Model Curriculum for Diploma Courses in

Game Design

2023

ALL INDIA COUNCIL FOR TECHNICAL EDUCATION
Nelson Mandela Marg, Vasant Kunj, New Delhi 110070
www.aicte-india.org

Message from the Chairman
All India Council for Technical Education (AICTE)

In today's dynamic environment, technical skills have emerged as the bedrock of progress, fostering innovation, and propelling nations towards sustainable development. Recognizing this imperative, our committee has diligently curated courses that stand at the intersection of academic rigor and practical relevance. These courses, rooted in the latest technological advancements, are designed to equip individuals with the skills demanded by industries in the 21st century.

The pressing demand for skilled professionals in technical fields is evident, and these courses have been tailored to address this imperative. By fostering a curriculum that reflects the most current industry practices, we aim to bridge the gap between academia and industry, thus enhancing employability and contributing to the overall growth of our nation.

It is with immense pride and optimism that I address you on the launch of our new courses in the field of Technical Education. As the Chairman of the All India Council for Technical Education (AICTE), I am pleased to share this significant development that aligns with the evolving needs of our contemporary socio-economic landscape.

Quality is the cornerstone of our educational offerings. These courses are crafted with meticulous attention to detail, leveraging the latest technology to provide a learning experience that is not only comprehensive but also aligns with global standards. The robustness of our curriculum ensures that our students are well-prepared to navigate the complexities of the professional landscape.

The need for these courses is compelling, driven by the rapid evolution of technology and the corresponding demand for skilled professionals. Our commitment to excellence is mirrored in the quality of these courses, and we are confident that they will serve as a catalyst for personal and national advancement.

I extend my sincere gratitude to all our stakeholders, including industry partners, faculty members, and the students who have embraced this initiative with enthusiasm. Your unwavering support is invaluable in our quest to empower individuals, enhance employability, and contribute to the progress of our great nation.

Thank you for being an integral part of this journey toward technical excellence and national development.

Warm regards,

Chairman, All India Council for Technical Education (AICTE)

Message from the CEO
Media and Entertainment Skills Council (MESC)

I am delighted to extend my warm greetings to all of you as we embark on a significant milestone in the realm of education and skill development. It brings me immense pleasure to see the launch of new courses in the Media and Entertainment sector under the aegis of the All India Council for Technical Education (AICTE). Media and Entertainment Skills Council is privileged to get the opportunity to develop the courses.

The Media and Entertainment industry stands as a dynamic force that not only shapes our cultural landscape but also contributes significantly to the economic fabric of our nation. In an era marked by rapid technological advancements and evolving consumer preferences, the demand for skilled professionals in this sector has never been more pronounced. It is against this backdrop that we introduce these courses, meticulously crafted to meet the contemporary needs of the industry.

Our commitment to fostering excellence is rooted in the recognition of the pivotal role played by the Media and Entertainment sector in shaping public opinion, disseminating information, and providing entertainment. By offering courses that blend theoretical knowledge with practical skills, we aim to equip our students with the competencies needed to thrive in this dynamic industry.

These courses are not just about preparing individuals for jobs; they are about nation-building. A skilled and empowered workforce in the Media and Entertainment sector is integral to our national development. It enhances our soft power, promotes cultural exchange, and contributes to economic growth. As we bridge the gap between industry demands and the skill set of our workforce, we lay the foundation for a more vibrant and globally competitive nation.

I express my heartfelt gratitude to all the stakeholders who have been instrumental in making this endeavor a reality. To our industry partners who have provided invaluable insights, our dedicated faculty who have tirelessly worked on curriculum development, and most importantly, our students who inspire us to strive for excellence – thank you.

Together, let us embark on this journey of knowledge, creativity, and skill development. May these courses open doors to new opportunities and contribute to the flourishing landscape of the Media and Entertainment sector.

With warm regards,

Chief Executive Officer, Media and Entertainment Skills Council

Model Curriculum Committee Members

Mr. Ashish Kulkarni	Founder, Punnaryug Artvision pvt. Ltd.
Mr. Mohit Soni	CEO, Media & Entertainment Skills Council
Ms. Ritu Sood	Dean, Sharda School of Media, Film & Entertainment, Sharda University
Mr. Rajesh R Turakhia	Founder & Director, FrameBoxx Animation & VFX Pvt. Ltd
Mr. Gaurav Birla	Chief Academics Officer, Media & Entertainment Skills Council
Dr. Ankit Jain	HoD, Visual communication, school of design, Dr. Dy Patil Vidyapeeth
Dr. Ajay Bhushan	Vice-chancellor, scope Grobar Skills University
Prof. Diwakar Shukla	Dean, Faculty of Journalism and Creative Studies, Jagran Lakecity University
Dr. Padma Rani	Director & Professor, Manipal Institute of Communication, MAHE
Dr. Charu Monga	Asst. Professor, llT Delhi
Mr. Harikant	Founder , VRx NextGen Training Institute
Ms. Nishita Wassan	Assistant Professor, Symbiosis International University
Mr. Jainaresh BC	VR Product Head , HP
Mr. Durgesh Pandey	Assistant Professor, Rishihood University
Mr. Ajay Kumar	Program Director, Hero Group of companies
Dr. Neetu Bhagat	Deputy Director, All India Council for Technical Education

Table of Content

Chapter 1 : General Course Structure & Credit Distribution

Definition of Credit

1 Hr. Lecture (L) per week	1 credit
1 Hr. Tutorial (T) per week	1 credit
1 Hr. Practical (P) per week	0.5 credit
2 Hr. Practical (P) per week	1 credit

A. Range of Credits:

In the light of the fact that a typical Model Four-year Undergraduate degree program in Media and Entertainment Skills has about 160 credits, the total number of credits proposed for the two-year Diploma program in Media and Entertainment Skills is 80.

