K.R. MANGALAM UNIVERSITY
THE COMPLETE WORLD OF EDUCATION

SCHOOL OF ARCHITECTURE & DESIGN(SOAD)

Programme Handbook

(Programme Study and Evaluation Scheme)

Bachelor of Design (Hons. / Hons. with Research)

In Game Design and Animation Programme

Programme Code: 86

FOUR YEAR UNDERGRADUATE PROGRAMME

As per National Education Policy 2020

(Multiple Entry and Exit in Academic Programmes)

(with effect from 2024-25 session)

Contents

1. Preface

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

The 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 focuses 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.

This curriculum enhances students' educational experiences and equips them with the necessary skills for academic success, employability, sustainability, and lifelong learning.

Each programme demonstrates its commitment to achieving the desired learning outcomes through the study of its respective courses. The graduate qualities contain ideals pertaining to well-being, emotional resilience, critical analysis, social equity, and abilities for entrepreneurship.

The revamped curriculum prioritises the interdisciplinary aspect of Game design and animation, with a particular emphasis on fundamental design subjects and the ability to visually depict the creative process. An additional crucial step involves translating the concept and graphical representation into feasible thoughts. Students receive a comprehensive education that includes study and practical project-based learning, facilitated by interactive studio sessions. Visiting faculty and external examiners are individuals who are experts and scholars selected from the Game design and animation field. Students collaborate with a motivated team of faculty members and industry experts to enhance their design.

The K.R. Mangalam University anticipates that the outcome-based curriculum will enable students to achieve their career aspirations as knowledgeable, empathetic, and innovative architects and designers.

K.R. Mangalam University meticulously plans all of its programmes with a strong focus on the welfare and achievement of its students. The university has adopted an outcome-based curriculum for all of its programmes. The objective of this method is to offer a curriculum that prioritises the needs and interests of the students, with a clear focus on attaining specified desired results. The aim is to organise the educational experiences in a way that focuses more on achieving specific outcomes.

The outcome-based curriculum improves students' educational experiences and provides them with the essential skills needed for success in academia, employability, sustainability, and lifelong learning.

Every programme showcases a dedication to attaining the intended learning objectives by studying its specific courses. The graduate qualities cover a variety of values related to well-being, emotional resilience, analytical thinking, social equity, and abilities for business innovation.

The updated curriculum prioritises the multidisciplinary aspect of the art profession, specifically highlighting fundamental art & design disciplines and the development of skills linked to graphical representation of the creative process. Another vital step entails transforming the abstract concept and visual depiction into a practical and achievable art practice. Students are given chances to actively participate in research and project-based learning through interactive studio sessions. Visiting professors and external examiners are experts chosen for their professional qualifications and academic background in the subject of Fine Arts, demonstrating expertise and experience. The Game design and animation creation process entails a cooperative effort between students and a specialised team of academic members and industry experts who offer essential advice and guidance.

The K.R. Mangalam University aims to enhance students' journey towards becoming well-informed, compassionate and inventive professionals in the realm of architecture and design by implementing an outcome-based curriculum.

K.R. Mangalam University was founded in the year 2013 by Mangalam EduGate, a company incorporated under Section 25 of the Companies Act, 1956.

Uniqueness of KRMU

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.

Education Objectives

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

2. NEP-2020: Important features integrated in the curriculum

K.R. Mangalam University has adopted the National Education Policy NEP-2020 to establish a holistic and multidisciplinary undergraduate education environment, aiming to equip our students for the demands of the 21st century. Following the guidelines of NEP-2020 regarding curriculum structure and duration of the undergraduate programme, we now offer a Four-Year Undergraduate Programme with multiple entry and exit points, along with re-entry options, and relevant certifications.

- **UG Certificate** after completing 1 year (2 semesters with the required number of credits) of study, and an additional vocational course/internship of 4 credits during the summer vacation of the first year.

• **UG Diploma** after completing 2 years (4 semesters with the required number of credits) of study, and an additional vocational course/internship of 4 credits during the summer vacation of the second year.
• **Bachelor's Degree** after completing 3-year (6 semesters with the required number of credits) programme of study.
• **4-year Bachelor's Degree (Honors)** with the required number of credits after eight semesters programme of study.
• Students who secure 75% marks and above in the first six semesters and wish to undertake research at the undergraduate level can choose a research stream in the fourth year. Upon completing a research project in their major area(s) of study in the 4th year, a student will be awarded **Bachelor's Degree (Honors with Research)**.

Advantage of pursuing 4-year Bachelor's degree programme with Honors/Honors with Research is that the Master's degree will be of one year duration. Also, a 4-year degree programme will facilitate admission to foreign universities.

S. No.	Broad Categories of Courses	Minimum Credit Requirement for Four Year UG Program
1	Major (Core)	80
2	Minor	32
3	Multidisciplinary	09
4	Ability Enhancement Course (AEC)	08
5	Skill Enhancement Course (SEC)	09
6	Value-Added Course (VAC)	06-08
7	Summer Internship	02-04
8	Research Project/Dissertation	12
9	Total	160

2.1.Categories of Courses

Major: The major would provide the opportunity for a student to pursue in-depth study of a particular subject or discipline.

Minor: Students will have the option to choose courses from disciplinary/interdisciplinary minors and skill-based courses. Students who take a sufficient number of courses in a discipline or an interdisciplinary area of study other than the chosen major will qualify for a minor in that discipline or in the chosen interdisciplinary area of study.

Students have multiple minor streams to choose from. They can select one minor stream from the available options, which will be pursued for the entire duration of the programme.

Multidisciplinary (Open Elective): These courses are intended to broaden the intellectual experience and form part of liberal arts and science education. These introductory-level courses may be related to any of the broad disciplines given below:

- Natural and Physical Sciences
- Mathematics, Statistics, and Computer Applications

- Library, Information, and Media Sciences
- Commerce and Management
- Humanities and Social Sciences

A diverse array of Open Elective Courses, distributed across different semesters and aligned with the aforementioned categories, is offered to the students. These courses enable students to expand their perspectives and gain a holistic understanding of various disciplines.Students can choose courses based on their areas of interest.

Ability Enhancement Course (AEC): Students are required to achieve competency in a Modern Indian Language (MIL) and in the English language with special emphasis on language and communication skills. The courses aim at enabling the students to acquire and demonstrate the core linguistic skills, including critical reading and expository and academic writing skills, that help students articulate their arguments and present their thinking clearly and coherently and recognize the importance of language as a mediator of knowledge and identity.

Skills Enhancement Courses (SEC): These courses are aimed at imparting practical skills, hands-on training, soft skills, etc., to enhance the employability of students.

Value-Added Course (VAC): The Value-Added Courses (VAC) are aimed at inculcating Humanistic, Ethical, Constitutional and Universal human values of truth, righteous conduct, peace, love, non-violence, scientific and technological advancements, global citizenship values and life-skills falling under below given categories:

- Understanding India
- Environmental Science/Education
- Digital and Technological Solutions
- Health & Wellness, Yoga education, Sports, and Fitness

Research Project / Dissertation: Students choosing a 4-Year Bachelor's degree (Honors with Research) are required to take up research projects under the guidance of a faculty member. The students are expected to complete the Research Project in the eighth semester. The research outcomes of their project work may be published in peer-reviewed journals or may be presented in conferences /seminars or may be patented.

3. University Vision and Mission

3.1 Vision

K.R. Mangalam University aspires to become an internationally recognized institution of higher learning through excellence in interdisciplinary education, research, and innovation, preparing socially responsible life-long learners and contributing to nation-building.

3.2 Mission

- Foster employability and entrepreneurship through futuristic curriculum and progressive pedagogy with cutting-edge technology
- Instill notion of lifelong learning through stimulating research, Outcomes-based education, and innovative thinking
- Integrate global needs and expectations through collaborative programs with premier universities, research centres, industries, and professional bodies.

- Enhance leadership qualities among the youth having understanding of ethical values and environmental realities

4. About the School *(Details to be Provided by School)*

The **School of Architecture & Design (SOAD)** offers a robust, interdisciplinary education, providing students with hands-on experience through **experiential and project-based learning**. The curriculum is designed to foster innovation and technical proficiency across various design fields.

SOAD offers seven key programs:

1. **Bachelor of Architecture (B.Arch)** – A five-year program that develops visionary architects with a strong foundation in design, construction, and environmental sustainability.
2. **Bachelor of Design (B.Des) in Fashion Design** – A four-year program focused on fostering creativity and technical skills in fashion, preparing students for the dynamic fashion industry.
3. **Bachelor of Design (B.Des) in Interior Design** – Prepares students to design functional and aesthetically pleasing interior spaces through a combination of creativity, technical knowledge, and practical applications.
4. **Bachelor of Design (B.Des) in Textile Design** – Emphasizes innovative textile creation with an emphasis on sustainability and traditional craftsmanship.
5. **Bachelor of Fine Arts (B.F.A)** – Explores various visual arts disciplines such as painting, sculpture, and graphic arts.
6. **Bachelor of Design (B.Des) in Game Design & Animation** – A specialized program focused on designing interactive games and animations, merging creative storytelling with technical skills.
7. **Bachelor of Design (B.Des) in UX UI & Interaction Design** – Concentrates on creating user-centric digital solutions, emphasizing user experience (UX), user interface (UI), and interaction design.

SOAD emphasizes **experiential learning** through **project-based education**, giving students practical exposure to real-world challenges. This is further enhanced through **site visits, study tours, guest lectures**, and **industry integration**, ensuring students gain valuable insights and experience in their respective fields. The school maintains strong industry connections, enabling students to engage with leading professionals and firms in architecture, design, and related industries.

5. School Vision and Mission

Vision: To be a leading institution that develops innovative and sustainable design thinkers who shape the future of Architecture and Design globally.

Mission:

- Provide a comprehensive structured learning experience that develops strong cognitive thinking and skills in the field of architecture and design.
- Foster a collaborative and inclusive learning environment that encourages creativity and critical thinking.
- Promote sustainable and ethical design practices that address global and local challenges.

- Install a strong foundation of ethical principles, ensuring graduates act with integrity and social responsibility in their professional endeavours.
- Engage with the community and industry to advance the role of architecture and design in society.

6. About the Programme

The Bachelor of Design Game Design and Animation programme at K.R. Mangalam University is a 4-year undergraduate programme curated to equip students with the skills and knowledge required in the Game Design and Animation industry. Based on the principles of design, creativity, and development of human-centred design, the programme covers essential topics such as Game design, Game Level Design, Animation, Game Programming, and Game VFX. Through the programme, we encourage our students to explore endless opportunities in app design, gamification, and all sorts of designing techniques that can take the Game and Animation from scratch to the skies.

The Bachelor of Design in Game Design and Animation Design program is designed to equip students with both theoretical knowledge and practical skills, ensuring they are prepared for the fast-evolving design industry. Key highlights of the program include:

- **Immersive Curriculum**: A comprehensive blend of theoretical learning and hands-on experience, with a focus on the latest industry trends. The curriculum covers key areas such as Game design, 3d Modelling , Animation, AR/VR, Game Development , and Game VFX.
- **Expert Faculty**: Learn from a team of experienced educators and industry professionals who bring real-world insights and guidance to the classroom.
- **Cutting-edge Facilities**: Access to state-of-the-art design studios, workshops, and computer labs, all equipped with advanced software for Game Design and Animation.
- **Industry Exposure**: Students benefit from collaborations, internships, field trips, guest lectures, and workshops conducted by leading industry experts.
- **Portfolio Development**: Receive personalized guidance on crafting a compelling portfolio to showcase your design expertise.
- **Internship and Placement Support**: Leverage strong industry connections to gain access to internship opportunities and job placements.
- **Global Exposure**: Experience international learning through a paid two-week summer school program at a prestigious European university, offering a global perspective on design.

6.1 Definitions

- **Programme Outcomes (POs)**

  Programme Outcomes are statements that describe what the students are expected to know and would be able to do upon the graduation. These relate to the skills, knowledge, and behaviour that students acquire through the programme.

- **Programme Specific Outcomes (PSOs)**

  Programme Specific Outcomes are statements about the various levels of knowledge specific to the given program which the student would be acquiring during the program..

- **Programme Educational Objectives (PEOs)**

  Programme Educational Objectives of a degree programme are the statements that describe the expected achievements of graduates in their career, and what the graduates are expected to perform and achieve during the first few years after graduation.

- **Credit**

  Credit refers to a unit of contact hours/ tutorial hour per week or 02 hours of Lab/ Practical work per week.

- **Studio Course**

  Studio courses are practical, hands-on classes where students engage in design projects, allowing them to apply theoretical knowledge in real-world scenarios. These courses emphasize creativity, collaboration, and iterative design processes, often culminating in tangible outcomes like models or design presentations.

- **Multi-Entry & Multi-Exit**

  The multi-entry, multi-exit system allows students to enter and exit their academic programs at various points, depending on their personal and professional circumstances. This flexibility enables students to earn qualifications such as certificates or diplomas at different stages of their education while providing options for re-entry to complete their degrees.

6.2 Programme Educational Objectives (PEO*)*

PEO 1: Human Values and Immersive Storytelling: Graduates will create games and animations that reflect human values, ethical considerations, and cultural diversity, crafting immersive experiences that engage and inspire global audiences.

PEO 2: Career Growth in Creative Industries: Graduates will pursue successful careers in the gaming, animation, and digital media industries by continuously evolving their technical skills and creative abilities in response to new technologies and trends.

PEO 3: Professional Competence: Graduates will demonstrate expertise in game design, animation, and interactive media, working collaboratively with multidisciplinary teams to create visually compelling and technically proficient content.

PEO 4: Ethical and Responsible Design: Graduates will practice ethically responsible design, ensuring that their work promotes positive social impact, cultural sensitivity, and inclusivity while addressing environmental and societal concerns.

PEO 5: Entrepreneurship and Innovation: Graduates will develop entrepreneurial skills, launching their own creative studios or ventures in gaming and animation, leveraging innovation, storytelling, and technological advancements to create unique and impactful experiences.

6.3 Programme Outcomes (PO)

PO1- Creative Design Solutions: Demonstrate the ability to develop innovative, functional, and aesthetically pleasing interior design solutions that meet client needsand enhance the user experience.

PO2 - Technical Competence: Apply advanced technical skills in space planning, materials selection, and construction methods to create efficient and sustainable interior environments.

PO3 - Ethical and Professional Responsibility: Exhibit a strong commitment to ethical practices, social responsibility, and professional conduct, ensuring respect for cultural, environmental, and societal contexts.

PO4 - Effective Communication: Effectively communicate design ideas and solutions through visual, oral, and written means, engaging with clients, stakeholders, and multidisciplinary teams.

PO5 - Sustainable Design Practices: Integrate principles of sustainability into interior design projects, promoting environmental stewardship and reducing the ecological impact of built environments.

PO6 - Leadership and Social Skills: lead multidisciplinary teams effectively, communicate with diverse stakeholders, and exhibit strong social skills essential for collaborative and inclusive design practices and contributing to the community through socially responsible design initiatives.

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.

6.4 Programme Specific Outcomes (PSO)

PSO1 – Understanding video games that deliver captivating experiences highly valued in the gaming industry contexts.

PSO2 – Applying knowledge to get familiar with tools, software, and emergingtechnologies relevant to the entertainment business, enhancing the refinement of game experiences.

PSO3 – Analysing advanced skills in narrative filmmaking, comprehensive storytellingtechniques to produce detail-oriented and narrative-rich game designs.

PSO4 – Evaluating by demonstrating creativity and innovative thinking in game design, exploring new ideas and perspectives to contribute to the evolution of the field.

PSO5 – Developing professional-quality video games and animations within a practical-focused curriculum, demonstrating a deep understanding of game design principles.

PSO6 – Technical Proficiency Master game design and animation tools and software for precise creation, modeling, and rendering, effectively translating conceptual ideasinto functional and visually appealing digital experiences.

6.5 Career Avenues

- **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 Illustratorfor Television
- **Art Director** : Creative Director of Visual Style for Movies and Television, Design Director, Director of Creative Operations, Executive Creative Director

6.6 Duration

8 semesters, 4 Years (Full-Time)

6.7 Criteria for Award of Degree

Credit Completion: Students must earn a total of 196 credits over a minimum period of 8 semesters

7.0 Student's Structured Learning Experience from Entry to Exit in the Programme

- **Education Philosophy and Purpose**:

- **Learn to Earn a Living:**
  At KRMU we believe in equipping students with the skills, knowledge, and qualifications necessary to succeed in the job market and achieve financial stability. All the programmes are tailored to meet industry demands, preparing students to enter specific careers and contributing to economic development.

- **Learn to Live:**
  The University believes in learners' holistic development, fostering critical thinking, creativity, emotional intelligence, and a deeper understanding of the world. Our aim is to nurture well-rounded individuals who can contribute meaningfully to society, lead fulfilling lives, and engage with the complexities of the human experience.

- **University Education Objective: Focus on Employability and Entrepreneurship through Holistic Education using Bloom'sTaxonomy**

By targeting all levels of Bloom's Taxonomy—remembering, understanding, applying, analysing, evaluating, and creating—students are equipped with the knowledge, skills, and attitudes necessary for the workforce and entrepreneurial success. At KRMU we emphasize on learners critical thinking, problem-solving, and innovation, ensuring application of theoretical knowledge in practical settings. This approach nurtures adaptability, creativity, and ethical decision-making, enabling graduates to excel in diverse

professional environments and to innovate in entrepreneurial endeavours, contributing to economic growth and societal well-being.

