Presentation 2** | **Attendance** | **End Term Exam** |
|---|---|---|---|---|---|---|
| **Weightage (%)** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

**Relationship between the Course Outcomes (COs) and Program Outcomes (POs)**

| **Mapping between COs and POs** | | |
|---|---|---|
| | **Course Outcomes (COs)** | **Mapped Program Outcomes** |
| **CO1** | Develop complete board or card games prototypes | **PO7, PSO1, PSO2, PSO4, PSO5, PSO6** |
| **CO2** | Build game projects with game design document and canvas | **PO2, PO3, PSO1, PSO2, PSO4, PSO5** |
| **CO3** | Comprehend what are physical game components and when to use them | **PO3, PSO1, PSO2, PSO4, PSO5** |
| **CO4** | Balance your game using math, randomness and probabilities | **PO3, PSO1, PSO2, PSO4, PSO5** |
| **CO5** | Publish your game with a publisher or by yourself | **PO4, PO6,PSO5, PSO6** |

| | | Design and Integration | Drawing Work | Critical Analysis | Employability & Interdisciplinary Approach | Conduct | Communication and Teamwork | Life-long learning | Create desirable experience | Tools Softwares and Technology | Comprehensive and narrative | Innovative | Practical and demonstrative | Trend Setters |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Course Code | Course Title | PO 1 | PO 2 | PO 3 | PO4 | PO 5 | PO 6 | PO 7 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO 6 |
| **ADGA210A** | BOARD GAME DESIGN | | 3 | 3 | 2 | | 2 | 3 | 3 | 3 | | 3 | 3 | 2 |

| Course Code | Course Outcome | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ADGA210A | CO1 | | | | | | | 3 | 3 | 3 | | 3 | 3 | 2 |
| | CO2 | | 3 | 3 | | | | | 3 | 3 | | 3 | 3 | |
| | CO3 | | | 3 | | | | | 3 | 3 | | 3 | 3 | |
| | CO4 | | | 3 | | | | | 3 | 3 | | 3 | 3 | |
| | CO5 | | | | 2 | | 2 | | | | | | 3 | 2 |
| | CO6 | | | | | | | | | | | | | |

1=weakly mapped 2= moderately mapped 3=strongly mapped

| ADGA212A | TECHNOLOGY IN ANIMATION & GAME DESIGN | L | S | T | P | C |
|---|---|---|---|---|---|---|
| Version 1.0 | | 2 | 0 | 0 | 0 | 2 |
| Pre-requisites/Exposure | | | | | | |
| Co-requisites | | | | | | |

**Course Objectives**

1. To familiarize with evolution of animation technology and how it has impacted gaming and animation industry

**Course Outcomes**

On successful completion of this course, the students have capability to

CO1. Comprehend history and evolution of animation technologies.

CO2. Illustrate how technology helped animation and gaming industry grow.

CO3. Articulate controls and commands in different devices and gadgets.

**Catalog Description**

Empowering students to use computers as 2D drafting and 3D modelling tool and to familiarize realistic rendering and presentation techniques using computers

**Course Content**

**Unit 1: History and Evolution of Technology in Animation**

Flipbook, Zoetrope, computer and graphic processing hardware, digital sculpting tools, stop motion animation, Technicolor in Animation, Case Study - Disney's Mickey Mouse, Looney Tunes series of Warner Bros.

**Unit 2: Technology in 2D Animation & Game Design**

Motion Graphics, Adobe After Effects, Flash, Case Study - Pokemon Sun & Moon, Pocahontas

**Unit 3: Technology in 3D Animation & Game Design**

3D modelling, Defining Points and Vertices, Motion Capture, Rendering, CGI (Computer Generated Imagery), Case Study - Ralph The Wrecker, Alita Battle Angel

**Unit 4: Devices and Gadgets**

Understand input and display Technologies in Gaming Arcade, Desktop games, Mobile Phone Games, Gaming Consoles, Tablets

**Modes of Evaluation: Quiz/Assignment/ presentation/ extempore/ Written Examination**
**Examination Scheme:**

| Components | Mid Term Jury | End Term Internal Jury | End Term Studio Exam | End Term External Jury |
|---|---|---|---|---|
| Weightage (%) | 20M | 30M | 20M | 30M |

| Components | Class Test 1 | Presentation 1 | Class Test 2 | Presentation 2 | Attendance | End Term Exam |
|---|---|---|---|---|---|---|
| Weightage (%) | NA | NA | NA | NA | NA | NA |

**Relationship between the Course Outcomes (COs) and Program Outcomes (POs)**

| Mapping between COs and POs | | |
|---|---|---|
| | **Course Outcomes (COs)** | **Mapped Program Outcomes** |
| **CO1** | Comprehend history and evolution of animation technologies. | **PO1,PSO1, PSO4** |
| **CO2** | Illustrate how technology helped animation and gaming industry grow | **PO3, PSO2** |
| **CO3** | Articulate controls and commands in different devices and gadgets. | **PSO2, PSO4, PSO5** |

| | | Design and Integration | Drawing Work | Critical Analysis | Employability & Interdisciplinary Approach | Conduct | Communication and Teamwork | Life-long learning | Create desirable experience | Tools Softwares and Technology | Comprehensive and narrative | Innovative | Practical and demonstrative | Trend Setters |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Course Code | Course Title | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **ADGA212A** | **TECHNOLOGY IN ANIMATION & GAME DESIGN** | 3 | | 3 | | | | | 3 | 3 | | 3 | 3 | |

| Course Code | Course Outcome | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ADGA212A | CO1 | 3 | | | | | | | 3 | | | 3 | | |
| | CO2 | | | 3 | | | | | | 3 | | | | |
| | CO3 | | | | | | | | | 3 | | 3 | 3 | |
| | CO4 | | | | | | | | | | | | | |
| | CO5 | | | | | | | | | | | | | |
| | CO6 | | | | | | | | | | | | | |

1=weakly mapped,2= moderately mapped,3=strongly mapped

**SEMESTER V**

| ADGA301A | BASICS OF 3D MODELLING, LIGHTING & RENDERING (UNREAL ENGINE SOFTWARE) | L | T | P | S | C |
|---|---|---|---|---|---|---|
| **Version 1.0** | | 0 | 0 | 3 | 2 | 4 |
| **Pre-requisites/Exposure** | | | | | | |
| **Co-requisites** | | | | | | |

**Course Objectives**

1.To understand terminologies associated with creation in a 3D workspace
2.To implement special effects and optimization.
3.To publish projects as per industry standards and work on real world applications.

**Course Outcomes**

On successful completion of this course, the students have capability to

CO1. Work with and navigate the unique features of the digital 3D modeling workspace to create 3D objects.
CO2. Identify characteristics of rendering 3D objects for optimal system processing and analysis.
CO3. Create a 3D environment featuring lighting and textures.
CO4. Design basic 3D models and animations.

CO5. Evaluate digital 3D projects, identify items for improvement, and implement changes.

**Catalog Description**

This course provides an introduction to creating, editing, and analyzing 3D models. Develops foundational skills to work with, and navigate the digital 3D modeling workspace to create 3D objects. Examines basic elements of the 3D development of modeling, texturing, lighting, animating, and rendering.

**Course Content**

**Unit 1: Unreal Engine - 3D Modelling - 15 hours**

Introduction to Unreal Engine Modeling, Creating Models in 3D Graphics – Modelling, Retopology, UV Mapping, Rigging, Skinning, Exporting and Importing Assets, Inside Engine – Level Editor, Material Editor, Blueprint Editor, Behavior Tree Editor, Persona Editor, Cascade Editor, UMG UI Editor, Matinee Editor, Sound Cue Editor, Paper2D Sprite Editor, Paper2D Flipbook Editor, Physics Asset Tool Editor, Static Mesh Editor, Media Player Editor

**Unit 2: Unreal Engine – Lighting – 15 hours**

Unreal Engine Overview, Initial Lighting Setup, Lighting the Outdoor Environment, Lighting the Indoor Environment, Post Processing

**Unit 3: Unreal Engine – Rendering –12 hours**

Rendering Overview, Supported Rendering Features, Textures, Materials, Physically Based Materials, Render Targets, Scene Capture, Render to Texture Blueprint Toolset, High Dynamic Range Display Output

**Unit 4: Project Work – 18 hours**

Project on 3D Modelling, Lighting & Rendering.

**Text Books:**
This course does not have a text book as this is a practical subject with hands on learning.

**Modes of Evaluation: Quiz/Assignment/ presentation/ extempore/ Written Examination**
**Examination Scheme:**

| **Components** | **Mid Term Jury** | **End Term Internal Jury** | **End Term Studio Exam** | **End Term External Jury** |
|---|---|---|---|---|
| **Weightage (%)** | **20M** | **30M** | **20M** | **30M** |

| **Components** | **Class Test 1** | **Presentation 1** | **Class Test 2** | **Presentation 2** | **Attendance** | **End Term Exam** |
|---|---|---|---|---|---|---|
| **Weightage (%)** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

**Relationship between the Course Outcomes (COs) and Program Outcomes (POs)**

| Mapping between COs and POs | | |
|---|---|---|
| | **Course Outcomes (COs)** | **Mapped Program Outcomes** |
| **CO1** | Work with and navigate the unique features of the digital 3D modeling workspace to create 3D objects. | **PO1, PO3** |
| **CO2** | Identify characteristics of rendering 3D objects for optimal system processing and analysis. | **PSO1, PSO2, PSO3 PSO4, PSO5** |
| **CO3** | Create a 3D environment featuring lighting and textures. | **PSO1, PSO2, PSO3 PSO4, PSO5** |
| **CO4** | Design basic 3D models and animations. | **PSO1, PSO2, PSO3, PSO4, PSO5** |
| **CO5** | Evaluate digital 3D projects, identify items for improvement, and implement changes. | **PO7, PSO1, PSO2, PSO3 PSO4, PSO5** |

| | | Design and Integration | Drawing Work | Critical Analysis | Employability & Interdisciplinary Approach | Conduct | Communication and Teamwork | Life-long learning | Create desirable experience | Tools Softwares and Technology | Comprehensive and narrative | Innovative | Practical and demonstrative | Trend Setters |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Course Code | Course Title | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
| **ADGA301A** | **BASICS OF 3D MODELLING, LIGHTING & RENDERING (UNREAL ENGINE SOFTWA** | 2 | | 2 | | | | 3 | 3 | 3 | 2 | 3 | 3 | |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **RE)** | | | | | | | | | | | | | |

| Course Code | Course Outcome | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ADGA301A | CO1 | 2 | | 2 | | | | | | | | | | |
| | CO2 | | | | | | | 3 | 3 | 3 | 2 | 3 | 3 | |
| | CO3 | | | | | | | | 3 | 3 | 2 | 3 | 3 | |
| | CO4 | | | | | | | | 3 | 3 | 2 | 3 | 3 | |
| | CO5 | | | | | | | 3 | 3 | 3 | 2 | 3 | 3 | |
| | CO6 | | | | | | | | | | | | | |

1=weakly mapped 2= moderately mapped 3=strongly mapped

| **ADGA303A** | **BASICS OF VFX FOR FILM AND GAME DESIGN (NUKE SOFTWARE)** | L | T | S | P | C |
|---|---|---|---|---|---|---|
| **Version 1.0** | | 0 | 0 | 3 | 0 | 3 |
| **Pre-requisites/Exposure** | | | | | | |
| **Co-requisites** | | | | | | |

**Course Objectives**

- To understand and identify common visual effects used in motion graphics, Tv and Film.
- To Apply various tools and techniques for emulating realistic effects.
- To analyse and plan visual effects sequences.
- Students will be able to merge elements from various sources to achieve intended effect and composition.
- To make students understand the use of Visual effects in media and animation industry
- To make them fully understand the latest VFX techniques and software
- To Handle VFX for 2D, 3D and Live shoot Learning Video Editing Techniques
- To prepare the learners to design and execute compositing in Visual Effects using digital electronic media and develop the students in a core set of technical and creative skills related to digital filmmaking.