B. Structure of Diploma program in Media and Entertainment Skills:

The structure of Diploma program in Media and Entertainment Skills shall have essentially the following categories of courses with the breakup of credits as given:

Sr. No.	Category	Suggested Breakup of Credits
4	Program Core courses (Branch specific)	60*
6	Open Elective courses (from other technical and /or emerging subjects)	6*
7	Vocational (Minor), Project work, seminar and internship in industry or elsewhere	9*
8	CO-Curricular Courses [Environmental Sciences, Induction training, Indian Constitution, Essence of Indian Traditional Knowledge etc.]	9*
	Total	**84***

*Minor variation is allowed as per need of the respective disciplines.

C. Course code and definition:

Course code	Definitions
L	Lecture
T	Tutorial
P	Practical
PC	Program Core Courses
OE	Open Elective Courses
PR	Project

D. Course level coding scheme:

Three-digit number (odd numbers are for the odd semester courses and even numbers are for even semester courses) used as suffix with the Course Code for identifying the level of the course e.g.
101, 102 … etc. for first semester 201, 202 …. Etc. for second semester 301, 302 … for third semester.

E. Category-wise Courses

PROGRAM CORE COURSES [PC]

Note:
(i) Number of Program Core Courses: 24 (including lab courses)
(ii) Credits: 64

Sl. No	Code No.	Course Title	Hours per week			Semester	Credits
			L	T	P		
1	DGA101	Communicative English-I	1	0	2	1	2
2	DGA102	Drawing & Painting	1	1	0	1	2
3	DGA103	Storytelling & Storyboarding	0	2	0	1	2

4	DGA104	Principles of Animation	1	1	2	1	3
5	DGA105	Digital Art	1	2	2	1	4
6	DGA106	UI UX Design	1	2	0	1	3
7	DGA201	Communicative English-II	1	0	2	2	2
8	DGA202	Level Design for Games	1	2	0	2	3
9	DGA203	2D Game Design	1	2	2	2	4
10	DGA204	Pre-Production	1	2	0	2	3
11	DGA205	Programming in C#	1	1	0	2	2
12	DGA206	History of Gaming	2	0	0	2	2
13	DGA301	UI/UX for Games Design	1	2	0	3	3
14	DGA302	3D Game Art Production Techniques - I	1	1	2	3	3
15	DGA303	Digital Sculpting Techniques	1	2	2	3	4
16	DGA304	Game Engine fundamentals - I	1	2	2	3	4
17	DGA305	Story Telling for Games	1	1	0	3	2
18	DGA401	Game Psychology & Research	2	0	0	4	2
19	DGA402	3D Game Art Production Techniques - II	1	2	0	4	3
20	DGA403	Mobile Game art & Design	1	1	0	4	2
21	DGA404	Game Engine fundamentals - II	1	2	0	4	3
22	DGA405	Game Audio foundations	1	1	0	4	2
23	DGA406	JavaScript Programming	1	1	0	4	2
24	DGA407	Community Connect	0	2	0	4	2
Total Credits							64

** The branch code, e.g. ADMC for Media Communication
Three-digit number for identifying the level of the course

OPEN ELECTIVE COURSES [OE]

Note:

(i) Number of Open Elective Courses: 12

(ii) Credits: 28

(iii) The Open Elective Courses to be offered in all semesters.

(iv) The students can opt for any open elective courses that are offered by any of the respective departments.

Sl. No	Code No.	Course Title	Hours per week			Semester	Credits
			L	T	P		
1	OE	Open Elective (To be Chosen by Student)	0	2	0	1	2
2		Vocational (Minor)	0	2	2	1	3
3		Co-Curricular	0	2	0	1	2
4		Open Elective (To be Chosen by Student)	0	2	0	2	2
5		Vocational (Minor)	0	2	2	2	3
6		Co-Curricular	0	2	0	2	2
7		Open Elective (To be Chosen by Student)	0	2	0	3	2
8		Vocational (Minor)	0	2	2	3	3
9		Co-Curricular	0	2	0	3	2
10		Open Elective (To be Chosen by Student)	0	2	0	4	2
11		Vocational (Minor)	0	2	2	4	3
12		Co-Curricular	0	2	0	4	2
Total Credits							28

** The branch code, e.g. ADMC for Media Communication

Three-digit number for identifying the level of the course

PROJECT WORK AND INTERNSHIP IN INDUSTRY OR ELSEWHERE

Sl. No	Code No.	Course Title	Hours per week			Semester	Credits
			L	T	P		
1		Live Project II (Industry Tie- up)	0	0	0	4	0
Total Credits							0

Note:

- Projects can be taken at an industry or also at the institution premises.
- Live projects can also be taken into account when considering internship

INDUCTION PROGRAM

Induction program (mandatory)	Two-week duration
Induction program for students to be offered right at the start of the first YEAR.	• Physical activity • Creative Arts • Universal Human Values • Literary • Proficiency Modules • Lectures by Eminent People • Visits to local Areas • Familiarization to Dept./Branch & Innovations

F. Mandatory Visits/Workshop/Expert Lectures:

a. It is mandatory to arrange one industrial visit every semester for the students of each branch.

b. It is mandatory to conduct a One-week workshop during the winter break after fifth semester on professional/ industry/ entrepreneurial orientation.

c. It is mandatory to organize at least one expert lecture per semester for each branch by inviting resource persons from domain specific industry.

