



(ISO 9001:2015 Certified)

BDES GAME DESIGN

(w.e.f. 2023)

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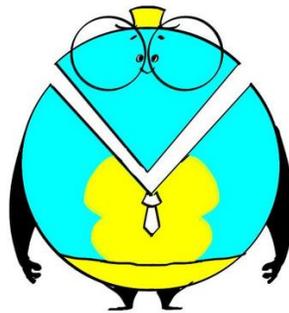
B.Des Game Design

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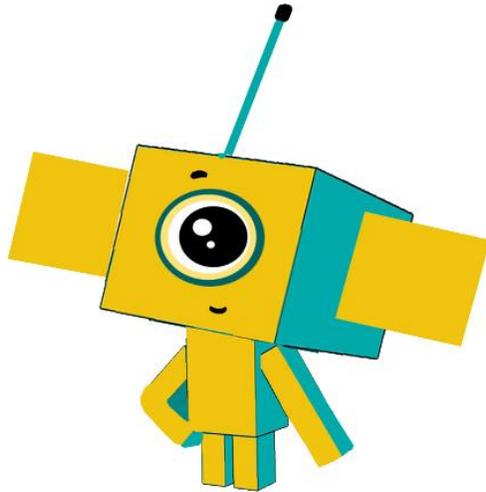
SCHOOL OF DESIGN
GAME DESIGN



Bachelor of Design
Coursebook, 2023

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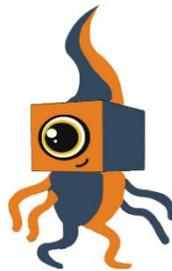
Game Design

Game design is a vast field, drawing from the fields of computer science/programming, creative writing, and graphic design. Game designers take the creative lead in imagination and bringing that into a video game world. Game designers involve taking the design specifications of the game designers, integrating the art and sound, and translating it all into a playable game. The successful Game design uses technology and principles of good interaction and communication to create desired gameplay experiences.

The practice of Game design has been started long back in the field of human computers. The Game design focuses on the gamer's experience. This course requires a lot of artistic skills, creativity, logic, and computer skills, particularly in the area of visual, sculpting, scripting languages, and application programming interfaces.

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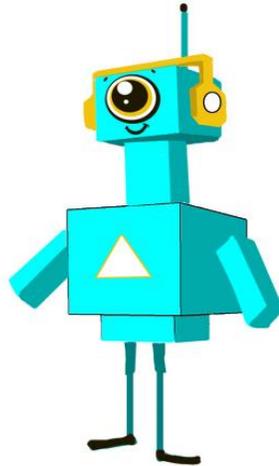
Intent

The game design program is intended to create a creative mindset of students who will know research methodology, game history, user experience, modeling, character design, environment design, programming, and game engine.

Students will be nurtured for the entrepreneurial skill and business attitude along with empathy for either client or target consumers. Students shall serve as game designers, asset designer, art directors, level designers, character designers, concept artists, user interface designers, 3D artists, game programmer, Lighting artist, illustrators, cinematic artists, at the end of this course.

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POs / Program Outcomes

PO 1: Develop Creative Mind-set

Prepare the mind for the unexpected and explore on unknown ground

PO 2: Empathy

Develop the art of empathy to diving deep into the problem statement.

PO 3: Creative Articulation

Developing the skills to articulate and communicate

PO 4: Discovery to Realization

Developing a strong process-oriented mind-set in order to Find Insights ranging from small incremental change to Undiscovered value addition for both the end consumer and the service provider.

PO 5: Design for Future

Developing an analytical thinking process which can look and dig into the uncertainties and the promises of the intelligent objects and technologies of the future and finding scope of design to enhance the lives of people.

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PO 6: Inter-Disciplinary Approach

Inculcate inter-disciplinary mind set to bring a holistic approach towards the overall design process in order to deliver a cohesive outcome.

PO 7: Entrepreneurial Spirit

Develop the ability to think innovatively, take risks, develop and successfully commercialize solutions in evolving market conditions

PO 8: Teamwork

Demonstrate knowledge and understanding of the design principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

PO 9: Professional Ethics

Apply ethical principles and commit to professional ethics and responsibilities and norms of the design practice.

PO 10: Sustainable Solutions

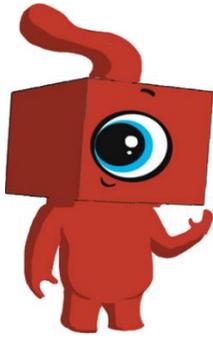
Understand the impact of design in the societal and environmental contexts, and demonstrate the knowledge of, and ability to come up with sustainable solutions.

PO 11: Local & Global Context

To demonstrate the knowledge and sensitivity towards local needs and come up with solutions that contribute towards nation building while achieving international quality and benchmarks.

PO 12: Lifelong learning

Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.



PSOs / Program Specific Outcomes

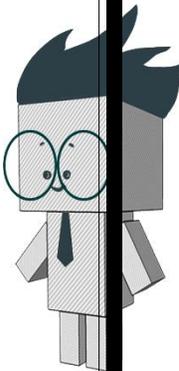
PSO1 - Understand Game Development Stages

Imbibe and be sensitized towards elements and idioms constituting game design and elements of game design



PSO2 – Understand Environment and Character Design

Students will learn different aspects of Character and Environment design from mise-en-scene and concept art to 3D modeling through developing their game character and environment. Students will have advanced skills in character design from character development to drawing and animation and 3D modeling through developing your character.



PSO3 - Develop Programming Language and Application

Appreciate the role technology plays in the creative process, collaboration, and individual practice to Identify and anticipate new technology and rapidly adapt to the changing technological landscape

PSO4 – Develop Advance skills AI and AR/VR/XR

Understand the tools AR/VR/XR technologies and other available technologies, how they are used, and what their future holds.

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Foundation Program Course Grid Overview



Foundation Year **1**, Semester **1**

In this is a foundation semester for design students. Foundation courses listed in the table help students to build design skills. Also, students will learn fundamentals of design including elements of design, engineering graphics, and material handling

SL. No.	Course Name	C	L	T	P	H
1	Sketching Drawing 1	5	0	4	0	

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2	Elements of Design	3	1	4	2	
3	Colour	4	0	5	2	
4	Geometry	5	0	4	0	
5	SLA	2	0	4	0	
6	Material exploration I	2	0	0	4	
7	Learning how to learn	2				
8	Living Conversations	2				
	Total	25	1	21	8	30

Foundation Year 1, Semester 2

This is a foundation semester for design students. Foundation courses listed in the table help students to build design skills (Sketching and software skills). Also, students will learn fundamentals of design including principles of design, visual composition, photography and material handling.

SL. No.	Course Name	C	L	T	P	
1	Sketching Drawing 2	5	0	4	0	
2	Principles of Design	5	1	4	2	
3	Design Process	6	0	4	0	
4	Computer Applications	2	0	1	2	
5	Material exploration II	2	0	5	2	
6	Leadership and Teamwork	2	0	2	0	
7	Critical Thinking and Writing	3	0	1	2	
	Total	26	1	21	8	30

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Year 2, Semester 3

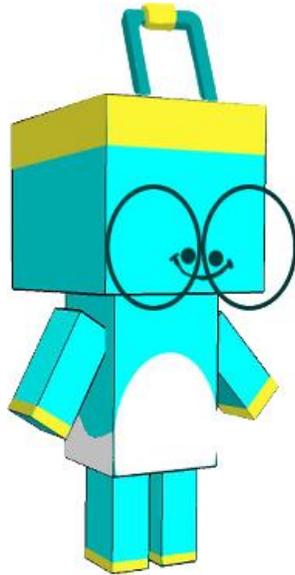
This year's semesters program's intensive curriculum is to be devoted and build basic bricks for visualization, with core courses as developing skills for Students are exposed to the fundamentals of game theory; unpacking the principles that make games, such as chess, dice, and cards, popular across centuries and cultures. Building on this base, students analyze contemporary non-digital games and discuss the risk/reward, captured through research theory. The result of this class is the development of a game document prototype.

Semester 3, Course grid with CLTP allocation

SL. No.	Course Name	C	L	T	P	H
1	History of Game design	2	1	1	0	2
2	Principles of Game Design	2	1	1	0	2
3	PE-1 Character Design and Creature design	2	1	0	2	3
4	Creative 3D	3	1	2	4	5
5	Project 1: Board Games	5	1	2	6	9
6	Design Thinking	2				
7	Ethical Leadership in the 21st Century (Human Values and Ethics)	3				
8	Exploratory Elective 1	3				
	Total	22				30

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Year 2, Semester 4

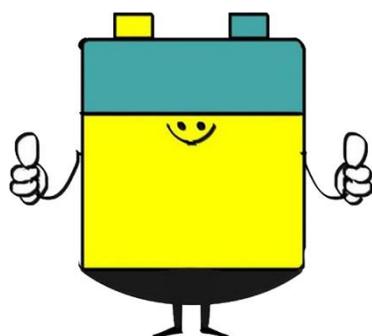
This introductory course focuses on the modeling and texturing skills required to build simple environments. Using Maya/Max, students begin by modeling simple objects. After practicing these techniques, they move on to design and build an environment.

Strong 3D characters and character animations are keys parts of modern games. Games like God of War or Call of Duty have well-defined characters that are central for users to see and control. In 3D modeling, we investigate what makes for a great game character's asset and environment design.



Semester 4, Course grid with CLTP allocation

SL. No.	Course Name	C	L	T	P	E
1	3D intermediate	3	1	0	2	
2	Creative Game Asset – I	3	2	0	2	
3	PE-2 Storyboarding and animatics / Narratives and storytelling	3	2	1	1	
4	PE-3 Indian game studies / Re- Imagining indiginious game	3	1	1	3	
5	Project 2- Concept Art for Games (Board or Card Games)	5	3	0	6	
SLICL05	Working With Data	2				
SLICS03	Environment and Sustainability - Himalaya Fellowship	3				
SLICE02	Exploratory Elective 2	3				
	Total	25				39



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Year 3, Semester 5

The Third year takes the work and understanding of details of game design, including level design, environment design, the role of the game engine in the design process. In this sem, students take a more in-depth look into the tools and techniques used to create assets used in the game development processes such as sprites Angry Birds, how to animate them and how to incorporate them into the growing field of 2D and 3D games. We continue our work into creating game-ready 3D models, creating efficient UV mapping co-ordinates while using Photoshop to create accurate color, specular, ambient, and normal texture maps that we can apply to these models. We conclude this course with an introduction to simple skeletal rigs and use them to animate models in this semester, students will also learn business planning, and they will nurture the entrepreneurial spirit. At the end of this semester, they will pursue a semester project which is choice-based.

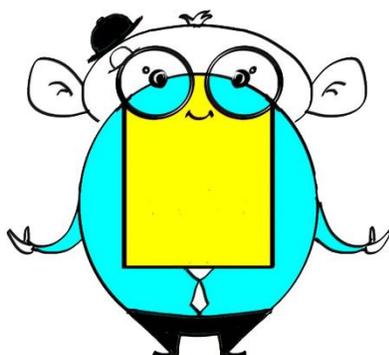


Semester 5, Course grid with CLTP allocation

SL. No.	Course Name	C	L	T	P	H
1	3D Environment - World Design	3	1	1	4	6
2	Game Technology – Programming for Games	2	3	0	2	5
3	PE-4 Basics of animation / Acting and Drama	3	1	1	4	6
4	PE-5 Game Engine Unreal/ Game Engine Unity	3	1	1	0	2
5	Project 3: 3D Game Characters/ Creatures & Environment	5	1	1	4	6
6	Persuasive Presence	2	3	0	6	9
7	Exploratory Elective 3	3				
8	Start your Start-up	3				
	Total	24				30

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Year 3, Semester 6

The 6th semester of this program is composed of building skills on the most used platform (mobile) gaming is a fast-rising sector of the game design industry. Understanding, research, and develop such games prototype, which can create an impact on society. Along with that, learn how to overcome the difficulties to port a game from rich platforms to mobile devices, which has proven risky, yet the adaptation of simple “time wasters” strikes a chord with mass audiences. This course explores the unique niche occupied by wireless and handheld game devices such as iPad games and tries to define the requirements for a successful title. Working under the mentorship of the course instructor, students design a wireless game concept. Evaluation of different types of user interfaces. Students will explore a project on innovative technology and design, such as VR, AR, etc. They need to prepare a portfolio that will help them to get an internship in the industry.

Semester 6, Course grid with CLTP allocation

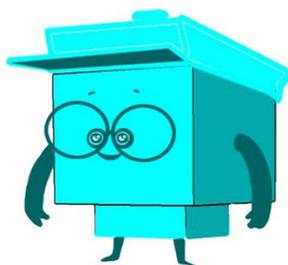
SL. No.	Course Name	C	L	T	P	E
1	UI/UX for Games	2	1	0	2	3
2	Immersive Games Technology	3	2	1	2	4
3	PE- 6 Game Assets II:Organic modeling / Game Assets II Low poly modeling	3	2	0	3	5
4	Industrial visit	1	1	1	2	4
5	Level Design for Games	3	1	1	0	2

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6	Project 4: Sequential art - Graphic novel cinematic	5	1	0	0	1
SLICE04	Exploratory Elective 4	3	3	0	6	9
SLIES01	Solving Complex Problems	3				3
SLIES02	Technologies of the Future					
SLIES03	Future Casting					
SLIES04	Managing Relationships and Being Happy					
	Total	23				



Year 4, Semester 7

In the semester 7, acquired students typically move to the advanced level and working in a group and team. They will get a chance to lead the team, applying all the learnings and experience along last three years in the form of minor project. Along with these, they will have an opportunity to explore and get an exposure to industry/ academia (out of the country) by commencing a short internship. A crucial facet of a student's preparation for the reality of a post-academic existence is the design and development of an online portfolio. Not only does this serve as a useful repository of the student's work to date, it also allows them to showcase their artistic and technical process. Using all the knowledge students will create a portfolio that showcases their best work and creativity throughout the degree program.