➢ Importance of Structured Learning Experiences

A structured learning experience (SLE) is crucial for effective education as it provides a clear and organized framework for acquiring knowledge and skills. By following a well-defined curriculum, learners can build on prior knowledge systematically, ensuring that foundational concepts are understood before moving on to more complex topics. This approach not only enhances comprehension but also fosters critical thinking by allowing learners to connect ideas and apply them in various contexts Moreover, a structured learning experience helps in setting clear goals and benchmarks, enabling both educators and students to track progress and make necessary adjustments. Ultimately, it creates a conducive environment for sustained intellectual growth, encouraging learners to achieve their full potential. At K.R. Mangalam University SLE is designed as rigorous activities that are integrated into the curriculum and provide students with opportunities for learning in two parts:

➢ **Inside Classroom:** Structured learning in the classroom focuses on building cognitive outcomes through a student-centric approach. The methods used in this approach include:

- **Cognitive Learning:** Students develop their critical thinking and problem-solving skills by engaging with fundamental concepts in design, Game design, and Animation. They are taught to analyse Market Trends, understand user needs, and design games and Animation.
- **Student-Centric Learning:** The focus is on active participation, where students are encouraged to ask questions, collaborate, and engage in peer discussions. This fosters independent learning and critical reflection on design processes.
- **Teaching Methods:** A mix of lectures, design critiques, and seminars ensures that students grasp both the theoretical and practical aspects of Game design. Master classes, Game jams, and Industry visits are used to enhance understanding.
- **Tools and Techniques:** Various design software are introduced to equip students with technical skills in creating detailed plans and 3D models. The hands-on experience with these tools helps them translate concepts into tangible design outcomes.
- **Approach:** Design thinking and research-based projects are emphasized. These allow students to identify problems, conduct research, brainstorm ideas, and prototype solutions, enhancing their creativity and technical skills.

➢ **Outside Classroom:** The outside classroom experience enhances students' **people skills** and **psychomotor skills** by involving them in industry-related, community, and hands-on activities:

- **People Skills:** Students work on real-world projects, collaborating with professionals, peers, and communities. This helps them improve communication, teamwork, and client interaction skills. Site visits, internships, and participation in design workshops offer practical exposure to industry standards and practices.
- **Psychomotor Skills:** Students engage in hands-on learning through field work, material exploration, and fabrication techniques. In workshops, they Showcase Their Work, Explore others

Work and experimenting with Different and latest Software, which improves their dexterity and understanding of Game design and animation.

- **Industry Interactions:** Regular industry visits, internships, and collaborative projects with design firms allow students to bridge the gap between classroom learning and real-world practice. They get to apply classroom knowledge in a professional setting, gaining insights into market trends and industry requirements.
- **Community Engagement:** Participation in community-based design projects fosters a sense of social responsibility. Students might engage in projects that aim to improve public spaces or address the needs of underserved communities, allowing them to apply design principles in meaningful ways.

➢ Educational Planning and Execution What, when & how learning will happen

The educational planning and execution framework for Bachelor of Design (Hons. / Hons. with Research) Game Design and Animation program at the School of Architecture & Design (SOAD) is designed to provide a structured and enriching learning experience. This framework aims to facilitate meaningful engagement, foster critical thinking, and encourage creativity among students. By clearly outlining "WHAT, WHEN, and HOW" learning will take place, the school ensures that all educational activities align with the program's objectives and contribute to the holistic development of our aspiring interior designers.

The programme is designed around the educational philosophy OF "LEARN TO EARN LIVING" and "LEARN TO LIVE," providing a holistic learning experience from entry to exit.

Entry Phase

Upon entry, students are introduced to the foundational principles of Design. Orientation sessions emphasize understanding the Game design and animation field and the ethical responsibilities of designers. This initial phase emphasizes the importance of knowledge not just as a means to earn a living, but as a way to engage meaningfully with society.

Core Learning

As students' progress, they delve deeper into both the theoretical and practical aspects of Game design and Animation. Courses on design ethics, sustainable practices, and user experience equip students with essential skills for their future careers. Hands-on workshops and industry collaborations emphasize the concept of learning as preparation for professional success while fostering a sense of civic responsibility and personal growth. We have a strong students' support system in terms of differential learning (slow & fast learning), mentor-mentee system and personal counselling thereby ensuring students move up on the learning curve.

Skill Development

The program emphasizes developing versatile skills essential for a successful career in Game design and Animation, including research, design thinking, developing games, and Animation. Through collaborative design projects, visit to industry, industry connect and networking students learn teamwork and communication, vital not just for professional success but also for fostering meaningful relationships in their personal lives.

Thesis and Exit Phase

In the final phase, students undertake Thesis projects that integrate their learning and showcase their creativity and professionalism. This culminates in a portfolio that reflects their readiness to enter the workforce when they go for training in the final semester. Additionally, KRMU Career Development Cell (CDC) assist with job placements, reinforcing the "Learn to Earn" philosophy. The program maintains a strong focus on personal values and lifelong learning, encouraging students to approach their careers as opportunities to contribute positively to society.

Co-Curricular and Extra-Curricular Activities

Students actively participate in 13 clubs and societies within the university, ranging from media production to cultural expression. These clubs facilitate peer interaction, teamwork, and leadership opportunities, helping students develop a well-rounded personality. Regular industry visits, guest lectures, and workshops by industry experts ensure that students remain connected to real-world design practices, bridging the gap between academic learning and professional expectations.

Community Connect

Community connect programs enhance students' social awareness and responsibility, allowing them to engage with various societal issues related to design and the built environment. As Game designers and animation, students learn to consider the impact of their work on communities and to advocate for inclusive and sustainable practices. Participation in sports and cultural activities further contributes to a balanced lifestyle, promoting teamwork and resilience.

Ethics and Values

The programme places a strong emphasis on ethics, values, and a code of conduct in design practice. Students are encouraged to embody professionalism and integrity in their work, preparing them to be responsible designers and active citizens.

Career Counselling and Entrepreneurship

Career counselling services provide guidance on job placements, internships, and skill development, helping students navigate their career paths. Additionally, the university's incubation centre fosters entrepreneurial and leadership qualities, encouraging students to explore innovative ideas and start their ventures.

➢ Components of Educational Planning

All planned activities will be executed as scheduled, ensuring a consistent and enriching learning environment that supports the development of practical and theoretical skills in Game design and Animation. The school will follow the following for conducting the semester educational, co-curricular and extracurricular activities.

1. **University Calendar:**
   The University Calendar outlines key academic dates, including the start and end of terms, examination periods, and holidays that impact Bachelor of Design (Hons. / Hons. with Research) Game Design and Animation program.
2. **Timetable:**
   The Timetable presents a structured overview of class sessions, lecture timings, studio hours, and project work, offering clarity on the weekly schedule for students.

3. **School Calendar:**
   The School Calendar provides a detailed schedule of important events, workshops, design critiques, and submission deadlines specific to SOAD.
4. **Activity Calendar:**
   The Activity Calendar highlights extracurricular events, guest lectures by industry professionals, and site visits that complement the academic curriculum, enriching students' understanding of Game design and Animation practice.
5. **Class Sessions/Lectures:**
   Scheduled activities include theoretical lectures, practical studio sessions for hands-on learning, and collaborative projects that foster teamwork and innovation.
6. **Monitoring:**
   Continuous monitoring will be implemented at various levels to ensure that educational objectives specific to the B. Des in Game Design and Animation are met and that planned activities are effectively carried out.
7. **Correction of Deviations:**
   Any deviations from the planned educational framework will be promptly identified and addressed to maintain the integrity and effectiveness of the learning experience.
   This comprehensive approach ensures that students in the Bachelor of Design (Hons. / Hons. with Research) Game Design and Animation program engage in a holistic educational experience, integrating both academic knowledge and practical skills while fostering personal and professional growth within the field of Game Design and Animation.

➢ Course Registration and Scheduling

➢ Major and Minor Selection Process:

In the Bachelor of Design (B. Des) Game Design and Animation program, students have the opportunity to choose from a variety of major and minor courses throughout their studies. There are 26 major courses and 8 minor courses available over the entire duration of the program. The selection process for minor is centralized, allowing students to make informed choices about their specialization. Every student has to register at the beginning of each semester for the courses offered in the given semester. Major courses are registered centrally for the students. However, for other multidisciplinary courses (Minor, VAC, OE) the students have to register by themselves through ERP.

School of Architecture and Design offers the following minors with 32 credits spread through the eight semesters

1. Interior Styling
2. Contemporary Art Practice
3. UI/UX Design
4. Game Development

➢ Value-Added Courses (VAC) and Open Electives (OE):

Value-Added Courses (VAC) and Open Electives (OE) are offered to enhance students' skills and knowledge beyond the core curriculum. Students can select these courses based on their interests, enabling them to gain practical insights and experience in specific areas related to Game design and Animation. The choice of VAC and OE typically occurs at the beginning of each semester, where students can consult with faculty and peers to make informed decisions.

➢ Internships, Projects, Dissertations, and Training

➢ Internships

Students are required to complete a summer internship in the Sixth semester. The internship carries 2 credits and is evaluated in the Coming Odd Semester. This hands-on experience is designed to provide students with practical exposure to the industry, allowing them to apply theoretical knowledge in real-world settings.

➢ Thesis and Research Project

From the Fourth semester, all the students undertake a Minor or Major Project in Game Design and Animation project, where they work on Projects according to their interest area. This hands-on approach enables them to conduct in-depth research, critically analyse design challenges, and propose innovative solutions, bridging academic learning with real-world practice.

Students pursuing Bachelor of Design (Hons. with Research) in Game Design and Animation engage in research projects that allow them to focus on specific areas within the field, aligning with their career goals. These projects are mapped to practical courses and experiential learning activities, ensuring students gain comprehensive insights into their chosen specializations.

➢ Training

In the eighth semester, students undertake Industry training, where they collaborate with industry professionals on real-life projects. Those pursuing a research-oriented path will complete a Research Project (Dissertation) instead. This structured approach to projects and dissertations enables students to develop critical thinking, research, and project management skills.

➢ Co-Curricular Activities Credit Choices

Participation in Co/ Extracurricular activities is part of outside classroom learning.

Students must earn 2 credits from co/ extracurricular activities. One credit from participation in co-curricular activities like Club/Society activities and another credit from Community Service (1 credit each) through participation in NSS/ Redcross activities or NGOs that contribute to their personal development, leadership skills, and community engagement.

- Under the category of **Club/Society**, 1 credit can be earned by registration in one of the Club/Societies of university and active participation in the events organized by the club/society **OR**
- 15 hours of active engagement in any of the recreational/sports activities

Under the category of **Community Service,** 1 credit can be earned by

- 15 hours active engagement in community service through NGO/NSS/Redcross or any other society approved/ empanelled by the university

At the end of the semester, students are required to submit a log of hours, a report, and a certificate of participation/ completion summarizing their activities followed by a presentation.

➢ **Academic Support (Differential learning needs):** Academic Support Systems for B. Des Game Design and Animation students are designed to address diverse learning needs, ensuring each student excels. These systems include:

- **Personalized Tutoring:** One-on-one sessions with experienced tutors focus on areas such as design software, Concept and Story Design, Level design, Game Design, Game VFX, Game Development, Animation and Game Building, customized to individual skill levels.
- **Workshops and Seminars:** Regular workshops on topics like 2d design, digital modelling, Level Design techniques, and Game design ethics, along with industrial connections, enhance both practical and theoretical knowledge.
- **Peer Mentoring Programs:** Advanced learners' mentor fellow students by leading project teams and offering guidance on assignments and design critiques, fostering a collaborative and supportive environment.
- **Accessible Learning Resources:** Online platforms provide access to tutorials, design templates, articles, and interactive tools, accommodating various learning styles.
- **Production and Outcome-Based Activities:** Students are encouraged to engage in practical, hands-on activities like Game Jams, Industry Visits, and real-world projects. These works are showcased and recognized, boosting confidence and learning outcomes.
- **Diversity and Inclusion Initiatives:** Programs promoting inclusivity ensure that all design ideas are valued, enriching the learning environment.
- **Feedback and Assessment:** Continuous feedback systems allow students to receive constructive reviews of their work, facilitating growth, innovation, and skill development.

➢ Student Career & Personal Support:

- **Mentor-Mentee:** The Mentor-Mentee Program is an essential component for fostering successful careers as it acts as a bridge between faculty and students. Mentor-mentee relationships often go beyond academic and professional growth at KRMU.
- **Counselling and Wellness Services:** Counselling and Wellness Services for Journalism and Mass Communication students are designed to support their mental health and overall well-being in a demanding academic environment. These services include confidential individual counselling sessions, where trained professionals provide guidance on stress management, time management and personal challenges. Group therapy sessions and workshops focus on topics such as resilience, coping strategies and mindfulness, promoting a sense of community and shared experiences. The school conducts sessions on mental health awareness from time to time. Wellness initiatives may include fitness programs, relaxation activities and access to health resources that promote physical and mental health. By creating a supportive environment, these services help students navigate the pressures of their studies while fostering a balanced and healthy lifestyle.
- **Career Services and Training:** The Career Development Center (CDC) at KRMU provides comprehensive career services and training for Game Design and Animation students, focusing on creating ample placement opportunities. In addition to inviting corporate recruiters to campus, the Centre hosts various counselling and training programs aimed at enhancing students' academic and professional skills. These programs equip students with the essential tools needed to secure lucrative careers in their field. Each year, prominent companies visit the KRMU campus, offering attractive job packages to emerging talent. The faculty members and the mentors also ensuring that students are well-prepared for the competitive job market.

➢ Learning and Development Opportunities

- **Practical Learning (Course Handouts, Session Plans):** Practical learning is supported by detailed handouts, providing structured guidance for students in areas like Fundamental of Designs, Game Design, Game Level Design, Game VFX and Game Development. Sessions are conducted in specialized environments such as the Smart Classrooms, Computer labs , studios etc to enhance practical skills.
- **Experiential Learning (Learning by Doing):**
  - ➢ Inside Classroom: Design workshops, lighting system setups, and spatial planning exercises provide students with hands-on experience. Students apply theories through practical activities like model-making and digital design tool sessions.
  - ➢ Outside Classroom: Activities such as Site visits, industrial visits, client interaction, Pitch deck, and Investors interaction give students exposure to real-world challenges, with a focus on developing industry-relevant practical skills and Entrepreneurship Skills.
- **Case-Based Learning/Problem-Based Learning/Project-Based Learning:** Projects and case studies are carefully aligned with learning outcomes. Students are assigned tasks like cloning existing games or working on existing games problems solution, with detailed learning guidelines provided to map out the entire process from concept to execution.
- **Workshops, Seminars, and Guest Lectures:** Regular workshops on topics like sustainable materials, advanced lighting, and digital modelling, supplemented by guest lectures from industry professionals. A tentative schedule will ensure these activities occur throughout each semester, giving students opportunities for direct interaction with experts and hands-on learning experiences.

➢ Assessment and Evaluation

- **Grading Policies and Procedures for theory courses, practical courses, projects, Internships, Dissertation:** As per university examination policy of K R Mangalam University, the Program Outcome assessments is done by aggregating both direct and indirect assessments, typically assigning 80% weightage to direct assessments and 20% to indirect assessments, to compute the final course attainment.

Studio Courses

	Evaluation Components	Weightage
INTERNAL (50 Marks)	**Continuous Assessment** (Projects, Assignments, Presentation, Case Studies, etc)	20 Marks
	Internal Jury	30 Marks
EXTERNAL (50 Marks)	**End-Term Studio Exam**	20 Marks
	External Jury	30 Marks

Theory Courses

Evaluation Components	Weightage
Internal Marks (Theory): - **I) Continuous Assessment (30 Marks)** **(All the components to be evenly spaced)** Projects/ Quizzes/ Assignments and Essays/ Presentations/ Participation/ Case Studies/ Reflective Journals (minimum of five components to be evaluated)	30 Marks
II) Internal Marks (Theory)-Mid-Term Exam	20 Marks
External Marks (Theory): - End Term Examination	50 Marks

Summer Internship grading at the completion of VIth semester

Students are required to complete a minimum four-week summer internship with a reputable architecture or interior design firm. During the internship, students must maintain a logbook documenting their daily activities and submit a detailed internship report for evaluation. Additionally, students must provide an appointment letter and a completion certificate from the firm to receive credit for the internship.

Clubs and community- grading at the completion of IVth and Vth semester

Students must demonstrate active involvement in the University clubs, societies, and community engagement activities, including participation with the National Service Scheme (NSS) or an approved Non-Governmental Organization (NGO), to qualify for the award of credits. To secure the credits, students are required to submit certificate or letter of appreciation as formal proof of their participation along with a detailed report of the activity.

MOOC grading at the completion of VIII th semester

In Semester V, students will be informed about the requirement to complete a MOOC course. The information will be disseminated via notice boards, emails, and during classroom briefings by faculty members.

- **Feedback and Continuous Improvement Mechanisms:** Teaching-learning is driven by outcomes. Assessment strategies and andragogy are aligned to course outcomes. Every CO is assessed using multiple components. The attainment of COs is calculated for every course to know the gaps between the desired and actual outcomes. These gaps are analysed to understand where does the student lags in terms of learning levels. Thereafter each student's learning levels are ascertained, if found below desirable level, and intervention strategy is effected in the following semester to make necessary corrections. To cater to the diverse learning needs of its student body, K.R. Mangalam University employs a comprehensive assessment framework to identify both slow and advanced learners. Students' learning levels are continually assessed based on their performance at various stages. If a student's performance in internal assessments falls below or equal to 55%, they are categorized as slow learners. Conversely, if a student's performance score in internal assessments is greater than or equal to 80%,

they are identified as advanced learners. Such students are encouraged to participate in advanced learning activities. Through periodic evaluations and the utilization of modern management systems, the institution adeptly tracks students' performance across various courses, allowing for targeted interventions and support mechanisms.

- **Academic Integrity and Ethics:** The School of Architecture and Design places a strong emphasis on academic integrity and ethics, fostering a culture of honesty and responsibility among students. Clear guidelines are established to educate students about the importance of plagiarism prevention, proper citation practices, and ethical sourcing in their work. Regular workshops and seminars are conducted to discuss case studies and real-world scenarios, encouraging critical thinking about ethical dilemmas in Game Design and Animation field. Faculty members serve as role models, promoting transparency and accountability in their interactions and evaluations. By instilling these values, the school prepares students to uphold high ethical standards in their professional careers, emphasizing the critical role that integrity plays in journalism and mass communication.