G. Evaluation Scheme (Suggestive only):

a. For Theory Courses:

(The weightage of Internal assessment is 40% and for End Semester Exam is 60%) The student has to obtain at least 40% marks individually both in internal assessment and end semester exams to pass.

b. For Practical Courses:

(The weightage of Internal assessment is 60% and for End Semester Exam is 40%) The student has to obtain at least 40% marks individually both in internal assessment and end semester exams to pass.

c. For Internship / Projects / Seminar etc.

Evaluation is based on work done, quality of report, performance in viva-voce, presentation etc.

Note: The internal assessment is based on the student's performance in mid semester tests (two best out of three), quizzes, assignments, class performance, attendance, viva-voce in practical, lab record etc.

H. Mapping of Marks to Grades

Each course (Theory/Practical) is to be assigned 100 marks, irrespective of the number of credits, and the mapping of marks to grades may be done as per the following table:

Range of Marks	Assigned Grade
91-100	AA/A+
81-90	AB/A
71-80	BB/B+
61-70	BC/B
51-60	CC/C+
46-50	CD/C
40-45	DD/D
< 40	FF/F (Fail due to less marks)
-	FR (Fail due to shortage of attendance and therefore, to repeat the course)

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Chapter 2 : FIRST YEAR CURRICULUM STRUCTURE

Semester 1								
Sl. No.	Category of Course	Code No.	Course Title	Hours per week			Total Contact hrs/week	Credits
				L	T	P		
1	PC	DGA101	Communicative English-I	1	0	2	3	2
2	PC	DGA102	Drawing & Painting	1	1	0	2	2
3	PC	DGA103	Storytelling & Storyboarding	0	2	0	2	2
4	PC	DGA104	Principles of Animation	1	1	2	4	3
5	PC	DGA105	Digital Art	1	2	2	5	4
6	PC	DGA106	UI UX Design	1	2	0	3	3
7	OE		Open Elective (To be Chosen by Student)	0	2	0	2	2
8	OE		Vocational (Minor)	0	2	2	4	3
9	OE		Co-Curricular	0	2	0	2	2
Total Credits								23

Semester 2								
Sl. No.	Category of Course	Code No.	Course Title	Hours per week			Total Contact hrs/week	Credits
				L	T	P		
1	PC	DGA201	Communicative English-II	1	0	2	3	2
2	PC	DGA202	Level Design for Games	1	2	0	3	3
3	PC	DGA203	2D Game Design	1	2	2	5	4
4	PC	DGA204	Pre-Production	1	2	0	3	3
5	PC	DGA205	Programming in C#	1	1	0	2	2
6	PC	DGA206	History of Gaming	2	0	0	2	2
7	OE		Open Elective (To be Chosen by Student)	0	2	0	2	2
8	OE		Vocational (Minor)	0	2	2	4	3
9	OE		Co-Curricular	0	2	0	2	2
10	PR		Live Project I (Industry Tie-up)	0	0	0	0	

Total Credits	23

Detailed First Year Curriculum Contents SEMESTER - I		
Course Code	:	DGA101
Course Title	:	Communicative English-I
Number of Credits	:	2(L:1,T:0,P:2)
Prerequisites	;	NIL
Course Category	:	PC

Objective:

1. Develop effective verbal and written communication skills.
2. Enhance comprehension and interpretation abilities.
3. Foster critical thinking through engaging with diverse texts.
4. Cultivate interpersonal and group communication skills.
5. Apply language skills relevant to media and entertainment contexts.

Course Content:

1. Foundations of English Language
2. Reading Comprehension Strategies
3. Writing Techniques for Media
4. Verbal and Non-verbal Communication
5. Media Literacy and Critical Analysis
6. Presentation Skills for Media Professionals
7. Group Communication Dynamics
8. Cultural Sensitivity in Communication

Course Outcome:

1. Proficient written and verbal communication in media settings.
2. Critical analysis and interpretation of media-related content.
3. Effective presentation and public speaking abilities.
4. Collaborative communication skills suitable for team environments.
5. Application of language skills in media and entertainment contexts.

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Detailed First Year Curriculum Contents SEMESTER - I		
Course Code	:	DGA102
Course Title	:	Drawing & Painting
Number of Credits	:	2(L:1,T:1,P:0)
Prerequisites	;	NIL
Course Category	:	PC

Objective:

1. Develop foundational drawing and painting skills applicable to game art.
2. Understand the principles of composition and color theory in the context of game design.
3. Acquire proficiency in digital drawing and painting tools commonly used in the game industry.
4. Apply drawing and painting techniques to create concept art and illustrations for games.

Course Content:

1. Basic Drawing Techniques and Sketching
2. Principles of Composition in Game Art
3. Color Theory and Application in Game Design
4. Digital Drawing and Painting Tools for Game Artists
5. Concept Art Creation for Games

Course Outcome:

1. Demonstrate improved drawing and sketching skills.
2. Apply principles of composition and color effectively in game art.
3. Utilize digital drawing and painting tools proficiently.
4. Create concept art and illustrations suitable for game development.

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Detailed First Year Curriculum Contents SEMESTER - I		
Course Code	:	DGA103
Course Title	:	Storytelling & Storyboarding
Number of Credits	:	2(L:0,T:2,P:0)
Prerequisites	;	NIL
Course Category	:	PC

Objective:

1. Develop skills in crafting compelling narratives for game environments.
2. Understand the principles of storytelling and its application to game design.
3. Learn the art of storyboarding as a visual storytelling tool in game development.
4. Apply narrative and storyboarding techniques to enhance game design concepts.