Semester 7, Course grid with CLTP allocation

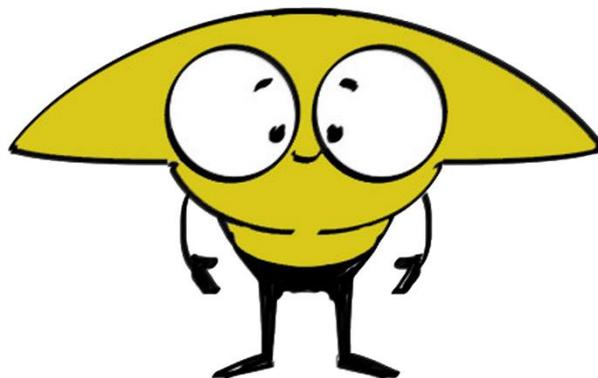
SL. No.	Course Name	C	L	T	P	H
1	Summer Internship	2	0	0	2	3
2	PE-7 Game Testing / Game Analysing	3	0	1	4	5
3	Sound Design for Games	3	1	1	2	4

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4	Social Impact Games	2	0	1	6	7
5	Project 5: Portfolio Design	5	1	1	0	2
SLICE05	Exploratory Elective 5	3	3	0	6	9
SLIES05	India and Its Place in the Contemporary World	3				30
SLIES06	Theory of Everything					
SLIES07	Digital Transformation					
SLIES08	Finding your purpose in Life					
Total		21				



Year 4,

Semester 8

The semester 8 is one of the most important semesters in terms of final project outcomes, which would reflect the Game design ability and understanding of the information, designing assets, storytelling, user experience using all the skills acquired during three and half years. During the program of their studies. Students develop a professional-caliber portfolio through their game projects here at UPES.

Semester 8, Course grid with CLTP allocation

SL. No.	Course Name	C	L	T	P	I
1	Degree Project -Game Design	15	0	0	15	30

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Pedagogy and Evaluation Methodology

Internal:

For Lecture Component:

- *Presentations*: written exam, written assignment (time-bound in-studio), skill test, written essay & oral test
- *Audio-Visual*: written exam, written assignment (time-bound in-studio), skill test
- Experience share: written assignment (time-bound in-studio), skill test, written essay & oral test
- Documentations and *Case studies*: written analysis of presented case studies
- *Project briefing*: written assignment (time bound in studio), skill test, written essay & oral test, written analysis of presented case studies
- *Assignment context explanation*: deriving written inferences & methodology on presented assignment context
- *Theory & Principles*: written exam, written assignment (time-bound in-studio), written essay & oral test



For Tutorial Component:

- *Demonstrations*: skill test with studio skill assessment
- *Explanation of assignment approach and process*:- submission of the proposed methodology
- *Group discussions*: deriving written inferences & methodology on presented assignment context
- *Group briefing*: deriving written inferences & methodology on presented assignment context
- *Citing relevance of assignments through demonstration*: skill test with cognitive & studio skill assessment

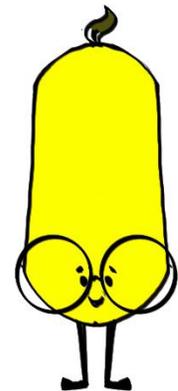
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- *Analysis technique demonstration:* skill test with studio skill assessment
- *Process Demonstrations:* skill test with cognitive & studio skill assessment

For the Practical Component:

- *Practice for refining skills:* skill test with creative, studio & innovative skill assessment
- *Iterations and alternative concept generation:* creative, studio & innovative skill assessment
- *Execution of idea:* creative, studio & innovative skill assessment
- *Implementation of project idea:* creative, studio & innovative skill assessment
- *Surveys & recording:* creative & studio skill assessment
- *Developing understanding by iterations:-* creative, studio & innovative skill assessment
- *Design Projects:* creative, studio & innovative skill assessment
- *Workshop skills:* studio & innovative skill assessment
- *Prototyping:* studio & innovative skill assessment
- *Model making:* studio & innovative skill assessment
- *Brainstorming:* creative & innovative skill assessment
- *Documentation:* creative, studio & innovative skill assessment



***** All of the teaching pedagogy and its corresponding evaluation methods shall be kept as per the requirement of the course, and the course faculty is solely responsible for the selection of teaching pedagogy and shall adopt the suggested evaluation methods as listed above.**

End-Semester Examination:

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Jury:

- A panel of jury members will be formed with at least three members (one subject matter expert specific to the design program, one internal design faculty member, and one industry expert/ another internal design faculty member).
- The jury panel will evaluate all the course outcomes based on evaluation criteria (Creative skill, Studio Skill, and Innovative Skill). The jury panel will assign both quantitative markings and qualitative feedbacks in a prescribed format. Feedbacks for each course will be recorded in a prescribed format.

Criteria of Assessment and its Definition:

- **Creative Thinking (CT)**- The CT are related to understanding and thinking of a particular subject in the design program
- **Studio Skill (SK)** – The SS is related to the quality of narrative/modeling/ illustration / digital representation skill of a student during studio practice for the particular design problem.
- **Innovative Skill (IS)** - Innovative skills are looking at something in a new way, and it is related to the quality of a student to bring unique creative solutions to an assigned design problem to a particular context.
- **Attitude Towards Learning (ATL)** – This is depending on the frequency of faculty-student interaction, which could be measured as the number of classroom attendance and one to one meeting of the student with a faculty, for assignment guidance required by a student.

*****Weightage (from 10 % to 100%) could be assigned for these above mention criteria (CT, SS, IS, and ATL) as per the requirement of evaluation of a course. However, maximum weight for ATL should be kept at 10 %.**



Foundation Year

Semester 1

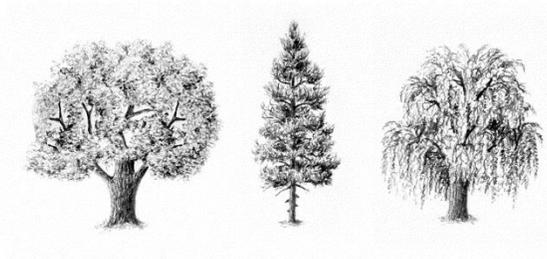
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1. Course Description

The ability to draw is a fundamental requirement of design practice. This course introduces to the essentials of freehand drawing and enables the student to draw exactly what the eye sees or what is perceived by the mind. The training starts with explaining to the student how drawing is all about coordination of hand, eye, and mind. It further extends to learning how to gain control over hand movement to achieve the desired result.



2. Learning Objectives

This module is divided into three parts:

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- Nature Drawing and Sketching
- Human and Animal drawing
- Object drawing and sketching

In the first phase, the basic principles of all three types of drawing are explained, and proficiency is achieved in drawing simple forms/shapes/perspectives/objects.

3. Course Outcomes

CO1: Students will demonstrate perpetual sharpness , to see and understand things the way others do not, conceptual,contextual & technical understanding

CO2: To develop skills on various types of sketching and drawings, e.g., nature drawing, human drawing & object drawing, perspective sketching.Use different art materials like pencils, crayons, water color, etc.

CO3: Students will learn and demonstrate how to draw any form by breaking it down into basic shape before adding final lines.

CO4: Students will learn and understand how to use light lines and basic shape to lay an accurate foundation for finished drawings and how to bring drawings to life by adding details and texture

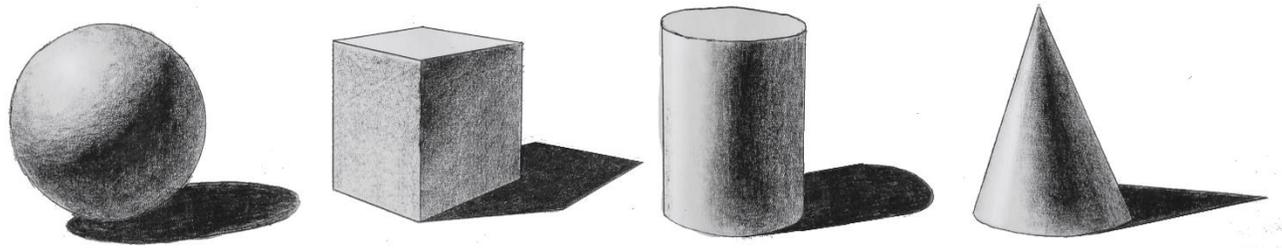
4. Course Contents

➤ **DRAWING BASICS**

Types of pencils and their compositional characteristics, how to hold a pencil, importance of wrist and elbow movements, how to draw lines and circles, importance of drawing in single strokes, gain control over eye and hand coordination.

➤ **NATURE DRAWING**

Importance of pressure while drawing a line. Impact of variation in pressure on the quality of the drawing. Understand basic units, (e.g., a leaf) their proportions and relationship with the whole. Draw simple units, without details.



➤ **HUMAN DRAWING**

Understand the proportions of the body. Anatomy, Different parts of the human body, their proportional relationship within and without, learn to draw parts with & without details.

➤ **OBJECT DRAWING**

Basic dimensions, how to build up volumes in three-dimension, representation of three axes in 2 D, principles of isometric and perspective drawing, simple isometric and perspective drawing in one, and two-point perspective.

Table: Co-relation Course Outcomes (COs) and Program Outcomes (POs)

	Develop a creative mind-set	Empathy	Creative Articulation	Discovery to Realization	Design for Future	Inter-Disciplinary Approach	Entrepreneurial Spirit	Teamwork	Professional Ethics	Sustainable Solution	Local and Global Context	Lifelong Learning	Understand Game Development Stages	Understand Environment and Character Design	Develop Programming Language and Application	Develop Advance skills in AI/AK/VK/AK
PO /C O	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PO4
CO1	3	1	1	0	1	0	1	1	1	1	1	1	0	0	0	0

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CO 2	3	1	1	0	1	0	0	1	1	1	1	1	1	0	0	0
CO 3	3	1	1	0	1	0	0	1	1	1	1	1	1	0	0	0
CO 4	3	1	1	0	1	0	0	1	1	1	1	1	1	0	0	0

0: No Relation; 1: Slight (Low); 2: Moderate (Medium); 3: Substantial (High)

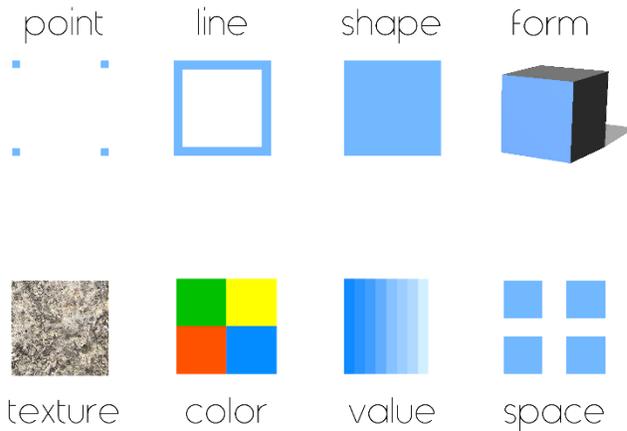
Reference Books

1. Sketching: Keys to Drawing By – Bert Dodson
2. Drawing for the Absolute Beginners By – Mark and Mary Willenbrink
3. Drawing on right side of the Brain By- Betty Edwards
4. Freehand Drawing For Architects and Interior Designers by Magali Delgado Yanes
Magali Delgado Yanes (Author), Ernest Redondo Dominguez and Maria Fleming Alvarez, W. Norton & Company
5. Perspective made easy By – Ernest. R Norling
6. How to Draw: drawing and sketching objects and environments from your imagination by Scott Robertson and Thomas Bertling, Design Studio Press
7. Sketching: The Basics by RoselienSteur an KoosEissen, BIS Publishers
8. Anatomy and Drawing by Victor Perard, Dover Publications
9. Illustration with Markers/Time-Saving Techniques for Design Professionals by John A. Gleason, Whitney Library of Design
10. Rendering with Pen and Ink by Robert W. Gill, W Norton & Co Inc.

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1. Course Description

This course exposes the students to the basics of design elements. It deals with the creation of visuals in a blank format. In the first phase, exposure is given to the elements with which a visual is created... Like a dot, a line, color, texture, pattern, etc.

2. Course Objectives

The various characteristics of each element are first studied, and a series learn their applicability of practical assignments. Each student is encouraged to explore according to his/her aptitude and thought process. Such explorations imbibe sensitivity towards the various characters of each element and the variations that can be created by appropriate utilization of these characteristics.

3. Course Outcomes

CO1: Identify and apply the elements and principles of visual design when visually communicating information and ideas

CO2: Students will develop and produce relevant projects using various media and technologies both traditional and contemporary.

CO3: To learn different elements of design and its applications students will perform a useful critical analysis of communication, form and concept

CO4: Students will be able to solve visual/conceptual/and technical problem through independently and collaboratively.

CO5: Students will learn and understand how to assess and present their research, process and outcome in an articulate manner.