Programme Structure

Semester-I									
S. No.	**Category of Course**	**Course Code**	**Course**	**L**	**T**	**S**	**P**	**C**	**Multiple Entry and Exit**
1	**Major-I**	ADUX 101	FUNDAMENTALS OF DESIGN	**0**	**0**	**3**	**2**	**4**	**Award: UG Certificate** [after completing 1 year of study (2 semesters with credits
2	**Major-II**	ADUX 103	HISTORY OF ART AND EVOLUTION OF DESIGN	**3**	**0**	**0**	**0**	**3**	
3	**Major-III**	ADUX 105	INTRODUCTION TO GAME ENGINES	**0**	**0**	**3**	**2**	**4**	

4	**Major-IV**	ADUX 107	INTRODUCTION TO VISUAL DESIGN	**0**	**0**	**3**	**0**	**3**	as prescribed), and an additional vocational course/internship of 4 credits during the summer vacation of the first year]
5	**Minor -I**		MINOR-I	**0**	**0**	**4**	**0**	**4**	
6	**Skill Enhancement Course SEC-I**	SEC074	SKETCHING AND DRAWING	**0**	**0**	**3**	**0**	**3**	
7	**Value Added Course VAC-I**	VAC 151	VALUE ADDED COURSE	**2**	**0**	**0**	**0**	**2**	
Total				5	0	16	4	23	

Semester-II									
S. No.	**Category of Course**	**Course Code**	**Course**	**L**	**T**	**S**	**P**	**C**	
1	**Major-V**	ADUX102	VISUAL STORYTELLING	0	0	3	0	3	
2	**Major-VI**	ADUX104	BASICS OF UI DEVELOPMENT	0	0	4	0	4	
3	**Major-VII**	ADUX106	MATERIAL EXPLORATION	0	0	3	0	3	
4	**Major-VIII**	ADUX108	COLORS AND EMOTIONS	0	0	3	0	3	
5	**Minor-II**		MINOR-II	**0**	**0**	**4**	**0**	**4**	
6	**Skill Enhancement Course SEC-II**	SEC085	DESIGN TOOLS	0	0	3	0	3	
7	**Open Elective OE-I**		OPEN ELECTIVE- I	0	0	3	0	3	
8	**Value Added Course VAC-II**	VAC-2	VALUE ADDED COURSE-II	2	0	0	0	2	
Total				2	0	23	0	**25**	

Semester-III									
S. No.	**Category of Course**	**Course Code**	**Course Title**	**L**	**T**	**S**	**P**	**C**	**Multiple Entry and Exit**
1	**Major- IX**	ADGA253	GAME LEVEL DESIGN- I	0	0	4	0	4	**Award: UG Diploma**

2	**Major-X**	ADGA255	CHARACTER DESIGN	0	0	3	0	3
3	**Major-XI**	ADGA257	2D GAME DEVELOPMENT	0	0	4	0	**4**
4	**Minor-III**		MINOR COURSE 3	0	0	4	0	4
5	**Ability Enhancement Course AEC-I**	AEC001	NEW AGE LIFE SKILLS-I	**3**	**0**	**0**	**0**	**3**
6	**Open Elective OE-II**		OPEN ELECTIVE-II	0	0	3	0	3
7	**Value Added Course VAC-III**	VAC-3	VALUE ADDED COURSE	2	0	0	0	2
8	**Skill Enhancement Course SEC-III**	SEC085	COMICS AND STORYBOARDING	0	0	3	0	3
Total				5	0	21	0	26

[after completing 2 years of study (4 semesters with credits as prescribed), and an additional vocational course/internship of 4 credits during the summer vacation of the second year]

Re-Entry The student who took exit after completion of the first year (UG Certificate) are allowed to re-enter the degree programme within three years and complete the degree programme within the stipulated maximum period of seven years.

Semester-IV								
S. No.	**Category of Course**	**Course Code**	**Course**	**L**	**T**	**S**	**P**	**C**
1	**Major-XII**	ADGA252	DIGITAL CHARACTER RIGGING	0	0	3	0	3
2	**Major-XIII**	ADGA254	PAINT AND TEXTURING	0	0	3	0	3
3	**Major-XIV**	ADGA256	AUGMENTED AND VIRTUAL REALITY	0	0	3	0	3
4	**Major**	ADGA258	ANIMATE WITH ADOBE TOOLS	0	0	4	0	4
5	**Major**	ADGA262	MINOR PROJECT	0	0	2	0	2
6	**Minor-IV**		MINOR			**4**		**4**
7	**Ability Enhancement Course AEC-II**	AEC002	NEW AGE LIFE SKILLS- II	3	0	0	0	3
8	**Open Elective OE-III**		OPEN ELECTIVE-III	0	0	3	0	3
Total				3		22	0	**25**

Semester-V									
S. No.	**Category of Course**	**Course Code**	**Course Title**	**L**	**T**	**S**	**P**	**C**	**Multiple Entry and Exit**
1	**Major-XV**	ADGA351	CHARACTER ANIMATION	0	0	3	2	4	**Award: Bachelor's Degree** [after completing 3-year of study (6 semesters with credits as prescribed)] **Re-Entry** The student who took exit after completion of two years of study (UG Diploma) are allowed to re-enter the degree programme within three years and complete the degree programme within the stipulated maximum period of seven years.
2	**Major-XVI**	ADGA353	GAME LEVEL DESIGN- II	0	0	3	2	4	
3	**Major-XVII**	ADGA355	BACKGROUND AND LAYOUT DESIGN	0	0	3	0	3	
4	**Major-XVIII**	ADGA357	MAYA DYNAMICS AND PARTICLE SYSTEM	0	0	3	0	3	
5	**Major-XIX**	ADGA361	MAJOR PROJECT 1	0	0	3	0	3	
6	**Minor-V**		MINOR-V	**0**	**0**	**4**	**0**	**4**	
7	**Ability Enhancement Course AEC-III**	AEC003	NEW AGE LIFE SKILLS-III	3	0	0	0	3	
Total				3	0	19	4	**24**	

Semester-VI									
S. No.	**Category of Course**	**Course Code**	**Course**	**L**	**T**	**S**	**P**	**C**	
1	**Major-XX**	ADGA352	COMPOSITION AND VFX FOR FILM	0	0	2	2	3	
2	**Major-XXI**	ADGA356	ENVIRONMENT ART IN UNREAL ENGINE	0	0	2	4	4	
3	**Major-XXII**	ADGA358	LIGHTING AND RENDERING FOR FILMS	0	0	4	0	4	
4	**Major-XXIII**	ADGA360	MAJOR PROJECT 2	0	0	2	2	3	
5	**Minor-VI**		MINOR-VI	**0**	**0**	**4**	**0**	**4**	
6	**INTERNSHIP**		SUMMER INTERNSHIP/PROJECT/FREELANCING	**0**	**0**	0	4	2	
Total				0	0	14	12	20	

Bachelor's Degree (Honors) Semester-VII									
S. No.	**Category of Course**	**Course Code**	**Course**	**L**	**T**	**S**	**P**	**C**	**Multiple Entry**
1	**Major-XXIV**	ADGA451	GAME PROJECT IN UNREAL ENGINE	0	0	2	4	4	**Award: 4-year Bachelor's Degree (Honors)** [with credits as prescribed after eight semesters programme of study]
2	**Major-XXV**	ADGA453	GAME PROJECT IN UNITY	0	0	2	2	3	
3	**Major-XXVI**	ADGA455	FILM MAKING 3D / FILM MAKING 2D	0	0	3	2	4	
4	**Major-XXVII**	ADGA457	PRODUCT PUBLICATION AND MARKETING	0	0	2	0	2	
5	**Major-XXVIII**	ADGA459	3D GAME PROGRAMMING	0	0	1	4	3	
6	**Minor-VII**		MINOR VII	**0**	**0**	**4**	**0**	**4**	
Total				0	0	14	12	**20**	
Bachelor's Degree (Honors) Semester-VIII									
1	**Major-XXIX**	ADGA452	DEGREE PROJECT/INTERNSHIP/ FREELANCING	0	0	0	0	12	
	Minor-VIII		MINOR VIII	0	0	4	0	**4**	
2	**Major-XX Discipline Specific Elective**							**0**	
3	**Major-XXIII-Discipline Specific Elective**							**0**	
Total				0	0	4	0	**16**	
***Bachelor's Degree (Honors with Research) Semester-VII**									***Award: 4-year Bachelor's Degree (Honors with Research)*** *Students who secure 75% marks and above in the first six semesters and wish to undertake research at the
S. No.	**Category of Course**	**Course Code**	**Course**	**L**	**T**	**S**	**P**	**C**	
1	**Major-XVIII** ***Course on Research Methodology**								
2	**Major-XIX** **Course on Research Tools**								
3	**Major-XX**								

4	**Major (Practical)**							
5	**Minor-VII**							
6	**Minor-VIII**							
Total								
***Bachelor's Degree (Honors with Research) Semester-VIII**								
1	**Dissertation**	ADGA452	DEGREE PROJECT/INTERNSHIP / FREELANCING	0	0	0	0	12
Total								

undergraduate level can choose aresearch stream inthe fourth year.
Upon completing a research project intheir major area(s)of study in the 4th year, a student will be awarded Bachelor's Degree (Honors with Research).

8.1 Minor Streams

*Details of Minors offered by SOAD Students will have to choose minor at the beginning of the first semester									
Interior Styling (Only for SOAD students, except B. Des. Interior Design, Mandatory for BFA 2023-24 batch)									
S. No.	**Category of Course**	**Course Code**	**Course Title**	**L**	**T**	**S**	**P**	**C**	**H**
1	Minor 1	UIS101	Introduction to Design Principles	**0**	**0**	**4**	**0**	**4**	**4**
2	Minor 2	UIS102	Interior Design Fundamentals	**0**	**0**	**4**	**0**	**4**	**4**
3	Minor 3	UIS103	Product Design Basics	**0**	**0**	**4**	**0**	**4**	**4**
4	Minor 4	UIS104	Advanced Product Design	**0**	**0**	**4**	**0**	**4**	**4**
5	Minor 5	UIS105	Interior Styling	**0**	**0**	**4**	**0**	**4**	**4**
6	Minor 6	UIS106	Advanced Interior Styling	**0**	**0**	**4**	**0**	**4**	**4**
7	Minor 7	UIS107	Advanced Interior Design	**0**	**0**	**4**	**0**	**4**	**4**
8	Minor 8	UIS108	Interior styling project	**0**	**0**	**4**	**0**	**4**	**4**
						Total	**32**	**32**	**32**
Contemporary Art Practice Only for SOAD students, except BFA students									
S. No.	**Category of Course**	**Course Code**	**Course Title**	**L**	**T**	**S**	**P**	**C**	**H**
1	Minor 1	UCA101	Introduction to Contemporary Art	**0**	**0**	**4**	**0**	**4**	**4**
2	Minor 2	UCA102	Modernism and Its Influence	**0**	**0**	**4**	**0**	**4**	**4**
3	Minor 3	UCA103	Photography and Conceptual Art	**0**	**0**	**4**	**0**	**4**	**4**
4	Minor 4	UCA104	Performance Art	**0**	**0**	**4**	**0**	**4**	**4**
5	Minor 5	UCA105	Globalization and Art	**0**	**0**	**4**	**0**	**4**	**4**
6	Minor 6	UCA106	Identity and Representation	**0**	**0**	**4**	**0**	**4**	**4**
7	Minor 7	UCA107	Conceptual Installation	**0**	**0**	**4**	**0**	**4**	**4**
8	Minor 8	UCA108	Contemporary art project	**0**	**0**	**4**	**0**	**4**	**4**
						Total	**32**	**32**	**32**
UI/UX Design Only for SOAD students, except B.Des UI & UX students									
S. No.	**Category of Course**	**Course Code**	**Course Title**	**L**	**T**	**S**	**P**	**C**	**H**
1	Minor 1	UUI101	Introduction To UX Design	**0**	**0**	**4**	**0**	**4**	**4**
2	Minor 2	UUI102	Introduction to UI Development	**0**	**0**	**4**	**0**	**4**	**4**

3	Minor 3	UUI103	Basics of UI Design	**0**	**0**	**4**	**0**	**4**	**4**
4	Minor 4	UUI104	Introduction To 6D	**0**	**0**	**4**	**0**	**4**	**4**
5	Minor 5	UUI105	Wireframing And Prototyping	**0**	**0**	**4**	**0**	**4**	**4**
6	Minor 6	UUI106	Methodologies in Interaction Design	**0**	**0**	**4**	**0**	**4**	**4**
7	Minor 7	UUI107	Gamification And UX	**0**	**0**	**4**	**0**	**4**	**4**
8	Minor 8	UUI108	UX/UI Design Project	**0**	**0**	**4**	**0**	**4**	**4**
						Total	**32**	**32**	**32**

Game Development Only for SOAD students, except B.Des. Game Design and Animations students

S. No.	Category of Course	Course Code	Course Title	L	T	S	P	C	H
1	Minor 1	UGD101	Fundamentals of Game Engine	**0**	**0**	**4**	**0**	**4**	**4**
2	Minor 2	UGD102	Game Designing Technology	**0**	**0**	**4**	**0**	**4**	**4**
3	Minor 3	UGD103	Computer Programming for Video Game	**0**	**0**	**4**	**0**	**4**	**4**
4	Minor 4	UGD104	Video Editing and Visual Effects	**0**	**0**	**4**	**0**	**4**	**4**
5	Minor 5	UGD105	Introduction to Immersive Technologies	**0**	**0**	**4**	**0**	**4**	**4**
6	Minor 6	UGD106	3D Game Development	**0**	**0**	**4**	**0**	**4**	**4**
7	Minor 7	UGD107	Game Publication and Marketing	**0**	**0**	**4**	**0**	**4**	**4**
8	Minor 8	UGD108	Game Design Project	**0**	**0**	**4**	**0**	**4**	**4**
						Total	**32**	**32**	**32**

SYLLABI

SEMESTER-1

Course Perspective

Objective to introduce students to the basic principles and elements of design, providing a solid foundation in design thinking, visual literacy, and creative problem-solving. Students will come to know about designing principles and will be able to implement them in their projects. This course aims to build a strong foundation in design, equipping students with the skills and knowledge necessary to succeed in more advanced design courses and in their future careers.

Course Outcomes

Upon completion of the course the learner will be:
CO1. Understanding elements and principles of design
CO2. Understanding stage model of action cycle
CO3. Applying design laws and their importance in design field
CO4. Analysing various rules of composition of design
CO5.Creating hands-on experience of fundamentals of design

Course Content

Unit 1: Elements of Design **12 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**
Hick's Law, Fitts's Law, Miller's Law, Law of Proximity, Law of Similarity, Law of Prägnanz (Simplicity), Law of Closure, Law of Common Region, aw of Figure/Ground, Law of Uniform Connectedness, Von Restorff Effect, Serial Position Effect, Tesler's Law of Conservation of Complexity, Aesthetic-Usability Effect, Jakob's Law

Unit 4: Designing for people **12 hours**
Famous Case studies on people centric, Psychological Principles in Design, Human Factors in Design, User Feedback and Iterative Design

Unit 5: Project Work **12 hours**
Project work on fundamentals of design

Learning Experience

The course will encompass foundational theories and principles through interactive lectures,complemented by hands-on workshops where students will practice various design

techniques. Studio work will involve both independent and group projects, allowing students to apply the concepts they have learned. Regular peer and instructor critiques will foster improvement and innovation, while case studies of famous design works will help students understand practical applications of the theories discussed. Throughout the course, students will be encouraged to develop a portfolio of their work, showcasing their growth and skills. The course assessment will include practical design projects evaluated on creativity, execution, and adherence to design principles, quizzes to test understanding of theoretical concepts, and participation in class discussions and critique sessions. A final exam will serve as a comprehensive assessment, covering both theoretical knowledge and practical skills.

Textbooks:-

- Universal principles of Design - William Lidwell, Kritina Holden, Jill Butler
- Design of Everyday life – Don Norman

Suggested Readings:-

- Universal methods of design – Brus Hanington
- Hundred things every designer needs to know about people – Susan Weins Chenk

Open Educational Resources (OER)

https://edu.gcfglobal.org/en/beginning-graphic-design/fundamentals-of-design/1/

Evaluation Scheme

	Evaluation Components	Weightage
INTERNAL (50 Marks)	**Continuous Assessment** (Projects, Assignments, Presentation, Case Studies, etc)	20 Marks
	Internal Jury	30 Marks
EXTERNAL (50 Marks)	**End-Term Studio Exam**	20 Marks
	External Jury	30 Marks

ADUX103	HISTORY OF ART AND EVOLUTION OF DESIGN	L	T	S	P	C
Version 1.0		**3**	**0**	**0**	**0**	**3**
Category of Course	Major					
Total Contact Hours	45					
Pre-Requisites/ Co-Requisites						

Course Perspective

The **History of Art and the Evolution of Design** course offers a concise exploration of how art and design have developed in tandem throughout history. Students will study key periods, movements, and figures to understand the cultural, technological, and social influences on artistic expression and design practices. The course combines lectures, case studies, and projects to help students critically evaluate art and design within historical contexts, while also examining the impact of past movements on contemporary trends. This knowledge will empower students to apply historical insights to their own creative work.

Course Outcomes

Upon completion of the course the learner will be:

CO1. Understandings sequence various art forms in history.

CO2. Applying art in a cultural context.

CO3. Applying evolution in Design and UX.

CO4. Creating the paradigm, shift in design as per the various technology changes.