Course Content:

1. Fundamentals of Storytelling in Game Design
2. Narrative Structures in Game Development
3. Creating Engaging Characters for Games
4. Principles of Storyboarding in the Gaming Industry
5. Applying Storytelling and Storyboarding to Game Art

Course Outcome:

1. Craft engaging narratives suitable for game environments.
2. Understand various narrative structures relevant to game design.
3. Create compelling characters for game storytelling.
4. Develop proficiency in using storyboarding as a visual storytelling tool in games.

Detailed First Year Curriculum Contents SEMESTER - I		
Course Code	:	DGA104
Course Title	:	Principles of Animation
Number of Credits	:	3(L:1,T:1,P:2)
Prerequisites	;	NIL
Course Category	:	PC

Objective:

1. Develop a foundational understanding of animation principles in the context of game art.
2. Explore the application of animation techniques to enhance game characters and environments.
3. Acquire skills in creating fluid and realistic animations for various gaming platforms.
4. Understand the role of animation in conveying emotions, actions, and interactions in games.

Course Content:

1. Introduction to Animation Principles for Games
2. Character Animation Techniques in Game Art
3. Environmental Animation and Interactivity
4. Advanced Animation Techniques for Games

5. Integration of Animation with Game Design

Course Outcome:

1. Apply fundamental animation principles to game art.
2. Create dynamic and expressive character animations for games.
3. Develop environmental animations that enhance the gaming experience.
4. Apply advanced animation techniques to improve game visuals and interactions.

Detailed First Year Curriculum Contents SEMESTER - I		
Course Code	:	DGA105
Course Title	:	Digital Art
Number of Credits	:	4(L:1,T:2,P:2)
Prerequisites	;	NIL
Course Category	:	PC

Objective:

1. Develop proficiency in digital art creation for game development.
2. Understand the role of digital art in shaping the visual aspects of games.
3. Acquire skills in using digital tools and software for game art production.
4. Explore various styles and techniques in digital art relevant to gaming.

Course Content:

1. Introduction to Digital Art in Game Development
2. Digital Painting Techniques for Game Assets
3. Concept Art and Visualization in Games
4. Texturing and Shading for Game Environments
5. Applying Digital Art to Character Design in Games

Course Outcome:

1. Create digital art assets suitable for game environments.
2. Employ digital painting techniques to enhance game visuals.
3. Develop concept art that aligns with game design objectives.
4. Apply texturing and shading skills to enhance game graphics.
5. Integrate digital art effectively into character design for games.

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Detailed First Year Curriculum Contents SEMESTER - II		
Course Code	:	DGA106
Course Title	:	UI UX Design
Number of Credits	:	3(L:1,T:2,P:0)
Prerequisites	;	NIL
Course Category	:	PC

Objective:

1. Develop a deep understanding of UI/UX principles in the context of game design.
2. Acquire skills to create user-friendly interfaces for games.
3. Explore techniques to enhance the overall user experience in gaming.
4. Apply UI/UX design principles to different gaming platforms.

Course Content:

1. Introduction to UI/UX Design in Gaming
2. Principles of User Interface Design for Games
3. User Experience Enhancement Strategies
4. Responsive Design for Various Gaming Platforms
5. Usability Testing and Iterative Design in Gaming

Course Outcome:

1. Design and create effective UI/UX elements for games.
2. Apply principles of user interface design to enhance game navigation.
3. Implement strategies to improve the overall user experience in gaming.
4. Develop UI/UX designs suitable for different gaming platforms.
5. Conduct usability testing and iterate designs based on feedback.

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Detailed First Year Curriculum Contents SEMESTER - II		
Course Code	:	DGA201
Course Title	:	Communicative English-II
Number of Credits	:	2(L:1,T:0,P:2)
Prerequisites	;	NIL
Course Category	:	PC

Objective:

1. Enhance proficiency in English language skills for effective communication.
2. Develop advanced writing skills suitable for various media platforms.
3. Understand the principles of effective verbal and non-verbal communication.
4. Explore advanced concepts in media-related language usage.
5. Apply communication strategies in diverse media contexts.

Course Content:

1. Advanced Writing Techniques for Media
2. Verbal and Non-Verbal Communication Strategies
3. Professional Communication in Media Industry
4. Media-related Language Usage and Style
5. Language Proficiency in Different Media Genres
6. Effective Communication in Visual and Digital Media
7. Multimodal Communication Skills

Course Outcome:

1. Improved proficiency in written and spoken English.
2. Advanced writing skills suitable for various media genres.
3. Enhanced understanding of effective communication principles.
4. Application of advanced language usage in media contexts.
5. Proficient communication in diverse media platforms.

Detailed First Year Curriculum Contents SEMESTER - II		
Course Code	:	DGA202
Course Title	:	Level Design for Games
Number of Credits	:	3(L:1,T:2,P:0)
Prerequisites	;	NIL
Course Category	:	PC

Objective:

1. Understand the fundamentals of level design in the context of game development.
2. Learn to create engaging and challenging game levels.
3. Explore techniques for storytelling through level design.

4. Acquire skills to design levels that enhance player experience.

Course Content:

1. Introduction to Level Design Principles
2. Fundamentals of Spatial Design in Games
3. Creating Puzzles and Challenges in Game Levels
4. Narrative Integration in Level Design
5. Playtesting and Iterative Level Design

Course Outcome:

1. Apply fundamental principles of level design in game development.
2. Design and create immersive and challenging game levels.
3. Integrate storytelling elements seamlessly into level design.
4. Develop skills to enhance the overall player experience through level design.
5. Conduct effective playtesting and iterate on level designs based on feedback.