CO6: Students will be able to present themselves and their work in a professional manner

4. Course Contents

- DOT

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What is a dot? Arrangement of dots, image creation with dots, the density of dots, impact of varying densities of dots, relationship of density with clarity of pictures/images,

- **LINE**
Line as extension of dots, straight and curved lines, various attributes of line, (width, thickness, weight, length, direction) combination of various types of lines, effect of line orientations,
- **TEXTURE AND PATTERN**
What is texture? Texture and pattern in nature and human-made environment, analysis of texture and patterns, exploration with different media
- **SHAPE**
Definition/identification of shape, (through lines, value, color, texture, etc.) Geometric and organic shapes. Linear and complex shapes. Interaction of shapes
- **SIZE/SCALE**
Basic understanding of scale and size. How sizes play a role in gaining/losing dominance over other elements in a given format.
- **FORM AND SPACE**
Definition of negative and positive spaces. Relationship between positive and negative spaces. The transition from space to form and vice versa.

Table: Co-relation Course Outcomes (COs) and Program Outcomes (POs)

	Develop a creative mind-set	Empathy	Creative Articulation	Discovery to Realization	Design for Future	Inter-Disciplinary Approach	Entrepreneurial Spirit	Teamwork	Professional Ethics	Sustainable Solution	Local and Global Context	Lifelong Learning	Understand Game Development Stages	Understand Environment and Character Design	Develop Programming Language and Application	
P O/ C O	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO1	PSO2	PSO3	PSO4

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C O 1	3	0	3	0	0	0	0	1	1	1	1	1	0	0	0	0
C O 2	3	0	3	0	0	0	0	1	1	1	1	1	0	1	0	0
C O 3	3	0	3	0	0	0	0	1	1	1	1	1	0	0	0	0
C O 4	3	0	3	0	0	0	0	1	1	1	1	1	0	0	0	0
C O 5	3	0	3	0	0	0	0	1	1	1	1	1	0	0	0	0
C O 6	3	0	3	0	0	0	0	1	1	1	1	1	0	0	0	0

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References

1. Design Basics by David A. Lauer and Stephen Pentak, Cengage Learning.
2. Logic and Design: In Art, Science, and Mathematics by Krome Barratt, Green Editorial.
3. Illustrated Elements of Art and Principles of Design by the consultant: Gerald F. Brommer, Crystal Productions.
4. Design Elements: Understanding the rules and knowing when to break them by Timothy Samara, Rockport Publishers.
5. Design Elements, Form & Space: A Graphic Style Manual for Understanding Structure and Design by Dennis Puhalla, Rockport Publishers.
6. Universal Principles of Design by William Lidwell, Kritina Holden and Jill Butler, Rockport Publishers.

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1. Course Description

This is perhaps the essential element of design. It is being treated as a separate subject, due to its importance.

2. Learning Objectives

This subject exposes the student to the basic characteristics of color and results obtained by its combinations. The emphasis is not on the psychological impact of color, but on learning the underlying theory, through practical assignments.

3. Course Outcomes

CO1: Students will demonstrate skills in designing with color .To learn color theory and its application in design.

CO2: To understand the color psychology and its application in design.

CO3: Developing sensitivity through hue, value , intensity , proportion and placement in a composition.

CO4: Students will understand and gain a visual awareness and critical observation of color.

CO5: Students will learn & understand how to use the color psychology which can influence viewers perception.

CO6: Students will be better equipped to problem a problem-solving attitude in a visual media marketplace

4. Course Contents

- Colour terminologies – hue, value, tint, shade, intensity, chroma, etc.
- Primary colors
- Secondary colors
- Color wheel
- Intermediate colors

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- Complimentary colors
- Split complementary colors
- Greyscale
- Colour schemes: monochromatic, warm, cool, complementary, split complementary, triadic, triadic, analogous,
- Color interaction

Table: Co-relation Course Outcomes (COs) and Program Outcomes (POs)

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CO1	3	0	3	0	1	0	0	1	1	1	1	1	0	0	0	0
CO2	3	0	3	0	1	0	0	1	1	1	1	1	0	0	0	0
CO3	3	0	3	0	1	0	0	1	1	1	1	1	0	0	0	0
CO4	3	0	3	0	1	0	0	1	1	1	1	1	0	0	0	0
CO5	3	0	3	0	1	0	0	1	1	1	1	1	0	0	0	0
CO6	3	0	3	0	1	0	0	1	1	1	1	1	0	0	0	0

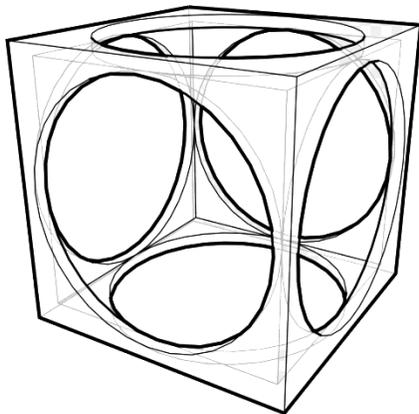
0: No Relation 1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

References

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1. Color influencing form: a color coursebook by Roy Osborne. Publication - Boca Raton, FL: Universal Publishers, 2007
2. Color, form, and space by Birren, Faber, Publication- New York. : Reinhold., 1960
3. Colour Interaction with a Three Dimensional Form by Vyas, H. K. 1968
4. Elements of Design: (Advanced) Form & Colour Vyas, H. K. Design I: The Elements Videotape;
Color, Line, Shape & Form, Pattern by Texture Atexinc.
5. The Forms of Color by Gerstner, Karl, Publication -Cambridge: The MIT Press, 1990
6. Colour for Survival by Ward, Peter, Publication - London: Orbis pub, 1980
7. Playing with color: 50 graphic experiments for exploring color design principles by Richard Mehl, Publication - Beverly: Rockport Publishers, 2013
8. Color management: a comprehensive guide for graphic designers (2005 ed.)by John T Drew and Sarah A Meyer, Publication - Switzerland: Roto Vision, 2005
9. Colour: Art & Science edited by Trevor Lamb, Janine Bourriau. Publication - Cambridge University Press.

Course: Geometry I**C: L: T: P :: 5:0:4:0****1. Course Description**

This subject exposes the student to the importance of geometry in the field of design. This exposure is more concepts oriented, unlike the textbook approach. It is expected that the student understands the underlying principles in natural and human-made creations. This knowledge is useful to the student when they create on their own as professional designers.

2. Course Outcomes

CO1: Understand geometrical terminology for angles , triangles , quadrilaterals and circles

CO2: How to measure angles using protractor and apply geometric principles in shape, form, and structure explorations.

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CO3: Students will use geometrical results to determine unknown angles & principles in analyzing human-made object drawings.

CO4: Students will create a geometrical drawings with making use of properties of angles and triangles.

3. Course Contents

➤ **IMPORTANCE OF GEOMETRY IN DESIGN**

How geometry is basic to natural and humanmade environment

➤ **GEOMETRY IN NATURE AND MAN-MADE ENVIRONMENT**

Explain through examples of both environments

➤ **OPEN AND CLOSED SHAPES WITH MULTIPLE NUMBER OF LINES**

Through visuals explain how polygons evolve

➤ **SIMPLE POLYGONS, THEIR PROPERTIES**

Regular closed polygons from 3 sided to 10 sided

Introduction to other types of polygons

➤ **IMPORTANCE OF PENTAGON, THE VITRUVIUS MAN**

Relationship between natural objects based on the pentagon, including the Vitruvius man

➤ **FIBONACCI SERIES, GOLDEN RATION, DIVINE PROPORTIONS, GOLDEN RATIO IN NATURE**

The relevance of golden ration. How the golden ratio is used by nature in its creations.

Demonstrate the importance of golden ratio in the visual world

➤ **CURVILINEAR FIGURES: CIRCLE, ELLIPSE, SPIRALS AND CONICAL SECTIONS AND THEIR CONSTRUCTION**

➤ **TESSELLATIONS IN 2 DIMENSIONS**

Table: Co-relation Course Outcomes (COs) and Program Outcomes (POs)

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	Develop a creative mind -set	Empathy	Creative Articulation	Discovery to Realization	Design for Future	Inter-Disciplinary Approach	Entrepreneurial Spirit	Teamwork	Professional Ethics	Sustainable Solution	Local and Global Context	Lifelong Learning	Understand Game Development Stages	Understand Environment and Character Design	Develop Programming Language and Application	Develop Advance skills in AI/AR/VR/XR
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CO 2	2	1	3	0	2	0	1	1	1	1	1	0	0	1	0	0
CO 3	2	1	1	0	1	0	1	1	1	1	1	0	0	0	0	0
CO 4	2	1	3	0	2	0	1	1	1	1	1	0	0	1	0	0

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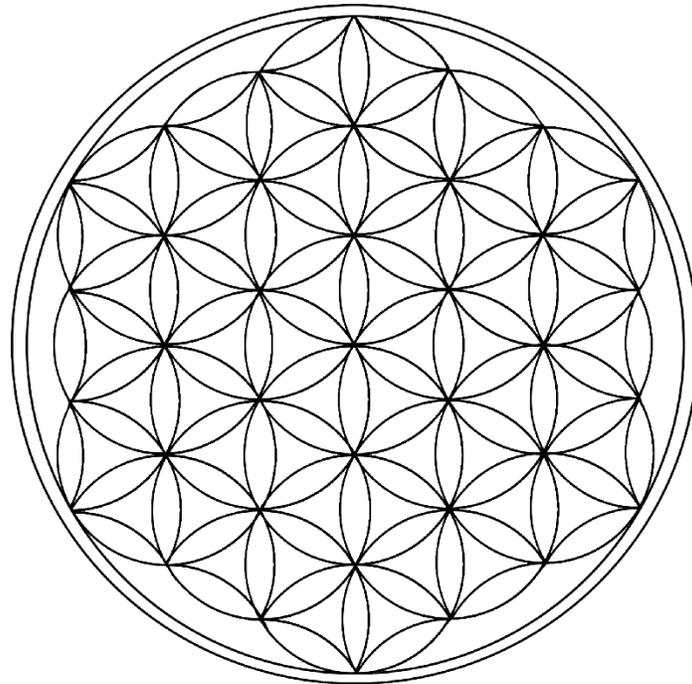
References

The geometry of Design: Studies in Proportion and Composition by Kimberly Elam, 2001

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1. *Alt.fractals: A Visual Guide to Fractal Geometry and Design* by Eric Baird,2011
2. *The Aesthetics of Geometry in Design* by Suzanne Greischel,1983
3. *Shell foundations: geometry, analysis, design, and construction* by N. P. Kurian 2006
4. *The geometry of construction* by T.B. Nichols and Norman Keep. Nichols, Trafalgar Bertram. Publication - London: Cleaver-Hume Press, 1947
5. *Ruler and Compass* by Andrew Sutton, 2009
6. *Geometric constructions: with 112 figures* by George Edward Martin,1998



1. Course Objectives

A product, once designed needs to be produced. In practical circumstances, the producer is different from the designer, and hence, the design has to be communicated to him. This mode of communication, aimed at the production of the product, is known as 'engineering drawing.' It gives all the details regarding the product – mainly its dimensions, material specifications, assembly line, etc. This course is the first step towards learning how to communicate for production purposes.

2. Course Outcomes

CO1: Use the drawing instrument effectively and able to dimension the given figures Apply Basics of drafting practice and standard nomenclatures

CO2: Appropriate use of engineering curves in tracing the parts of simple machine component. Students will understand the use scales in graphical engineering representation of a shape/form/ structure

CO3: Understand the concept of projection and acquire visualization skills and projection of point

CO4: Students will be able to draw the basic views related to projections of lines and planes

3. Course Contents

➤ **BASICS OF DRAFTING PRACTICE AND STANDARD NOMENCLATURES**

➤ **SCALE**

The Concept of scale, engineers scale, graphical scale, representative fraction, how to draw scales.

➤ **TECHNICAL CONSTRUCTIONS**

Bisect a line, draw perpendiculars, draw parallel lines, divide a line, divide a circle, bisect angle, trisect an angle, find center of an arc, reverse curves, draw any polygon, regular polygons inscribed in a circle, tangent to a circle through a point in/out of it, common tangent to given circles of equal/unequal radii, determine length of given arc.

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➤ **ORTHOGRAPHIC PROJECTIONS**

The horizontal plane, projection plane, six views of a given object, three standard views, views of simple objects, dimensioning, line thicknesses.

What is the projection? What is the projection plane? Horizontal and vertical planes, projection of a point, line, inclined line, on different planes, lettering, dimensioning, the exact length of an inclined line.

➤ **SYSTEMS OF PROJECTION**

First angle and third angle projection systems

➤ **PROJECTIONS OF SIMPLE SOLIDS**

Cube, cone, cylinder, pyramid, and prism

Table: Co-relation Course Outcomes (COs) and Program Outcomes (POs)

	Develop a creative mind-set	Empathy	Creative Articulation	Discovery to Realization	Design for Future	Inter-Disciplinary Approach	Entrepreneurial Spirit	Teamwork	Professional Ethics	Sustainable Solution	Local and Global Context	Lifelong Learning	Understand Game Development Stages	Understand Environment and Character Design	Develop Programming Language and Application	Develop Advance skills in AI/AR/VR/XR
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PO2	2	0	2	0	2	0	0	1	1	1	1	1	0	0	0	0
PO3	2	0	0	0	2	0	0	1	1	1	1	1	0	0	0	0
PO4	2	0	2	0	2	0	0	1	1	1	1	1	0	0	0	0

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References

1. Engineering Drawing, by P.S. Gill, S. K. Kataria & Sons
2. Elementary Engineering Drawing [Plane and Solid Geometry], by N.D. Bhatt, Charotar Publishing House



1. Course Objectives

A designer needs to understand the properties of material and the possibilities of its manipulation. This course aims at exposing the basic properties, simple techniques, and methods to add/remove material, and how to evolve new forms using the properties. This course exposes the student to two valuable materials: clay and plaster of Paris (PoP).