Course Content

Unit 1: Art Forms in History **09 hours**

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

Unit 2: Historical Interpretation of Art **09 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 **09 hours**

Understanding the evolution in design through forms and everyday things

Unit 4: Paradigm Shift in Design from 19th century to modern time **09 hours**

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

Unit 5: Project **09 hours**

Project submission on history of Art & design

Learning Experience

The Learning Experience for the History of Art and the Evolution of Design course is immersive, blending theory with practical application. Students will engage in interactive lectures, analyse key artworks and design pieces through case studies, and complete hands-on projects that apply historical principles to modern contexts. Museum visits or virtual tours will deepen their understanding, while group discussions and peer critiques will enhance theirskills. Throughout the course, students will build a portfolio that reflects their grasp of historical art and design concepts.

Text Books

- The story of the Art - Ernst Gombrich

Reference Books/Materials

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

Open Educational Resources (OER)
https://en.wikipedia.org/wiki/History_of_art

Evaluation Components	Weightage
Internal Marks (Theory): - **I)Continuous Assessment (30 Marks)** **(All the components to be evenly spaced)** Projects/ Quizzes/ Assignments and Essays/ Presentations/ Participation/ Case Studies/ Reflective Journals (minimum of five components to be evaluated)	30 Marks
II) Internal Marks (Theory)-Mid-Term Exam	20 Marks
External Marks (Theory): - End Term Examination	50 Marks

ADUX105	INTRODUCTION TO GAME ENGINES	L	T	S	P	C
Version 1.0		**0**	**0**	**3**	**2**	**4**
Category of Course	Major					
Total Contact Hours	60					
Pre-Requisites/ Co-Requisites						

Course Perspective

Introduction to Game Engines focuses on understanding game engines as essential tools in game development. Students will learn both the technical and creative aspects of using engines like Unity and Unreal Engine. The course emphasizes practical experience with features such as rendering, physics, and scripting, preparing students to address real-world game design challenges and contribute effectively to the field.

Course Outcomes

Upon completion of the course the learner will be:
CO1: Analysing working with game engines.
CO2: Analysing production pipeline for game production.
CO3: Developing games ready for publication.
CO4: Creating game design documentation.

Course Content

Unit 1: Game Engines Introduction **12 hours**
Uses of game engine
History of video games
Game engine types and features
Components of game engine

Unit 2: Unity Game Engine introduction **12 hours**
Engine interface
Programming language for Unity
Learning and certification
Game composition

Unit 3: Unreal Engine introduction **12 hours**
Engine interface
Programming languages and blueprints
Learning and certification for UE
Final composition

Unit 4: Future of game engines **12 hours**

Virtual world Unreal realityMetaverse
Screen less laptopSmart Eyeglasses

Unit 5: Game production and publication **12 hours**
Game Composition High quality graphics
Publication criteria on different platforms

Learning Experience
The Learning Experience in Introduction to Game Engines features interactive lectures, hands- on labs, and project work. Students will practice using Unity and Unreal Engine, explore key features like rendering and scripting, and develop real-world projects. Group discussions and peer feedback will enhance their skills, with opportunities for individual exploration and portfolio development.

Text Books:
1. UNREAL ENGINE 4 GAME DEVELOPMENT QUICK START GUIDE: PROGRAMMINGPROFESSIONAL 3D GAMES WITH UNREAL ENGINE 4 by RACHEL CORDONE, PACKT PUBLISHING

References:
1. HANDS-ON UNITY 2022 GAME DEVELOPMENT: LEARN TO USE THE LATEST UNITY 2022 FEATURES TO CREATE YOUR FIRST VIDEO GAME IN THE SIMPLEST WAY POSSIBLE by NICOLAS ALEJANDRO BORROMEO, PACKT PUBLISHING

Open Educational Resources (OER)
https://docs.unity.com/
https://dev.epicgames.com/documentation/en-us/unreal-engine/unreal-engine-5-5-documentation

Evaluation Scheme

	Evaluation Components	Weightage
INTERNAL (50 Marks)	**Continuous Assessment** (Projects, Assignments, Presentation, Case Studies, etc)	20 Marks
	Internal Jury	30 Marks
EXTERNAL (50 Marks)	**End-Term Studio Exam**	20 Marks
	External Jury	30 Marks

ADUX107	INTRODUCTION TO VISUAL DESIGN	L	T	S	P	C
Version 1.0		**0**	**0**	**3**	**0**	**3**
Category of Course	Major					
Total Contact Hours	45					
Pre-Requisites/ Co-Requisites						

Course Perspective

The Course Perspective for Introduction to Visual Design focuses on core design principles like color theory and typography, emphasizing hands-on experience with design tools and real- world projects. Students will learn to create effective and engaging visual content, blending theory with practical skills to build a strong design foundation.

Course Outcomes

Upon completion of the course the learner will be:
CO1: Understanding the elements of visual design
CO2: Applying the creation of page layouts
CO3: Evaluating working knowledge of visual design tools
CO4: Creating application with elements and tools of visual design

Course Content

Unit 1: Basic elements of visual design **09 hours**
Introduction to basic elements of visual design – detailed study of color, colorwheel, visual hierarchy, legibility and readability, grid, layout

Unit 2: Typography **09 hours**
What is typography, Typeface's history and study, Types of fonts - serif and non- serif, Font anatomy, Importance of Typography in modern age UI design, Usage of type for print vs digital, Latest Trends in Typography

Unit 3: Iconography **09 hours**
What is iconography, visualization of icons, industry standards and specifications for iconography, designing for various form factors, trends in iconography, User perception about iconography

Unit 4: Introduction to Visual Tools **09 hours**
Introduction to visual design tools including lab session on elements of visual design andtools

Unit 5: Project work **09 hours**
Project work in tools & elements of visual designs

Learning Experience

The Learning Experience for Introduction to Visual Design includes interactive lectures, hands-on projects, and critiques. Students will work with design tools to apply principles like color theory and typography, and develop visual content through practical exercises. Group discussions and peer feedback will help refine their skills, with opportunities for creating a portfolio of their work.

Text Books:

- Graphic Design The New Basics - Ellen Lupton and Jennifer Cole Phillip

References:

- The Visual Miscellaneum - David McCandless

Open Educational Resources
(OER)
https://www.geeksforgeeksorg/visual-design/
Evaluation Scheme

Evaluation Components	**Weightage**
Internal Marks (Theory): - **I)Continuous Assessment (30 Marks)** **(All the components to be evenly spaced)** Projects/ Quizzes/ Assignments and Essays/ Presentations/ Participation/ Case Studies/ Reflective Journals (minimum of five components to be evaluated)	30 Marks
II) Internal Marks (Theory)-Mid-Term Exam	20 Marks
External Marks (Theory): - End Term Examination	50 Marks

SEC 074	SKETCHING AND DRAWING	L	T	S	P	C
Version 1.0		0	0	3	0	3
Category of Course	SEC074					
Total Contact Hours	45					
Pre-Requisites/ Co-Requisites						

Course Perspective

The course "Sketching and Drawing" focuses on developing fundamental skills in observational and imaginative drawing. Students will engage with various artistic mediums and techniques, enhancing their ability to render objects from memory, depict the human figure, and explore realistic light, shadow, and perspective. This course encourages creative thinking through practical exercises that emphasize the core principles of art. Students will gradually build confidence in freehand drawing and visual storytelling, making the course essential for artists aiming to develop strong technical skills and apply them in creative contexts like illustration, design, and animation.

Course Outcomes

Upon completion of the course the learner will be:

CO1: Practicing drawing objects from memory, honing their ability to conceptualize and create images without references.
CO2: Observing and Understanding the fundamentals of art, including line, shape, form, and composition, as foundational skills for drawing.
CO3: Imitating techniques to draw the human face and figure, studying proportions and anatomy to develop realistic representations.
CO4: Adapting their skills to draw realistic light and shadow, modifying their drawings to reflect accurate lighting and depth.
CO5: Practicing perspective drawing, applying techniques to create realistic spatial depth in their work.

Course Content

Unit 1: Exploring mediums **09 hours**

Exploring color mediums like colored papers, color pencils, chalk, charcoal, ink etc.

Unit 2: Perspectives in Sketching and Drawing **09 hours**

One point perspective, Two point perspective, Three point perspective, lettering, typo and Calligraphy

Unit 3: Illusions and Human Anatomy **09 hours**

Creating tessellation, Human anatomy, Print making, drawing – anatomy, storyboarding, illustration, painting

Unit 4: Real Life Sketching **09 hours**

Application learning with still life, real life sketching, still life, nature

Unit 5: Project **09 hours**

Advanced Project on sketching & drawing

Learning Experience

The learning experience in this course will be highly interactive and hands-on. Students will experiment with different mediums like charcoal, ink, and colored pencils, fostering a deep understanding of how materials affect the outcome of their work. Weekly exercises on perspective, anatomy, and shading will culminate in a final project that demonstrates the student's mastery of sketching and drawing. Real-life sketching assignments will enhance observational skills, while peer reviews and group critiques will offer constructive feedback,

pushing learners to refine their techniques. By the end of the course, students will have a portfolio showcasing their progress in rendering the human form, perspective drawings, andcreative compositions.

Text Books:
Advanced Drawing Skills: A Course in Artistic Excellence - Barrington Barber
How to Sketch - Liron Yanconsky

References:
The new drawing on the right side of the brain - Betty Edwards
The natural way to draw - Kimon Nicolaides

Open Educational Resources (OER)
https://juliabausenhardt.com/how-to-draw-anything-learn-sketching-for-beginners/

Evaluation Scheme

	Evaluation Components	Weightage
INTERNAL (50 Marks)	**Continuous Assessment** (Projects, Assignments, Presentation, Case Studies, etc.)	20 Marks
	Internal Jury	30 Marks
EXTERNAL (50 Marks)	**End-Term Studio Exam**	20 Marks
	External Jury	30 Marks

SEMESTER II

ADUX102	**VISUAL STORYTELLING**	**L**	**T**	**S**	**P**	**C**
Version 1.0		**0**	**0**	**3**	**0**	**3**
Category of Course	Major					
Total Contact Hours	45					
Pre-Requisites/ Co-Requisites						

Course Perspective

The Course Perspective for Visual Storytelling emphasizes the integration of visual elements with narrative techniques to craft compelling stories. Students will explore how imagery, composition, and design can enhance storytelling across different media. The course combines theoretical insights with practical application, focusing on creating visually engagingand communicative content. By examining case studies and working on hands-on projects, students will develop the skills to effectively convey narratives through visuals.

Course Outcomes

Upon completion of the course the learner will be:

CO1 : Understanding the fundamental principles of visual storytelling.
CO2 : Analysing and critique visual narratives in different mediums.
CO3 : Developing and communicate a story concept through visuals.
CO4 : Applying storytelling techniques to enhance the impact of visual communication.
CO5: Creating a final project demonstrating proficiency in visual storytelling.

Course Content

Unit 1: Introduction to Visual Storytelling **09 hours**

Introduction to the course, its objectives, and expectations
Historical overview of visual storytelling
Basic concepts: plot, character, setting, and theme Visual
elements: composition, color, light, and space
Understanding the role of symbolism and metaphor in storytelling

Unit 2: Story Structure and Composition and Layout **09 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. Different types with theirnames and character, mode, weight, orientation, position & sizes, readability and messagingto convey, Importance of layout, rules of composition, grids and types of grid, golden ratio

Unit 3: Visualization techniques and Ideation Methods **09 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 09 hours

Information visualization through info graphics and designing brand communication

Unit 5: Project work 09 hours

Final demo work

Learning Experience

The Learning Experience for Visual Storytelling involves interactive lectures, hands-on projects, and detailed critiques. Students will practice using visual elements like imagery and composition to craft engaging stories. Through real-world projects and case studies, they will develop their skills in integrating visuals with narrative structures, with feedback sessions to refine their work and enhance their storytelling abilities.

Text Books:

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

References:

- "Design is Storytelling" by Ellen Lupton
- "The Elements of User Experience" by Jesse James Garrett
- The Visual Communication Book - Mark Edwards

Open Educational Resources (OER)
https://nulab.com/learn/design-and-ux/visual-storytelling/

Evaluation Scheme

Evaluation Components	Weightage
Internal Marks (Theory): - **I)Continuous Assessment (30 Marks)** **(All the components to be evenly spaced)** Projects/ Quizzes/ Assignments and Essays/ Presentations/ Participation/ Case Studies/ Reflective Journals (minimum of five components to be evaluated)	30 Marks
II) Internal Marks (Theory)-Mid-Term Exam	20 Marks
External Marks (Theory): - End Term Examination	50 Marks

ADUX104	BASICS OF UI DEVELOPMENT	L	T	S	P	C
Version 1.0		**0**	**0**	**4**	**0**	**4**
Category of Course	Major					
Total Contact Hours	60					
Pre-Requisites/ Co-Requisites						

Course Perspective

Basics of UI Development introduces fundamental concepts and techniques for designing and building user interfaces. Students will learn about key principles such as usability, accessibility, and visual hierarchy. The course covers the basics of UI design tools and technologies, including layout design, interactive elements, and responsive design. Through hands-on projects and practical exercises, students will gain experience creating intuitive and visually appealing interfaces for web and mobile applications.

Course Outcomes

Upon completion of the course the learner will be:

CO1 : Understanding the basic structure of the web page.
CO2 : Applying the basic concepts of HTML and CSS.
CO3 : Analyzing CSS' role in creating user interfaces for mobiles and websites.
CO4 : Creating DOM (document object model) and how CSS interacts with it.

Course Content

Unit 1: Basic Development **12 hours**

Learning front-end development technologies – HTML, Css, JavaScript, JQuery.

Unit 2: HTML Pages **12 hours**

Structure of HTML Page, Mandatory tags in html page (html, head, body).

Unit 3: CSS **12 hours**

What is CSS, Different ways of applying CSS for elements, and priority chain of CSS.

Unit 4: Attributes **12 hours**

Heading tags (H1…H6), Tags and attributes (Class, Id, style etc.). Inline and block levelelements

Unit 5: Project work **12 hours**

Project and lab in front-end-development

Learning Experience

The Learning Experience for Basics of UI Development includes interactive lectures, hands-on exercises, and project-based learning. Students will practice using design tools and technologies to create user interfaces, focusing on principles like usability and visual hierarchy. Practical projects and feedback sessions will help students develop intuitive and visually appealing UIs for web and mobile applications.

Text Books:

- Responsive web design with HTML 5 and CSS 3 - Ben Frain

References:

- CSS mastery: Advance web standards Solutions - Andy Budd

- HTML and CSS: Design and Build Websites - Jon Duckett

Open Educational Resources
(OER)Evaluation Scheme
https://unity.com/resources/user-interface-design-and-implementation-in-unity

Evaluation Components	**Weightage**
Internal Marks (Theory): - **I)Continuous Assessment (30 Marks)** **(All the components to be evenly spaced)** Projects/ Quizzes/ Assignments and Essays/ Presentations/ Participation/ Case Studies/ Reflective Journals (minimum of five components to be evaluated)	30 Marks
II) Internal Marks (Theory)-Mid-Term Exam	20 Marks
External Marks (Theory): - End Term Examination	50 Marks

ADUX106	MATERIAL EXPLORATION	L	T	S	P	C
Version 1.0		**0**	**0**	**3**	**0**	**3**
Category of Course	Major					
Total Contact Hours	45					
Pre-Requisites/ Co-Requisites						

Course Perspective

The Course Perspective for Material Exploration emphasizes the importance of understanding and experimenting with various materials in design and construction. Students will explore the properties and applications of both traditional and modern materials, learning how material choices affect design aesthetics, functionality, and durability. The course integrates theoretical knowledge with practical experimentation, preparing students to make informedmaterial decisions in their design projects.

Course Outcomes

Upon completion of the course the learner will be:

CO1. Observing and experiencing the properties of different materials and their textures through practical exploration.

CO2. Imitating and examining various materials, acquiring the ability to conceptualize and transform them into 3-dimensional forms.

CO3. Practicing using a full range of materials to create animation videos, refining the skills needed for material selection and usage.

CO4. Adapting various tools and techniques to effectively change the state or form of materials during the animation process.

Course Content

Unit 1: Understanding materials and their properties **09 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 in3D printers and resins of various types.

Unit 2: Carving of the material **09 hours**

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

Unit 3: Joineries and Structure Building **09 hours**

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

Unit 4: Texturing materials **09 hours**

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

Unit 5: Coloring Materials **09 hours**

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

Learning Experience

The Learning Experience for Material Exploration includes hands-on activities, experiments, and project-based learning. Students will work with various materials to understand their properties and applications, testing and manipulating them to see their effects. The course features interactive sessions and practical exercises, allowing students to explore how material choices influence design aesthetics and functionality.

Text Books:

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

Open Educational Resources (OER)

https://www.designsociety.org/download-publication/33259/Using+Material+Exploration+and+Model-Making+as+an+Approach+for+the+Development+of+Concepts+in+Design+Project+Courses

Evaluation Scheme

	Evaluation Components	Weightage
INTERNAL (50 Marks)	**Continuous Assessment** (Projects, Assignments, Presentation, Case Studies, etc.)	20 Marks
	Internal Jury	30 Marks
EXTERNAL (50 Marks)	**End-Term Studio Exam**	20 Marks
	External Jury	30 Marks

ADUX108	COLORS AND EMOTIONS	L	T	S	P	C
Version 1.0		**0**	**0**	**3**	**0**	**3**
Category of Course	Major					
Total Contact Hours	45					
Pre-Requisites/ Co-Requisites						

Course Perspective

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

Course Outcomes

Upon completion of the course the learner will be able to:

CO1. Understanding colour theory and how it is used in game design

CO2. Understanding how to select color palette for game design

CO3. Applying articulate how emotion plays an important role in game design

CO4. Creating acquainted with emotion detection and modelling..