**Course Outcomes**

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

CO1. Identify, differentiate and apply the post production activity similar to film and TV
CO2. Articulate, integrate and assess the content with appropriate background through visual design in VFX shot
CO3. Analyse and measure different masking techniques and matte painting
CO4. Explain and distinguish with planning the camera movement and tracking live action images with appropriate framing

CO5. Compile and prepare different effects as a VFX shot.

**Catalog Description**

Students will learn compositing and how the vfx field integrates computer graphics and 3D components with live action plates. The main purpose of this course is to familiarize students with the core skills used in the vfx industry. Students continue to gain practical experience through editing, compositing, and vfx, integrating computer graphics and 3D components with live action plates.

**Course Content**

**Unit 1: Introduction to Nuke - 6 hours**

Introducing the class and main concepts, downloading nuke, concept of nodes vs layers, reiterating nodes and compositing structures, Basics of Nuke Interface, setting up project file, Additive Color Model, Formats and Images

**Unit 2: Learning Nodes, Roto and Rotopaint – 9 hours**

Basic nodes, Transforms, reformats, crops, Blurring, Creative nodes overview, Color Correction, Some other color nodes , Splitting Colors, Rotopaint and Rotoscoping ,Rotoscoping Moving Objects

**Unit 3: Composting Fundamental Concept – 9 hours**

Premultiplication ,Animation, Lens Distortion, Grain and Sensor Noise, 2d Motion Tracking, Cleanplating a moving scene - Project Based

**Unit 4: Keying, Chroma Keying Greenscreens and Rendering – 6 hours**

Keying, Intermediate keying, how to complete the shot, Rendering the shot, Script organization, Cleanup, Precomping, Useful Tips

**Unit 5: Project Work – 15 hours**

Project on basics of VFX using Nuke

**Text Books:**
This course does not have a text book as this is a practical subject with hands on learning.

**Reference Books/Materials**

- Digital Modeling book by William Vaughan
- 3D Modeling For Beginners - Danan Thilakanathan
- Essential Skills for 3D Modeling, Rendering, and Animation by Nicholas Bernhardt Zeman
- Digital Lighting and Rendering by Jeremy Birn

**Modes of Evaluation: Quiz/Assignment/ presentation/ extempore/ Written Examination**
**Examination Scheme:**

| Components | Mid Term | End Term Internal | End Term Studio | End Term External |
|---|---|---|---|---|

| | Jury | Jury | Exam | Jury |
|---|---|---|---|---|
| **Weightage (%)** | **20M** | **30M** | **20M** | **30M** |

| **Components** | **Class Test 1** | **Presentation 1** | **Class Test 2** | **Presentation 2** | **Attendance** | **End Term Exam** |
|---|---|---|---|---|---|---|
| **Weightage (%)** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

**Relationship between the Course Outcomes (COs) and Program Outcomes (POs)**

| **Mapping between COs and POs** | | |
|---|---|---|
| | **Course Outcomes (COs)** | **Mapped Program Outcomes** |
| **CO1** | Identify, differentiate and apply the post production activity similar to film and TV | **PO1, PO3, PO4,PO6** |
| **CO2** | Articulate, integrate and assess the content with appropriate background through visual design in VFX shot | **PSO1, PSO2** |
| **CO3** | Analyse and measure different masking techniques and matte painting | **PSO1, PSO2, PSO4, PSO5** |
| **CO4** | Explain and distinguish with planning the camera movement and tracking live action images with appropriate framing | **PSO1, PSO2, PSO4, PSO5** |
| **CO5** | Compile and prepare different effects as a VFX shot. | **PSO1, PSO2 PSO4, PSO5** |

| | | Design and Integration | Drawing Work | Critical Analysis | Employability & Interdisciplinary Approach | Conduct | Communication and Teamwork | Life-long learning | Create desirable experience | Tools Softwares and Technology | Comprehensive and narrative | Innovative | Practical and demonstrative | Trend Setters |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Course Code | Course Title | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
| **ADGA303A** | **BASICS OF VFX FOR FILM AND GAME DESIGN** | 2 | | 2 | 2 | | 2 | | 3 | 3 | | 3 | 3 | |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **(NUKE SOFTWARE)** | | | | | | | | | | | | | |

| Course Code | Course Outcome | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ADGA303A | CO1 | 2 | | 2 | 2 | | 2 | | | | | | | |
| | CO2 | | | | | | | | 3 | 3 | | | | |
| | CO3 | | | | | | | | 3 | 3 | | 3 | 3 | |
| | CO4 | | | | | | | | 3 | 3 | | 3 | 3 | |
| | CO5 | | | | | | | | 3 | 3 | | 3 | 3 | |
| | CO6 | | | | | | | | | | | | | |

1=weakly mapped 2= moderately mapped 3=strongly mapped

| ADGA305A | SOUND DESIGN (LEXICON PCM REVERBS SOFTWARE) | L | S | T | P | C |
|---|---|---|---|---|---|---|
| **Version 1.0** | | 0 | 0 | 2 | 2 | 3 |
| **Pre-requisites/Exposure** | | | | | | |
| **Co-requisites** | | | | | | |

**Course Objectives**

1. To familiarize with software associated with sound design.
2. To understand the step by step process involved in

**Course Outcomes**

CO1. To provide students with new understandings and exploratory approaches in sonic arts practice and sound design.
CO2. To equip students with knowledge and develop new artistic and technical skills in sound creation and design in the field of computer games.
CO3. To develop students research processes and a reflexive skill set with regard to future practice, thus enabling students to adapt to the ever expanding and rapidly changing area of sonic arts and related areas of sound design for games.

**Catalog Description**

This course will develop an understanding of sound design for games and its associated components such as: music, dialogue and voice, ambience and effects using lexicon pcm reverbs software.

**Course Content**

**Unit 1: Introduction to Sound Design**

Need of correct synchrony between image and sound, action and emotion realism, Background Music, Ambient sounds

**Unit 2: Getting Started - The User Interface**

Installation, Level Presets, Preset Category, Control Buttons, Input and Mix, Predelay, Tempo Mode Presets, Frequency, Impulse

**Unit 3: The Parameters**

Mix, Diffusion, Shape and Spread, Reverb Time, Bass Crossover, Chorus, Tail Width, Echoes, Reverse

**Unit 4: Getting Hands-on**

Importing animated video, Sound Effects Library, Add Audio Files – Editing Speeds, intensity and layers, Reverb Tricks

**Unit 5: Project Work – 15 hours**

Add sound to selected animated short film using Lexicon PCM Reverbs software.

**Text Books:**
This course does not have a text book as this is a practical subject with hands on learning.

**Modes of Evaluation: Quiz/Assignment/ presentation/ extempore/ Written Examination**
**Examination Scheme:**

| **Components** | **Mid Term Jury** | **End Term Internal Jury** | **End Term Studio Exam** | **End Term External Jury** |
|---|---|---|---|---|
| **Weightage (%)** | **20M** | **30M** | **20M** | **30M** |

| **Components** | **Class Test 1** | **Presentation 1** | **Class Test 2** | **Presentation 2** | **Attendance** | **End Term Exam** |
|---|---|---|---|---|---|---|
| **Weightage (%)** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

**Relationship between the Course Outcomes (COs) and Program Outcomes (POs)**

| **Mapping between COs and POs** | | |
|---|---|---|
| | **Course Outcomes (COs)** | **Mapped Program Outcomes** |
| **CO1** | To provide students with new understandings and exploratory approaches in sonic arts practice and sound design. | **PO1, PSO1** |
| **CO2** | To equip students with knowledge and develop new artistic and technical skills in sound creation and design in the field of computer games. | **PO3, PSO3, PSO4** |
| **CO3** | To develop students research processes and a reflexive skill set with regard to future practice, thus enabling students to adapt to the ever expanding and rapidly changing area of sonic arts and related areas of sound design for games. | **PSO1,PSO2, PSO4, PSO5,** |

| | | Design and Integration | Drawing Work | Critical Analysis | Employability & Interdisciplinary Approach | Conduct | Communication and Teamwork | Life-long learning | Create desirable experience | Tools Softwares and Technology | Comprehensive and narrative | Innovative | Practical and demonstrative | Trend Setters |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

| Course Code | Course Title | PO 1 | PO 2 | PO 3 | PO4 | PO 5 | PO 6 | PO 7 | PS O1 | PS O2 | PS O3 | PS O4 | PSO5 | PSO 6 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ADGA3 05A | **SOUN D DESI GN** | 2 | | 3 | | | | | 3 | | 2 | 3 | 3 | |

1=weakly mapped,2= moderately mapped,3=strongly mapped

| Course Code | Course Outcome | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ADGA305A | CO1 | 2 | | | | | | | 3 | | | | | |
| | CO2 | | | 3 | | | | | | | 2 | 3 | | |
| | CO3 | | | | | | | | 3 | | 2 | 3 | 3 | |
| | CO4 | | | | | | | | | | | | | |
| | CO5 | | | | | | | | | | | | | |
| | CO6 | | | | | | | | | | | | | |

| **ADGA307A** | **MOTION GRAPHICS (ADOBE AFTER EFFECTS / ANIMATE SOFTWARE)** | L | T | S | P | C |
|---|---|---|---|---|---|---|
| **Version 1.0** | | 0 | 0 | 2 | 2 | 3 |
| **Pre-requisites/Exposure** | | | | | | |
| **Co-requisites** | -- | | | | | |

**Course Objectives**

1. To learn basics of Adobe After Effects
2. To showcase necessary skills to create beautiful animations using Graph editors in Adobe After Effects.
3. To learn various animation techniques including shape animation, text animation, and letter animation.

**Course Outcomes**

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

CO1. Apply the knowledge and concept of visual effects and motion graphics development.
CO2. Solve a visual effects and motion graphics problem with selected approach using appropriate application.
CO3. Select a suitable approach from relevance information to solve a visual effects and motion graphics application.

**Catalog Description**

This course is designed to expose the students to the basic visual effect and motion graphics. This includes understanding and designing aspects by using a visual effect and motion graphics application. The students will be exposed to the skill of using a visual effect and motion graphics software such as After Effect.