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2. Course Outcomes

CO1: Students will learn the ability to explore the expressive possibilities of various media and a diverse conceptual mode to available to the product/sculpture.

CO2: Students will learn and understand alternative approaches to the making of traditional or innovative 3 dimensional products. Use hand tools to control manipulations & give material intended forms.

CO3: Understand the properties of different materials and its manipulations like add, remove, join, etc.

CO4: Progress towards developing consistent , personal direction and style and ability to work independently

3. Course Contents

- Demo of properties of clay and pop
- Sample manipulations
- Explanation of each property
- Various methods of addition and removal
- Assignments based on explorations of properties

It is expected that each student comes up with two explorations in each material

This is entirely a manual process-based module, and only hand tools will be used for carrying out all the exercises.

Table: Co-relation Course Outcomes (COs) and Program Outcomes (POs)

PO/CO	Develop a creative mind-set	Empathy	Creative Articulation	Discovery to Realization	Design for Future	Inter-Disciplinary Approach	Entrepreneurial Spirit	Teamwork	Professional Ethics	Sustainable Solution	Local and Global Context	Lifelong Learning	Understand Game Development Stages	Understand Environment and Character Design	Develop Programming Language and Application	
PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	
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PO2	3	1	2	0	2	0	0	1	1	1	1	1	0	0	0	0
PO3	3	1	2	0	1	0	0	1	1	1	1	1	0	0	0	0
PO4	3	1	2	0	2	0	0	1	1	1	1	1	0	0	1	0

0: No Relation 1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

References

1. Learners World Clay Moulding Book Clay Tools, AC 073 ASIN B00HJ2VNNA
2. Clay Modeling Books, by Gurinder, young learner publications
3. BETWEEN CLAY AND DUST-by: MUSHARRAF ALI FAROOQI, Publisher: Aleph book company Pvt. Ltd.
4. The Potter's Complete Book of Clay and Glazes: A Comprehensive Guide to Formulating, Mixing, Applying, and Firing Clay Bodies and Glazes. by James Chappell, publisher: Watson-Guptill
5. The Incredible Clay Book. Publisher: Klutz Press by Sherri Haab (Editor), Laura Torres (Editor)
6. Create Anything With Clay, by Sherri Haab, Laura Torres publisher: Klutz press

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7. Plaster of Paris: Techniques from Scratch Paperback – by Reid Harvey publisher: Gentle breeze publication

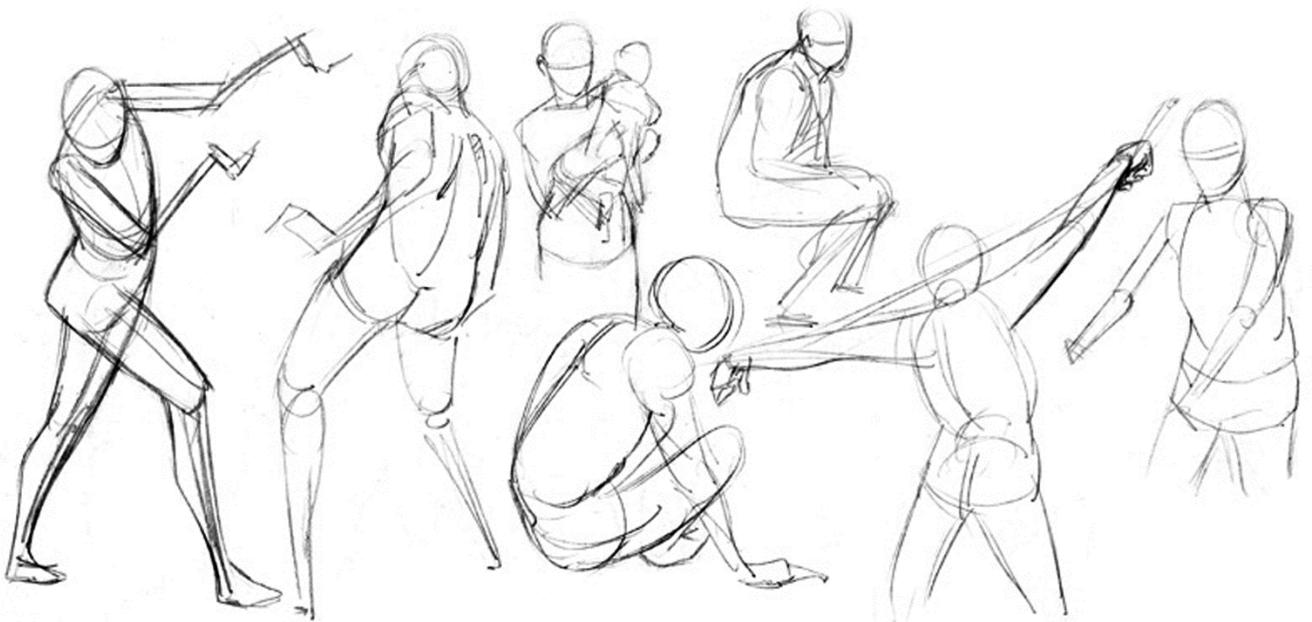
Foundation

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Year 1

Semester 2



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1. Course Objectives

This course is an extension of learning gained in semester I. Having gained the necessary skills, and the student is now prompted to move ahead, with complex cases, and make a complete drawing with details.

2. Course Outcomes

CO1: Students will learn how to create the drawings , two dimensional designs and colour .

CO2: Gain observation and rendering skills through drawings of objects including knowledge of paints and surfaces.

CO3: Students will gain Knowledge and skills in the use of basic tools techniques & processes sufficient to work from concept to final finished product

CO4: Students will learn and get understanding of fundamentals of art,colour,conceptmedia ,format and design & ability to apply them to a specific intent.

3. Course Contents**➤ NATURE DRAWING**

Nature Drawing involves more complex samples (e.g., fruits, flowers, etc.) with variation in the angle of view. Explore in various media and give finishing details. Learn to observe how characteristics change as distance and angle of view change. Rendering with pencil and poster colors.

➤ HUMAN DRAWING

Learn to draw fuller body parts and full body in various postures, with finishing details like shading, etc.

➤ OBJECT DRAWING

Learn to draw objects from our day to day life, as one form, a group of objects from various distances and angles, draw reasonable complex shapes. Develop a basic understanding of light behavior on an object and how to render it with a simple pencil. Exposure to three-point perspective drawing.

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Table: Co-relation Course Outcomes (COs) and Program Outcomes (POs)

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PO/ CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO 8	PO 9	PO10	PO11	PO12	PSO1	PSO 2	PSO 3	PSC 4
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CO2	3	1	2	0	0	0	0	1	1	1	1	1	0	1	0	0
CO3	3	1	2	0	1	0	0	1	1	1	1	1	0	0	0	0
CO4	3	1	2	0	0	0	0	1	1	1	1	1	0	1	0	0

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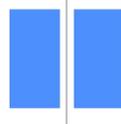
References

1. Sketching: Drawing Techniques for Product Designers by Koos Eissen(Author), Roselien Steur (Author), BIS Publishers
2. Drawing for Product Designers (Portfolio Skills: Product Design) by Kevin Henry, Laurence King Publishing
3. Perspective and Sketching for Designers by Jessica Newman
Jessica Newman and Jack Beduhn, Prentice Hall
4. Freehand Drawing For Architects and Interior Designers by Magali Delgado Yanes
Magali Delgado Yanes (Author), Ernest Redondo Dominguez and Maria Fleming Alvarez, W. W. Norton & Company
5. Design Drawing by Francis D. K. Ching and Steven P. Juroszek, Wiley
6. How to Draw: drawing and sketching objects and environments from your imagination by Scott Robertson and Thomas Bertling, Design Studio Press
7. Sketching: The Basics by RoselienSteur an KoosEissen, BIS Publishers
8. Anatomy and Drawing by Victor Perard, Dover Publications
9. Illustration With Markers/Time-Saving Techniques for Design Professionals by John A. Gleason, Whitney Library of Design
10. Rendering with Pen and Ink by Robert W. Gill, W W Norton & Co Inc

rhythm



balance



unity



proportion



contrast



dominance

1. Course Objectives

In this course, which is an extension of design basics learnt in the earlier semester, thrust is given on learning principles of visualization. Human eyes follow certain unwritten yet universally true principles. Once understood, these principles are to be thoroughly explored, to create visuals demonstrating the application of principles.

2. Course Outcomes

CO1: Understand & develop the visualization skills by learning Gestalt principle of design

CO2: Learn ways to apply the design principles in visual composition or in tangible design solutions

CO3: Students will be able to understand & implement the principles to any project

CO4: Discern visual quality through identifying visual strength and weaknesses to promote aesthetics resolution and clarity of intension

CO5: Acquire and apply fundamental skills which include mindful making and improving of work by manipulation of art and design

CO6: Students will develop skills to locate evaluate and use information resources from both traditional & emerging technologies appropriately effectively and ethically

3. Course Contents

➤ GESTALT

Introduction to Gestalt psychology. Gestalt's principles of visualization, these principles in nature, application in creative work of prominent artists/designers

➤ HARMONY AND RHYTHM

Few of the basic principles, underlying the pleasantness of a visual. What is visual harmony and what is visual disharmony? what is the impact of rhythm on a visual? These questions will be answered by a detailed and elaborate demonstration to the students, followed by exploratory assignments to be done by the students.

➤ BALANCE

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This is perhaps the most subjective principles of design. A visual looks good if it is well balanced, and if it is not, the eyes tend to reject it as unpleasant. However, it is not the physical balance but the visual balance – the interaction between the positive and negative spaces in a given format. Learning this principle involves going through and analyzing substantial examples.

➤ **SYMMETRY**

What is symmetry? What are the different types of symmetry? The discussion would involve examples of symmetry in nature and man-made environment. The exercises will also involve relation between symmetry, asymmetry and balance.

Table: Co-relation Course Outcomes (COs) and Program Outcomes (POs)

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CO3	3	0	3	0	0	0	0	1	1	1	1	1	0	0	0	0
CO4	3	0	3	0	0	0	0	1	1	1	1	1	0	0	0	0

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CO5	3	0	3	0	0	0	0	1	1	1	1	1	0	0	0	0
CO6	3	0	3	0	0	0	0	1	1	1	1	1	0	0	0	0

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5. Design Elements, Form & Space: A Graphic Style Manual for Understanding Structure and Design by Dennis Puhalla, Rockport Publishers
6. Universal Principles of Design by William Lidwell, Kritina Holden and Jill Butler, Rockport Publishers

Course: Design Process

C: L: T: P :: 3:2:2:6

COURSE BRIEF

Design is a process. Anyone who wants to get into the field of design, irrespective of the discipline of specialization, needs to get conversant with the basic steps, their relevance, methods and approaches involved in the process of designing. Besides looking at creating visual and design vocabulary, this course will also introduce the methods and give students an overview of the process of design which is essential to understand and appreciate the design development through observation, study, exploration, ideation and perception.

LEARNING OBJECTIVE

- To introduce students to the different stages in the design process – from perception of a problem to generating a solution to the problem through investigation, analysis and synthesis.
- To understand the methodology of the problem solving process.

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COURSE CONTENTS

- Analysis and mapping of the design process.
- The morphology of the problem solving process
- Case studies
- Role of creativity in design

	Develop a creative mind-set	Empathy	Creative Articulation	Discovery to Realization	Design for Future	Inter-Disciplinary Approach	Entrepreneurial Spirit	Teamwork	Professional Ethics	Sustainable Solution	Local and Global Context	Lifelong Learning	Understand Game Development Stages	Understand Environment and Character Design	Develop Programming Language and Application	Develop Advance skills in AI/AR/VR/XR
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CO4	3	0	3	0	0	0	0	1	1	1	1	1	0	0	0	0
CO5	3	0	3	0	0	0	0	1	1	1	1	1	0	0	0	0

COURSE OUTCOMES

B.Des Game Design

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Knowledge & Understanding:

After completing this course, you will be able to:

- CO1: Understand the steps involved in design process.
- CO2: Interpret and analyze visual and textual information to develop perception and ideas for expression.

Skills and Attributes:

- CO3: Design a thoughtful tangible outcome using skill, knowledge and understanding explored in other modules.
- CO4: Document the entire learning process, exploration, progression of design understanding and sequence of design development.
- CO5: Demonstrate engagement with content via reading, researching and participating in classroom discussions and activities.

PREREQUISITES AND MATERIAL

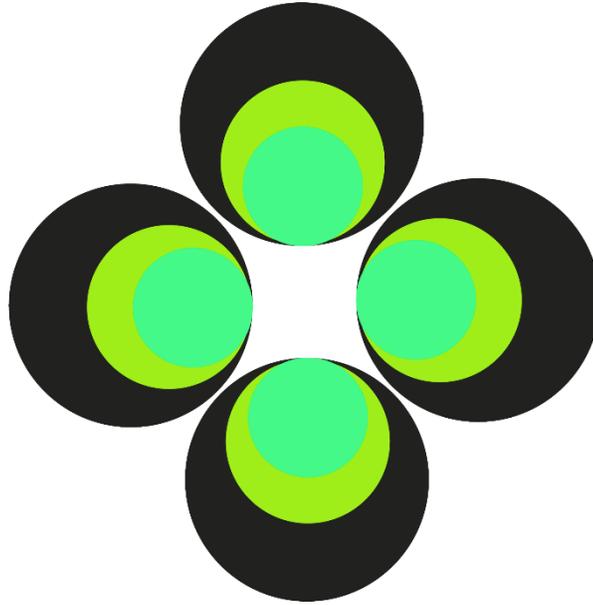
1. Basic drawing skill ,
2. Pencil (2B , 4 B, 6B) Paper (cartridge paper, color , and other types of paper)
3. Color poster acrylic, and other
4. Laptop and Camera

REFERENCE BOOKS

1. Thinking Design by S Balaram
2. The Design Process by Karl Aspelund
3. Thoughts on Design by Paul Rand
4. The Design of Everyday Things by Don Norman
5. Change by Design by Tim Brown
6. Designing for Growth by Jeanne Liedtke

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Course: Material Exploration II

C: L: T: P :: 2:0:1:0

1. Course Objectives

This course is an extension of learning undergone earlier. The pattern remains the same; however, the material changes now. This course aims at exposing the student to:

2. Course Outcomes

CO1: Understand and learn how to identify the different properties of materials like wood & Metals.