CO5. Implementing emotional adaptation and expression in game

Course Content

Unit 1: Colour Theory for Game Design **09 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 Colour for Game Development **09 hours**

Introduction, Chromathearpy, How Culture Responses to color Psychology Impacts GameDevelopment, Personal Experiences, Fit, Adobe Color

Unit 3: Picking Color Palette **09 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, CreatingPerfect Color Palettes

Unit 4: Emotions in Game **09 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 09 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

Learning Experience

The Learning Experience for Colours and Emotions includes interactive lectures, hands-on colorexperiments, and practical design projects. Students will engage in activities to test an observe the emotional effects of various color palettes. They will analyze case studies and receive feedback to refine their use of color in design, enhancing their ability to evoke specificemotions and effectively communicate through visual elements.

Text Books:

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

Reference Books/Materials

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

Open Educational Resources (OER)

https://www.verywellmind.com/color-psychology-2795824

Evaluation Scheme

Evaluation Components	Weightage
Internal Marks (Theory): - **I)Continuous Assessment (30 Marks)** **(All the components to be evenly spaced)** Projects/ Quizzes/ Assignments and Essays/ Presentations/ Participation/ Case Studies/ Reflective Journals (minimum of five components to be evaluated)	30 Marks
II) Internal Marks (Theory)-Mid-Term Exam	20 Marks
External Marks (Theory): - End Term Examination	50 Marks

SEC085	DESIGN TOOLS	L	T	S	P	C
Version 1.0		**0**	**0**	**3**	**0**	**3**
Category of Course	SEC085					
Total Contact Hours	45					
Pre-Requisites/ Co-Requisites	NA					

Course Perspective

Design tools are essential software for creating, editing, and optimizing visual content acrossvarious mediums, such as graphics, web, and product design. These tools range from vector and raster editors to layout and prototyping platforms, facilitating efficient and creative workflows. Students will learn how to design digitally through Photoshop and Illustrator.

COURSE OUTCOMES

Upon successful completion of the course, the student will be:

CO1. Observing and gaining proficiency in using Adobe Photoshop and Illustrator, focusing on understanding the core functionalities of the software.

CO2. Imitating and applying both basic and advanced tools, utilizing keyboard shortcuts to enhance workflow efficiency through repeated practice.

CO3. Practicing, creating and manipulating digital drawings and paintings, honing their skills through hands-on digital art creation.

CO4. Adapting texture creation methods to produce high-quality digital artwork, refining techniques as per project requirements.

CO5. Practicing photo manipulation and compositing techniques, continuously improving their ability to create visually cohesive images.

CO6. Originating scalable graphic designs, icons, and professional-grade vector illustrations, showcasing their ability to innovate and create original digital artwork.

COURSE CONTENT

UNIT- I: Introduction to 2D Design Tools **09 hours**

Overview of Adobe Photoshop and IllustratorInterface and Workspace Customization Basic Tools and Functions
Understanding File Formats and Resolutions
Keyboard Shortcuts and Efficiency Tips

UNIT- II: Digital Drawing and Painting **09 hours**

Basics of Digital Drawing Techniques
Brush Settings and Custom Brushes
Layers and Masking Techniques
Colour Theory and Application
Creating and Manipulating Textures

UNIT- III: Vector Graphics and Illustration **09 hours**

Introduction to Vector Graphics
Creating and Editing Vector Shapes
Pen Tool Mastery
Working with Paths and Anchor PointsDesigning
Scalable Graphics and Icons Fundamentals of Typography
Creating and Manipulating Text

UNIT- IV: Photo Manipulation and Compositing **09 hours**

Photo Editing Basics
Techniques for Retouching and Enhancing Photos
Compositing Multiple Images
Using Adjustment Layers and Filters
Blending Modes and Layer Effects

UNIT- V: Graphic Design Project - 15 hours **09 hours**

Designing Logos and Brand Elements
Layout Design for Print and Web
Exporting and Preparing Files for Different Media

Learning Experience

A learning experience in design tools emphasizes both foundational design concepts and hands-on practice. Students begin by understanding key principles like color theory, typography, and composition, then apply these through real-world projects using tools such as Adobe Illustrator, Photoshop, or Figma. Workshops and tutorials guide them through specific functions, while peer feedback fosters collaborative growth. The iterative process ofexperimentation and revision helps learners refine their designs, building both technical proficiency and creative problem-solving skills. This balanced approach ensures students develop both theory and practical expertise in design tools.

Text Book

- Adobe Photoshop Classroom in a Book" by Andrew Faulkner and Conrad Chavez

Reference Book

- Adobe Illustrator Classroom in a Book" by Brian Wood

Open Educational Resources (OER)

- https://www.adobe.com/africa/learn/photoshop?locale=en-x-AFRICA&learnIn=1
- https://www.adobe.com/africa/learn/illustrator?learnIn=1

	Evaluation Components	Weightage
INTERNAL (50 Marks)	**Continuous Assessment** (Projects, Assignments, Presentation, Case Studies, etc.)	20 Marks
	Internal Jury	30 Marks
EXTERNAL (50 Marks)	**End-Term Studio Exam**	20 Marks
	External Jury	30 Marks

SEMESTER III

ADGA253	GAME LEVEL DESIGN- I	L	T	S	P	C
Version 1.0		**0**	**0**	**4**	**0**	**4**
Category of Course	Major					
Total Contact Hours	60					
Pre-Requisites/ Co-Requisites						

Course Perspective

The Course Perspective for Game Level Design emphasizes the blend of creativity and technical skills required to create engaging game environments. Students will explore key principles such as layout, pacing, and player flow, learning how to design levels that enhancegameplay and storytelling. The course combines theoretical insights with practical application, guiding students through the process of concept development, prototyping, and iteration. By the end of the course, students will have a solid understanding of how to craft immersive levels that contribute to an overall compelling player experience.

Course Outcomes

Upon completion of the course the learner will be:

CO1 : Observing and analyzing the processes involved in game level design, identifying key steps and industry practices.

CO2 : Imitating the use of industry-standard level design tools, analysing their application in professional game development.

CO3 : Practicing and developing a game-ready level, applying learned skills to produce a functional and polished design.

CO4 : Originating and creating comprehensive game design documentation, outlining the key features, mechanics, and structure of the game.

Course Content

Unit 1: Introduction to Game Level Design **12 hours**

Game development overview
Role of level designer
Element of level design
Case study of successful game levels

Unit 2: Game level design tools **12 hours**

3D applications
Game engines
AI and plugins

Unit 3: Level design process **12 hours**

Preproduction and combat
Layout & Block out
Scripting
Lighting and Environment art Release

Unit 4: Game level design **12 hours**

References for modelling techniques

UV's and texture

Unit 5: Game level composition **12 hours**

Composition inside game Engine
Material creation
Lighting
Post processing

Learning Experience

The Learning Experience for Game Level Design includes interactive lectures, hands-on projects, and iterative design exercises. Students will use industry-standard tools to create and refine game levels, focusing on layout, pacing, and player flow. Through peer feedback and critiques, they will enhance their designs, ensuring levels are both engaging and functional. Practical assignments will allow students to apply concepts in real-world scenarios,preparing them to create immersive and well-balanced game environments.

Text Books: 1. UNREAL ENGINE 4 GAME DEVELOPMENT QUICK START GUIDE: PROGRAMMING PROFESSIONAL 3D GAMES WITH UNREAL ENGINE 4 by RACHEL CORDONE,PACKT PUBLISHING

References: 1. HANDS-ON UNITY 2022 GAME DEVELOPMENT: LEARN TO USE THE LATESTUNITY 2022 FEATURES TO CREATE YOUR FIRST VIDEO GAME IN THE SIMPLEST WAY POSSIBLE by NICOLAS ALEJANDRO BORROMEO, PACKT PUBLISHING

Open Educational Resources (OER)
https://book.leveldesignbook.com/introduction
Evaluation Scheme

	Evaluation Components	Weightage
INTERNAL (50 Marks)	**Continuous Assessment** (Projects, Assignments, Presentation, Case Studies, etc.)	20 Marks
	Internal Jury	30 Marks
EXTERNAL (50 Marks)	**End-Term Studio Exam**	20 Marks
	External Jury	30 Marks

ADGA255	CHARACTER DESIGN	L	T	S	P	C
Version 1.0		0	0	3	0	3
Category of Course	Major					
Total Contact Hours	45					
Pre-Requisites/Co-Requisites						

Course Perspective

A course on character design provides a structured exploration of creating compelling and visually distinct characters. Over its duration, the course guides students through essential concepts such as character anatomy, personality traits, and visual storytelling techniques. Lessons blend theory with practical exercises, including sketching, digital rendering, and iterative design processes. Students engage in workshops, collaborate on projects, and receive feedback to refine their skills. The course also covers industry-standard tools and practices, ensuring learners are equipped with both creative and technical expertise to design characters that resonate with audiences and fit seamlessly into various game or animation projects.

Course Outcomes

Upon successful completion of the course, the student will be:

CO1. Observing the anatomy of human figure

CO2. Imitating workflow for game design

CO3. Originating 3D Models for character

Course Content

UNIT- 1 : Fundamentals of character design **12 hours**

Introduction to Anatomy and Proportions Conceptualizing CharactersTools used in process

UNIT- 2: Drawing and Illustrating Characters **12 hours**

Drawing Techniques for Characters
Digital Illustration
Advanced Character IllustrationsPoses for character

UNIT- 3 :3D modelling **12 hours**

Start with zBrush
zBrush interface uses
Adding details to object
Decimate master
Export to painting tool

UNIT- 4 :Modelling with reference **12 hours**

Import images
T-pose importance
Topology for character model
Eye modelling
Nose modelling
Hands and legs topology

UNIT- 5 : Clothes and detailing for character **12 hours**

Polygon geometry
Cloth system
Sculpting tools
Uses of brushes
Fine details Optimization

Learning Experience

The learning experience in a character design course is dynamic and interactive, combiningfoundational theory with hands-on practice. Students delve into character creation by exploring anatomy, personality development, and visual storytelling. Through workshops, they design and refine their own characters, receive constructive feedback, and analyze existing designs to understand successful techniques. By using industry-standard tools andparticipating in collaborative projects, learners develop both the artistic and conceptual skills needed to create memorable and effective characters.
Final Exam: A comprehensive assessment covering both theory and practical skills

Text Books:

1. Anatomy for the Artist - Zbrush Character Design by Michele Petrelli

References:

1. Character Modeling with Maya and
2. ZBrush: Professional polygonal modelling techniques by jason Patnode

Open Educational Resources:

https://pixologic.com/zclassroom/

Evaluation Scheme

	Evaluation Components	Weightage
INTERNAL (50 Marks)	**Continuous Assessment** (Projects, Assignments, Presentation, Case Studies, etc.)	20 Marks
	Internal Jury	30 Marks
EXTERNAL (50 Marks)	**End-Term Studio Exam**	20 Marks
	External Jury	30 Marks

ADGA257	2D GAME DEVELOPMENT	L	T	S	P	C
Version 1.0		0	0	4	0	4
Category of Course	Major					
Total Contact Hours	60					
Pre-Requisites/ Co-Requisites	NA					

Course Perspective

The 2D game development course offers a comprehensive framework for mastering the creation of 2D games, focusing on both artistic and technical elements. Over the course's duration, students explore key topics such as game mechanics, sprite creation, animation, and game logic. They gain proficiency in using relevant tools and software while engaging in practical assignmentsand projects that simulate real-world development environments. The course emphasizes iterative design, allowing students to test and refine their games, and includes collaborative workto enhance their ability to work as part of a development team. This approach ensures that students are well-prepared to create polished, engaging 2D games.

Course Outcomes

Upon successful completion of the course, the student will be:

CO1. Observing and analyse the 2D game development process, identifying the steps involved in creating a functional game.

CO2. Imitating the implementation of game mechanics for 2D games, analyzing how these mechanics influence gameplay and player interaction.

CO3. Practicing developing 2D games for players, apply learned concepts to design engaging and functional gameplay experiences.

CO4. Adapting the components of a 2D game and assemble it for publication on the internet, modify it to meet platform requirements and standards.

Course Content

UNIT- 1 : Fundamental of Programming **12 hours**

Overview of game development process
Game architecture
Computer programming language
Object oriented concept

UNIT- 2: **Algorithm and Data Structure** **12 hours**

Computer algorithms
Basic of data structure
Execution flow and diagrams
Printing on screen

UNIT- 3 : Game Mechanics and Control System **12 hours**

Working with sprite sheets
Animation and transitions
Input system
Collision detection

UNIT- 4 :**User Interface** **12 hours**

UI elements
Main menu

Game balancing
Screen Size and UX

UNIT- 5 : **Publication** **12 hours**
Exe file creation
Adds implementationGoogle Play
Revenue generation model

Learning Experience

The learning experience in a 2D game development course is hands-on and project-driven, immersing students in both the creative and technical aspects of game design. Students start by learning the fundamentals of 2D game mechanics, art, and programming. They progress through practical exercises to create their own games, utilizing industry-standard tools for graphics, animation, and scripting. Interactive workshops and feedback sessions help refine their skills, while collaborative projects foster teamwork and problem-solving. Byworking on real-world scenarios and receiving continuous feedback, learners develop a comprehensive understanding of how to design, develop, and polish 2D games.
Final Exam: A comprehensive assessment covering both theory and practical skills

Text Books:
1. DEVELOPING 2D GAMES WITH UNITY: INDEPENDENT GAME PROGRAMMING WITH C#by JARED HALPERN, APRESS
References:
1.LEARN UNITY FOR 2D GAME DEVELOPMENT by ALAN THORN, APRESS
Open Educational Resources:
https://learn.unity.com/
Evaluation Scheme

	Evaluation Components	Weightage
INTERNAL (50 Marks)	**Continuous Assessment** (Projects, Assignments, Presentation, Case Studies, etc.)	20 Marks
	Internal Jury	30 Marks
EXTERNAL (50 Marks)	**End-Term Studio Exam**	20 Marks
	External Jury	30 Marks

SEC086	COMICS AND STORYBOARDING	L	T	S	P	C
Version 1.0		0	0	3	0	3
Category of Course	SEC086					
Total Contact Hours	45					
Pre-Requisites/ Co-Requisites	NA					

Course Perspective

The course "Comics and Storyboarding" aims to equip students with the skills to tell visual stories through the creation of comics and storyboards. It focuses on the historical significance, techniques, and tools used in the industry, blending theory with practical applications. Students will explore the fundamental principles of visual storytelling, character design, narrative structure, and dynamic compositions. They will also learn how to use professional tools to create polished, industry- standard work. The course is designed to foster creativity while developing technical proficiency, making it ideal for those pursuing careers in comics, animation, game design or film.

Course Outcomes

Upon successful completion of the course, the student will be:

CO1. Observing and understanding the historical context and meaning of cartoons and storyboards, analysing their evolution and cultural significance.

CO2. Imitating and applying visual storytelling principles to create compelling stories, drawing from established techniques to enhance narrative structure.

CO3. Originating, developing, and producing original comics and storyboards, showcasing creativity and originality in their storytelling.

CO4. Adapting and using professional tools and software to create comics and storyboards that meet industry standards, optimizing their workflow for professional settings.

Course Content

UNIT- 1 : Introduction **9 hours**

Major Genres and Styles of Storyboarding
Introduction to StoryboardingPurpose and Use of Storyboards in Different Media
Basic Elements of Comics and Storyboards Panels Balloons
Captions and Pacing

UNIT- 2: **Character design and development** **9 hours**

Basics of visual storytelling
Understanding Layout and SettingCharacter Design and Development
Creating Dynamic Poses and Expressions Using Perspective and Camera Angles in Storytelling

UNIT- 3 : Narrative Structure **9 hours**

Comic and storyboard script writingPlot Development and storyboards
Dialogue and storytelling techniques Thumbnail sketches and rough layouts Scene and sequence design

UNIT-4 :**Creating Comics** **9 hours**

Tools and materials needed to create a comicTraditional vs digital methods
The whole step by step process of creating a comic page, Ink and color techniques
Developing the perfect storyboard: from concept to final product

UNIT-5 : **Presenting Work** **9 hours**

Understanding the business side of comics and storyboardsPresentation skills to present ideas

Learning Experience

In this course, students will engage in a mix of theoretical study and hands-on projects. They will explore the history and context of comics and storyboarding, followed by practical sessions on character development, scene composition, and camera angles. Through guided projects, learners will script and design their own comics and storyboards, using both traditional and digital tools. Regular critiques and group discussions will help students refine their storytelling techniques and visual style. By the end of the course, students will not only understand the creative and technical aspects of comics and storyboarding but also have the confidence to present their ideas professionally, preparing them for industry opportunities.

Text Books:

- Scott McCloud, Understanding Comics: The Invisible Art (New York: Harper, 1990, 224 pp.)
- Craig Thompson, Blankets (Marietta, GA: Top Shelf, 2011, 592 pp.)

References:

- "Making Comics: Storytelling Secrets of Comics, Manga and Graphic Novels" by ScottMcCloud

Open Educational Resources:

https://boords.com/how-to-storyboard/comic

Evaluation Scheme

	Evaluation Components	Weightage
INTERNAL (50 Marks)	**Continuous Assessment** (Projects, Assignments, Presentation, Case Studies, etc.)	20 Marks
	Internal Jury	30 Marks
EXTERNAL (50 Marks)	**End-Term Studio Exam**	20 Marks
	External Jury	30 Marks

SEMESTER IV

ADGA252	DIGITAL CHARACTER RIGGING	L	T	S	P	C
Version 1.0		**0**	**0**	**3**	**0**	**3**
Category of Course	Major					
Total Contact Hours	45					
Pre-Requisites/ Co-Requisites	NA					

Course Perspective

A digital character rigging course offers a unique perspective into the intricate process of preparing characters for animation. It combines technical know-how with artistic intuition, teaching students how to build the skeletal structures that allow characters to move realistically. The course delves into the complexities of joint placement, control systems, and deformation techniques, highlighting the critical role rigging plays in the animation pipeline. By understanding these elements, students gain insight into how rigging bridges the gap between static models and dynamic animations, making it an essential skill for aspiring animators and technical artists.