**Course Content**

**Unit 1: Introduction and Basics of Adobe After Effects**

Introduction, Workflow and Interface, Composition, Viewport and Timeline, Animation and Transform Properties, Shape Layers, Masks and Effects, Render and Export

**Unit 2: Animation Principles, Types of Keyframes, Graph Editors and Shape Modifier**

Principles of Animation, Types of Keyframes, Types of Graph Editors, Jumping Ball, Merge Path, Offset Path, Pucker& Bloat, Round Corner, Trim Path, Twist, Wiggle Path, Zig Zag, Repeater & Wiggle Transform

**Unit 3: Text Animation and Animation Techniques**

**Text Animation, Title Animation, Animation Techniques, Morphing Animation, Lettering Animation** Liquid Gradient Title Animation, Liquid Gradient Rainbow Title, Liquid Gradient Blank Space Title, Liquid Gradient Eclipse Title, Liquid Gradient Untited Title

**Unit 4: Modern Data Visualization, Advanced Motion Tracking and Call Out Titles in After Effect**

Moder Data Visualization in After Effects, Advanced Motion Tracking and Call Out Titles in After Effect, Creating First Call Out Title Animation, Creating Second Call Out Title Animation, Creating Third and Fourth Call Out Title Animation, Tracking

**Unit 5: Project Work**

Project on Motion Graphics

**Text Books:**

This course does not have a text book as this is a practical subject with hands on learning.

**Reference Books/Materials**

1. AFTER EFFECTS CLASSROOM IN A BOOK - Brie Gynclid and Lisa Firdisma
2. Design for Motion -Austin Shaw

**Modes of Evaluation: Quiz/Assignment/ presentation/ extempore/ Written Examination**

**Examination Scheme:**

| Components | Mid Term Jury | End Term Internal Jury | End Term Studio Exam | End Term External Jury |
|---|---|---|---|---|
| Weightage (%) | 20M | 30M | 20M | 30M |

| Components | Class Test 1 | Presentation 1 | Class Test 2 | Presentation 2 | Attendance | End Term Exam |
|---|---|---|---|---|---|---|
| Weightage (%) | NA | NA | NA | NA | NA | NA |

**Relationship between the Course Outcomes (COs) and Program Outcomes (POs)**

| Mapping between COs and POs | | |
|---|---|---|
| | **Course Outcomes (COs)** | **Mapped Program Outcomes** |
| **CO1** | Apply the knowledge and concept of visual effects and motion graphics development. | **PO1, PSO1, PSO2, PSO4** |
| **CO2** | Solve a visual effects and motion graphics problem with selected approach using appropriate application. | **PO1, PO3, PSO1, PSO4** |
| **CO3** | Select a suitable approach from relevance information to solve a visual effects and motion graphics application. | **PO3, PSO1, PSO2, PSO4, PSO5** |

| | | Design and Integration | Drawing Work | Critical Analysis | Employability & Interdisciplinary Approach | Conduct | Communication and Teamwork | Life-long learning | Create desirable experience | Tools Softwares and Technology | Comprehensive and narrative | Innovative | Practical and demonstrative | Trend Setters |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Course Code | Course Title | PO 1 | PO 2 | PO 3 | PO4 | PO 5 | PO 6 | PO 7 | PS O1 | PS O2 | PS O3 | PS O4 | PSO5 | PSO 6 |
| **ADGA307A** | MOTION GRAPHICS | 2 | | 3 | | | | | 3 | 3 | 3 | 3 | 3 | |

| Course Code | Course Outcome | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ADGA307A | CO1 | 2 | | | | | | | 3 | 3 | | 3 | | |
| | CO2 | 2 | | 3 | | | | | 3 | | | 3 | | |
| | CO3 | | | 3 | | | | | 3 | 3 | | 3 | 3 | |
| | CO4 | | | | | | | | | | | | | |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CO5 | | | | | | | | | | | | | |
| | CO6 | | | | | | | | | | | | | |

1=weakly mapped 2= moderately mapped 3=strongly mapped

| ADGA309A | LEVEL DESIGN (UNREAL ENGINE SOFTWARE) | L | T | S | P | C |
|---|---|---|---|---|---|---|
| Version 1.0 | | 0 | 0 | 4 | 0 | 4 |
| Pre-requisites/Exposure | | | | | | |
| Co-requisites | | | | | | |

**Course Objectives**

1. To comprehend the necessity of levels in a game.
2. To design levels to enhance game engagement and overall player experience.
3. To explore practical ideas that will satisfy business and franchise needs while ensuring audience immersion.

**Course Outcomes**

On successful completion of this course, the students have capability to

CO1. Describe and apply methods and theories of level design,
CO2. Design game environments, both with the intent to achieve specific emotional resonance and to enhance or illustrate specific parts of gameplay,
CO3. Build and implement an interactive environment as well as conduct iterative testing and modification of the design.

**Catalog Description**

Students are introduced to level design concepts and theories. By creating and discussing several examples of level design, students exercise their ability to value design decisions in an early stage of production. Students then apply these concepts, through production of their own level designs, tests and through implementation. The production is done in project form.

**Course Content**

**Unit 1: Introduction to Levels in Game Design**

Why levels matter – player engagement and experience, player capabilities, game mechanics, obstacles, and discoverable elements, authenticity and immersion

**Unit 2: Level design Guidelines**

Character Powers, Business and Franchise Needs, Audience Needs, Level Progression, Metrics
Limitations – player's speed, Size, Jump Heights

**Unit 3: Brainstorming**

Coming up with Ideas, criteria of idea selection, intensity ramping – combining challenges together, increasing pace

**Unit 4: Bubble Diagram**

visualize the whole level and how its areas are connected, mapping the whole level in a simple way, connecting different areas of the level with arrows to denote a flow, creating path structure that is best suited for your objectives

**Unit 5: Project Work**

Project on ideating and creating levels for a simple game.

**Text Books:**
This course does not have a text book.

**Modes of Evaluation: Quiz/Assignment/ presentation/ extempore/ Written Examination**
**Examination Scheme:**

| **Components** | **Mid Term Jury** | **End Term Internal Jury** | **End Term Studio Exam** | **End Term External Jury** |
|---|---|---|---|---|
| **Weightage (%)** | **20M** | **30M** | **20M** | **30M** |

| **Components** | **Class Test 1** | **Presentation 1** | **Class Test 2** | **Presentation 2** | **Attendance** | **End Term Exam** |
|---|---|---|---|---|---|---|
| **Weightage (%)** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

**Relationship between the Course Outcomes (COs) and Program Outcomes (POs)**

| **Mapping between COs and POs** | | |
|---|---|---|
| | **Course Outcomes (COs)** | **Mapped Program Outcomes** |
| **CO1** | Describe and apply methods and theories of level design, | **PO1, PO3** |
| **CO2** | Design game environments, both with the intent to achieve specific emotional resonance and to enhance or illustrate specific parts of gameplay | **PSO1, PSO2 PSO4** |
| **CO3** | Build and implement an interactive environment as well as conduct iterative testing and modification of the design. | **PO3, PSO4, PSO5, PSO6** |

| | | Design and Integration | Drawing Work | Critical Analysis | Employability & Interdisciplinary | Conduct | Communication and Teamwork | Life-long learning | Create desirable experience | Tools Softwares and Technology | Comprehensive and narrative | Innovative | Practical and demonstrative | Trend Setters |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Course Code | Course Title | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO 6 |
| **ADGA309A** | LEVEL DESIGN | 2 | | 3 | | | | | 3 | 3 | | 3 | 3 | 2 |

| Course Code | Course Outcome | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ADGA309A | CO1 | 2 | | 3 | | | | | | | | | | |
| | CO2 | | | | | | | | 3 | 3 | | 3 | | |
| | CO3 | | | 3 | | | | | | | | 3 | 3 | 2 |
| | CO4 | | | | | | | | | | | | | |
| | CO5 | | | | | | | | | | | | | |
| | CO6 | | | | | | | | | | | | | |

1=weakly mapped 2= moderately mapped 3=strongly mapped

| **ADGA311A** | **RIGGING & ANIMATION** | L | T | S | P | C |
|---|---|---|---|---|---|---|
| **Version 1.0** | | 0 | 0 | 4 | 0 | 4 |
| **Pre-requisites/Exposure** | | | | | | |
| **Co-requisites** | | | | | | |

**Course Objectives**

1. To understand the structures and purposes of basic components of Props, Shapes, biped & Quadruped.
2. To understand how rigs are setup and moved.
3. To understand the tools and techniques used to rig and animate.
4. To apply the knowledge of effectively Create Character rigs for 3D Characters to enable animation for the Characters in a Scene.

5. To apply the concept of skins and how they deform with joint movement and animation

.

**Course Outcomes**

On successful completion of this course, the students have capability to

CO1. Understand and identify technical skills needed to set up Various Character and animate.
CO2. Calculate, manage, and assess rigs, alter and support character animations effectively with references.
CO3. Analyse and evaluate procedural deformers to geometry for animation with integrating principles
CO4. Measure and express custom character rigs and character movement
CO5. Produce the custom and Procedural Design character rigs for animating

**Catalog Description**

The different modules of the course will examine different areas of Rigging & Animation including deep knowledge of 3D tools, anatomy, coding, math and physics. Rigging & Animation is to build rigs for a wide variety of model and character types using the latest industry-standard methods. Advanced techniques for facial work, cloth, simulations, scripting and tool development.

**Course Content**

**Unit 1: Basics of Rigging**

Introduction to Rigging in 3d, Basics of Rigging, Hierarchies, Constraints, Wire Parameters, Bones, Kinematics, Controllers, Skinning

**Unit 2: Scene Preparations, Root, and Spine Rig**

Scene Preparations, Scene Scale, Naming, Geometry Cleaning, Normals, Scene Cleaning, Display Layers, Root and Spine Rig, The Root, Helpers, Root and Spine Bones, Root and Spine Controllers, Constraints

**Unit 3: Arms, Hands, Finger, Legs and Feet**

Arms, Hands, and Fingers, Arm Helpers, Arm Bones, Arm Controllers, Arm Constraints, Finger Hierarchy, Hand Constraints, Legs and Feet, Leg and Feet Helpers, Leg and Feet Bones, Inverse Kinematics, Leg and Foot Controllers, Knees, Reverse Foot and Finishing Up

**Unit 4**: **Skinning, Attaching Geometry, Rig Enhancements**

Skinning and Attaching Geometry, Pelvis and Torso, Spine (Rigid Weighting), Spine (Smooth Skinning), Arm Linking, Arm Skinning, Legs and Feet Linking, Leg Skinning, Finishing the Rig, Display Layers, Locking Controllers, Geometry Colors, Rig Enhancements, Custom Attributes, Wiring Parameters, Reaction Manager, Head Control, Animation Test

**Unit 5: Project Work**

Project on Rigging and Animation

**Reference Books/Materials**

1. Rig it Right! - Tina O Haiely
2. Body Language: Advanced 3D Character Rigging – Kelly L Murdock and Eric Allen

**Modes of Evaluation: Quiz/Assignment/ presentation/ extempore/ Written Examination**
**Examination Scheme:**

| **Components** | **Mid Term Jury** | **End Term Internal Jury** | **End Term Studio Exam** | **End Term External Jury** |
|---|---|---|---|---|
| **Weightage (%)** | **20M** | **30M** | **20M** | **30M** |

| **Components** | **Class Test 1** | **Presentation 1** | **Class Test 2** | **Presentation 2** | **Attendance** | **End Term Exam** |
|---|---|---|---|---|---|---|
| **Weightage (%)** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