CO2: Demonstrate different ways of material handling such as removal, joining, finishing of materials, e.g., wood: deodar, sag, rosewood Metals like M.S, Aluminium, steel, etc.

CO3: Create a smooth, edgy or engraved or embossed design using different materials

3. Course Contents

- WOOD EXPLORATION
- METAL EXPLORATION
- INTRODUCTION TO WOOD AND METAL TYPES
- Wood – deodar, Sheesham, Saag, rosewood, etc., metal – M.S., aluminum, steel, etc.
- HAND METHODS TO ADD AND SUBTRACT MATERIAL

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- Use of basic hand tools – saw, chisel, file, drill, hammer, etc.
- VARIOUS PROPERTIES OF WOOD AND METAL
- Wood – floats on water, can be shaped in rectangular frames and piled, easy to drill/cut, cannot bend, etc.
- Metal – behavior in humidity, can be cut and drilled, can be bent, can be coiled, etc.
- EXPLORATION ASSIGNMENTS: TWO IN EACH MATERIAL

Table: Co-relation Course Outcomes (COs) and Program Outcomes (POs)

PO/CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO 8	PO 9	PO10	PO11	PO12	PSO1	PSO 2	PSO 3	PSO
CO1	3	0	2	1	1	0	0	1	1	1	1	1	0	0	0	0
CO2	2	0	1	1	2	0	0	1	1	1	1	1	0	1	0	0
CO3	2	0	1	1	2	0	0	1	1	1	1	1	0	1	0	0

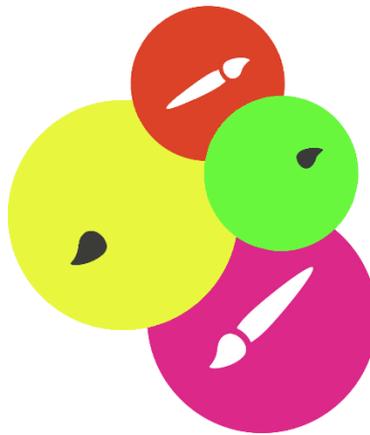
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References

1. What Wood Is That? A Manual of Wood Identification by Herbert L. Edlin (Author), publisher: Viking adult
2. Understanding Wood: A Craftsman's Guide to Wood Technology by R. Bruce Hoadley, publisher: Taunton press
3. Wood: Identification and Use, by Terry Potter, Publisher: guild of master craftsmen
4. Nature & Art of Workmanship, by David Pye
5. Creative Metal Forming – by Betty Helen Longhi (Author), Cynthia Eid (Author), publisher: Brynmorgen press
6. The Backyard Blacksmith Hardcover – by Lorelei Sims, publisher: Crestline books

**Course: Computer Applications****C: L: T: P:: 2:0:1:2****1. Course Objectives**

With the rapid pace at which digital technology has entered every aspect of our lives, it is difficult to envisage any training in the absence of software. Same holds true for design training. This module is a primary exposure to a range of software used in various design disciplines. It is assumed that the students enrolling in this program are well versed in office software like MS office.

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2. Course Outcomes

CO1: Demonstrate usage of software like MS Office, Corel draw, Illustrator, Indesign Photoshop, etc.

CO2: Understand & demonstrate various possibilities of grid, layout, title, visual & text relationship, etc.

CO3: Editing with Photoshop various experimentations with photographs & images.

3. Course Contents

➤ **COREL DRAW**

Basic exposures. Experiment with various possibilities. Assignment on making documents after explaining the principles of documentation, like grid, page layout, the sequence of titles, the relationship of visuals with the text, etc.

➤ **PHOTOSHOP**

Necessary exposures and learning to experiment with various possibilities. Application-oriented exercises with actual photographs/images.

Table: Co-relation Course Outcomes (COs) and Program Outcomes (POs)

	Develop a creative mind-set	Empathy	Creative Articulation	Discovery to Realization	Design for Future	Inter-Disciplinary Approach	Entrepreneurial Spirit	Teamwork	Professional Ethics	Sustainable Solution	Local and Global Context	Lifelong Learning	Understand Game Development Stages	Understand Environment and Character Design	Develop Programming Language and Application	Develop Advance skills in AI/AR/VR/XR
CO	PO 1	PO2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO10	PO11	PO 8	PSO1	PS O2	PS O3	PSO

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CO 1	1	0	1	0	2	0	0	1	1	1	1	1	0	0	0	0
CO 2	3	0	2	0	3	0	1	1	1	1	1	1	0	1	0	0
CO 3	3	0	3	0	3	0	1	1	1	1	1	1	0	1	0	0

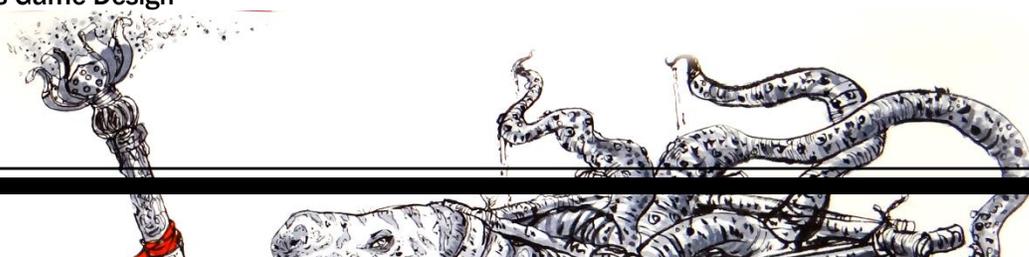
0: No Relation 1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

References

1. The Adobe Photoshop CS6 Book for Digital Photographers (English) by Scott Kelby
2. Adobe Photoshop CS6 for Photographers: A professional image editor's guide to the creative use of Photoshop for the Macintosh and PC by Martin Evening
3. CorelDRAW X6 The Official Guide by Gary David Bouton
4. The CorelDraw Wow! Book by [Linnea Dayton](#), [Shane Hunt](#), [Sharon Steuer](#)

Year 2

Semester 3



1. Course Brief:

To introduce students to the History and evolution of Games. This module aims to introduce, expose, & educate students on specific key historical milestones in the history of games. From the early stage of physical games, board games to arcade, immersive games, console, and PC games. Students are exposed to the fundamental of game theory, unpacking the principles that make games such as Chess, Dice and so forth.

2. Learning Objective:

- To read and familiarize with the what game history is all about and the Evolution of the Game design
- To understand the key milestones of the initial studios and companies

3. Course Contents:

A. Theoretical

- Introduction
 - What is History of game Design and its evolution?
- Understanding game industries technological development and its Design Process
 - Conveying game document needs: research, Sketching, and storytelling, game Scenario, generation, and requirements.
- What is Research in Game Design?
 - The Basic introduction to research methods, research questions, and understanding references.
 - Methods and Tools used in quality Research
 - Design Research – understanding how mixed methods can be used to identify the crucial needs of the context under study.
- Design Methodologies – Think-aloud sessions, contextual inquiry, interviews, questionnaires, prototyping, task analysis, Usability, Emotion assessment, Focus-groups, card-sorting, affinity analysis, Use cases

B. Practical

Students will involve in small assignments and hands-on activities. These include:

- User studies conducted in various contexts – field studies that include observations
- Conceptualization, mock-up, prototyping of Game Design document from field studies

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4. Course Outcomes

- **CO1:** Understanding stages of evolution of games. Who are the game development pioneers, and how did they contribute to the industry.
-
- **CO2:** The brief history of games from old board games, arcade, cartridge,8,16,32,64 bit,128,motion-Sensing and 3D consoles, PC, and Mobile
- **CO3:** What are the significant milestones in the history of electronic game development and why did individual game companies and titles succeed during game development history - and why did some fail miserably

Prerequisites and Materials

- Sticky notes, chart papers, color pens, threads, pinboards, whiteboards, etc. (Anything to capture user responses and analyze them – mostly on paper).
- An understanding of Design, Design Process, and Design Methods.

Table: Correlation of POs v/s COs

	Develop a creative mind-set	Empathy	Creative Articulation	Discovery to Realization	Design for Future	Inter-Disciplinary Approach	Entrepreneurial Spirit	Teamwork	Professional Ethics	Sustainable Solution	Local and Global Context	Lifelong Learning	Understand Game Development Stages	Understand Environment and Character Design	Develop Programming Language and Application	Develop Advance skills in AI/AR/VR/XR
PO/ CO	PO1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO10	PO11	PO 8	PSO 1	PSO2	PSO3	PSO4
CO1	3	1	3	3	2	3	1	1	1	1	1	1	1	3	0	0
CO2	3	3	3	3	2	3	2	1	1	1	1	1	3	2	0	0
CO3	3	3	3	3	2	3	2	1	1	1	1	1	3	1	0	0

0: No Relation 1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

Reference Books:-

1. Flint Dille and John Zurr -The Ultimate Guide to Video Game Writing and Design.
2. Scott Rogers -Level Up! The Guide to Great Video Game Design
3. Salen and Zimmerman -Rules of Play – Game Design Fundamental

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1. Course Brief:

This subject focuses on the Principle of game design, which makes students understand how to make use of these basics' rules in various virtual/real-world contexts. Students will gain a basic understanding of design principles, game-centered design (GCD) process, tools, and techniques necessary for developing an interactive prototype.

2. Learning Objective:

- To read and familiarize with the what Principles and Design Thinking one can use to build a game prototype
- To understand the scope of applications of principles of game Design through building a game prototype process.

3. Course Contents:

C. Theoretical

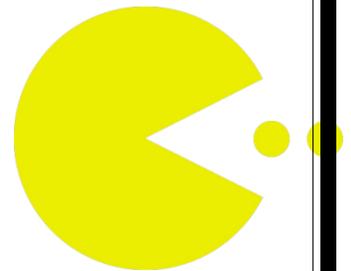
- What are game Design principles?
 - Differences between virtual and real-life gameplay
 - Historical Roots
 - Likely future developments
- Concepts of Game Design and Design Thinking
 - Laws and Principles of Game Design

D. Practical

Students will involve in small assignments in the form of hands-on activities and sessions. These include:

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- Ideating, brainstorming, reading and researching about the core principles
- Basic level user research like interviews, questionnaires, usability testing to familiarize with different GCD methodologies
- Prototyping Basic games

4. Course Outcomes

CO1: Students will understand and learn what game Design and Design Thinking is.

CO2: Students will gain understanding on conceptualization, design, and evaluation of principles.

CO3: Students will go through the history and understand the evolution of game design

5. Prerequisites and Materials

- c) A creative mindset that connects dots and knowledge from different fields. An interdisciplinary approach towards Design would be a big plus.
- d) Some analytical skills would be excellent.
- e) Prototyping will be a plus. Some enthusiasm for Arts will also be appreciated.
- f) Keeping up with new trends and emerging gaming technologies will help you go a long way – creatively and technically.

Table: Correlation of POs v/s COs

	Develop a creative mind-set	Empathy	Creative Articulation	Discovery to Realization	Design for Future	Inter-Disciplinary Approach	Entrepreneurial Spirit	Teamwork	Professional Ethics	Sustainable Solution	Local and Global Context	Lifelong Learning	Understand Game Development Stages	Understand Environment and Character Design	Develop Programming Language and Application	Develop Advance skills in
PO/CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO 8	PO 9	PO10	PO11	PO 8	PSO1	PSO2	PSO3	PO 4
CO1	2	3	3	2	2	1	1	1	1	1	1	1	2	0	0	0
CO2	3	3	2	2	2	1	1	1	1	1	1	1	2	0	0	0
CO3	3	3	2	2	2	1	1	1	1	1	1	1	2	0	0	0

0: No Relation 1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

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Reference Books:-

- Raph Koster -A Theory of Fun for Game Design-
- Challenges for Game Designers - Brenda Brathwaite
- 100 Principles of Game Design- by Wendy Despain, Zack Hiwiler
- The Art of Game Design: By Jesse Schell
- Game Design Workshop - Tracy Fullerton
- The Ultimate Guide to Video Game Writing and Design - Flint Dille and John Zurr
- Level Up! – The Guide to great video game design - Scott Rogers
- Rules of Play: Game Design Fundamentals- Salen and Zimmerman
- A Theory of Fun for Game Design- Raph Koster

Course: PE- 1 Character Design and Creature Design

C: L: T: P :: 2:1:1:2

1. Course Brief:

Character design is the process that comes after the characterization and consists of defining the character through his/her physical appearance (Anatomy). We need to consider a character as a little fictional creature. The process of conveying information about characters through its physical appearance, culture, economic status, and geographical region.