Course Outcomes

Upon successful completion of the course, the student will be :

CO1. Observing the various tools of rigging to build a human skeleton.

CO2. Analysing the various tools of rigging to build inorganic rigs.

CO3. Describing the various tools of rigging to build inorganic rigs.

CO4. Designing the final rig for games and animations.

Course Content

UNIT-1:Gaming character skeleton setup **09 Hours**

Rigging torso
Rigging arms
Rigging legs

UNIT- 2 : Setting up controls **09 Hours**

Foot arm and torso controlsIk/fk switch
Facial blend shapes Facial controls Cleaning up channelsGlobal control

UNIT- 3 : Intro to skin **09 Hours**

Introduction to skinning Skinning the body and armsDistribution of skin weights

UNIT- 4 : Quadruped rigging **09 Hours**

Understanding the skeletal anatomyDrawing and editing skeleton
Creating quadruped rig
Deforming the skin

UNIT- 5 : Finalizing and troubleshooting **09 Hours**

Creating rigging portfolio Troubleshooting method Terminologies

Learning Experience

The learning experience in a digital character rigging course is both challenging and rewarding. Students are immersed in practical, hands-on projects that require them to apply rigging techniques to create fully functional character rigs. These projects often involve problem- solving and iterative testing, helping students to refine their skills and develop a strong attention to detail. The course also fosters creativity, as students learn to design rigs that accommodate a wide range of motions while maintaining the character's artistic integrity. By the end of the course, students emerge with a solid understanding of rigging fundamentals and the confidence to tackle more complex rigging tasks in a professional setting.

Final Exam: A comprehensive assessment covering both theory and practical skills

Textbooks:

- Rig it Right! Maya Animation Rigging Concepts by Tina O'Hailey

References:

- BODY LANGUAGE ADVANCED 3D CHARACTER RIGGING by ERIC ALLEN,JOHN WILEY & SONS

Open Educational Resources:

https://learn.unity.com/

Evaluation Scheme

	Evaluation Components	Weightage
INTERNAL (50 Marks)	**Continuous Assessment** (Projects, Assignments, Presentation, Case Studies, etc.)	20 Marks
	Internal Jury	30 Marks
EXTERNAL (50 Marks)	**End-Term Studio Exam**	20 Marks
	External Jury	30 Marks

ADGA254	PAINT AND TEXTURING	L	T	S	P	C
Version 1.0		0	0	3	0	3
Category of Course	Major					
Total Contact Hours	45					
Pre-Requisites/ Co-Requisites						

Course Perspective

A paint and texturing course offers a deep dive into the art of adding detail, color, and surface qualities to 3D models, transforming them from basic shapes into visually compelling assets. The course emphasizes the importance of texture mapping, UV unwrapping, and material creation, showing how these elements contribute to the overall realism and style of a digital model. Students learn how to use industry-standard software to create textures that enhance the visual appeal and authenticity of characters, environments, and props. This perspective underscores the critical role that painting and texturing play in bringing digital creations to life, making them essential skills for any aspiring 3D artist.

Course Outcomes

Upon successful completion of the course, the student will be:

CO1 . Observing material types and properties

CO2 . Adapting production pipeline for texturing

CO3 . Originating high quality texture for game/ film assets

Course Content

UNIT-1 : Substance painter Introduction **09 Hours**

Create and save project Interface
File types support Resolution and file types
Import and Export settings

UNIT- 2 : **Texture Creation** **09 Hours**

Baking additional mapsSmart material
Brush preset Particle brushes
Fill layer and base material

UNIT- 3 : **Material creation** **09 Hours**

Layers and properties
Blending properties
Masking tools
Color and transparency

UNIT- 4 : **Hand Painted Texture** **09 Hours**

Flat base color
Warm metal creationPainting highlight
Painting wood and organic

UNIT- 5 :**Using Mask and Painting** **09 Hours**

Mask by polygon/ bitmap Smart mask/ smart materialAdding details
Painting height Stamping normal maps
Using stencils/ emissive/ wear

Learning Experience

The learning experience in a paint and texturing course is highly creative and technically demanding. Students engage in projects that require them to develop and apply textures to 3D models, using tools and techniques to achieve the desired look and feel. This hands-on approach helps students to understand the relationship between textures, lighting, and rendering, as they experiment with different materialsand surface details. The course also encourages experimentation, allowing students toexplore various styles and methods to achieve unique visual results. By the end of the course, students gain a robust skill set in painting and texturing, equipping them to contribute to the visual richness of digital media projects.
Final Exam: A comprehensive assessment covering both theory and practical skills

Text Books:

- Creating Games with Unreal Engine, Substance Painter, & Maya by Kassandra Arevalo,Matthew Tovar, Jingtian Li

References:

- Realistic Assets Creation with Adobe
- Substance 3D by Zeeshan Jawed Shah

Open Educational Resources(OER)

https://www.adobe.com/learn/substance-3d-painter?learnIn=1

Evaluation Scheme

	Evaluation Components	Weightage
INTERNAL (50 Marks)	**Continuous Assessment** (Projects, Assignments, Presentation, Case Studies, etc.)	20 Marks
	Internal Jury	30 Marks
EXTERNAL (50 Marks)	**End-Term Studio Exam**	20 Marks
	External Jury	30 Marks

ADGA256	AUGMENTED AND VIRTUAL REALITY	L	T	S	P	C
Version 1.0		**0**	**0**	**3**	**0**	**3**
Category of Course	Major					
Total Contact Hours	45					
Pre-Requisites/ Co-Requisites	NA					

Course Perspective

An augmented and virtual reality (AR/VR) course offers an in-depth exploration of immersive technologies that are reshaping the way we interact with digital content. The course covers the fundamentals of creating and integrating virtual elements into real-world environments (AR) or crafting entirely immersive virtual experiences (VR). Students gain insight into the design and development processes behind AR/VR applications, including spatial computing, user interface design, and 3D modelling. This perspective highlights how AR/VR is not just about technology, but also about creating engaging, interactive experiences that can transform industries such as gaming, education, and healthcare.

Course Outcomes

Upon successful completion of the course, the student will be:

CO1 . Analysing virtual world implementation process

CO2 . Analysing feasibility of things we can do in game engines

CO3 . Develop application for real world to have impact on society

CO4 . Develop UI for AR/VR devices

Course Content

UNIT- 1 : Introduction to Virtual Development **09 Hours**

Definition and history
Virtual production techniques
Role of game engines

UNIT- 2 : **AR/VR/MR/XR** **09 Hours**

AR/VR and its application
Computer programming languages
Software and hardware
Future of digital reality

UNIT- 3 : **Metaverse** **09 Hours**

Digital human creationWorld building Study of natural languageAI in metaverse

UNIT- 4 : **Application of virtual production** **09 Hours**

Psychological experiments as a discipline Medical science and use in the clinical field
Tourism and its importance in infrastructure understanding
Entertainment and gaming
Agriculture and its application in the root level

UNIT- 5 :UI/UX for Virtual Devices **09 Hours**
Interface properties Floating buttons
Depth of field Animation with design

Learning Experience

Teaching Methods:-

The learning experience in an augmented and virtual reality course is dynamic and immersive. Students engage in projects that require them to design and build interactive AR/VR environments, often working with cutting-edge software and hardware. This hands-on approach allows them to experiment with different aspects of AR/VR, such as tracking, gesture recognition, and 3D interaction. The course fosters a blend of creativity and technical skill, as students learn to create experiences that are not only visually compellingbut also intuitive and user-friendly. By the end of the course, students are well-equipped with the knowledge and practical skills needed to develop innovative AR/VR applications that push the boundaries of digital interaction.
Final Exam: A comprehensive assessment covering both theory and practical skills

Textbooks:

- UNREAL ENGINE VR COOKBOOK: DEVELOPING VIRTUAL REALITY WITH UE4 (GAME DESIGN) byMITCH MCCAFFREY, ADDISON-WESLEY

References:

- REAL-TIME VIDEO CONTENT FOR VIRTUAL PRODUCTION & LIVE ENTERTAINMENT: A LEARNINGROADMAP FOR AN EVOLVING PRACTICE by LAURA FRANK, TAYLOR & FRANCIS

Open Educational Resources:

https://learn.unity.com/

Evaluation Scheme

	Evaluation Components	Weightage
INTERNAL (50 Marks)	**Continuous Assessment** (Projects, Assignments, Presentation, Case Studies, etc.)	20 Marks
	Internal Jury	30 Marks
EXTERNAL (50 Marks)	**End-Term Studio Exam**	20 Marks
	External Jury	30 Marks

ADGA258	ANIMATE WITH ADOBE TOOLS	L	T	S	P	C
Version 1.0		**0**	**0**	**4**	**0**	**4**
Category of Course	Major					
Total Contact Hours	60					
Pre-Requisites/Co-Requisites						

Course Perspective

An animation with Adobe tools course provides a comprehensive look into the powerful capabilities of Adobe's suite, particularly software like Adobe Animate, After Effects, and Photoshop. The course focuses on how these tools can be used to create dynamic 2D animations, motion graphics, and visual effects. Students gain an understanding of the principles of animation, such as timing, easing, and storytelling, all within the context of Adobe's user-friendly yet highly versatile environment. This perspective emphasizes the importance of mastering these industry-standard tools to produce professional-quality animations for various media, including web, television, and film.

Course Outcomes

Upon successful completion of the course, the student will be:

CO1. Observing and Analysing the properties and manipulation of vector graphics and symbols within Adobe Animate, gaining foundational insights into vector-based design.

CO2. Practicing creating animations using key frames, tweens, and frame-by-frame techniques, developing animation skills through continuous hands-on application.

CO3. Adapting their animations by integrating audio and video elements, modifying their projects to create a cohesive multimedia experience.

CO4. Adapting and optimizing animations for export across different media and platforms, ensuring compatibility and quality across varied outputs.

Course Content

UNIT- 1 : **Introduction** **12 Hours**

Defining user interface, tools and
workspaceBasic illustration techniques
and drawing Understanding bitmap
images and graphics
Creating and editing symbols using timeline and layers

UNIT- 2 : **Keyframe Animation** **12 Hours**

Creating and Manipulating Keyframes
Motion and Portraits
Frame-by-Frame Animation Techniques
Using Easing and Motion Paths
Using Masks and Guides in Animation

UNIT- 3 : **Character animation** **12 Hours**

Rigging and animating characters
Syncing lips and facial expressions
Creating interactive animations with Action Script
Audio integration: synchronizing sound effects and music with animationUsing nested animations and Movie clips

UNIT- 4 :Tools used for Animation **12 Hours**

Importing and integrating assets from other Adobe tools (Photoshop, Illustrator)Adding and editing video in Adobe Animate
Using filters and blending modes for special effects
Creating responsive and adaptive animations for different screen sizesOptimizing animations for performance and file size

UNIT- 5 :Finalizing **12 Hours**

Design and execution of animation projects from concept to completionAnimation storyboards
Reviewing and improving animations based on feedbackExporting animations to web
Mobile and multimedia platforms
Best practices for publishing and sharing animations online

Learning Experience

Teaching Methods:-

The learning experience in an animation with Adobe tools course is both creative and technically enriching. Students engage in hands-on projects that challenge them to bring characters and scenes to life using Adobe's animation and design software. Throughout the course, they explore a range of techniques, from frame-by-frame animation in Adobe Animate to complex compositing in After Effects. The process of learning involves experimenting with different styles, mastering keyframe animations, and understanding the nuances of visual storytelling. By the end of the course, students develop a solid command ofAdobe tools, empowering them to create polished, professional animations that meet the demands of the digital media industry.

Final Exam: A comprehensive assessment covering both theory and practical skills

Text Book:

- Adobe Animate Classroom in a Book by Russell Chun.

Reference Book:

- Adobe Animate 2021 for Creative Professionals by Joseph Labrecque.

Open Educational Resources(OER)

https://www.adobe.com/africa/learn/animate?locale=en-x-AFRICA&learnIn=1

Evaluation Scheme

	Evaluation Components	Weightage
INTERNAL (50 Marks)	**Continuous Assessment** (Projects, Assignments, Presentation, Case Studies, etc.)	20 Marks

	Internal Jury	30 Marks
EXTERNAL (50 Marks)	**End-Term Studio Exam**	20 Marks
	External Jury	30 Marks

SEMESTER V

ADGA351	CHARACTER ANIMATION	L	T	S	P	C
Version 1.0		0	0	3	2	4
Category of Course	Major					
Total Contact Hours	60					
Pre-Requisites/Co-Requisites	NA					

Course Perspective

This course introduces students to the essential techniques of character animation, focusing on developing the skills necessary to create lifelike and expressive animations. Students will learn to understand and implement detailed walk and run cycles, master the fundamentals of acting for character blocking, and refine their abilities in lip sync and facial expression techniques. Additionally, they will enhance the believability of their animations through the use of eye darting, eye contact, and secondary animations.

By taking this course, students will gain crucial knowledge and skills that are directly applicable to real-world animation projects, making them well-prepared for advanced study and professional opportunities in the animation industry. The ability to animate realistic andexpressive characters is a highly sought-after skill, and this course will provide students with the foundation they need to succeed in various media, including games, films, and digital content creation.

Course Outcomes

Upon completion of the course the learner will be:

CO1 : Practicing and applying various techniques of animation production and related technologies to create basic 3D animations, building foundational skills through hands-on exercises.

CO2 : Observing and Analysing different animation principles involved in the animation production process, understanding how these principles impact overall quality.

CO3 : Adapting and Evaluating animation outcomes using self-acting references, modifying their work to refine the quality and accuracy of animations.

CO4 : Originating and planning various animation exercises using 3D animation tools, creating a structured approach to skill development.

CO5 : Preparing and curating a professional animation portfolio, selecting their best works to showcase their abilities to potential employers or clients.

Course Content

Unit 1: Walk Cycle **12 Hours**

Understanding the characteristics of the character

Video referencing Key poses
Adding secondary animationFine tuning the animation

Unit 2: Run Cycle **12 Hours**
Blocking for run
Primary animation for run
Fine tuning the run

Unit 3: Animation for Games **12 Hours**
Walk and Run baking
Jump over objects
Fighting actions
Idle poses

Unit 4: Lip sync and facial expression **12 Hours**
Importance of dialogue
Lip sync
Facial expression

Unit 5: Believability in Animation **12 Hours**
Eye darting
Eye contact
Adding details in animation

Learning Experience
This **Character Animation in Game Development** course equips students with essential skills to create and integrate animations into video games using engines like Unreal and Unity. Students will learn key animation principles, master rigging and skinning, and develop animations through hands-on projects. The course emphasizes collaboration, using industry- standard tools like Maya and Blender. Regular feedback and a final showcase prepare students for real-world challenges, ensuring they graduate with a strong portfolio andpractical experience in game animation.

Textbooks:-

- THE ANIMATOR'S SURVIVAL KIT: A MANUAL OF METHODS, PRINCIPLES AND FORMULASFOR CLASSICAL, COMPUTER, GAMES, STOP MOTION AND INTERNET ANIMATORS by RICHARD WILLIAMS, FABER & FABER

Suggested Readings:-

- CARTOON ANIMATION (COLLECTOR'S SERIES) by PRESTON BLAIR, WALTER FOSTERPUBLISHING
- AUTODESK MAYA 2014 ESSENTIALS by PAUL NAAS, WILEY

Open Educational Resources (OER)

https://help.autodesk.com/view/MAYAUL/2024/ENU/?guid=GUID-0D0DCBE5-01BA-4AA2-BC4D-85C3285933AD

Evaluation Scheme

	Evaluation Components	Weightage
INTERNAL (50 Marks)	**Continuous Assessment** (Projects, Assignments, Presentation, Case Studies, etc.)	20 Marks
	Internal Jury	30 Marks
EXTERNAL (50 Marks)	**End-Term Studio Exam**	20 Marks
	External Jury	30 Marks

ADGA353	**GAME LEVEL DESIGN- II**	**L**	**T**	**S**	**P**	**C**
Version 1.0		**0**	**0**	**3**	**2**	**4**
Category of Course	Major					
Total Contact Hours	**60**					
Pre-Requisites/Co-Requisites	NA					

Course Perspective

This course provides students with a comprehensive understanding of the foundational concepts and processes involved in game level design. Students will learn to master pre- production elements such as gameplay analysis, pacing, research, and story development.

Additionally, the course will cover the principles of level layout design, including the design of flow, critical and golden paths for character movement, and layout typology, ensuring students can create well-structured and engaging game environments.

By completing this course, students will acquire essential skills in creating block-outs, massing, and metrics, as well as implementing effective wayfinding strategies within game levels. These skills are crucial for success in the game design industry, as they directly contribute to the creation of immersive and navigable game worlds. The knowledge gained from this course will prepare students for advanced study and professional roles in game design, equipping them to develop levels that enhance player experience and engagement.

Course Outcomes

Upon completion of the course the learner will be:

CO1 : Analysing importance of game level
CO2 : Analysing level design techniques
CO3 : Developing a game ready level

CO4 : Creating and releasing a game level

Course Content

Unit 1: Pre-production **12 Hours**

Gameplay analysis Pacing and research
Story for game play

Unit2:Layout **12 Hours**

Flow for level
Critical path for characterGolden path for character Part
Typology for layout design

Unit 3: Block-out **12 Hours**

Massing and Metrics Way finding in the level
Playtest with dummy character

Unit4:Environment art **12 Hours**

Shape and color theme
Texturing and lighting
Level of details
Assets optimization

Unit 5: Final Composition **12 Hours**

Design documentation
Package and publish
Online stores for publicationRelease the level

Learning Experience

The **Game Level Design** course offers a hands-on learning experience, combining creativity with technical skills. Students work on projects that evolve from simple layouts to complex environments, using tools like Unreal Engine and Unity. Collaboration is emphasized, simulating a real game studio environment. The iterative design process includes regular feedback and refinement. Industry insights from guest lectures enrich the learning experience. The course concludes with a final project where students present a polished, playable level. By the end, students will have a strong portfolio and practical skills for a career in game level design.