Detailed First Year Curriculum Contents SEMESTER - II		
Course Code	:	DGA203
Course Title	:	2D Game Design
Number of Credits	:	4(L:1,T:2,P:2)
Prerequisites	;	NIL
Course Category	:	PC

Objective:

1. Understand the principles and elements of 2D game design.
2. Learn to conceptualize and plan game mechanics for 2D games.
3. Acquire skills in creating visually appealing 2D game assets.
4. Explore the integration of storytelling in 2D game design.

Course Content:

1. Introduction to 2D Game Design Principles
2. Game Mechanics and Prototyping for 2D Games
3. Art and Animation Techniques for 2D Games
4. Designing User Interfaces for 2D Games
5. Storytelling in 2D Game Environments

Course Outcome:

1. Apply fundamental principles of 2D game design.
2. Conceptualize and plan game mechanics for 2D games.
3. Create visually appealing 2D game assets.

4. Integrate storytelling elements effectively in 2D game design.
5. Develop a 2D game prototype demonstrating acquired design skills.

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Detailed First Year Curriculum Contents SEMESTER - II		
Course Code	:	DGA204
Course Title	:	Pre-Production
Number of Credits	:	3(L:1,T:2,P:0)
Prerequisites	;	NIL
Course Category	:	PC

Objective:

1. Understand the importance and process of pre-production in game development.
2. Learn to create effective game design documents.
3. Develop skills in project planning and management for game development.
4. Acquire knowledge of legal and ethical considerations in game pre-production.

Course Content:

1. Introduction to Game Development Pre-Production
2. Creating Comprehensive Game Design Documents
3. Project Planning and Management in Game Development
4. Legal and Ethical Considerations in Game Pre-Production
5. Prototyping and Playtesting Strategies

Course Outcome:

1. Demonstrate understanding of the role and significance of pre-production in game development.
2. Develop effective game design documents for different game genres.
3. Apply project planning and management skills in the context of game development.
4. Identify and address legal and ethical considerations in game pre-production.
5. Create a game prototype and conduct playtesting sessions for iterative improvement.

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Detailed First Year Curriculum Contents SEMESTER - II		
Course Code	:	DGA205

Course Title	:	Programming in C#
Number of Credits	:	2(L:1,T:1,P:0)
Prerequisites	;	NIL
Course Category	:	PC

Objective:

1. Develop proficiency in the C# programming language.
2. Understand the application of programming concepts in game development.
3. Learn to code and implement various game mechanics.
4. Acquire problem-solving skills through programming challenges.
5. Familiarize with debugging and optimization techniques in game programming.

Course Content:

1. Introduction to C# Programming Language
2. Data Types, Variables, and Operators in C#
3. Control Flow and Decision Structures
4. Functions and Methods in C#
5. Object-Oriented Programming (OOP) Concepts in C#
6. Unity Game Development with C#
7. Debugging and Optimization in Game Programming

Course Outcome:

1. Demonstrate proficiency in using the C# programming language.
2. Apply programming concepts to solve problems in the context of game development.
3. Code and implement various game mechanics using C#.
4. Solve programming challenges to enhance problem-solving skills.
5. Debug and optimize game code for improved performance.
6. Create a simple game project using Unity and C#.

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Detailed First Year Curriculum Contents SEMESTER - II		
Course Code	:	DGA206
Course Title	:	History of Gaming
Number of Credits	:	2(L:2,T:0,P:0)
Prerequisites	;	NIL
Course Category	:	PC

Objective:

1. Understand the historical evolution of the gaming industry.
2. Explore the major milestones and developments in gaming history.
3. Analyze the impact of technological advancements on gaming.
4. Examine the cultural and societal influences on game development.
5. Gain insights into the history of game design and innovation.

Course Content:

1. Early History of Gaming: From Analog to Digital
2. Arcade Era and the Rise of Home Consoles
3. The Birth and Evolution of PC Gaming
4. Technological Advances: Graphics, Sound, and Processing Power
5. Impact of Gaming on Popular Culture
6. Evolution of Game Genres and Design Concepts
7. Notable Moments and Trends in Gaming History

Course Outcome:

1. Demonstrate knowledge of key events and phases in the history of gaming.
2. Analyze the influence of technological advancements on gaming evolution.
3. Discuss the impact of gaming on culture and society.
4. Understand the evolution of game design concepts and genres.
5. Develop a historical perspective on the gaming industry.

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Chapter 3 : SECOND YEAR CURRICULUM STRUCTURE

Semester 3								
Sl. No.	Category of Course	Code No.	Course Title	Hours per week			Total Contact hrs/week	Credits
				L	T	P		
1	PC	DGA301	UI/UX for Games Design	1	2	0	3	3
2	PC	DGA302	3D Game Art Production Techniques - I	1	1	2	4	3
3	PC	DGA303	Digital Sculpting Techniques	1	2	2	5	4
4	PC	DGA304	Game Engine fundamentals - I	1	2	2	5	4
5	PC	DGA305	Story Telling for Games	1	1	0	2	2
6	OE		Open Elective (To be Chosen by Student)	0	2	0	2	2
7	OE		Vocational (Minor)	0	2	2	4	3
8	OE		Co-Curricular	0	2	0	2	2
Total Credits								23