**Relationship between the Course Outcomes (COs) and Program Outcomes (POs)**

| **Mapping between COs and POs** | | |
|---|---|---|
| | **Course Outcomes (COs)** | **Mapped Program Outcomes** |
| **CO1** | Understand and identify technical skills needed to set up Various Character and animate. | **PO1, PO3, PSO1** |
| **CO2** | Calculate, manage, and assess rigs, alter and support character animations effectively with references. | **PO3, PSO2, PSO4** |
| **CO3** | Analyse and evaluate procedural deformers to geometry for animation with integrating principles | **PO3, PSO2, PSO4** |
| **CO4** | Measure and express custom character rigs and character movement | **PO2, PO3, PSO1, PSO2, PSO4** |
| **CO5** | Produce the custom and Procedural Design character rigs for animating | **PO7, PSO5, PSO6** |

| | | Design and Integration | Drawing Work | Critical Analysis | Employability & Interdisciplinary Approach | Conduct | Communication and Teamwork | Life-long learning | Create desirable experience | Tools Softwares and Technology | Comprehensive and narrative | Innovative | Practical and demonstrative | Trend Setters |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

| Course Code | Course Title | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **ADGA311A** | RIGGING AND ANIMATION | 3 | 2 | 3 | | | | 3 | 3 | 3 | | 3 | 3 | 2 |

| Course Code | Course Outcome | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ADGA311A | CO1 | 3 | | 3 | | | | | 3 | | | | | |
| | CO2 | | | 3 | | | | | | 3 | | 3 | | |
| | CO3 | | | 3 | | | | | | 3 | | 3 | | |
| | CO4 | | 2 | 3 | | | | | 3 | 3 | | 3 | | |
| | CO5 | | | | | | | 3 | | | | | 3 | 2 |
| | CO6 | | | | | | | | | | | | | |

1=weakly mapped 2= moderately mapped 3=strongly mapped

**SEMESTER VI**

| ADGA302A | GAME ENGINE | L | T | S | P | C |
|---|---|---|---|---|---|---|
| **Version 1.0** | | 3 | 0 | 0 | 0 | 3 |
| **Pre-requisites/Exposure** | | | | | | |
| **Co-requisites** | | | | | | |

**Course Objectives**

This course will give basic understanding about function of game engines and how they perform in vidoe games and learn about functions of different game engines.

**Course Outcomes**

With the successful completion of the course student should be able to

CO1. Identify how game engines perform in a video game.

CO2. Comprehend the working of game engines and its specialized components such as middleware.

CO3. Compare how different game engines function and collaborate through case studies.

**Catalog Description**

This course introduces students the concept of game engine. It explains various fundamentals associated with game engine and how they work. They will also study about game middleware and comparison of different game engines.

**Course Content**

**Unit 1: Game Engine Fundamentals**

Need of Game Engine, Software Framework to provide independent 2D and 3D Rendering, environment development, Components of Game Engine – graphics, sound, physics and Artificial Intelligence (AI) Features

**Unit 2: Working of Game Engines**

How Game Engines make visualising new games easy, Game Engine as a tool of collaboration to visualise data, products and processes

**Unit 3: Game middleware**

Integrated softwares in Game Engine that perform specific tasks such as Physics, graphics, networking, pathfinding, collisions, multiplayer management

**Unit 4: Case Study** - Crystal Space, Genesis3D, Irrlicht, OGRE, RealmForge, Truevision3D, and Vision Engine.

**Modes of Evaluation: Quiz/Assignment/ presentation/ extempore/ Written Examination**
**Examination Scheme:**

| **Components** | **Mid Term Jury** | **End Term Internal Jury** | **End Term Studio Exam** | **End Term External Jury** |
|---|---|---|---|---|
| **Weightage (%)** | **20M** | **30M** | **20M** | **30M** |

| **Components** | **Class Test 1** | **Presentation 1** | **Class Test 2** | **Presentation 2** | **Attendance** | **End Term Exam** |
|---|---|---|---|---|---|---|
| **Weightage (%)** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

**Relationship between the Course Outcomes (COs) and Program Outcomes (POs)**

| **Mapping between COs and POs** | | |
|---|---|---|
| | **Course Outcomes (COs)** | **Mapped Program Outcomes** |
| **CO1** | Identify how game engines perform in a video game. | **PO1, PSO2** |
| **CO2** | Comprehend the working of game engines and its specialized components such as middleware. | **PO1, PSO2** |
| **CO3** | Compare how different game engines function and collaborate through case studies | **PO3, PSO2** |

| | | Design and Integration | Drawing Work | Critical Analysis | Employability & Interdisciplinary Approach | Conduct | Communication and Teamwork | Life-long learning | Create desirable experience | Tools Softwares and Technology | Comprehensive and narrative | Innovative | Practical and demonstrative | Trend Setters |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Course Code | Course Title | PO 1 | PO 2 | PO 3 | PO4 | PO 5 | PO 6 | PO 7 | PS O1 | PS O2 | PS O3 | PS O4 | PSO5 | PSO 6 |
| ADGA302A | GAME ENGINE | 3 | | 3 | | | | | | 3 | | | | |

| Course Code | Course Outcome | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ADGA302A | CO1 | 3 | | | | | | | | 3 | | | | |
| | CO2 | 3 | | | | | | | | 3 | | | | |
| | CO3 | | | 3 | | | | | | 3 | | | | |
| | CO4 | | | | | | | | | | | | | |
| | CO5 | | | | | | | | | | | | | |
| | CO6 | | | | | | | | | | | | | |

1=weakly mapped 2= moderately mapped 3=strongly mapped

| ADGA304A | BASICS OF VIDEO EDITING | L | T | S | P | C |
|---|---|---|---|---|---|---|
| Version 1.0 | | 1 | - | 2 | - | 3 |
| Pre-requisites/Exposure | | | | | | |
| Co-requisites | | | | | | |

**Course Objectives**

1. To understand terminology used in video editing
2. To create, edit, and combine sequences
3. To edit and combine audio, video, and still images
4. To create titles and credits for videos
5. To publish a video to a format suitable for web use

**Course Outcomes**

Upon completion of the course students should be able to:

CO1. Plan, design, and create digital video projects incorporating graphic and audio elements.
CO2. Transfer and capture digital video and audio from various cameras and external devices.
CO3. Edit and compress video for use in various delivery modes of digital media using standard digital video editing software.
CO4. Evaluate digital video projects, identify items for improvement, and implement changes.

**Catalog Description**

This course explores the post-production process for non-linear editing of digital video for use in video production and multimedia applications. Focuses on industry standard editing software to develop the foundational process of editing including continuity and montage principles.

**Course Content**

**Unit 1: Premiere Pro Basics and Video Editing Basics**

In addition to creating a project in Premiere Pro, you can also organize and import media in the tool. You can also start a new sequence and understand its structure, add clips to the timeline, and sync audio and video with the click of a button. There are also tools that help you with various editing tasks, such as the ability to create B-rolls and edit video properties.

**Unit 2: Adding Style to Your Videos**

This unit will teach you how to create a Zoom In / Zoom Out Effect using Keyframes, Blend Modes, Nests, and a cool sequence. You can also create a Circle Video Mask and a Split Create Effect with Borders. The Ken Burns Effect is a great way to add more emotion to your videos by blending in and out of photos.

**Unit 3: Adding Video and Audio Transitions, Audio Editing in Premiere Pro**

The Essential Pro has various tools that allow you to create video transitions and audio effects. You can also customize the properties of your videos and create custom audio transitions. In addition, you can also make audio tracks longer or shorter to match the length of your videos using the Track Mixer. You can also remove background noise from audio using the audio effects in the Essential Sound Panel.

**Unit 4: Titles, Graphics and Color Correction**

Using the Essential Graphics Panel in Premiere Pro, you can create graphics and titles for your videos. You can also automate certain tasks in the software such as: creating scrolling credits, replacing media in motion graphics templates, automatic speech to text feature, and color correction. You will learn how to fix white balance, Saturation, and exposure using the Lumetri Color.

**Unit 5: Color Grading and Video Effects**

You will learn how to create exposure and specific Saturations in your videos using the Lumetri Curves Tab, Match colors between shots with the Lumetri Color, and edit specific colors in your video with the Lumetri Color Wheels & Match Tab. You will also learn how to use the Lumetri Color HSL Secondary Tab to add a Vignette to your video and remove the various Lumetri Color adjustments that you have made.

**Text Books:**

This course does not have a text book as this is a practical subject with hands on learning.

**Reference Books/Materials**

1. The American Cinematographer Manual by American Society of Cinematographers
2. Film Directing Shot by Shot by Steven D. Katz
3. Understanding the Business of Entertainment by Gregory Bernstein.

**Modes of Evaluation: Quiz/Assignment/ presentation/ extempore/ Written Examination**
**Examination Scheme:**

| **Components** | **Mid Term Jury** | **End Term Internal Jury** | **End Term Studio Exam** | **End Term External Jury** |
|---|---|---|---|---|
| **Weightage (%)** | **20M** | **30M** | **20M** | **30M** |

| **Components** | **Class Test 1** | **Presentation 1** | **Class Test 2** | **Presentation 2** | **Attendance** | **End Term Exam** |
|---|---|---|---|---|---|---|
| **Weightage (%)** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

**Relationship between the Course Outcomes (COs) and Program Outcomes (POs)**

| **Mapping between COs and POs** | | |
|---|---|---|
| | **Course Outcomes (COs)** | **Mapped Program Outcomes** |
| **CO1** | Plan, design, and create digital video projects incorporating graphic and audio elements. | **PO1, PO3, PO4, PO5** |
| **CO2** | Transfer and capture digital video and audio from various cameras and external devices. | **PSO1, PSO2, PSO4** |
| **CO3** | Edit and compress video for use in various delivery modes of digital media using standard digital video editing software. | **PSO2, PSO3, PSO4** |
| **CO4** | Evaluate digital video projects, identify items for improvement, and implement changes. | **PO3, PO7, PSO4,PSO5** |

| | | Design and Integration | Drawing Work | Critical Analysis | Employability & Interdisciplinary Approach | Conduct | Communication and Teamwork | Life-long learning | Create desirable experience | Tools Softwares and Technology | Comprehensive and narrative | Innovative | Practical and demonstrative | Trend Setters |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Course Code | Course Title | PO 1 | PO 2 | PO 3 | PO4 | PO 5 | PO 6 | PO 7 | PS O1 | PS O2 | PS O3 | PS O4 | PSO5 | PSO 6 |
| ADGA3 04A | **BASIC S OF VIDE O EDITI NG** | 2 | | 3 | 2 | 2 | | 3 | 2 | 3 | 2 | 3 | 3 | |

| Course Code | Course Outcome | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ADGA304A | CO1 | 2 | | 3 | 2 | 2 | | | | | | | | |
| | CO2 | | | | | | | | 2 | 3 | | 3 | | |
| | CO3 | | | | | | | | | 3 | 2 | 3 | | |
| | CO4 | | | 3 | | | | 3 | | | | 3 | 3 | |
| | CO5 | | | | | | | | | | | | | |
| | CO6 | | | | | | | | | | | | | |

1=weakly mapped, 2= moderately mapped, 3=strongly mapped

r

| ADGA306A | COMPOSITING (UNITY SOFTWARE) | L | T | S | P | C |
|---|---|---|---|---|---|---|
| Version 1.0 | | 0 | 0 | 3 | 0 | 3 |
| Pre-requisites/Exposure | | | | | | |
| Co-requisites | | | | | | |

**Course Objectives**

1. To learn combining visual elements from different sources into a single image.
2. To get hands-on real-time compositing operations between Unity's Render Pipeline and external media sources, such as videos or images.