Textbooks:-

1. Game Level Design (Game Development Series) by Ed Byrne

Suggested Readings:-

1. Level Design for Games: Creating Compelling Game by Phil Co

Open Educational Resources
(OER)

https://gamedesignskills.com/game-design/level-design/

Evaluation Scheme

	Evaluation Components	Weightage
INTERNAL (50 Marks)	**Continuous Assessment** (Projects, Assignments, Presentation, Case Studies, etc.)	20 Marks
	Internal Jury	30 Marks
EXTERNAL (50 Marks)	**End-Term Studio Exam**	20 Marks
	External Jury	30 Marks

ADGA355	BACKGROUND AND LAYOUT DESIGN	L	T	S	P	C
Version 1.0		**0**	**0**	**3**	**0**	**3**
Category of Course	Major					
Total Contact Hours	**45**					
Pre-Requisites/Co-Requisites	PASS IN ADGA254					

Course Perspective

This course introduces students to the foundational principles of background and layout design, providing them with a solid understanding of the concepts and techniques essential to creating visually effective environments. Students will learn key composition techniques, enabling them to apply design principles to craft compelling backgrounds and layouts. Through hands-on practice, they will develop skills in research, sketching, and digital painting,refining their ability to produce detailed and dynamic background designs.
By mastering these skills, students will be well-prepared to design and implement layouts for various visual storytelling formats, including animation, games, and comics. The course equips students with the practical knowledge necessary to create immersive environments that enhance the narrative and visual impact of their projects, making it a critical component of their academic and professional development in the fields of design and digital media.

Course Outcomes

Upon completion of the course the learner will be:

CO1: Identifying and explain the fundamental principles of background and layout design

CO2: Creating detailed and high-quality backgrounds and layouts for various media

CO3: Effectively use industry-standard software tools for designing backgrounds and layouts

CO4: Developing and implementing aesthetic principles in their designs

CO5: Critically analysing and providing constructive feedback on background and layout design

Course Content

Unit 1: History and Evolution **09 Hours**

Historical context and evolution of background and layout design
Fundamental Principles: Key principles such as perspective, composition, and color theoryRole and Importance: The significance of backgrounds and layouts in visual storytelling

Unit 2: Traditional Techniques **09 Hours**

Drawing, painting, and other traditional methods for creating backgroundsDigital Tools: Introduction to digital software such as Adobe Photoshop Illustrator, and other relevant tools, Techniques Layering, texturing, and other techniques for creating realistic and stylized backgrounds

Unit 3: Composition Rules **09 Hours**

Rule of thirds, leading lines, framing, and other compositional techniquesPerspective: One-point, two-point, and three-point perspective drawing
Depth and Space: Techniques for creating depth and the illusion of space in backgrounds

Unit 4: Background and layout design **09 Hours**

Famous Case studies on people centric, Psychological Principles in Design, Human Factors in Design, User Feedback and Iterative Design

Unit 5: Project Planning **09 Hours**

Steps to plan and execute a background and layout design project Storyboarding: Creating storyboards to visualize scenes and layouts

Learning Experience

The **Background and Layout Design** course offers a hands-on learning experience, blending artistic creativity with technical skills. Students work on projects ranging from basic conceptsto complex environments, using tools like Photoshop, Illustrator, and Unreal Engine or Unity.Collaborative work mirrors industry practices, and regular feedback helps refine designs. Thecourse culminates in a final project, showcasing students' ability to create polished, functional backgrounds and layouts. By the end, students will have a strong portfolio and practical experience with industry-standard tools.

Textbooks:-

- Perspective! for Comic Book Artists: How to Achieve a Professional Look inYour Artwork by David Chelsea
- The Art of Background Painting by Mike S. Fowler

Suggested Readings:-

- Layout and Composition for Animation" by Ed Ghertner

Open Educational Resources (OER)

https://www.socialectric.com/insights/layout-design-getting-to-know-its-principles-why-is-it-so-important-to-visual-designs

Evaluation Scheme

	Evaluation Components	Weightage
INTERNAL (50 Marks)	**Continuous Assessment** (Projects, Assignments, Presentation, Case Studies, etc.)	20 Marks
	Internal Jury	30 Marks
EXTERNAL (50 Marks)	**End-Term Studio Exam**	20 Marks
	External Jury	30 Marks

ADGA357	MAYA DYNAMICS AND PARTICLE SYSTEM	L	T	S	P	C
Version 1.0		**0**	**0**	**3**	**0**	**3**
Category of Course	Major					
Total Contact Hours	**45**					
Pre-Requisites/Co-Requisites	NA					

Course Perspective

This course offers students a comprehensive introduction to the dynamics system in Maya, focusing on key concepts essential for creating realistic simulations and effects. Students willlearn to master particle system techniques, gaining the skills needed to create, control, and optimize particle systems for a variety of visual effects. The course covers a range of dynamic simulations, including rigid bodies, soft bodies, nCloth, and fluid systems, providing a solid foundation in the practical application of these tools.

By the end of the course, students will be equipped with advanced techniques in particle systems, including instancing, scripting, and utilizing fields and forces. These skills are crucial for anyone pursuing a career in visual effects or animation, as they enable the creation of highly realistic and dynamic scenes. The course content is directly applicable to real-world projects, preparing students to tackle complex challenges in the industry with confidence andcreativity.

Course Outcomes

Upon completion of the course the learner will be able to:

CO1: Practicing applying particle system techniques in Maya to create and control a variety of particle effects, building foundational skills in visual effects.

CO2: Adapting and developing realistic dynamics, including rigid and soft bodies, nCloth, and fluids, modifying parameters to achieve realistic simulations.

CO3: Originating and Utilizing advanced particle techniques, such as particle instancing, scripting, and optimization, creating customized solutions for complex simulations.

CO4: Adapting and integrating dynamics and particle effects into complex scenes and simulations, ensuring seamless incorporation of effects within broader environments.

Course Content

Unit 1: Introduction to Dynamics in Maya **09 Hours**

Particles and it properties Emitting Particles From Objects
Affecting Particles with Fields Rendering Particles

Unit 2: Particle and Cloth Dynamics **09 Hours**

nParticles ToolCreate Emitter
Particle create optionsCreate nCloth
nCloth Properties

Unit 3: Rigid Body **09 Hours**

Make Collider
Soft Bodies
Motion Field Field / Solver

Unit 4: Fluid Simulation **09 Hours**

3d/2d Container
Add and edit contentsMake Collider
Make Motion Field

Unit 5: Rendering and Export **09 Hours**

Bake SimulationsRender Settings
File Types Export Setting

Learning Experience

The **Learning Experience** in the **Maya Dynamics and Particle Systems** course is immersive and practical, focusing on both creative and technical skills. Students engage in hands-on projects, creating and applying a range of dynamic simulations and particle effects, from simple particles to complex systems. They gain proficiency in using Autodesk Maya's tools, such as nParticles, nCloth, and fluid effects, learning to manipulate these tools to achieve realistic and visually compelling results. Regular feedback from instructors helps students refine their work, ensuring it meets industry standards for realism and impact. The course emphasizes practical application, with students integrating their effects into projects like game environments or animated sequences. By the end of the course, students will have a strong portfolio showcasing their skills in Maya dynamics and particle systems, equipped with practical experience for creating dynamic effects in games and animation.

Textbooks:-

- Creating Games with Unreal Engine, Substance Painter, & Maya by Kassandra Arevalo,Matthew Tovar, Jingtian Li

Suggested Readings:-

- Realistic Assets Creation with Adobe Substance 3D by Zeeshan Jawed Shah

Open Educational Resources (OER)

https://help.autodesk.com/view/MAYAUL/2024/ENU/?guid=GUID-92319246-4DE6-4B08-AAF0-9BD86A6A8855

Evaluation Scheme

	Evaluation Components	Weightage
INTERNAL (50 Marks)	**Continuous Assessment** (Projects, Assignments, Presentation, Case Studies, etc.)	20 Marks

	Internal Jury	30 Marks
EXTERNAL (50 Marks)	**End-Term Studio Exam**	20 Marks
	External Jury	30 Marks

SEMESTER VI

ADGA352	COMPOSITION AND VFX FOR FILM	L	T	S	P	C
Version 1.0		**0**	**0**	**2**	**2**	**3**
Category of Course	Major					
Total Contact Hours	**45**					
Pre-Requisites/Co-Requisites						

Course Perspective

This course provides students with foundational and advanced knowledge in rendering and compositing, essential for creating high-quality visual effects for film. Students will begin by learning the basic concepts of rendering, including different types, engines, and techniques. As they progress, they will be equipped with advanced rendering skills to achieve photorealistic results using various software and tools, ensuring they can create visually compelling scenes.

The course also delves into the principles of compositing, teaching students the fundamentals of layers, masks, and color correction. Building on this foundation, students will develop advanced compositing techniques to seamlessly integrate CGI, VFX, and live-action footage. By the end of the course, students will have the skills needed to produce professional-grade visual effects, preparing them for careers in film and digital media production, where the ability to create realistic and impactful visual compositions is highly valued.

Course Outcomes

Upon completion of the course the learner will be:

CO1: Understanding and applying fundamental rendering concepts, techniques, and software to create high-quality renders.

CO2: Evaluating advanced rendering techniques, including global illumination, subsurface scattering, and shader creation, to achieve photorealistic results.

CO3: Creating advanced compositing techniques, such as 3D compositing, CGI integration,and VFX, to produce polished, professional-quality film sequences.

Course Content

Unit 1: Introduction to Rendering **09 Hours**

Basics of Rendering: Concepts and Terminology
Types of Rendering: Real-Time vs. Offline
Rendering
Rendering Engines and Software (Maya, Arnold, V-Ray,
etc.)Understanding Lighting and Shading
Rendering Settings and Optimization

Unit 2: Advanced Rendering Techniques **09 Hours**

Introduction to Compositing: Principles and
WorkflowCompositing in After Effects
Layers, Masks, and Blend
ModesKeying and Matte
Extraction Color Correction
and Grading

Unit 3: Compositing Fundamentals **09 Hours**
Introduction to Compositing: Principles and Workflow
Compositing in After Effects
Layers, Masks, and Blend Modes
Keying and Matte Extraction Color Correction and Grading

Unit 4: Advanced Compositing Techniques **09 Hours**
Famous Case studies on people centric, Psychological Principles in Design, Human Factors in Design, User Feedback and Iterative Design

Unit 5: VFX for film and games **09 Hours**
VFX for film
3D application use for VFX
nDynamics
Special effectsGame VFX

Learning Experience
The **Composition and VFX for Film** course offers a practical, hands-on learning experience where students create and integrate visual effects into film scenes. Using industry-standard tools like Adobe After Effects and Nuke, students will work on projects ranging from simple to complex effects. Regular feedback helps refine their work, focusing on technical precision and artistic quality. The course emphasizes integrating VFX with live-action footage to enhance storytelling. By the end, students will have a strong portfolio and practical skills for a career in film VFX.

Textbooks:-
- "Digital Lighting and Rendering" by Jeremy Birn

Suggested Readings:-
- "The Art and Science of Digital Compositing" by Ron Brinkmann

Open Educational Resources
(OER)
https://www.backstage.com/magazine/article/create-digital-effects-film-project-13748/
Evaluation Scheme

	Evaluation Components	Weightage
INTERNAL (50 Marks)	**Continuous Assessment** (Projects, Assignments, Presentation, Case Studies, etc.)	20 Marks
	Internal Jury	30 Marks
EXTERNAL (50 Marks)	**End-Term Studio Exam**	20 Marks
	External Jury	30 Marks

ADGA356	ENVIRONMENT ART IN UNREAL ENGINE	L	T	S	P	C
Version 1.0		**0**	**0**	**2**	**4**	**4**
Category of Course	Major					
Total Contact Hours	**60**					
Pre-Requisites/Co-Requisites						

Course Perspective

This course offers students a comprehensive understanding of the foundational tools and concepts necessary for environment art creation in Unreal Engine. Students will gain essential skills in designing and creating realistic landscapes, including terrain sculpting, foliage placement, and texture painting. The course emphasizes practical, hands-on learning, enabling students to build detailed and immersive environments within the Unreal Engine framework.

As students progress, they will develop proficiency in applying advanced techniques for managing textures, materials, and lighting, further enhancing the realism and visual impact of their environments.

By the end of the course, students will have the expertise required to create high-quality, dynamic environments for games and other interactive media, preparing them for professional roles in the industry where the ability to craft detailed and lifelike virtual worldsis in high demand.

Course Outcomes

Upon completion of the course the learner will be:

CO1. Observing and sequencing the elements and principles of design, developing an understanding of how these components interact in creating effective designs.

CO2. Comprehending and Analysing the stages of the action cycle model, understanding its relevance in the design process.

CO3. Illustrating design laws and their significance within the design field, replicating examples to understand the laws' applications.

CO4. Adapting their understanding to articulate various rules of design composition, applying these rules to enhance design structure and aesthetics.

CO5. Gaining hands-on experience with the fundamentals of design, practicing techniques that reinforce foundational design skills.

Course Content

Unit 1: Introduction **12 Hours**

Understanding of Unreal Engine
Introduction to unreal engine
Level up the setup
Assets store and marketplace

Unit 2: World-building with Assets **12 Hours**
Storytelling/ storyboards3d concept art
LODs and detailsOptimization
Texturing and UV mapping

Unit 3: Landscape and Terrains Design **12 Hours**
Concept creation
Balancing Painting of world
Light and atmosphere

Unit 4: Environment Composition **12 Hours**
Models with different scaleTree and grass
Wood and metalGlass
Water, rain and SnowTriggers and events Basic scripting

Unit 5: Final Environment Composition **12 Hours**
Interior/ Exterior Light through glass
Light rays through treesParticles inside air/ lightPost processing
Final Project/Portfolio

Learning Experience
The **Learning Experience** in the **Environment Art in Unreal Engine** course is hands-on and practical. Students design and build detailed game environments, mastering Unreal Engine's tools for terrain sculpting, asset creation, and material application. They receive regular feedback to refine their work and focus on optimizing environments for smooth gameplay. The course emphasizes creating immersive, interactive worlds that enhance playerexperience and storytelling. By the end, students will have a strong portfolio and the skills needed for a career in environment art.

Textbooks:-

- UNREAL ENGINE 4 GAME DEVELOPMENT QUICK START GUIDE: PROGRAMMINGPROFESSIONAL 3D GAMES WITH UNREAL ENGINE 4 by RACHEL CORDONE, PACKT PUBLISHING

Suggested Readings:-

- BLUEPRINTS VISUAL SCRIPTING FOR UNREAL ENGINE: THE FASTER WAY TO BUILDGAMES USING UE4 BLUEPRINTS, 2ND EDITION by MARCOS ROMERO, PACKT PUBLISHING

Open Educational Resources (OER)
https://www.unrealengine.com/en-US/electric-dreams-environment
Evaluation Scheme

	Evaluation Components	Weightage
INTERNAL (50 Marks)	**Continuous Assessment** (Projects, Assignments, Presentation, Case Studies, etc.)	20 Marks
	Internal Jury	30 Marks
EXTERNAL (50 Marks)	**End-Term Studio Exam**	20 Marks
	External Jury	30 Marks

ADGA358	LIGHTING AND RENDERING FOR FILMS	L	T	S	P	C
Version 1.0		**0**	**0**	**4**	**0**	**4**
Category of Course	Major					
Total Contact Hours	**60**					
Pre-Requisites/ Co-Requisites	NA					

Course Perspective

This course provides students with foundational and advanced knowledge in lighting and rendering, essential for creating compelling visuals in film. Students will start by learning the basic principles and types of lighting used in film production, establishing a solid understanding of how lighting impacts visual narratives. They will then be equipped with skills to utilize various lighting tools and techniques within film production environments, enablingthem to create dynamic and visually appealing scenes.

As students advance, they will develop expertise in advanced lighting concepts and performance optimization, ensuring their work meets industry standards. The course also focuses on integrating lighting with storytelling, teaching students to use lighting techniquesto enhance narrative elements and create immersive environments. By the end of the course,students will be adept at crafting professional-quality lighting setups that support and elevate visual storytelling in film, preparing them for careers in film production and visual effects.

Course Outcomes

Upon completion of the course the learner will be:

CO1 : Observing Real world lighting
CO2 : Observing lighting Moods
CO3 : Originating Real world lighting setup
CO4 : Originating Light setting and render setting

Course Content

Unit 1: Fundamentals of Lighting **12 Hours**

Introduction to Lighting in MayaBasic
Principles of Lighting
Types of Light Sources: Directional, Point, Spot, and Ambient Lighting
Terminology: Intensity, Color, Shadows, and Reflection Importance of Lighting in Film

Unit 2: Techniques and Tools for Lighting **12 Hours**

Three-Point Lighting, Global Illumination, and Image-Based Lighting,Lighting Tools in Maya
Light Baking and Real-Time Lighting
Using Light Probes and Reflection Probes
Creating Atmospheric Effects with Lighting

Unit 3: Advanced Lighting Concepts **12 Hours**
Dynamic and Static Lighting
Volumetric Lighting and God Rays Light Mapping and Shadow MappingOptimizing Lighting for Performance
Lighting for Different Game Genres and Styles

Unit 4: Lighting and Visual Storytelling **12 Hours**
Role of Lighting in Visual Storytelling
Creating Mood and Atmosphere with LightingCinematic Lighting Techniques
Case Studies of Lighting in Iconic GamesPractical Lighting Scenarios and Projects

Unit 5: Exterior Lighting Technique **12 Hours**
Exterior Lighting Study
Light Setup
Light Tweaking
Look DevelopmentFinal Render

Learning Experience
The Learning Experience in the Lighting and Rendering for Films course is practical and immersive, focusing on developing technical and artistic skills. Students engage in hands-on projects to set up lighting and render scenes, applying their knowledge to achieve realistic and visually compelling results. They use industry-standard software like Autodesk Maya and Blender gaining proficiency with tools used in professional film production. Regular feedback from instructors helps students refine their lighting setups and rendering processes, balancing technical accuracy with artistic quality. The course emphasizes optimizing render settings to ensure efficient production workflows. By the end, students will have a polished portfolio demonstrating their lighting and rendering skills, preparing them for a career in film production.