Learning Objective:

- To know how to draft the Character Design Bible
- To understand Culture, economic status, age
- To understand body mechanics, muscle structure, look and feel

2. Course Contents:

E. Theoretical

- Definition of Character Design
- Character construction
- Understanding cultural influence
- Outer look
- Believes and Goals
- Background Stories



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F. Practical

A student has to prepare Character / Creature for a movie, game, comic, using these guidelines.

- Character Construction
- Muscle Mechanics
- Aesthetics
- Drapery and material exploration
- Ornamentation and accessories

**3. Course Outcomes**

CO1: Students will gain knowledge about definitions and fundamentals of character/creature design and how to develop and write a detailed character bible

CO2: Students will understand how to gather references and use them as per design brief

CO3: Students will learn how to draw & use basic building blocks to understand the design inside out

CO4: Students will understand and learn the body and muscle mechanics

CO5: Students will create and apply various design techniques and methods to get the character done as per the drafted bible

Table: Correlation of POs an PSOs v/s COs

	Develop a creative mind-set	Empathy	Creative Articulation	Discovery to Realization	Design for Future	Inter-Disciplinary Approach	Entrepreneurial Spirit	Teamwork	Professional Ethics	Sustainable Solution	Local and Global Context	Lifelong Learning	Understand Game Development Stages	Understand Environment and Character Design	Develop Programming Language and Application	Develop Advance skills in AI/AR/VR/XR
PO / CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO 8	PSO1	PSO2	PSO3	PSO4
C1	2	2	1	1	2	1	0	1	1	1	1	1	1	3	0	2
C2	2	2	1	1	2	1	0	1	1	1	1	1	1	3	0	2
C3	3	3	1	2	1	1	0	1	1	1	1	1	1	3	0	2

0: No Relation 1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

4. Prerequisites and Materials

- Students should have a good understanding of human and animal anatomy
- Students should know how to gather specific references
- Necessary soft skills in drawing, illustration, and presentation skills might be required for this course.

Reference Books:-

- Character Design from the Ground Up - written by Kevin Crossley.
- Beginner's Guide to Sketching: Characters, Creatures, and Concepts
- Beginner's Guide to Digital Painting in Photoshop: Characters
- Modern Cartooning: Essential Techniques for Drawing Today's Popular Cartoons by Christopher Hart
- Principles of Creature design – By Terryl Whitlatch
- Force: Character Design from Life Drawing by Mike Matessi
- Creating Animated Cartoons with Character - by Joe Murray
- Character Design from the Ground Up - by Kevin Crossley
- Cartooning: The Ultimate Character Design Book by Christopher Hart

**Course: Creative 3D****C: L: T: P :: 3:2:0:2****1. Course Brief:**

Basic Introduction to Autodesk Maya and its tools and practices. Students will have their hands on modeling necessary objects digitally like (Bottles, chairs, wooden cart, all the way up to making a kitchen) with proper practices of unwrapping and texturing of the objects. Finally presenting their artwork in a rendered format. Creating Game assets include everything that can go into a game, including 3D models, sprites, sound effects, music, code snippets and modules, and even complete projects that can be used by a game engine. In this module, students will be focused on creating assets from concept sketch to 3d model.

**2. Learning Objective:**

- To learn how to think and develop game assets as per the brief.
- Basic 3D modeling
- To apply these rules of creativity for creative solutions for creating appropriate assets.

3. Course Contents:**. Practical/Tutorial**

A student has to pursue following assignments –

1. Create a game asset for an existing IP (redesign)

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2. The creative process and its Components: Form creation, handling edges (soft and hard) Culture, Resources, Knowledge, Imagination, & overall look and feel.
3. Relate the sketch and final output
4. Rethinking is the Design Thinking
5. Brain Storming, Mind Mapping and concept sketches, colors schemes

4. Course Outcomes

CO1: Student will learn how to initiate deep research and basic 3D tools. learn how to think and understand the design brief.

CO2: Students should able to apply and implement the process of Concept sketch to final finish output.

CO3: Student will understand how the transition happens form concept sketch to 3D asset

CO4: Students will be able to understand , analyze and evaluate to rethink the existing Design and redesign it



Table: Correlation of POs an PSOs v/s COs

	Develop a creative mind-set	Empathy	Creative Articulation	Discovery to Realization	Design for Future	Inter-Disciplinary Approach	Entrepreneurial Spirit	Teamwork	Professional Ethics	Sustainable Solution	Local and Global Context	Lifelong Learning	Understand Game Development Stages	Understand Environment and Character Design	Develop Programming Language and Application	Develop Advanced skills in AI/AR/VR/XR
O/C	PO 1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO 11	PO 12	PSO 1	PSO 2	PSO 3	SO4
PO1	3	1	2	2	1	1	0	1	1	1	1	1	2	2	0	0
PO2	3	1	2	2	2	1	0	1	1	1	1	1	1	2	0	0
PO3	3	1	2	2	2	1	0	1	1	1	1	1	1	2	0	0
PO4	3	1	2	2	2	1	0	1	1	1	1	1	1	2	0	0

0: No Relation 1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

5. Prerequisites and Materials

- Students should have the necessary modeling skills.
- How to sketch and render in 2D
- Basic 2D software knowledge
- Essential soft skills in illustration and presentation skills might be required for this course.

Reference Books:-

- 3D Modeling in Blender – By – Rob Tarte
- Getting started in 3D with Maya – By- Adam Watkins
- Blender 3D Incredible Machines-Book by Christopher Kuhn

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- **Beginner's Guide to Character Creation in Maya- Jahirul Amin**



Course: Design Project 1: Game Design Document

C: L: T: P :: 5:1:2:5

1. Course Brief:

Game Design document Project is essential, as students need to have theoretical as well as practical related experience. Students generally have the opportunity to apply their theoretical learnings directly into real-time project scenarios. In this very first design project of the game design program, students will have the opportunity to apply Simple game design document making Process to pursue their project focusing mainly on how to design a game document

2. Learning Objective:

- To know and understand the simplified way of how to design a game document
- To gain project handling experience
- To know the elements of GDD

3. Course Contents:

G. Practical

A student has to design a dynamic Game design document by applying knowledge gained through all other courses in semester 3. Following steps of simple game design lifecycle may be useful to pursue the design project –

- Identify needs/ establish requirements
- Design

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- Build an Interactive Version (Low Fidelity Prototype may be encouraged at this level)
- Evaluate
- Redesign (if required)

4. Course Outcomes

CO1: Student should able to apply gained knowledge from other courses of semester 3 in their design project

CO2: Student should able to examine the scope of new design under the design project

CO3: Student should able to justify the reason for selection of a design problem or solution

CO4: Students should able to formulate unique/novel/new and effective solutions against specific design problem.



Table: Correlation of POs and PSOs v/s COs

	Develop a creative mind-set	Empathy	Creative Articulation	Discovery to Realization	Design for Future	Inter-Disciplinary Approach	Entrepreneurial Spirit	Teamwork	Professional Ethics	Sustainable Solution	Local and Global Context	Lifelong Learning	Understand Game Development Stages	Understand Environment and Character Design	Develop Programming Language and Application	Develop Advance skills in AI/AR/VR/XYZ
PO/CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO 11	PO 12	PSO1	PSO2	PSO3	PSO4
CO1	1	1	1	1	1	1	0	1	1	1	1	1	3	1	0	1

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CO2	2	2	2	1	1	1	0	1	1	1	1	1	3	1	0	2
CO3	1	1	2	2	1	1	0	1	1	1	1	1	3	1	0	1
CO4	3	1	3	1	1	1	0	1	1	1	1	1	3	1	0	1

0: No Relation 1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

5. Prerequisites and Materials

- Students should have knowledge gained in the different courses under the current semester.
- Essential soft skills on communication, illustration, presentation, and prototyping might be required for this course.

Reference Books: -

- Play to Learn: Everything You Need to Know About Designing Effective Learning Games
By Sharon Boller & Karl Kapp
- The Art of Game Design: A Book of Lenses
By Jesse Schell
- Challenges for Game Designers: Non-Digital Exercises for Video Game Designers
By Brenda Brathwaite & Ian Schreiber

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Semester 4

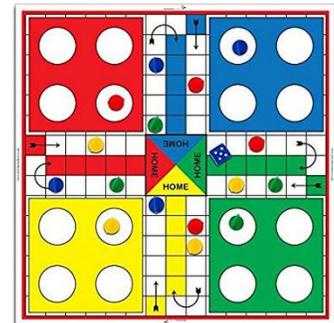
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1. Course Brief:

- Board Game Design Process is a fundamental subject of study under game development of game design program.
- Which involve:
- Generate Game Ideas.
- Develop the Concept
- Develop the Proof of Concept
- Create a Game Design Document (GDD)
- Create Prototypes
- Design Architecture
- Development
- Test the Game



2. Learning Objective:

- To learn theories and principles of board game design

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- To understand the scope of applications of principles of board game development

3. Course Contents:

H. Theoretical

- Definition of Principles and elements of game design
- Elementary ideas on playable games
- Learning and reading about how to build strategies, game mechanics and end target in-game
- User Interface and its importance
- Human emotion and its importance in gameplay
- Fundamentals on RPG, strategy, FPS and so forth

I. Practical

A student has to perform small assignments to understand the basics of the development of the game design. Tentative assignments are as follows-

- Create a board Game Document
- Develop the gameplay
- Create a board game prototype

4. Course Outcomes

CO1: Students will gain knowledge about definitions and fundamentals of the board game development process

CO2: Students will understand the principles and fundamentals of Board Game design document

CO3: Students will create an initial prototype of a original board game

Table: Correlation of POs an PSOs v/s COs

	Develop a creative mind-set	Empathy	Creative Articulation	Discovery to Realization	Design for Future	Inter-Disciplinary Approach	Entrepreneurial Spirit	Teamwork	Professional Ethics	Sustainable Solution	Local and Global Context	Lifelong Learning	Understand Game Development Stages	Understand Environment and Character Design	Develop Programming Language and Application	Develop Advance skills in
PO/CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO 8	PO 9	PO10	PO11	PO 8	PSO1	PSO2	PSO3	PS 4
CO 1	1	3	2	2	1	1	1	1	1	1	1	1	3	0	0	0
CO 2	1	3	2	2	2	1	2	1	1	1	1	1	3	1	0	0
CO 3	1	3	2	2	2	1	2	1	1	1	1	1	3	1	0	0

0: No Relation 1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

5. Prerequisites and Materials

- Students should have a basic understanding of reading, writing, research, and analyzing.
- Essential soft skills in illustration and presentation skills might be required for this course.

Reference Books:-

Play to Learn: Everything You Need to Know About Designing Effective Learning Games-By
Sharon Boller & Karl Kapp

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- Actionable Gamification – Beyond Points, Badges, and Leaderboards-*By Yu-Kai Chou*
- The Gamification of Learning and Instruction: Game-based Methods and Strategies for Training and Education-*By Karl Kapp*
- The Art of Game Design: A Book of Lenses-*By Jesse Schell*
- Challenges for Game Designers: Non-Digital Exercises for Video Game Designers-*By Brenda Brathwaite & Ian Schreiber*
- Game Design Workshop: A Playcentric Approach to Creating Innovative Games-*By Tracy Fullerton*



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1. Course Brief:

In this course, students take a more in-depth look into the tools and techniques used to create 3D models, such as weapons, cars, environment. Students continue their work into creating game-ready 3D models, creating efficient UV mapping co-ordinates while using Photoshop to create accurate color, specular, ambient, and normal texture maps that we can apply to these models. We conclude this course by creating game ready assets to import in Game engines.

2. Learning Objective:

- Strong 3D characters and environment modeling are keys parts of modern games. Games like DOTA, God of War, Destiny, or Call of Duty have well-defined characters and environments that are central for users to see and control. In 3D Intermediate, we investigate what makes for a great game that is very well balanced between Art and programming.

3. Course Contents:

A. Practical/Tutorial

- Brainstorming session and putting down ideas in required format
- Students has to design, model, texture, lighting, rig and animate it
- To apply the knowledge gained in the previous semester to design a Prop or character or environment for a specific ethnic /culture / geographical region.
-

A student has to perform small assignments to applications of modeling, texturing and lighting assignments are as follows-

- Diorama Design
- Lightening Diorama
- Texture Diorama

4. Course Outcomes

CO1: Students will learn the basics of 3D tools and understand how to apply it while building the asset

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CO2: Students will understand the scope of applications of the process which they been through, which they can apply in the final project.

CO3: Student will evaluate and create a diorama by following design brief

CO4: Students will gain knowledge about how to think 3D, model it, texture and assign a real time lighting to the asset

Table: Correlation of POs and PSOs v/s COs

	Develop a creative mind-set	Empathy	Creative Articulation	Discovery to Realization	Design for Future	Inter- Disciplinary Approach	Entrepreneurial Spirit	Teamwork	Professional Ethics	Sustainable Solution	Local and Global Context	Lifelong Learning	Understand Game Development Stages	Understand Environment and Character Design	Develop Programming Language and Application	Develop Advance skills in AI/AR/VR/XR
PO/ PSO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO 11	PO 12	PSO 1	PSO 2	PSO 3	PSO4
CO1	3	1	1	0	0	1	0	1	1	1	1	1	3	3	0	3
CO2	3	1	1	0	0	1	0	1	1	1	1	1	3	3	0	3
CO3	3	1	1	0	0	1	0	1	1	1	1	1	3	3	0	3
CO4	3	1	1	0	0	1	0	1	1	1	1	1	3	3	0	3

0: No Relation 1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

5. Prerequisites and Materials

- Students should have a basic understanding of modeling and texturing and understanding of elements and principles of design.
- Necessary skills on Maya and Photoshop

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- Students should install software mentioned above in their PC/Laptop.