**Course Outcomes**

On successful completion of this course, the students have capability to:

CO1: Recall the evolution of the traditional methods of compositing to the modern techniques
CO2: Interpret various color manipulation techniques used for digital image generation
CO3: Demonstrate Layer manipulation techniques of the layer based compositing software – Unity
CO4: Demonstrate the Lighting and advanced compositing techniques of the layer based compositing software – Unity
CO5: Create Video Art for various application's like music, dance, media, automation and interactive film.

**Catalog Description**

This course teaches the students compositing and help them learn its various fundamentals through Unity Software.

**Course Content**

**Unit 1: Introduction to Compositing**

Introduction to Compositing, Fundamental concepts of Compositing, Introduction to the Unity Software Interface & Tools

**Unit 2: Layer Control & Blending**

Layer Control & Blending: Layer Editing, Stacking, Work Area, Effects & Presets, Motion Sketch, Smoother, Project Settings & Parameters

**Unit 3: Transparency**

Mask & Pen tool, Bezier curves, Track Matte, Luma Matte, Stencils

**Unit 4: Keying**

Keying: Import Issues, Footage Interpretation, Keylight basics, Color Correction, Alpha painting, Mocha Demo, Keyframes & Transform properties, Anchor Point, Keyframe types

**Unit 5: Tracking& Output**

Tracking: Stabilization, 1-point tracking, 4-point tracking

**Text Books:**
This course does not have a text book as this is a practical subject with hands on learning.

**Modes of Evaluation: Quiz/Assignment/ presentation/ extempore/ Written Examination/Jury:**
**Examination Scheme:**

| **Components** | **Mid Term Jury** | **End Term Internal Jury** | **End Term Studio Exam** | **End Term External Jury** |
|---|---|---|---|---|
| **Weightage (%)** | **20M** | **30M** | **20M** | **30M** |

| **Components** | **Class Test 1** | **Presentation 1** | **Class Test 2** | **Presentation 2** | **Attendance** | **End Term Exam** |
|---|---|---|---|---|---|---|
| **Weightage (%)** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

**Relationship between the Course Outcomes (COs) and Program Outcomes (POs)**

| **Mapping between COs and POs** | | |
|---|---|---|
| | **Course Outcomes (COs)** | **Mapped Program Outcomes** |
| **CO1** | Recall the evolution of the traditional methods of compositing to the modern techniques | **PO1, PSO1** |
| **CO2** | Interpret various color manipulation techniques used for digital image generation | **PO3, PSO1** |
| **CO3** | Demonstrate Layer manipulation techniques of the layer based compositing software – Unity | **PSO2, PSO4** |
| **CO4** | Demonstrate the Lighting and advanced compositing techniques of the layer based compositing software – Unit | **PSO2, PSO4** |
| **CO5** | Create Video Art for various applications like music, dance, media, automation and interactive film. | **PO7, PSO5** |

| | | Design and Integration | Drawing Work | Critical Analysis | Employability & Interdisciplinary Approach | Conduct | Communication and Teamwork | Life-long learning | Create desirable experience | Tools Softwares and Technology | Comprehensive and narrative | Innovative | Practical and demonstrative | Trend Setters |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

| Course Code | Course Title | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ADGA306A | COMPOSITING | 3 | | 3 | | | | 3 | 3 | 3 | | 3 | 3 | |

| Course Code | Course Outcome | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ADGA306A | CO1 | 3 | | | | | | | 3 | | | | | |
| | CO2 | | | 3 | | | | | 3 | | | | | |
| | CO3 | | | | | | | | | 3 | | 3 | | |
| | CO4 | 3 | | 3 | | | | 3 | 3 | 3 | | 3 | 3 | |
| | CO5 | | | | | | | 3 | | | | | 3 | |
| | CO6 | | | | | | | | | | | | | |

1=weakly mapped, 2= moderately mapped, 3=strongly mapped

| **ADGA308A** | **UX DESIGN FOR FUTURISTIC TECHNOLOGIES** | **L** | **T** | **S** | **P** | **C** |
|---|---|---|---|---|---|---|
| **Version 1.0** | | 2 | 0 | 0 | 0 | 2 |
| **Pre-requisites/Exposure** | | | | | | |
| **Co-requisites** | | | | | | |

**Course Objectives**

1. To learn to design for futuristic technologies – AR and VR
2. To understand how to use various tools to do so.

**Course Outcomes**

On successful completion of this course, the students have capability to:

CO1. Comprehend what are futuristic technologies, practice and illustrate them in new ideas
CO2. Implement these technologies on different platforms after a clear understanding of how they work.

**Catalog Description**

Students will learn how to design for AR and VR and what technologies are used in order to do so.

**Course Content**

**Unit 1: Designing for AR** **9 Hours**
What is augmented reality, Examples, Case studies on augmented reality, implementing augmented reality in different industry domains

**Unit 2: Oculus for VR – Part 1** **Hours**
Design, Develop and Deploy for VR, VR Game Development and Prototyping, Using Unity to Develop VR Experiences, Locomotion and Ergonomics, Hand presence and Interaction

**Unit 3: Oculus for VR – Part 2** **Hours**
UI Best Practices for VR, Sound in VR, Performance Requirements, Optimizing VR Applications, Testing your VR Application

**Unit 4: Introduction to Internet of things (IOT)** **9 Hours**
What is Internet of things, Examples, Case studies on IOT, Implementing IOT in different industry domains

**Reference Books:**


1. Technology-Augmented Perception and Cognition by Tilman Dingler, Evangelos Niforatos
2. Augmented Reality: Principles and Practice - Dieter Schmalstieg
3. Augmented Reality: An emerging technologies guide - Gregory Kipper and Joseph Rampolla
4. Internet of Things: How Smart TVs, Smart Cars, Smart Homes, and Smart Cities Are Changing the World By Miller Michael
5. Building the Internet of Things: Implement New Business Models, Disrupt Competitors, Transform Your Industry By Maciej Kranz


**Modes of Evaluation: Quiz/Assignment/ presentation/ extempore/ Written Examination/Jury:**
**Examination Scheme:**

| **Components** | **Mid Term Jury** | **End Term Internal Jury** | **End Term Studio Exam** | **End Term External Jury** |
|---|---|---|---|---|
| **Weightage (%)** | **20M** | **30M** | **20M** | **30M** |

| **Components** | **Class Test 1** | **Presentation 1** | **Class Test 2** | **Presentation 2** | **Attendance** | **End Term Exam** |
|---|---|---|---|---|---|---|
| **Weightage (%)** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

**Relationship between the Course Outcomes (COs) and Program Outcomes (POs)**

| **Mapping between COs and POs** | | |
|---|---|---|
| | **Course Outcomes (COs)** | **Mapped Program Outcomes** |
| **CO1** | Comprehend what are futuristic technologies, practice and illustrate them in | **PO1,PO2,** |

| | | |
|---|---|---|
| | new ideas | **PO3, PSO2, PSO4** |
| **CO2** | Implement these technologies on different platforms after a clear understanding of how they work. | **PSO1,PSO4, PSO5** |

| | | Design and Integration | Drawing Work | Critical Analysis | Employability & Interdisciplinary Approach | Conduct | Communication and Team work | Life-long learning | Create desirable experience | Tools Softwares and Technology | Comprehensive and narrative | Innovative | Practical and demonstrative | Trend Setters |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Course Code | Course Title | PO 1 | PO 2 | PO 3 | PO4 | PO 5 | PO6 | PO 7 | PSO1 | PSO 2 | PSO3 | PSO 4 | PSO 5 | PSO 6 |
| ADGA308A | UX DESIGN FOR FUTURISTIC TECHNOLOGIES | 3 | 2 | 3 | | | | | 3 | 3 | | 3 | 3 | |

| Course Code | Course Outcome | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ADGA308A | CO1 | 3 | 2 | 3 | | | | | | 3 | | 3 | | |
| | CO2 | | | | | | | | 3 | | | 3 | 3 | |
| | CO3 | | | | | | | | | | | | | |
| | CO4 | | | | | | | | | | | | | |
| | CO5 | | | | | | | | | | | | | |
| | CO6 | | | | | | | | | | | | | |

1=weakly mapped, 2= moderately mapped, 3=strongly mapped

| ADGA310A | LIVE PROJECT 1 | L | T | S | P | C |
|---|---|---|---|---|---|---|

| | | | | | | |
|---|---|---|---|---|---|---|
| **Version 1.0** | | 0 | 0 | 6 | 0 | 6 |
| **Pre-requisites/Exposure** | | | | | | |
| **Co-requisites** | | | | | | |

**Course Objective**

To carry out a design project in one of the specializations of the program under mentorship of an industry expert with substantial multidisciplinary component.

**Course Outcomes**

CO1. To enable students to gather firsthand experience on site.

**Catalog Description**

To guide the students in such a way so that they carry out a work on a topic as a forerunner to the full fledged project work to be taken subsequently in VIII semester. The project work shall consist of substantial multidisciplinary component.

**Course Content**

**Short Film (Pre- Production)- 90 Hours**

Create a short film implementing the knowledge gained throughout the course.

**OR**

**Game Design (Pre-Production)- 90 Hours**

Design a game implementing the knowledge gained throughout the course.

**Modes of Evaluation: Quiz/Assignment/ presentation/ extempore/ Written Examination/Jury:**
**Examination Scheme:**

| **Components** | **Mid Term Jury** | **End Term Internal Jury** | **End Term Studio Exam** | **End Term External Jury** |
|---|---|---|---|---|
| **Weightage (%)** | **20M** | **30M** | **20M** | **30M** |

| **Components** | **Class Test 1** | **Presentation 1** | **Class Test 2** | **Presentation 2** | **Attendance** | **End Term Exam** |
|---|---|---|---|---|---|---|
| **Weightage (%)** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

**Relationship between the Course Outcomes (COs) and Program Outcomes (POs)**

| **Mapping between COs and POs** | | |
|---|---|---|
| | **Course Outcomes (COs)** | **Mapped Program Outcomes** |

| | | |
|---|---|---|
| **CO1** | To enable students to gather firsthand experience on site. | **PO1, PO2, PO3, PO4, PO5, PO6, PO7, PSO1, PSO2, PSO3, PSO4, PSO5, PSO6** |

| | | Design and Integration | Drawing Work | Critical Analysis | Employability & Interdisciplinary Approach | Conduct | Communication and Teamwork | Life-long learning | Create desirable experience | Tools Softwares and Technology | Comprehensive and narrative | Innovative | Practical and demonstrative | Trend Setters |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Course Code | Course Title | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
| ADGA310A | LIVE PROJECT I | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |

| Course Code | Course Outcome | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ADGA310A | CO1 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| | CO2 | | | | | | | | | | | | | |
| | CO3 | | | | | | | | | | | | | |
| | CO4 | | | | | | | | | | | | | |
| | CO5 | | | | | | | | | | | | | |
| | CO6 | | | | | | | | | | | | | |

1=weakly mapped, 2= moderately mapped, 3=strongly mapped

**SEMESTER VII**

| ADGA401A | ECONOMICS OF GAMES | L | T | S | P | C |
|---|---|---|---|---|---|---|
| Version 1.0 | | 3 | 0 | 0 | 0 | 3 |
| Pre-requisites/Exposure | | | | | | |
| Co-requisites | | | | | | |

**Course Objectives**

1. To understand fundamentals of economics and how it works in game design.
2. To familiarize with money flow in game design and current market trends.