Textbooks:-
1. Advanced Maya Texturing and Lighting by Lee Lanier

Suggested Readings:-

1. Digital Lighting & Rendering - Jeremy Birn

Open Educational Resources (OER)

https://www.unrealengine.com/en-US/electric-dreams-environment

Evaluation Scheme

	Evaluation Components	Weightage
INTERNAL (50 Marks)	**Continuous Assessment** (Projects, Assignments, Presentation, Case Studies, etc.)	20 Marks
	Internal Jury	30 Marks
EXTERNAL (50 Marks)	**End-Term Studio Exam**	20 Marks
	External Jury	30 Marks

SEMESTER VII

ADGA451	GAME PROJECT IN UNREAL ENGINE	L	T	S	P	C
Version 1.0		**0**	**0**	**2**	**4**	**4**
Category of Course	Major					
Total Contact Hours	60					
Pre-Requisites/ Co-Requisites	PASS IN ADGA356					

Course Perspective

The Course Perspective for Game Project in Unreal Engine is centered on delivering practical,real-world experience in game development. Students will learn to utilize Unreal Engine's advanced features, such as Blueprints and AI systems, to develop a fully functional game fromconcept to completion. The course focuses on integrating various aspects of game design anddevelopment, ensuring students gain a comprehensive understanding of the process. By the end of the course, students will have a polished game project to include in their portfolio, showcasing their skills and readiness for professional opportunities.

Course Outcomes

Upon completion of the course the learner will be:
CO1 : Observing process for game level design
CO2 : Practicing level design tools used in industry
CO3 : Originating a game ready level
CO4 : Originating game design documentation

Course Content

Unit 1:Introduction to Game Level Design **12 hours**
Game development overviewRole of level designer
Element of level design
Case study of successful game levels

Unit 2: Game level design tools **12 hours**
3D applicationsGame engines AI and plugins

Unit 3: Level design process **12 hours**
Preproduction and combatLayout & Block out Scripting
Lighting and Environment artRelease

Unit 4: Game level design **12 hours**
References for interior
Modeling techniques UV's and texture

Unit 5: Game level composition **12 hours**

Composition inside game engineMaterial creation
Lighting
Post processing

Learning Experience
The Learning Experience for Game Project in Unreal Engine includes hands-on projects, interactive tutorials, and collaborative development. Students will work with Unreal Engine'stools and features to create their own game, applying concepts from level design, scripting, and asset creation. The course involves practical exercises, peer reviews, and iterative feedback to refine their projects. Students will also participate in workshops and discussionsto address challenges and enhance their skills. By the end of the course, they will have a fullydeveloped game to showcase in their portfolio.

Text Books: 1. UNREAL ENGINE 4 GAME DEVELOPMENT QUICK START GUIDE: PROGRAMMING PROFESSIONAL 3D GAMES WITH UNREAL ENGINE 4 by RACHEL CORDONE,PACKT PUBLISHING

References: 1. HANDS-ON UNITY 2022 GAME DEVELOPMENT: LEARN TO USE THE LATEST UNITY 2022 FEATURES TO CREATE YOUR FIRST VIDEO GAME IN THE SIMPLEST WAY POSSIBLE by NICOLAS ALEJANDRO BORROMEO, PACKT PUBLISHING

Open Educational Resources (OER)
https://www.unrealengine.com/en-US/electric-dreams-environment
Evaluation Scheme

	Evaluation Components	Weightage
INTERNAL (50 Marks)	**Continuous Assessment** (Projects, Assignments, Presentation, Case Studies, etc.)	20 Marks
	Internal Jury	30 Marks
EXTERNAL (50 Marks)	**End-Term Studio Exam**	20 Marks
	External Jury	30 Marks

ADGA455	FILM MAKING 3D / FILM MAKING 2D	L	T	S	P	C
Version 1.0		**0**	**0**	**3**	**2**	**4**
Category of Course	Major					
Total Contact Hours	60					
Pre-Requisites/	PASS IN ADGA351 , ADGA258					

Course Perspective

Film Making 3D and Film Making 2D courses offer distinct perspectives tailored to their respective dimensions of animation.

Film Making 3D: The course perspective focuses on mastering the art and technology of three-dimensional animation. Students will explore the full range of 3D production techniques, including modeling, texturing, rigging, and animation. Emphasis is placed on creating detailed, realistic, and visually stunning animations using industry-standard tools. The goal is to equip studentswith the skills to produce high-quality 3D animated films that effectively convey complex narratives and visuals.

Film Making 2D: The course perspective emphasizes the principles and techniques of two-dimensional animation. Students will delve into both traditional and digital 2D animation methods, learning how to create expressive and dynamic animations. The focus is on storyboarding, character design, and frame-by-frame animation, using relevant software tools. The course aims to develop students' abilities to craft compelling 2D animated films that highlightcreativity and visual storytelling.

Course Outcomes

Upon completion of the course the learner will be:

CO1 : Understanding the pipeline for film production
CO2 : Analysing different tools used in animated film making process
CO3 : Evaluating animation quality with existing films
CO4 : Preparin a good 3D/2D animation portfolio

Course Content

Unit 1: Introduction to short film **12 hours**

Key characteristic of short film making
Finish by making a plan
Story creation Direction for filmTarget audience

Unit 2: 3D/2D production for film **12 hours**

Storyboard importance
Pre-visualization of film Models and character type
Background and scene setup

Unit 3: Audio creation and editing **12 hours**

Background music
Lip synchronization with dialogs Mix and master
Audio editing tools

Unit 4: Render tools **12 hours**

3D/2D application inbuilt tools Game engines
Real time renderingOutput file types
Render image sample rate

Unit 5: Final composition **12 hours**

Render sequence Video editing toolsPost processing Publication

Learning Experience

Film Making 3D: The Learning Experience for Film Making 3D includes interactive lectures, hands-on workshops, and project-based learning. Students will engage with 3D modeling, animation, and rendering through practical exercises and industry-standard software. They will work oncreating detailed 3D assets and animations, receiving feedback through critiques and peer reviews. The course emphasizes real-world application, with students developing a complete3D animated film by the end.

Film Making 2D: The Learning Experience for Film Making 2D features interactive tutorials, practical animationexercises, and project work. Students will learn traditional and digital 2D animation techniques, focusing on storyboarding, character design, and frame-by-frame animation. Hands-on projects and feedback sessions will help students refine their skills and develop a final 2D animated film. The course provides a comprehensive approach to 2D animation, combining technical skills with creative storytelling.

Text Books:

- Animator's Survival Kit by Richard E. Williams

References:

- Finish Your Film! Tips and Tricks for Making an Animated Short in Maya by Kenny Roy

Open Educational Resources (OER)

https://helpx.adobe.com/in/after-effects/user-guide.html

Evaluation Scheme

	Evaluation Components	Weightage
INTERNAL (50 Marks)	**Continuous Assessment** (Projects, Assignments, Presentation, Case Studies, etc.)	20 Marks
	Internal Jury	30 Marks
EXTERNAL (50 Marks)	**End-Term Studio Exam**	20 Marks
	External Jury	30 Marks

ADGA457	PRODUCT PUBLICATION AND MARKETING	L	T	S	P	C
Version 1.0		**0**	**0**	**2**	**0**	**2**
Category of Course	Major					
Total Contact Hours	30					
Pre-Requisites/ Co-Requisites						

Course Perspective

The Course Perspective for Product Publication and Marketing emphasizes the strategic approach to launching and promoting products effectively. Students will explore the entire marketing process, including market research, branding, and digital marketing. The course focuses on developing comprehensive marketing plans, creating impactful promotional materials, and using various channels to engage target audiences. By integrating theoretical knowledge with practical application, the course prepares students to drive product successthrough well-planned and executed marketing strategies.

Course Outcomes

Upon completion of the course the learner will be:

CO1 : Understanding the pipeline for game publication
CO2 : Understanding the pipeline for film release
CO3 : Understanding marketing strategies for game product
CO4 : Understanding marketing strategies for short film
CO5 : Preparing a plan to get more download and watch time for game and film

Course Content

Unit 1: Game publication **08 hours**

Unreal store
Unity store
Google play itch.io
Execute on smart TV

Unit 2: Film showcase **08 hours**

Award show
Film competition
YouTube
Video

Unit 3: Marketing **08 hours**

Trailer making
Social media platform
Share with companies Influencers

Unit 4: Earning through product **06 hours**
3d platforms
Assets sail NFT's
Freelancing

Learning Experience
The Learning Experience for Product Publication and Marketing includes interactive lectures, hands-on workshops, and project-based learning. Students will engage in market research, develop marketing strategies, and create promotional materials. Through real-world case studies and practical exercises, they will apply their knowledge to design and implement effective marketing campaigns. The course also features feedback sessions and collaborative projects to enhance their skills in driving product success and measuring campaign impact.

Text Books:
- Entertainment Industry Economics by Harold L Vogel

Reference Book:
- The 1-Page Marketing Plan: Get New Customers, Make More Money and Stand Out fromthe Crowd by Allan DIB

Open Educational Resources (OER)
https://unity.com/publications
Evaluation Scheme

	Evaluation Components	Weightage
INTERNAL (50 Marks)	**Continuous Assessment** (Projects, Assignments, Presentation, Case Studies, etc.)	20 Marks
	Internal Jury	30 Marks
EXTERNAL (50 Marks)	**End-Term Studio Exam**	20 Marks
	External Jury	30 Marks

ADGA459	3D GAME PROGRAMMING	L	T	S	P	C
Version 1.0		**0**	**0**	**1**	**4**	**3**
Category of Course	Major					
Total Contact Hours	45					
Pre-Requisites/ Co-Requisites	PASS IN ADGA257					

Course Perspective

The Course Perspective for 3D Game Programming centres on mastering the technical and creative aspects of developing three-dimensional video games. Students will explore key components such as 3D graphics rendering, physics simulation, and AI integration. The course emphasizes practical application through programming languages and game engines, preparing students to create, optimize, and debug complex 3D game environments and mechanics. By combining theoretical understanding with hands-on experience, the course aims to equip students with the skills necessary for real-world game development challenges.

Course Outcomes

Upon completion of the course the learner will be:

CO1: Understanding 3d game development process
CO2: Developing 3D game with computer programming
CO3: Developing 3D game with blueprints
CO4: Developing game mechanics for character in 3D world

Course Content

Unit 1: Introduction to Game Programming **09 hours**

Basic of computer programming
Variables and function Arithmetic and logical operator Conditional statements
Loops
Take input from user Communicating between programs

Unit 2: A primer to 3D games **09 hours**

3D coordinate system rigid body and physicsCollision detection
Game object manipulation Game object and prefabs

Unit 3: Third-person shooter **09 hours**

Character Animation/ Animator Working with different Animation files
Character controller
3D object movements with computer programPicking up things

Unit 4: Car racing game **09 hours**

Prepare files
All assets inside game engineAI for CAR

SuspensionAudio
Building a car wheel colliders

Unit 5: Virtual Production **09 hours**

VR/ AR/ MR development Design for Virtual Production
Implementation with Unity/ UnrealUI creation for VR/ AR
Interaction with Virtual world

Learning Experience

The Learning Experience for 3D Game Programming includes interactive lectures, hands-on coding exercises, and project-based assignments. Students will work with game engines and programming languages to create and refine 3D game environments, characters, and mechanics. The course emphasizes practical problem-solving, including graphics rendering and physics simulation, with opportunities for debugging and optimization. Through collaborative projects and real-world scenarios, students will develop their technical skills andprepare for professional challenges in 3D game development.

Text Books:

- UNITY GAME DEVELOPMENT ESSENTIALS by WILL GOLDSTONE, PACKT PUBLISHING

Reference Books/Materials

- UNITY 3.X GAME DEVELOPMENT ESSENTIALS by WILL GOLDSTONE, PACKT PUBLISHING
- UNITY GAME DEVELOPMENT DESIGNED FOR PASSIONATE GAME DEVELOPERSENGINEERED TO BUILD PROFESSIONAL GAMES by ANOTHONY DAVIS, TRAVIS M. W.BAPTISTE, PACKT PUBLISHING

Open Educational Resources (OER)

https://learn.unity.com/

Evaluation Scheme

	Evaluation Components	Weightage
INTERNAL (50 Marks)	**Continuous Assessment** (Projects, Assignments, Presentation, Case Studies, etc.)	20 Marks
	Internal Jury	30 Marks
EXTERNAL (50 Marks)	**End-Term Studio Exam**	20 Marks
	External Jury	30 Marks

ADGA453	GAME PROJECT IN UNITY	L	T	S	P	C
Version 1.0		**0**	**0**	**2**	**2**	**3**
Category of Course	Major					
Total Contact Hours	45					
Pre-Requisites/ Co-Requisites	PASS IN ADGA353, ADGA257					

Course Perspective

The **Game Project in Unity** course is designed to provide students with a comprehensive, hands-on experience in game development. From concept to final product, the course coversthe entire game production pipeline using Unity. Students will not only master Unity's core features, including scripting, physics, and animation, but will also learn how to design,prototype, and refine their game projects. Emphasizing real-world workflows, the course alsohighlights collaboration, version control, and asset management. By focusing on the full development cycle and game optimization, students will gain practical skills essential for creating professional-quality games.

Course Outcomes

Upon completion of the course the learner will be:

CO1 : Analysing complete game design process.

CO2 : Analysing complete game development process.

CO3 : Creating complete game project and publish it on Google Play.

CO4 : Preparing a good portfolio.

Course Content

Unit 1: Game project pipeline **09 hours**

Block out creation
Assets assembling Programming Executable files Publication

Unit 2: Game assets **09 hours**

Modeling
UV creation
Texturing
Optimization

Unit 3: Scene Composition inside Unity **09 hours**

Game balancing
Look and feel of game Collision and navigation path AI with enemies

Unit 4: Cinematic look **09 hours**

Dialogs and cut scene Audio and mix master Trailer and teaser for gamePost Processing effects

Unit 5:Portfolio **09 hours**

Project size
development
publication plagiarism

Learning Experience

The Learning Experience in the Game Project in Unity course is hands-on and practical. Students develop a full game from concept to completion using Unity's tools, gaining skills in scripting, physics, animation, and UI/UX design. They work in teams, learning collaboration, version control, and asset integration. With regular feedback, students refine their games and optimize for performance. By the end, students will have a polished, fully functional gameand a strong portfolio for game development careers.

Text Books:

1. LEVEL UP! - THE GUIDE TO GREAT VIDEO GAME DESIGN by S ROGERS, WILEY

References:

- 3D GAME ENVIRONMENTS: CREATE PROFESSIONAL 3D GAME WORLDS by LUKEAHEARN, FOCAL PRESS
- UNITY IN ACTION: MULTIPLATFORM GAME DEVELOPMENT IN C# by JOE HOCKING,Manning Publications

Open Educational Resources (OER)

https://learn.unity.com/

Evaluation Scheme

	Evaluation Components	Weightage
INTERNAL (50 Marks)	**Continuous Assessment** (Projects, Assignments, Presentation, Case Studies, etc.)	20 Marks
	Internal Jury	30 Marks
EXTERNAL (50 Marks)	**End-Term Studio Exam**	20 Marks
	External Jury	30 Marks

ADGA452	DEGREE PROJECT/INTERNSHIP/FREELANCING	L	T	S	P	C
Version 1.0		**0**	**0**	**0**	**0**	**12**
Category of Course	Major					
Total Contact Hours						
Pre-Requisites/ Co-Requisites						

Course Perspective

The **Course Perspective** for Degree Project/Internship/Freelancing focuses on bridging academic learning with real-world experience.

- **Degree Project**: Emphasizes integrating and applying knowledge from various courses to tackle a substantial, real-world problem. It allows students to demonstrate their skills through a comprehensive project that showcases theirabilities and understanding.
- **Internship**: Highlights gaining practical, hands-on experience in a professional environment. It provides students with exposure to industry practices, networking opportunities, and insights into their chosen field, enhancing their career readiness.
- **Freelancing**: Focuses on independent work and client management, offering students the chance to build a diverse portfolio and develop entrepreneurial skills. It provides flexibility and practical experience in managing projects and client relations.

Overall, the course perspective aims to equip students with practical experience, enhance their employability, and prepare them for successful careers by applying their academic knowledge in real-world contexts.

Course Outcomes

Upon completion of the course the learner will be able to:

CO1 : Students will develop employer-valued skills such as strategic management, analyticthinking, teamwork and communications.

CO2 : Students will observe and participate in business operations and learn decision-makingfrom mentors and experience.

CO3 : Students will get hands-on exposure in the domain in which they are performing theirjob.

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.

Learning Experience

The Learning Experience for Degree Project/Internship/Freelancing offers a range of practical,hands-on opportunities:

- Degree Project: Students will engage in a comprehensive project that requires applying theoretical knowledge to solve real-world problems. This involves research, design, development, and presentation, allowing students to demonstrate their skillsand creativity.
- Internship: Students will work directly with industry professionals, gaining practicalexperience and exposure to professional practices. They will be involved in day-to- day operations, contributing to real projects, and receiving feedback that enhancestheir skills and career readiness.
- Freelancing: Students will take on independent projects for clients, managing their own workflow and deadlines. This experience includes client interaction, project management, and self-directed work, helping students build a diverse portfolio andentrepreneurial skills.

Each component provides valuable experience, preparing students for their future careers by applying their academic knowledge in professional and practical settings.