Reference Books:-

- Beginner's Guide to ZBrush By 3D total
- A Hands-On Guide to Creating 3D Animated Characters

Course: Creative Game Asset – I

C: L: T: P :: 3:2:0:2



- 1. Course Brief:** In this course, students will get exposed to the process of complete the 2D process, i.e., from ideation, design draft, color exploration, from understanding the brief to make the 2D design to create the 3D object.
- 2. Learning Objective:**
 - To understand how to translate the brief into a sketch.
 - How to render a sketch by defining a shape language and color scheme
 - Draw different views as well as the magnifying view of the asset
 - Understand how to translate from 2D to 3D using specific software.

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3. Course Contents:

A. Practical/Tutorial

- Brainstorming session and putting down ideas in required format
- Students must sketch, design, model, texture, and do Lighting.
- To apply the knowledge gained in the previous semester to design a Prop or character or environment for a specific ethnic /culture / geographical region.

4. Course Outcomes

CO1: Students will gain skills on tools & techniques of 2D digital art

CO2: Students will understand and learn how to apply these tools to create and develop their production pipeline where they can understand from sketch to final finished artwork.

CO3: Student will evaluate and create a desired game asset which fits in the given scenario

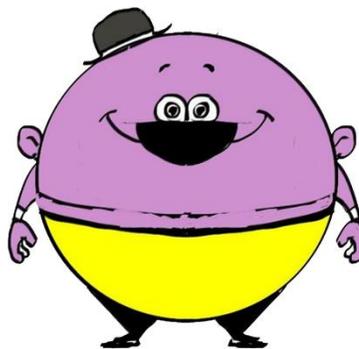


Table: Correlation of POs v/s COs

	Develop a creative mind-set	Empathy	Creative Articulation	Discovery to Realization	Design for Future	Inter-Disciplinary Approach	Entrepreneurial Spirit	Teamwork	Professional Ethics	Sustainable Solution	Local and Global Context	Lifelong Learning	Understand Game Development Stages	Understand Environment and Character Design	Develop Programming Language and Application	
PO/ CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO 11	PO 12	PSO1	PSO2	PSO3	PSO4
CO1	3	2	1	1	0	1	0	1	1	1	1	1	3	3	0	1
CO2	3	2	1	1	1	1	0	1	1	1	1	1	3	3	0	1
CO3	3	2	1	1	1	1	0	1	1	1	1	1	3	3	0	1

0: No Relation 1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

5. Prerequisites and Materials

- Good knowledge and understanding of forms, shapes, perspective and human and animal anatomy
- Able to sketch and paint digitally using a given software

6.Reference Books:-

- [How to Draw: drawing and sketching objects and environments](#) (Design Studio Press) BY-Scott Robertson, Thomas Bertling
- [Figure Drawing for Artists: Making Every Mark Count](#) By- Steve Huston
- [Digital Painting Techniques: Practical Techniques of Digital](#) By- Focal Press
- [The Skillful Huntsman: Visual Development of a Grimm Tale at](#)(Design Studio Press) By-Khang Le, Mike Yamada, Felix Yoon
- [Big Bad World of Concept Art for Video Games: An Insider's](#)- By Elliott J. Lilly

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Course Brief: Designing user interfaces has been popular since the advent of personal computers, digital games, and graphical user interfaces. Practitioners have taken it to sufficient maturity in terms of standards and collaboration and processes. This course will allow students to learn these facets and create prototypes to demonstrate how user interfaces are intended to work – as low fidelity and high-fidelity prototypes. Latter will involve exploring visual design and style elements of a user interface.

The former will focus on wire-framing, navigation. Both will be based on a good understanding of users as personas and corresponding user journeys. Secondly, a good user interface design needs to be validated by testing with users, and students will get acquainted with several testing methodologies that deal with usability and validation, especially against a variety of form factors. Lastly, students will need to understand related processes, especially from software engineering such as waterfall, agile methodologies of software development, to help align their design processes with business processes (functional requirements) and technical architectures, which together address feasibility aspects of a user interface design.

UI, or User Interface, refer to the methods (keyboard control, mouse control) and interfaces (inventory screen, map screen) through which a user interacts with your game. UX, or User Experience, refers to how intuitive and enjoyable those interactions are.

1. Learning Objective:

- Understand user and its requirement
- Optimize user's experience along with fun element
- Simpler and more intuitive HUD and icons

2.Course Contents:

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- Introduction and Overview
- What if UI and UX design?
- Concept of Usability - definition, and elaboration
- GUI Design and Aesthetics
- UI Design Process
- User Research Techniques: Interviews, Survey, Contextual Inquiries, Targeting User Group: Persona and Scenarios, etc.
- Usability evaluation of prototypes
- User Interfaces beyond screens
- Designing for AR/VR
- Voice Users Interfaces
- Gestural Interfaces

A. Practical/Tutorial

A student has to pursue following assignments – Redesign Icons and HUD of an existing game

2. Course Outcomes

CO1: Students will understand the difference between UI and UX.

CO2: Understand the fundamentals of UI design and various usability principles of good interface design.

CO3: Students will be able to evaluate how to utilize user research techniques to prototype and evaluate UIs & UX for various contexts

Table: Correlation of POs and PSOs v/s COs

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		Develop a creative mind-set	Empathy	Creative Articulation	Discovery to Realization	Design for Future	Inter-Disciplinary Approach	Entrepreneurial Spirit	Teamwork	Professional Ethics	Sustainable Solution	Local and Global Context	Lifelong Learning	Understand Game Development Stages	Understand Environment and Character Design	Develop Programming Language and Application	Develop Advance skills in AI/AR/VR/XR
PO	CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO 11	PO 12	PSO1	PSO2	PSO3	PSO4
CO1		2	2	1	1	1	2	1	1	1	1	1	1	3	0	2	1
CO2		1	1	2	0	2	3	1	1	1	1	1	1	3	0	2	0
CO3		1	1	2	0	2	3	1	1	1	1	1	1	3	0	2	0

0: No Relation 1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

3. Prerequisites and Materials

- Familiarity with UCD approach and various Design methods
- Knowledge of various UI prototyping software.
- Ability to conceptualize novel interfaces.

Reference Books:-

- **Game Development Essentials: Game Interface Design By Kevin Saunders, Jeannie Novak**
- Designing the User Experience of Game Development Tools by David Lightbown

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- 1. Course Brief:** In this course, students will get a chance to explore the domain of developing and drafting a story, draw storyboards and take it to the next level by putting that story in animatic, which is the art or principles of making motion pictures.
- 2. Learning Objective:**
 - how to develop, draft, and build an exciting and compelling story
 - Linear and Non – Linear storytelling Plot – what are users trying to achieve/overcome?
 - Character – who are the users: not just demographically, but what insights do you require to understand what they are truly like and their real needs?
 - Theme – how can you establish a trustworthy presence to them and still set yourself apart from competitors? How do you reflect on the overall obstacles users must overcome?
 - Diction – what will your design say to users, and *how*? Does a formal/informal tone match what they would expect to find? How much text is appropriate?
 - Melody – will the overall design pattern appear pleasant and predictable to users, moving them emotionally?
 - Décor – how will you present everything so the graphics match the *setting* the users can sense? Is a classic design or a stylized, niche layout in step with their expectations?
 - Spectacle – how can you make your design outstanding so users will remember it?
 -
 - how to add movement to still pictures to make it more dynamic and dramatic

3. Course Contents

B. Practical/Tutorial

- Brainstorming session and putting down ideas in required format
- Students must sketch, design, colorize, and get artwork ready to animate.
- **Students should develop a broadly interdisciplinary approach to an understanding of story and its role in the complete setup**

4. Course Outcomes

CO1: Students will gain complete knowledge of storytelling – from concept to final script

CO2: Students will learn how to translate written script to visuals by drawing and rendering digitally.

CO3: Students will understand how to write a script form scratch and how script differs in movies ,games,novels and so forth

		Develop a creative mind-set	Empathy	Creative Articulation	Discovery to Realization	Design for Future	Inter-Disciplinary Approach	Entrepreneurial Spirit	Teamwork	Professional Ethics	Sustainable Solution	Local and Global Context	Lifelong Learning	Understand Game Development Stages	Understand Environment and Character Design	Develop Programming Language and Application	Develop Advanced skills in AI/AR/VR/XR
PO	CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO 11	PO 12	PSO1	PSO2	PSO3	PO 14
		1	3	2	1	1	1	0	1	1	1	1	1	3	2	0	0

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CO2	1	2	2	1	1	1	0	1	1	1	1	1	3	3	0	0
CO3	1	2	2	1	1	1	0	1	1	1	1	1	2	3	0	0

.Table: Correlation of POs and PSOs v/s COs

0: No Relation 1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

6. Reference Books:-

- "Cinematic Storytelling", a filmmaking book by Jennifer Van Sijll
- **THE STORYTELLING ANIMAL BY JONATHAN GOTTSCHALL**
- **STORY BY ROBERT McKEE**
- **A million miles in a thousand years by donald miller**

Course: PE-3 Indian game studies / Re- Imagining indiginious game C: L: T: P :: 3 2:1:

5. Course Brief: In this course, students will get a chance to explore the domain of researching about the native games and its history at he same time students will get opportunity to re – imagine indiginious games using recent technology .

6. Learning Objective:

- how the game were developed, draft, and build an exciting and compelling story

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- Linear and Non – Linear storytelling Plot – what are users trying to achieve/overcome?
- Character – who are the users: not just demographically, but what insights do you require to understand what they are truly like and their real needs?
- Theme – how can you establish a trustworthy presence to them and still set yourself apart from competitors? How do you reflect on the overall obstacles users must overcome?
- Diction – what will your design say to users, and *how*? Does a formal/informal tone match what they would expect to find? How much text is appropriate?
- Melody – will the overall design pattern appear pleasant and predictable to users, moving them emotionally?
- Décor – how will you present everything so it matches the *setting and mechanics* the users can sense? Is a classic design or a stylized, niche layout in step with their expectations?
- Spectacle – how can you make your design outstanding so users will remember it?
-
- how to add movement to still pictures to make it more dynamic and dramatic

7. Course Contents

C. Practical/Tutorial

- Brainstorming session and putting down ideas in required format
- Students must research, sketch, design, colorize, and get artwork ready to animate.
- **Students should develop a broadly interdisciplinary approach to an understanding of story and its role in the complete setup**

8. Course Outcomes

CO1: Students will gain complete knowledge of finding out the key factors – from concept to final act of game

CO2: Students will learn how to translate the existing played to visuals by drawing and rendering digitally.

CO3: Students will understand how to find out features , game mechanics and game play

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.Table: Correlation of POs and PSOs v/s COs

	Develop a creative mind-set	Empathy	Creative Articulation	Discovery to Realization	Design for Future	Inter-Disciplinary Approach	Entrepreneurial Spirit	Teamwork	Professional Ethics	Sustainable Solution	Local and Global Context	Lifelong Learning	Understand Game Development Stages	Understand Environment and Character Design	Develop Programming Language and Application	Develop Advanced skills in AI/AR/VR/XR
PO/CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO 11	PO 12	PSO1	PSO2	PSO3	PO 14
CO1	1	3	2	1	1	1	0	1	1	1	1	1	3	3	0	0
CO2	1	2	2	1	1	1	0	1	1	1	1	1	3	3	0	0
CO3	1	2	2	1	1	1	0	1	1	1	1	1	3	3	0	0

0: No Relation 1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

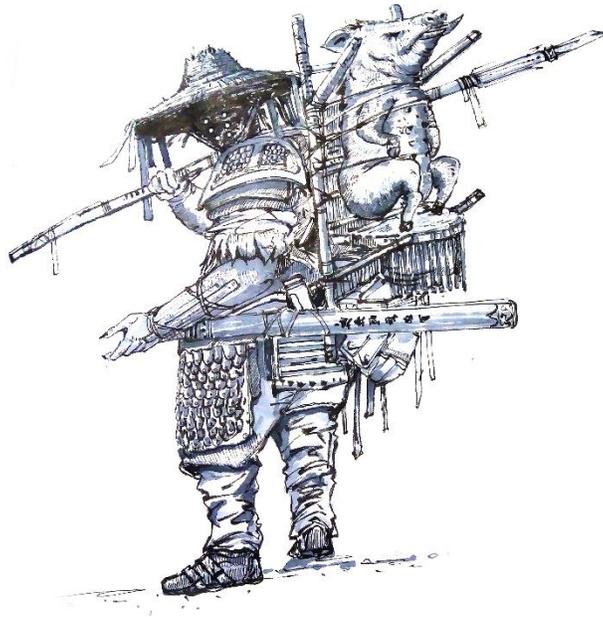
6.Reference Books:-

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- **THE STORYTELLING ANIMAL BY JONATHAN GOTTSCHALL**
- **STORY BY ROBERT McKEE**
- **A million miles in a thousand years by donald miller**

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Course Brief: Concept art for Game as an end sem Project is essential, as students need to have theoretical as well as practical related experience. Students generally have the opportunity to apply their theoretical learnings directly into real-time project scenarios. In this design project of the game design program, students will have the opportunity to apply all the unique images to make artwork for board or card games. The main intention of this project is to introduce students to the very well know segment of game design.

Learning Objective:

- Learn and understand the requirement and purpose of the artwork in gameplay
- Make a compelling and unique artwork in a given specific size and format.
- Make artwork ready for the final print

1. Course Contents:

Theoretical / Practical

- Read and understand the design brief and gather the right references
- Brainstorming session and putting down ideas in required format
- Students must sketch, design, colorize, and get artwork ready.
- Define the usability and purpose of the artwork

2. Course Outcomes

CO1: Students will gain knowledge about how to think, understand, and execute the design brief to final artwork. Brainstorm, ideate, draw, paint, and light the asset.