Semester 4								
Sl. No.	Category of Course	Code No.	Course Title	Hours per week			Total Contact hrs/week	Credits
				L	T	P		
1	PC	DGA401	Game Psychology & Research	2	0	0	2	2
2	PC	DGA402	3D Game Art Production Techniques - II	1	2	0	3	3
3	PC	DGA403	Mobile Game art & Design	1	1	0	2	2
4	PC	DGA404	Game Engine fundamentals - II	1	2	0	3	3
5	PC	DGA405	Game Audio foundations	1	1	0	2	2
6	PC	DGA406	JavaScript Programming	1	1	0	2	2
7	PC	DGA407	Community Connect	0	2	0	2	2
8	OE		Open Elective(To be chosen by Student)	0	2	0	2	2
9	OE		Vocational (Minor)	0	2	2	4	3
10	OE		Co-Curricular	0	2	0	2	2
11	PR		Live Project II (Industry Tie- up)	0	0	0	0	0
Total Credits								23

Detailed First Year Curriculum Contents SEMESTER - III		
Course Code	:	DGA301
Course Title	:	UI/UX for Games Design
Number of Credits	:	3(L:1,T:2,P:0)
Prerequisites	;	NIL
Course Category	:	PC

Objective:

1. Understand the principles of User Interface (UI) design for games.
2. Learn User Experience (UX) concepts and their application in game design.
3. Develop skills in creating intuitive and visually appealing game interfaces.
4. Explore the importance of player interaction and feedback in game UI/UX.
5. Analyze case studies of successful game UI/UX designs.

Course Content:

1. Introduction to UI/UX Design in Gaming
2. Principles of Effective UI Design for Games
3. Understanding Player Psychology in UX Design
4. Creating Responsive and Accessible Game Interfaces
5. Importance of Consistency and Feedback in UX
6. Case Studies: Successful Game UI/UX Examples
7. Prototyping and Testing UI/UX Designs in Games

Course Outcome:

1. Design effective and user-friendly UI for games.
2. Apply UX principles to enhance player experience in games.
3. Create responsive and visually appealing game interfaces.
4. Understand the psychology of player interaction and feedback.
5. Analyze and critique existing game UI/UX designs.

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Detailed First Year Curriculum Contents SEMESTER - III		
Course Code	:	DGA302
Course Title	:	3D Game Art Production Techniques - I

Number of Credits	:	3(L:1,T:1,P:2)
Prerequisites	;	NIL
Course Category	:	PC

Objective:

1. Acquire fundamental skills in 3D game art production.
2. Understand the basics of 3D modeling and texturing for games.
3. Explore various techniques for creating game-ready 3D assets.
4. Develop proficiency in industry-standard 3D art tools.
5. Gain insights into the workflow of 3D game art production.

Course Content:

1. Introduction to 3D Game Art Production
2. Fundamentals of 3D Modeling for Games
3. Texturing Techniques for Game Assets
4. UV Mapping and Unwrapping in 3D Game Art
5. Creating 3D Characters and Environments
6. Introduction to Sculpting for Games
7. Overview of 3D Art Software Tools
8. Workflow in 3D Game Art Production

Course Outcome:

1. Create 3D game assets using industry-standard techniques.
2. Demonstrate proficiency in 3D modeling for games.
3. Apply texturing techniques to enhance game asset visuals.
4. Understand the importance of UV mapping in 3D game art.
5. Develop a portfolio showcasing 3D game art skills.

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Detailed First Year Curriculum Contents SEMESTER - III		
Course Code	:	DGA303
Course Title	:	Digital Sculpting Techniques
Number of Credits	:	4(L:1,T:2,P:2)
Prerequisites	;	NIL
Course Category	:	PC

Objective:

1. Develop advanced skills in digital sculpting for game art.
2. Understand the principles and techniques of digital sculpting.
3. Explore the use of digital sculpting tools for character design.
4. Learn to create detailed and visually appealing 3D sculpts.
5. Apply digital sculpting in the context of game asset creation.

Course Content:

1. Introduction to Digital Sculpting
2. Tools and Techniques in Digital Sculpting Software
3. Anatomy Study for Digital Sculpting
4. Creating Detailed Characters and Creatures
5. Sculpting Environments and Props for Games
6. Integration of Digital Sculpting in Game Art Workflow
7. Texturing and Rendering in Digital Sculpting
8. Real-world Applications of Digital Sculpting

Course Outcome:

1. Produce detailed digital sculpts for game characters and environments.
2. Demonstrate proficiency in digital sculpting software.
3. Apply anatomical knowledge to enhance digital sculpts.
4. Integrate digital sculpting into the broader game art creation process.
5. Develop a portfolio showcasing digital sculpting skills.

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Detailed First Year Curriculum Contents SEMESTER - III		
Course Code	:	DGA304
Course Title	:	Game Engine fundamentals - I
Number of Credits	:	4(L:1,T:2,P:2)
Prerequisites	;	NIL
Course Category	:	PC

Objective:

1. Acquire a foundational understanding of game engines and their components.
2. Explore the basics of game development environments and tools.
3. Understand the principles of game physics, rendering, and scripting.
4. Learn to create simple games using fundamental game engine features.
5. Gain insight into the role of game engines in the game development pipeline.

Course Content:

1. Introduction to Game Engines and Development Environments
2. Components of Game Engines: Physics, Rendering, and Scripting
3. Overview of Popular Game Engines: Unity and Unreal Engine
4. Basics of Game Asset Integration and Asset Pipelines
5. Creating Simple Games: Projects and Exercises
6. Game Engine Scripting and Programming Fundamentals
7. Optimization Techniques for Game Engines
8. Real-world Applications of Game Engine Fundamentals

Course Outcome:

1. Develop basic games using popular game engines.
2. Understand the underlying principles of game engine components.
3. Demonstrate proficiency in scripting for game development.
4. Integrate game assets into a cohesive game environment.
5. Apply optimization techniques for efficient game development.