**Course Outcomes**

On successful completion of this course, the students have capability to:

CO1. Describe how the ecosystem of Game design and development works.

CO2. Analyse value chain and job roles in the game development industry.

CO3. Classify market trends and consumption of games in the world.

**Catalog Description**

Students will learn about fundamentals of economics, value chain and job roles. They will gain an understanding of money flow in games and current market trends.

**Course Content**

**Unit 1: Fundamentals of Economics – 9 Hours**

Want-effort-satisfaction, consumption, production, distribution, finance, microeconomics and macroeconomics

**Unit 2: Value Chain and Job Roles – 12 Hours**

Game development – designing, programming, concept art, technical support to game engine and middleware, game testing
Publishing, Distribution, Retailer, Hardware/platform manufacturers

**Unit 3: Game Money Flow – 9 Hours**

Breakaways and startup culture, Piracy, licensing and shareware, trade shows, conferences, game competition events and media coverage

**Unit 4: Current Trends – 9 Hours**

Open source model of development, Community developers, advent of modern technology and rising game markets, customer preferences

**Unit 5: Market Case Study – Call of Duty – Black Ops – 6 Hours**

**Reference Books:**

The Economics of Online Gaming – Andrew Wagner

**Modes of Evaluation: Quiz/Assignment/ presentation/ extempore/ Written Examination/Jury:**
**Examination Scheme:**

| **Components** | **Mid Term Jury** | **End Term Internal Jury** | **End Term Studio Exam** | **End Term External Jury** |
|---|---|---|---|---|
| **Weightage (%)** | **20M** | **30M** | **20M** | **30M** |

| **Components** | **Class Test 1** | **Presentation 1** | **Class Test 2** | **Presentation 2** | **Attendance** | **End Term Exam** |
|---|---|---|---|---|---|---|
| **Weightage (%)** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

**Relationship between the Course Outcomes (COs) and Program Outcomes (POs)**

| **Mapping between COs and POs** | | |
|---|---|---|
| | **Course Outcomes (COs)** | **Mapped Program Outcomes** |
| **CO1** | Describe how the ecosystem of Game design and development works. | **PO1, PO3, PSO1, PSO4** |
| **CO2** | Analyse value chain and job roles in the game development industry. | **PO3, PO4, PSO1** |
| **CO3** | Classify market trends and consumption of games in the world. | **PO7, PSO1, PSO4** |

| | | Design and Integration | Drawing Work | Critical Analysis | Employability & Interdisciplinary Approach | Conduct | Communication and Teamwork | Life-long learning | Create desirable experience | Tools Softwares and Technology | Comprehensive and narrative | Innovative | Practical and demonstrative | Trend Setters |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Course Code | Course Title | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PS | PSO | PSO3 | PSO | PSO6 | PSO7 |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | O1 | 2 | | 4 | | |
| **ADGA401A** | ECONOMICS OF GAMES | 3 | | 3 | 3 | | | 2 | 3 | | | 3 | | |

| Course Code | Course Outcome | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ADGA401A | CO1 | 3 | | 3 | | | | | 3 | | | 3 | | |
| | CO2 | | | 3 | 3 | | | | 3 | | | | | |
| | CO3 | | | | | | | 2 | 3 | | | 3 | | |
| | CO4 | | | | | | | | | | | | | |
| | CO5 | | | | | | | | | | | | | |
| | CO6 | | | | | | | | | | | | | |

1=weakly mapped, 2= moderately mapped, 3=strongly mapped

| **ADGA403A** | **GAME INTERFACE DESIGN** | L | T | S | P | C |
|---|---|---|---|---|---|---|
| **Version 1.0** | | 0 | 0 | 4 | 0 | 4 |
| **Pre-requisites/Exposure** | | | | | | |
| **Co-requisites** | | | | | | |

**Course Objectives**

1. To learn how interface design works and importance of research in its design process
2. To ideate and prototype the design solutions obtained after brainstorming and research.

**Course Outcomes**

On successful completion of this course, the students have capability to:

CO1. Comprehend the design of interactive digital products, digital environments, systems that can fully meet the needs and desires of the target audience.

CO2. Illustrate the human-centered approach to designing games.

CO3. Design interface which can make the game engaging, exciting and simplistic.

**Catalog Description**

Students will learn how to design game interfaces. They understand and implement the design process of game interface through project work.

**Course Content**

**Unit 1: Fundamentals of Interface Design -9 Hours**

How Interface design of games matter, fundamentals of interface design (visibility, understandability, ease of task execution, efficiency and visual design), evolution of UI design and factors of that evolution

**Unit 2: Research in Design -12 Hours**

Human-computer interaction, speed of task completion, user research, considerations of human body in design, Figma setup, Figma Basics

**Unit 3: Ideation -12 Hours**

Brainstorming, low-fidelity and high- fidelity wireframes, adding interactive elements, Creating Wireframes in Figma

**Unit 4: Prototyping -15 Hours**

Information architecture, sketches in Figma, user flow, Prototypes in Figma, usability testing, redesign process if problems found in testing

**Unit 5: Project Work -12 Hours**

Project on design / redesign a simple and intuitive game interface.

**Modes of Evaluation: Quiz/Assignment/ presentation/ extempore/ Written Examination/Jury:**

**Examination Scheme:**

| **Components** | **Mid Term Jury** | **End Term Internal Jury** | **End Term Studio Exam** | **End Term External Jury** |
|---|---|---|---|---|
| **Weightage (%)** | **20M** | **30M** | **20M** | **30M** |

| **Components** | **Class Test 1** | **Presentation 1** | **Class Test 2** | **Presentation 2** | **Attendance** | **End Term Exam** |
|---|---|---|---|---|---|---|
| **Weightage (%)** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

**Relationship between the Course Outcomes (COs) and Program Outcomes (POs)**

| **Mapping between COs and POs** | | |
|---|---|---|
| | **Course Outcomes (COs)** | **Mapped Program Outcomes** |
| **CO1** | Comprehend the design of interactive digital products, digital environments, systems that can fully meet the needs and desires of the target audience. | **PO1, PO2, PO3, PSO1, PSO4** |
| **CO2** | Illustrate the human-centered approach to designing games. | **PO3, PO6, PSO1, PSO4** |

| CO3 | Design interface which can make the game engaging, exciting and simplistic. | PSO1, PSO2, PSO4, PSO5 |
|---|---|---|

| | | Design and Integration | Drawing Work | Critical Analysis | Employability & Interdisciplinary Approach | Conduct | Communication and Teamwork | Life-long learning | Create desirable experience | Tools Softwares and Technology | Comprehensive and narrative | Innovative | Practical and demonstrative | Trend Setters |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Course Code | Course Title | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
| **ADGA403A** | **GAME INTERFACE DESIGN** | 3 | 2 | 3 | | | 2 | | 3 | 3 | | 3 | 3 | |

| Course Code | Course Outcome | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ADGA403A | CO1 | 3 | 2 | 3 | | | | | 3 | | | 3 | | |
| | CO2 | | | 3 | | | 2 | | 3 | | | 3 | | |
| | CO3 | | | | | | | | 3 | 3 | | 3 | 3 | |
| | CO4 | | | | | | | | | | | | | |
| | CO5 | | | | | | | | | | | | | |
| | CO6 | | | | | | | | | | | | | |

1=weakly mapped, 2= moderately mapped, 3=strongly mapped

| ADGA405A | DESIGN OF GAMES ON MOBILE PHONES | L | T | S | P | C |
|---|---|---|---|---|---|---|

| | | | | | | |
|---|---|---|---|---|---|---|
| **Version 1.0** | | 0 | 0 | 3 | 0 | 3 |
| **Pre-requisites/Exposure** | | | | | | |
| **Co-requisites** | | | | | | |

**Course Objectives**

1. To understand the design process associated with mobile games.
2. To implement the UX principles, ideate and create prototypes.
3. To learn the best practices for mobile game designs.

**Course Outcomes**

On successful completion of this course, the students have capability to:

CO1. Comprehend the design of interactive digital products, digital environments, systems that can fully meet the needs and desires of the target audience.

CO2. Illustrate the human-centered approach to designing games.

CO3. Design interface which can make the game engaging, exciting and simplistic.

**Catalog Description**

Students will learn how create designs for mobile games. They will also learn the design process, principles and how to ideate and create prototype.

**Course Content**

**Unit 1: Mobile Game Design Process - 6 hours**

Introduction to Playability and Playing Experience, what are UI and UX Designs? Basic Elements of Mobile Game UI Design

**Unit 2: Building Mobile Games with People in Minds – 9 hours**

Introduction, UX Principles – Breaking Barriers and Building Structure, Breaking Barriers – Audience-suitable complexity, designing for flexibility, Building Structure- Leverage familiarity, Assistance nearby, Effective minimal tutorials, Clarity of depth, Reding focus

**Unit 3: Ideation and Prototyping - 9 hours**

Brainstorming, low-fidelity and high- fidelity wireframes, adding interactive elements, Creating Wireframes in Figma, Information architecture, sketches in Figma, user flow, Prototypes in Figma, usability testing, redesign process if problems found in testing

**Unit 4: Mobile Game Design Best Practices – 6 hours**

Ergonomics of mobile phone device, Do research first, ensure accessibility to everyone, Consider the user distraction, add only necessary functions, simplify your interface, refine in-game navigation, locate your UI properly, give feedback on users' actions, use pop-up windows wisely, Get the most out of in-game ads, always test your creations

**Unit 5: Project – 15 hours**

Project on Designing Games on Mobile Phones

**Reference Books:**

- Visual Design Concepts For Mobile Games- Christopher Carman
- Mobile Game Design Essentials -Dr. Claudio Scolastici , David Nolte

**Modes of Evaluation: Quiz/Assignment/ presentation/ extempore/ Written Examination/Jury:**
**Examination Scheme:**

| **Components** | **Mid Term Jury** | **End Term Internal Jury** | **End Term Studio Exam** | **End Term External Jury** |
|---|---|---|---|---|
| **Weightage (%)** | **20M** | **30M** | **20M** | **30M** |

| **Components** | **Class Test 1** | **Presentation 1** | **Class Test 2** | **Presentation 2** | **Attendance** | **End Term Exam** |
|---|---|---|---|---|---|---|
| **Weightage (%)** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