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Detailed First Year Curriculum Contents SEMESTER - III		
Course Code	:	DGA305
Course Title	:	Storytelling for Games
Number of Credits	:	2(L:1,T:1,P:0)
Prerequisites	;	NIL
Course Category	:	PC

Objective:

1. Comprehend the role of storytelling in the context of game development.
2. Develop narrative skills tailored for interactive and immersive gaming experiences.
3. Understand the structure of game narratives, including character development and plot arcs.
4. Explore different storytelling techniques and styles in the gaming industry.
5. Apply storytelling principles to enhance the overall gaming experience.

Course Content:

1. Importance of Storytelling in Game Design
2. Elements of Game Narratives: Characters, Settings, and Plot
3. Narrative Structures in Games: Linear vs. Non-linear Approaches
4. Dialogue Writing and Voice Acting for Games

5. Role of Storyboards and Animatics in Game Storytelling
6. Interactive Storytelling and Player Agency
7. Case Studies: Successful Game Storytelling Examples
8. Collaborative Storytelling in Game Development Teams

Course Outcome:

1. Develop compelling and engaging game narratives.
2. Create characters and settings that resonate with the target audience.
3. Understand and implement different narrative structures in game design.
4. Demonstrate proficiency in dialogue writing and voice acting for games.
5. Apply storytelling techniques to enhance the player's interactive experience.

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Detailed First Year Curriculum Contents SEMESTER - IV		
Course Code	:	DGA401
Course Title	:	Game Psychology & Research
Number of Credits	:	2(L:2,T:0,P:0)
Prerequisites	;	NIL
Course Category	:	PC

Objective:

1. Understand the psychological aspects influencing player behavior in gaming.
2. Apply psychological principles to create engaging and immersive game experiences.
3. Explore research methods to gather insights into player preferences and trends.
4. Analyze the impact of game design choices on player emotions and motivations.
5. Utilize psychological research to enhance game mechanics and user experiences.

Course Content:

1. Introduction to Game Psychology: Motivations and Rewards
2. Player Types and Gaming Preferences
3. Behavioral Psychology in Game Design
4. Emotions and Immersion in Games
5. User Experience (UX) Research in Gaming
6. Ethical Considerations in Game Psychology and Research
7. Case Studies: Successful Implementation of Game Psychology
8. Playtesting and Iterative Design based on Psychological Feedback

Course Outcome:

1. Apply psychological principles to create games that resonate with diverse player types.

2. Understand the emotional impact of game design choices on players.
3. Conduct effective user research to inform game design decisions.
4. Implement ethical considerations in applying psychology to game design.
5. Enhance user experiences through playtesting and iterative design based on psychological insights.

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Detailed First Year Curriculum Contents SEMESTER - IV		
Course Code	:	DGA402
Course Title	:	3D Game Art Production Techniques - II
Number of Credits	:	3(L:1,T:2,P:0)
Prerequisites	;	NIL
Course Category	:	PC

Objective:

1. Develop advanced skills in 3D modeling for game environments and characters.
2. Master texturing and painting techniques for realistic and stylized game assets.
3. Understand advanced 3D animation principles for game characters and objects.
4. Explore body mechanics and rigging for creating dynamic and responsive game animations.
5. Apply industry-standard techniques for creating visually appealing and cohesive game art.

Course Content:

1. Advanced 3D Modeling Techniques
2. Texturing and Painting for Game Assets
3. Advanced 3D Animation Principles
4. Body Mechanics in Game Animation
5. Rigging for Game Characters
6. Industry-standard Game Art Production Techniques
7. Case Studies: Successful Game Art Production in the Gaming Industry
8. Project Work: Application of Advanced Techniques in a Game Art Project

Course Outcome:

1. Create complex 3D models for game environments and characters.
2. Apply advanced texturing and painting techniques for realistic and stylized game assets.
3. Demonstrate proficiency in advanced 3D animation principles for games.
4. Rig game characters for dynamic and responsive animations.
5. Produce high-quality game art using industry-standard techniques.

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Detailed First Year Curriculum Contents SEMESTER - IV		
Course Code	:	DGA403
Course Title	:	Mobile Game art & Design
Number of Credits	:	2(L:1,T:1,P:0)
Prerequisites	;	NIL
Course Category	:	PC

Objective:

1. Understand the unique challenges and opportunities in mobile game art and design.
2. Develop skills in creating optimized and visually appealing assets for mobile platforms.
3. Explore effective design principles for mobile game interfaces.
4. Master the art of creating engaging and intuitive user experiences in mobile games.
5. Learn the technical aspects of mobile game design, including performance optimization.

Course Content:

1. Introduction to Mobile Game Art and Design
2. Creating Optimized Assets for Mobile Platforms
3. Design Principles for Mobile Game Interfaces
4. User Experience (UX) Design for Mobile Games
5. Technical Aspects of Mobile Game Design
6. Case Studies: Successful Mobile Game Art and Design Projects
7. Project Work: Designing a Mobile Game from Concept to Execution

Course Outcome:

1. Create visually appealing and optimized game assets for mobile platforms.
2. Apply effective design principles to mobile game interfaces.
3. Design engaging and intuitive user experiences for mobile games.
4. Understand and implement technical aspects for mobile game design.
5. Develop a comprehensive mobile game art and design project from concept to execution.

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Detailed First Year Curriculum Contents SEMESTER - IV

Course Code	:	DGA404
Course Title	:	Game Engine fundamentals - II
Number of Credits	:	3(L:1,T:2,P:0)
Prerequisites	;	NIL
Course Category	:	PC

Objective:

1. Deepen understanding of advanced concepts in game engines.
2. Master the use of advanced features and tools within game engines.
3. Develop proficiency in scripting and programming for game development.
4. Explore advanced techniques for optimizing game performance.
5. Understand the integration of game art assets and design into complex game engines.

Course Content:

1. Advanced Features and Tools in Game Engines
2. Scripting and Programming for Game Development
3. Advanced Techniques for Optimizing Game Performance
4. Integration of Complex Game Art Assets
5. Real-time Collaboration and Version Control in Game Development
6. Case Studies: Advanced Game Engine Implementation
7. Project Work: Developing a Game Level Using Advanced Engine Features

Course Outcome:

1. Utilize advanced features and tools within game engines proficiently.
2. Demonstrate expertise in scripting and programming for game development.
3. Implement advanced techniques to optimize game performance.
4. Integrate complex game art assets seamlessly into game engines.
5. Collaborate in real-time and use version control in the game development process.
6. Develop a game level showcasing proficiency in advanced engine features.

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Detailed First Year Curriculum Contents SEMESTER - IV		
Course Code	:	DGA405
Course Title	:	Game Audio foundations
Number of Credits	:	2(L:1,T:1,P:0)
Prerequisites	;	NIL

Course Category	:	PC

Objective:

1. Understand the fundamental principles of game audio design.
2. Explore techniques for creating immersive and interactive game audio experiences.
3. Master the use of audio editing tools and software in game development.
4. Learn to integrate music and sound effects into different game genres.
5. Gain insights into the psychological impact of audio in gaming.

Course Content:

1. Principles of Game Audio Design
2. Techniques for Interactive Game Audio
3. Audio Editing Tools and Software in Game Development
4. Music and Sound Effects Integration in Different Game Genres
5. Psychological Impact of Audio in Gaming
6. Case Studies: Notable Examples of Effective Game Audio Implementation
7. Project Work: Designing and Implementing Game Audio for a Game Level

Course Outcome:

1. Apply fundamental principles to design effective game audio.
2. Implement techniques for creating immersive and interactive audio experiences.
3. Proficiently use audio editing tools and software in game development.
4. Integrate music and sound effects seamlessly into various game genres.
5. Understand the psychological impact of audio and its role in enhancing gaming experiences.
6. Showcase practical skills through the design and implementation of game audio for a game level.

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Detailed First Year Curriculum Contents SEMESTER - IV		
Course Code	:	DGA406
Course Title	:	JavaScript Programming
Number of Credits	:	2(L:1,T:1,P:0)
Prerequisites	;	NIL
Course Category	:	PC

Objective:

1. Develop proficiency in JavaScript programming for game development.
2. Understand the role of JavaScript in creating interactive and dynamic game elements.
3. Learn to use JavaScript to manipulate and control game behavior.
4. Explore advanced concepts of JavaScript relevant to game programming.
5. Apply JavaScript in conjunction with other game development technologies.

Course Content:

1. Introduction to JavaScript for Game Development
2. Basics of Interactive and Dynamic Web Content
3. JavaScript for Game Behavior Control
4. Advanced JavaScript Concepts for Games
5. Integration of JavaScript with Game Development Technologies
6. Practical Exercises and Coding Assignments
7. Mini-Project: Developing a Simple Game Using JavaScript

Course Outcome:

1. Acquire proficiency in JavaScript programming for game development.
2. Demonstrate the ability to create interactive and dynamic game elements using JavaScript.
3. Apply JavaScript to manipulate and control various aspects of game behavior.
4. Understand advanced JavaScript concepts relevant to game programming.
5. Integrate JavaScript effectively with other game development technologies.
6. Showcase practical skills through the development of a simple game using JavaScript.

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Detailed First Year Curriculum Contents SEMESTER - IV		
Course Code	:	DGA407
Course Title	:	Community Connect
Number of Credits	:	2(L:0,T:2,P:0)
Prerequisites	;	NIL
Course Category	:	PC

Objective:

1. Understand the concept and importance of community engagement in media communication.
2. Explore various strategies for fostering community connections.

3. Develop skills in creating and maintaining positive relationships with diverse communities.
4. Understand the role of media in building and sustaining community partnerships.
5. Gain insights into the ethical considerations of community engagement in media.
6. Learn effective communication methods for community outreach.
7. Explore case studies and best practices in successful community connect initiatives.
8. Develop practical skills in designing and implementing community-oriented media projects.

Course Content:

1. Introduction to Community Connect in Media Communication
2. Strategies for Fostering Community Connections
3. Building Positive Relationships with Diverse Communities
4. Media's Role in Building and Sustaining Community Partnerships
5. Ethical Considerations in Community Engagement
6. Effective Communication Methods for Community Outreach
7. Case Studies and Best Practices in Community Connect Initiatives
8. Designing and Implementing Community-Oriented Media Projects

Course Outcome:

1. Comprehensive understanding of community engagement in media communication.
2. Proficiency in devising strategies for effective community connections.
3. Skills in building positive relationships with diverse communities.
4. Understanding the role of media in fostering community partnerships.
5. Ethical awareness in community engagement practices.
6. Effective communication methods for successful community outreach.
7. Knowledge of case studies and best practices in community connect initiatives.
8. Practical skills in designing and implementing community-oriented media projects.

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