**Relationship between the Course Outcomes (COs) and Program Outcomes (POs)**

| **Mapping between COs and POs** | | |
|---|---|---|
| | **Course Outcomes (COs)** | **Mapped Program Outcomes** |
| **CO1** | Comprehend the design of interactive digital products, digital environments, systems that can fully meet the needs and desires of the target audience. | **PO1, PO2, PO3, PSO1, PSO4** |
| **CO2** | Illustrate the human-centered approach to designing games. | **PO3, PO6, PSO1, PSO4** |
| **CO3** | Design interface which can make the game engaging, exciting and simplistic. | **PSO1, PSO2, PSO4, PSO5** |

| | | Design and Integration | Drawing Work | Critical Analysis | Employability & Interdisciplinary Approach | Conduct | Communication and Team work | Life-long learning | Create desirable experience | Tools Softwares and Technology | Comprehensive and narrative | Innovative | Practical and demonstrative | Trend Setters |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Course Code | Course Title | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
| **ADGA405A** | **DESIGN OF GAMES ON MOBILE PHONES** | 3 | 2 | 3 | | | 2 | | 3 | 3 | | 3 | 3 | |

| Course Code | Course Outcome | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ADGA405A | CO1 | 3 | 2 | 3 | | | | | 3 | | | 3 | | |
| | CO2 | | | 3 | | | 2 | | 3 | | | 3 | | |
| | CO3 | | | | | | | | 3 | 3 | | 3 | 3 | |
| | CO4 | | | | | | | | | | | | | |
| | CO5 | | | | | | | | | | | | | |
| | CO6 | | | | | | | | | | | | | |

1=weakly mapped, 2= moderately mapped, 3=strongly mapped

| ADGA407A | DESIGN MANAGEMENT | L | T | S | P | C |
|---|---|---|---|---|---|---|

| | | | | | | |
|---|---|---|---|---|---|---|
| **Version 1.0** | | 3 | 0 | 0 | 0 | 3 |
| **Pre-requisites/Exposure** | | | | | | |
| **Co-requisites** | | | | | | |

**Course Objectives**

1. Learn how to identify and interview stakeholders
2. Learn how to perform competitive analysis
3. Understanding design management
4. Implementing design management in product design and business

**Course Outcomes**

On successful completion of this course, the students have capability to:

CO1. Identify, define and describe design management practice in relation to various types of businesses and business models and its effect on social, environmental, political, cultural, and economic systems.
CO2. Identify, define and solve human-centered design opportunities
CO3. Formulate and conduct design research
CO4. Apply design thinking and visual thinking processes to understand the framework of problem solving.
CO5. Explore and iterate multiple ideas.
CO6. Express ideas through visual representations and create prototypes that consider utility, usability and desirability of solutions.

**Catalog Description**

This course prepares students to harness the power of design and creativity as well as leadership and management skills to innovatively solve business and societal challenges. Students will learn the full scope of the design process and pair that with frameworks for leadership and thinking that will bring about inventive, successful results.

**Course Content**

**Unit 1: Business and Design – 6 Hours**

Strategy building, Aspects of key guidelines in a business, values and emotions of user Behavior and cognitive psychology of market and business, Design policies, Importance of understanding business requirements, Discovering business goals

**Unit 2: Stakeholder and Competitive Analysis – 9 Hours**

Importance of understanding business requirements, discovering business goals, Internal and external stakeholders, stakeholder analysis, stakeholder interviewing, meeting stakeholder expectations and feedback, Direct and Indirect Competitors, Competitor Analysis and its practice, Steps to Conduct Competitor analysis, Parameters to conduct competitor analysis

**Unit 3: Design Management – 9 Hours**

What is design management, Taking Charge of Processes and People, The Evolution of Design Management, Areas of Design Management, Why Does Design Management Matter, Where Does Design Management Fall Within Businesses? Value Proposition Canvas, Creating a project Roadmap

**Unit 4: Zeplin and Jira and Introduction to Product lifecycle management – 9 Hours**

Learning how to develop and deliver documentation using Zeplin and How to communicate well and assign tasks among and within teams using Jira, what is Product Lifecycle Management (PLM)? What is the Product Life Cycle? Product life cycle stages, Benefits, areas of PLM

**Unit 5: Project – 12 Hours**

Identify what kind of stakeholders are present in a given service or product. Map the respective stakeholders, and prepare a set of key questions as a questionnaire Engage in a roleplay session (in pairs or groups in class) to practice stakeholder interviewing. Using Stakeholder analysis, identify relevant business goals. Analyse and conduct competitor analysis of the given service or product.

**Reference Books:**


- The Lean Startup: How Today's Entrepreneurs Use Continuous Innovation to Create Radically Successful Businesses by Eric Ries
- Fundamentals of User-Centered Design by Still and Crane
- UX Strategy: How to Devise Innovative Digital Products that People Want: Jaime Levy


**Modes of Evaluation: Quiz/Assignment/ presentation/ extempore/ Written Examination/Jury: Examination Scheme:**

| **Components** | **Mid Term Jury** | **End Term Internal Jury** | **End Term Studio Exam** | **End Term External Jury** |
|---|---|---|---|---|
| **Weightage (%)** | **20M** | **30M** | **20M** | **30M** |

| **Components** | **Class Test 1** | **Presentation 1** | **Class Test 2** | **Presentation 2** | **Attendance** | **End Term Exam** |
|---|---|---|---|---|---|---|
| **Weightage (%)** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

**Relationship between the Course Outcomes (COs) and Program Outcomes (POs)**

| **Mapping between COs and POs** | | |
|---|---|---|
| | **Course Outcomes (COs)** | **Mapped Program Outcomes** |
| **CO1** | Identify, define and describe design management practice in relation to various types of businesses and business models and its effect on social, environmental, political, cultural, and economic systems. | **PO1, PO2, PO3, PSO1, PSO4** |

| | | |
|---|---|---|
| **CO2** | Identify, define and solve human-centered design opportunities | **PO3, PSO1, PSO4** |
| **CO3** | Formulate and conduct design research | **PO3, PSO1, PSO4** |
| **CO4** | Apply design thinking and visual thinking processes to understand the framework of problem solving. | **PSO1, PSO4, PSO5** |
| **CO5** | Explore and iterate multiple ideas. | **PO3, PSO5** |
| **CO6** | Express ideas through visual representations and create prototypes that consider utility, usability and desirability of solutions. | **PO4,PO6, PSO5, PSO6** |

| | | Design and Integration | Drawing Work | Critical Analysis | Employability & Interdisciplinary Approach | Conduct | Communication and Teamwork | Life-long learning | Create desirable experience | Tools Softwares and Technology | Comprehensive and narrative | Innovative | Practical and demonstrative | Trend Setters |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Course Code | Course Title | PO 1 | PO 2 | PO 3 | PO4 | PO 5 | PO6 | PO 7 | PSO1 | PSO 2 | PSO3 | PSO 4 | PSO 5 | PSO 6 |
| **ADGA407A** | DESIGN MANAGEMENT | 3 | 2 | 3 | 2 | | 3 | | 3 | | | 3 | 3 | 2 |

| Course Code | Course Outcome | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ADGA407A | CO1 | 3 | 2 | 3 | | | | | 3 | | | 3 | | |
| | CO2 | | | 3 | | | | | 3 | | | 3 | | |
| | CO3 | | | 3 | | | | | 3 | | | 3 | | |
| | CO4 | | | | | | | | 3 | | | 3 | 3 | |
| | CO5 | | | 3 | | | | | | | | | 3 | |
| | CO6 | | | | 2 | | 3 | | | | | | 3 | 2 |

1=weakly mapped, 2= moderately mapped, 3=strongly mapped

| ADGA409A | ENTREPRENEURSHIP | L | T | S | P | C |
|---|---|---|---|---|---|---|
| Version 1.0 | | 3 | 0 | 0 | 0 | 3 |
| Pre-requisites/Exposure | | | | | | |
| Co-requisites | | | | | | |

**Course Objective**

1. To understand entrepreneurship
2. To acquire knowledge on the set and functions of a business firm.
3. To learn game design and animation is a business

**Course Outcomes**

CO1. To understand and appreciate Entrepreneurship.
CO2. To integrate and assess the methods of managing a game design and animation business.
CO3. To analyse market Research scientifically, running pilots and tests before launching.
CO4. To explain the role of managers in the business firm.
CO5. To Create Business Plans and to run a game design and animation firm.

**Catalog Description**

The subject deals with the basics of business especially help the game design and animation students to become an entrepreneur. Basic knowledge on a business firm is given to start or run a media firm. This subject furnishes knowledge on the traits of a manager, to run a production house as an entrepreneur and how to deal economy is dealt in this course.

**Course Content**

**UNIT I**
The heroic entrepreneur, key traits of successful entrepreneurs; Discovering an opportunity – serving a need; Entrepreneurial society; demand & supply; opportunity cost; scarcity.

**UNIT II**
Market trends, subjective value, comparative advantage, competition, pricing, business ethics and CSR. Competition and cooperation.

**UNIT III**
Specific analytics, testing tools for every business niche, online tools, free tools and software, gauging results, using pilot data to build and streamline the original business idea.

**UNIT IV**
Creating a business plan, value system, incentives, perks, value added services, social responsibility in business.

**UNIT V**
Gathering customer feedback, using free online tools to gauge customer experience, build on it, using Industry analytics, identifying mentors, investors, venture capitalists, etc.

**Text Books:**


1. Entrepreneurial Journalism: How to build by Mark Briggs, Sage/CQ Press, 2012, LA, Edition 2
2. The Lean Start-Up by Eric Ries
3. The Start-up Way by Eric Ries

**Modes of Evaluation: Quiz/Assignment/ presentation/ extempore/ Written Examination/Jury:**

**Examination Scheme:**

| Components | Mid Term Jury | End Term Internal Jury | End Term Studio Exam | End Term External Jury |
|---|---|---|---|---|
| Weightage (%) | 20M | 30M | 20M | 30M |

| Components | Class Test 1 | Presentation 1 | Class Test 2 | Presentation 2 | Attendance | End Term Exam |
|---|---|---|---|---|---|---|
| Weightage (%) | NA | NA | NA | NA | NA | NA |

**Relationship between the Course Outcomes (COs) and Program Outcomes (POs)**

| Mapping between COs and POs | | |
|---|---|---|
| | **Course Outcomes (COs)** | **Mapped Program Outcomes** |
| **CO1** | To understand and appreciate Entrepreneurship. | **PO1** |
| **CO2** | To integrate and assess the methods of managing a game design and animation business. | **PO3, PSO1** |
| **CO3** | To analyze market Research scientifically, running pilots and tests before launching. | **PO3, PSO4** |
| **CO4** | To explain the role of managers in the business firm. | **PO1, PO4, PO5, PO6** |
| **CO5** | To Create Business Plans and to run a game design and animation firm. | **PO7, PSO5, PSO6** |

| | | Design and Integration | Drawing Work | Critical Analysis | Employability & Interdisciplinary Approach | Conduct | Communication and Teamwork | Life-long learning | Create desirable experience | Tools Softwares and Technology | Comprehensive and narrative | Innovative | Practical and demonstrative | Trend Setters |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Course Code | Course Title | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **ADGA409A** | ENTREPRENEURSHIP | 3 | | 3 | 3 | 3 | 3 | 3 | 3 | | | | 3 | 3 |

| Course Code | Course Outcome | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ADGA409A | CO1 | 3 | | | | | | | | | | | | |
| | CO2 | | | 3 | | | | | 3 | | | | | |
| | CO3 | | | 3 | 3 | 3 | 3 | 3 | 3 | | | | 3 | 3 |
| | CO4 | 3 | | | 3 | 3 | 3 | | | | | | | |
| | CO5 | | | | | | | 3 | | | | | 3 | 3 |
| | CO6 | | | | | | | | | | | | | |

1=weakly mapped, 2= moderately mapped, 3=strongly mapped

| **ADGA411A** | **LIVE PROJECT 2** | L | T | S | P | C |
|---|---|---|---|---|---|---|
| **Version 1.0** | | 0 | 0 | 6 | 0 | 6 |
| **Pre-requisites/Exposure** | | | | | | |
| **Co-requisites** | | | | | | |

**Course Objective**

To carry out a design project in one of the specializations of the program under mentorship of an industry expert with substantial multidisciplinary component.

**Course Outcomes**

CO1. To enable students to gather firsthand experience on site.

**Catalog Description**

To guide the students in such a way so that they carry out a work on a topic as a forerunner to the full fledged project work to be taken subsequently in VIII semester. The project work shall consist of substantial multidisciplinary component.

**Course Content**

**Short Film (Pre- Production)- 90 Hours**

Create a short film implementing the knowledge gained throughout the course.

**OR**

**Game Design (Pre-Production)- 90 Hours**

Design a game implementing the knowledge gained throughout the course.

**Modes of Evaluation: Quiz/Assignment/ presentation/ extempore/ Written Examination/Jury:**

**Examination Scheme:**

| **Components** | **Mid Term Jury** | **End Term Internal Jury** | **End Term Studio Exam** | **End Term External Jury** |
|---|---|---|---|---|
| **Weightage (%)** | **20M** | **30M** | **20M** | **30M** |

| **Components** | **Class Test 1** | **Presentation 1** | **Class Test 2** | **Presentation 2** | **Attendance** | **End Term Exam** |
|---|---|---|---|---|---|---|
| **Weightage (%)** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

**Relationship between the Course Outcomes (COs) and Program Outcomes (POs)**

| **Mapping between COs and POs** | | |
|---|---|---|
| | **Course Outcomes (COs)** | **Mapped Program Outcomes** |
| **CO1** | To enable students to gather firsthand experience on site. | **PO1, PO2, PO3, PO4, PO5, PO6, PO7, PSO1, PSO2, PSO3, PSO4, PSO5, PSO6** |

| | | Design and Integration | Drawing Work | Critical Analysis | Employability & Interdisciplinary Approach | Conduct | Communication and Teamwork | Life-long learning | Create desirable experience | Tools Softwares and Technology | Comprehensive and narrative | Innovative | Practical and demonstrative | Trend Setters |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Course Code | Course Title | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **AD GA4 11A** | LIVE PRO JECT II | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |

| Course Code | Course Outcome | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ADGA411A | CO1 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| | CO2 | | | | | | | | | | | | | |
| | CO3 | | | | | | | | | | | | | |
| | CO4 | | | | | | | | | | | | | |
| | CO5 | | | | | | | | | | | | | |
| | CO6 | | | | | | | | | | | | | |

1=weakly mapped, 2= moderately mapped, 3=strongly mapped

**SEMESTER VIII**

| **ADGA402** | **INTERNSHIP** | L | T | S | P | C |
|---|---|---|---|---|---|---|
| **Version 1.0** | | 0 | 0 | 0 | 0 | 12 |
| **Pre-requisites/Exposure** | | | | | | |
| **Co-requisites** | | | | | | |

**Course Objectives**

1. To explore career avenues and find a suitable career path.
2. To encourage students to apply what they have learned in the academics into practice in an organizational set-up.
3. To build and expand student's knowledge in a particular domain where they are working in an internship.
4. To understand how corporate environment works and to build and hone work habits, professional and inter-personal skills in oneself.

**Course Outcomes**

CO1. Students will develop employer-valued skills such as strategic management, analytic thinking, teamwork and communications.
CO2. Students will observe and participate in business operations and learn decision-making from mentors and experience.
CO3. Students will get hands-on exposure in the domain in which they are performing their job.
CO4. Students will expand their network of professional relationships and contacts.

**Course Content**

Students have to undergo practical training of minimum three months in game design and animation related industries/ training centers/ co-operate offices so that they become aware of the practical application of theoretical concepts studied in the class rooms.

**Modes of Evaluation: Quiz/Assignment/ presentation/ extempore/ Written Examination/Jury**

**Examination Scheme:**

| **Components** | **Internal Jury** | **External Jury** |
|---|---|---|
| **Weightage (%)** | | |

| **Components** | **Mid Term Jury** | **End Term Internal Jury** | **End Term Studio Exam** | **End Term External Jury** |
|---|---|---|---|---|
| **Weightage (%)** | | | | |

| **Components** | **Class Test 1** | **Presentation 1** | **Class Test 2** | **Presentation 2** | **Attendance** | **End Term Exam** |
|---|---|---|---|---|---|---|
| **Weightage (%)** | | | | | | |

**Relationship between the Course Outcomes (COs) and Program Outcomes (POs)**

| **Mapping between COs and POs** | | |
|---|---|---|
| | **Course Outcomes (COs)** | **Mapped Program Outcomes** |
| **CO1** | Students will develop employer-valued skills such as strategic management, analytic thinking, teamwork and communications. | **PO4, PO5, PO6** |
| **CO2** | Students will observe and participate in business operations and learn decision-making from mentors and experience. | **PO3, PO4, PO6, PSO1, PSO2, PSO3, PSO4, PSO5** |
| **CO3** | Students will get hands-on exposure in the domain in which they are performing their job. | **PO7, PSO5,** |
| **CO4** | Students will expand their network of professional relationships and contacts. | **PO7, PSO5** |

| | | Design and Integration | Drawing Work | Critical Analysis | Employability & Interdisciplinary Approach | Conduct | Communication and Teamwork | Life-long learning | Create desirable experience | Tools Softwares and Technology | Comprehensive and narrative | Innovative | Practical and demonstrative | Trend Setters |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Course Code | Course Title | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
| **ADGA402A** | INTERNSHIP | | | 3 | 3 | 3 | 3 | 2 | 3 | 3 | 2 | 3 | 3 | 2 |

| Course Code | Course Outcome | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ADGA402A | CO1 | | | | 3 | 3 | 3 | | | | | | | |
| | CO2 | | | 3 | 3 | | 3 | | 3 | 3 | 2 | 3 | 3 | |
| | CO3 | | | | | | | 2 | | | | | 3 | |
| | CO4 | | | | | | | 2 | | | | | 3 | |
| | CO5 | | | | | | | 2 | | | | | 3 | |
| | CO6 | | | | | | | | | | | | | |

1=weakly mapped , 2= moderately mapped, 3=strongly mapped

| **ADGA404A** | **GRADUATION PROJECT** | L | T | S | P | C |
|---|---|---|---|---|---|---|
| **Version 1.0** | | 0 | 0 | 0 | 0 | 8 |
| **Pre-requisites/Exposure** | | | | | | |
| **Co-requisites** | | | | | | |

**Course Objectives**

1. To provide students with the opportunity to apply the knowledge and skills acquired in their courses to a specific problem or issue.
2. To allow students to extend their academic experience into areas of personal interest, working with new ideas, issues, organizations and individuals.

3. To encourage students to think critically and creatively about academic, professional or social issues and further develop their analytical and ethical leadership skills necessary to address and help solve these issues.
4. To provide students with the opportunity to refine research skills and demonstrate their proficiency in written and/or oral communication skills.
5. To take on challenges of teamwork, prepare a presentation in a professional manner and document all aspects of design work.

**Course Outcomes**

CO1. Student will have an ability apply knowledge of mathematics and applied and/or natural sciences to areas relevant to the discipline

CO2. Student will have an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.

CO3. Student will be able to identify, formulate, and solve engineering problems.

CO4. Student will have an understanding of professional and ethical responsibility.

CO5. Student will have recognition of the need for, and an ability to engage in life -long learning.

CO6. Student will be able to communicate effectively and to function on multidisciplinary teams.

**Course Content**

The major project experience is the culminating academic endeavor of students who earn a degree in their graduate programs. The project provides students with the opportunity to explore a problem or issue of particular personal or professional interest and to address that problem or issue through focused study and applied research under the direction of a faculty member. The project demonstrates the student's ability to synthesize and apply the knowledge and skills acquired in his/her academic program to real-world issues and problems. This final project affirms students' ability to think critically and creatively to solve problems, to make reasoned and ethical decisions and to communicate effectively.

**Modes of Evaluation: Quiz/Assignment/ presentation/ extempore/ Written Examination/Jury**

**Examination Scheme:**

| **Components** | **Internal Jury** | **External Jury** |
|---|---|---|
| **Weightage (%)** | | |

| Components | Mid Term Jury | End Term Internal Jury | End Term Studio Exam | End Term External Jury |
|---|---|---|---|---|
| Weightage (%) | | | | |

| Components | Class Test 1 | Presentation 1 | Class Test 2 | Presentation 2 | Attendance | End Term Exam |
|---|---|---|---|---|---|---|
| Weightage (%) | | | | | | |

**Relationship between the Course Outcomes (COs) and Program Outcomes (POs)**

| Mapping between COs and POs | | |
|---|---|---|
| | **Course Outcomes (COs)** | **Mapped Program Outcomes** |
| **CO1** | Student will have an ability apply knowledge of mathematics and applied and/or natural sciences to areas relevant to the discipline | **PO1, PO2, PO3, PSO1, PSO4** |
| **CO2** | Student will have an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability. | **PSO2, PSO3, PSO4, PSO5, PSO6** |
| **CO3** | Student will be able to identify, formulate, and solve engineering problems. | **PSO2, PSO3, PSO4, PSO5, PSO6** |
| **CO4** | Student will have an understanding of professional and ethical responsibility. | **PO5** |
| **CO5** | Student will have recognition of the need for, and an ability to engage in life -long learning. | **PO7** |
| **CO6** | . Student will be able to communicate effectively and to function on multidisciplinary teams. | **PO4, PO6** |

| | | Design and Integration | Drawing Work | Critical Analysis | Employability & Interdisciplinary | Conduct | Communication and Teamwork | Life-long learning | Create desirable experience | Tools Softwares and | Comprehensive and | Innovative | Practical and demonstrative | Trend Setters |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Course Code | Course Title | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
| **ADGA 404A** | GRADUATION PROJECT | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |

| Course Code | Course Outcome | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ADGA404A | CO1 | 3 | 3 | 3 | | | | | 3 | | | 3 | | |
| | CO2 | | | | | | | | | 3 | 3 | 3 | 3 | 3 |
| | CO3 | | | | | | | | | 3 | 3 | 3 | 3 | 3 |
| | CO4 | | | | | 3 | | | | | | | | |
| | CO5 | | | | | | | 3 | | | | | | |
| | CO6 | | | | 3 | | 3 | | | | | | | |

1=weakly mapped, 2= moderately mapped, 3=strongly mapped