CO2: Students will evaluate and execute the design process to get the final structure of game

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CO3: Students will understand the scope of board games applications which they been through, which they can apply in any other board game project.

CO4: Students will be able to structure and create their own design process which can be a fit for most of the projects

Table: Correlation of POs v/s COs

PO/C	Develop a creative mind-set	Empathy	Creative Articulation	Discovery to Realization	Design for Future	Inter-Disciplinary Approach	Entrepreneurial Spirit	Teamwork	Professional Ethics	Sustainable Solution	Local and Global Context	Lifelong Learning	Understand Game Development Stages	Understand Environment and Character Design	Develop Programming Language and Application	Develop Advance skills in AI/AR/VR/XP
PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO 11	PO 12	PSO1	PSO2	PSO3	PSO	
PO1	3	1	3	1	1	0	0	1	1	1	1	1	1	3	0	0
PO2	3	1	3	1	1	0	0	1	1	1	1	1	1	3	0	0
PO3	3	1	3	1	1	0	0	1	1	1	1	1	1	3	0	0

: No Relation 1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

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Reference Books:-

- **Dream Worlds: Production Design for Animation**
- **Color and Light: A Guide for the Realist Painter By James Gurney**
- **Figure Drawing: Design and Invention By Michale Hampton**
- **Perspective Made Easy – Ernest. R Norling**
- **How to Draw: Drawing and sketching objects and environments from your imagination – Scott Robertson**



Year 3

Semester 5

B.Des Game Design

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Course: 3D Environment - World Design

C: L: T: P:: 3:1:1:4

- 1. Course Brief:** Students will have their hands on modeling the environments starting from simple visualization in 2D of the environment with cubes and boxes to final rendered sketch to finally making a full-fledged 3D environment. The scope of this environment would be not that big as they need to start from a small form, then progressing it to more significant environments. They will also be applying the practices of 2D art, color studies, and digital sketching, which they have learned before while doing concept art, material studies while texturing the environment. They will finally port the entire environment into unity and will do the essential lighting and presentation.

2. Learning Objective:

- Learn to develop the concept as per the design brief.

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- Learn and understand the requirement and purpose of the artwork/asset.
- Make a compelling and unique artwork in a given specific size and file format.
- Make artwork finish ready for importing in-game engine

3. Course Contents:

A: Theory/Practical:

- Read and understand the design brief and gather the right references
- Brainstorming session and putting down ideas in required format
- Learn various styles and shape language as per design brief
- Students must sketch, design, model, bake, UV wrap, and Unwrap colorize and get the asset ready.
- Define the usability and purpose of the artwork.
- Import and export process using different game engines

4. Course Outcomes

CO1: Students will understand the approach to create game ready asset .

CO2: Understand fundamentals of game engine and its import and export process

CO3: Students will learn how to take environment design sketch to final finished game ready interactive environment

CO4: Students will create an environment by following the document guidelines

Table: Correlation of POs v/s COs

	Develop a creative mind-set	Empathy	Creative Articulation	Discovery to Realization	Design for Future	Inter-Disciplinary Approach	Entrepreneurial Spirit	Teamwork	Professional Ethics	Sustainable Solution	Local and Global Context	Lifelong Learning	Understand Game Development Stages	Understand Environment and Character Design	Develop Programming Language and Application	Develop Advance skills in AI/AR/VR/XR
PO/CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO 11	PO 12	PSO1	PSO2	PSO3	PSO4
CO 1	1	2	3	1	1	1	0	1	0	0	1	1	2	3	0	0
CO 2	1	2	3	1	1	1	0	1	1	0	1	1	2	3	0	0
CO 3	2	2	3	1	1	1	0	1	1	0	1	1	2	3	0	1
CO 4	2	2	3	1	1	1	0	1	1	0	1	1	2	3	0	1

0: No Relation 1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

5. Materials and Pre-requisite:

- Good command on Maya / 3ds Max tools and its applications
- Basic knowledge of game engine and its interface

Reference Books:-

- Maya Studio Projects: Game Environments and Props by Michael McKinley
- Elements of Color by Johannes Itten
- Art of World of Warcraft

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- The Art of God of War 3
- Imaginative Realism: How to Paint What Doesn't Exist
- How to Draw and Paint Fantasy Architecture by Rob Alexender
- Drawing and Painting Fantasy Landscapes and Cityscapes By Alexender
- Beyond Art Fundamentals by 3d total



Course: Game Technology (Programming for games)

C: L: T: P:: 2:1:1:2

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1. Brief: This course will be covering C# fundamentals as well as how to script in Unity using the C# language. Here the student will learn how to create essential script files and get an understanding of variables, functions, events, loops, conditional statements, and classes as students get their feet wet with programming in Unity.

2. Learning Objective: Students will learn the basic concepts, tools, and functions that they will use to build fully functional Games with C# and the Unity / Unreal game engine.

3. Course Contents:

A. Theoretical / Practical

- Get Started with Unity's 2D Components
- Build a Fully functional Game with Unity
- Learn the Basics of C# Programming
- Create the first working game in 2 Hour
- Learn to Build a finished game
- Create a portfolio of Game Projects

4. Course Outcomes

CO1: Students completing the course will know to create fully-functional Games with Unity and C# or use their C# skills to Build any other useful thing that they want.

CO2: Write clear and efficient code in the programming languages relevant to professional game development, following appropriate coding standards and industry practices.

CO3: Learn and create an automated action through action script

	Develop a creative mind-set	Empathy	Creative Articulation	Discovery to Realization	Design for Future	Inter-Disciplinary Approach	Entrepreneurial Spirit	Teamwork	Professional Ethics	Sustainable Solution	Local and Global Context	Lifelong Learning	Understand Game Development Stages	Understand Environment and Character Design	Develop Programming Language and Application	Develop Advance skills in AI/AR/VR/XR	
PO/CO	PO1	PO2	PO3	PO 4	PO 5	PO 6	PO 7	PO8	PO9	PO10	PO 11	PO 12	PSO1	PSO2	PSO3		SO4
CO1	2	1	0	1	1	2	2	1	1	1	1	1	3	0	3		1
CO2	3	1	0	1	1	3	1	1	1	1	1	1	3	0	3		1
CO3	3	1	0	1	1	3	1	1	1	1	1	1	3	0	3		1

0: No Relation 1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

5.Prerequisite and Materials:

- Unity Personal Edition and Visual Studio or Any other Compatible code editor is required to follow along
- Basic knowledge of Unity & C# is helpful but not mandatory

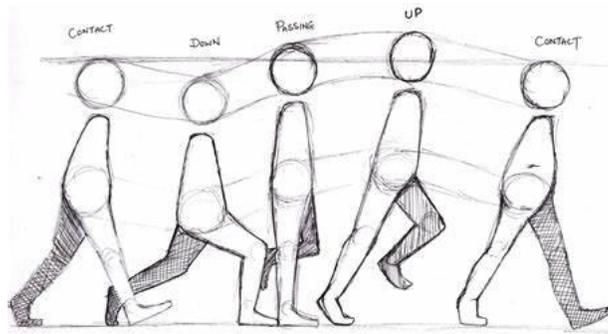
6.Reference Books:-

- [Beginning C++ Through Game Programming](#) by Michael Dawson

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- 3D Math Primer for Graphics and Game Development by Fletcher Dunn
- Game Engine Architecture by Jason Gregory
- Programming Game AI By Example by Mat Buckland



Course: PE-4 Basics of Animation

C: L: T: P:: 3:1:1:4

1.Course Brief: *Learn to walk before you run.* This course will help students learn the core essence of animation based on the 12 basic principles of animation developed by Disney's Frank Thomas and Ollie

Johnston. You'll learn animation concepts and techniques to build a solid foundation as you start your animation journey.

2.Learning Objective:

What will you learn?

- Understand critical principles of animation like weight and overlapping action
- Convey emotions like joy, devastation and concern through sketchbook and posing exercises with our Stu rig
- Go beyond the bouncing ball by learning to express different weights
- Understand overlapping action by animating motion and follow through using Squirrels, Monster Ball or Bird Ball
- Animate a simple and straightforward "vanilla" walk cycle
- Create a stylized walk cycle to showcase personality and emotion

1. Course Contents:

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- *Introduction to Animation*
- *Setting up character*
- *Setting up character rig*
- Rendering your project
- Rigging characters to prepare for animations
- Animating with keyframes

A. Practical/Tutorial

A student has to pursue following assignments –

Create a animation as per the scene and script design brief with following all the basic principles of animation

2. Course Outcomes

CO1: Students will become comfortable using Autodesk Maya to animate primitives and rigged characters

CO2: Students will learn and understand to Animate their own 3D objects with keyframes

CO3: Students will be able to create a animated short gag or a clip in form of movie

CO4: Students will get to know how to put together an entire 3D animated scene!

Table: Correlation of POs and PSOs v/s COs

	Develop a creative mind-set	Empathy	Creative Articulation	Discovery to Realization	Design for Future	Inter-Disciplinary Approach	Entrepreneurial Spirit	Teamwork	Professional Ethics	Sustainable Solution	Local and Global Context	Lifelong Learning	Understand Game Development Stages	Understand Environment and Character Design	Develop Programming Language and Application	Develop Advance skills in AI/AR/VR/XR
PO/ CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4
CO1	1	2	2	1	2	0	0	1	1	0	1	1	3	0	2	2
CO2	1	2	2	1	2	0	0	1	1	0	1	1	3	0	2	2
CO3	1	2	2	1	2	0	0	1	1	0	1	1	3	0	2	2
CO4	1	2	2	1	2	0	0	1	1	0	1	1	3	0	2	2

0: No Relation 1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

6.Reference Books:-

- The Animator’s Survival Kit by Richards William
- 3D Animation Essentials by Andy Beane
- The Art of 3D Computer Animation and Effects – Pixar Artist
- 3D Animation for the Raw Beginner Using Maya by Roger King

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Course: PE-5 Game Engines - Unreal/Unity

C: L: T: P:: 4:1:1:4

1. **Course Brief:** This course is designed specifically to learn and create fully functional gameplay with the help of the game engine. This module will teach students the basics of a game engine, starting from navigating in the engine to where all the tools and systems are located. A game engine lays the software framework to build and create video games. Unity / unreal are incredible 3D packages used for making video games, architectural, medical imaging, and more. The challenge is that it is big and complicated to use, especially **for complete beginners to coding and game development**. We make **learning to code easy and fun** by leading you step-by-step through the process of **creating exciting games**. They provide features from animation to artificial intelligence. Game engines are responsible for rendering graphics, collision detection, memory management, and many more options.

2. Learning Objective:

- Design and construct a simple Level in Unity / Unreal by using a conventional procedural method.
- Use an interactive development environment (currently IDLE) to perform functions of all the imported pre-build assets.
- Implement the basic movement of a character (as per the Characteristic) searching and sorting pre-assigned task and merge all with the immediate environment.
- Build a foundation for further learning by exposure to multiple computer languages, development tools, and methodologies.

3. Course Contents:

- Object, Actor, Pawn and Character creation, and the differences between these classes

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- Coding a complete character class, complete with animations and user input
- Finding a nearly endless selection of free assets and how to download and use them for a game project.
- Enemy movement and behavior
- Combat with melee weapons
- Picking up and equipping items
- Damage, Hit Points and Death
- HUD elements including Health and Stamina Bars as well as Icons
- How to create menus, including a Pause menu
- Saving and loading game data even after turning off the computer or exiting the game
- Switching levels in-game
- Floating platforms using interpolation
- Timers for delays in-game logic
- Trigger volumes, pressure switches, and doors
- Bombs, explosives, and hazards
- Logging and drawing spheres for debugging purposes
- Using C++ concepts applied to game development

A. Theoretical / Practical

Students will involve in small assignments in the form of hands-on activities and sessions. These include:

- Create a playable gameplay using pre-made assets from the game engine

4. Course Outcomes

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CO1: Understand how the computer programming language play a major role in game development (COMPUTER PROGRAMMING, SOFTWARE ENGINEERING, MATHEMATICS,PHYSICS)

CO2: Students will able to understand and evaluate PRODUCTION, RESEARCH, AND DEVELOPMENT

CO3: Use appropriate resources to research, develop, and contribute to advances and trends within the field of game development.

CO4: Students able to create and use prototype and import in game engine to see the pre-viz of his/her concept

5. Materials and Pre-requisites:

- Basics of Unity and Unreal engine, import, and export of pre-build game assets

Table: Correlation of POs v/s COs

Develop a creative mind-set	Empathy	Creative Articulation	Discovery to Realization	Design for Future	Inter-Disciplinary Approach	Entrepreneurial Spirit	Teamwork	Professional Ethics	Sustainable Solution	Local and Global Context	Lifelong Learning	Understand Game Development Stages	Understand Environment and Character Design	Develop Programming Language and Application	Develop Advance skills in AI/AR/VR/XR
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2023-27

PO/C	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO 11	PO 12	PSO1	PSO2	PSO3	PSO4
PO1	1	3	1	0	3	3	0	1	0	1	1	1	3	3	3	1
PO2	2	2	0	0	3	3	0	1	0	1	1	1	3	2	3	1
PO3	1	3	1	0	3	3	0	1	0	1	1	1	3	3	3	0
PO4	2	2	0	0	3	3	0	1	0	1	1	1	3	2	3	2

0: No Relation 1: Slight (Low) 2: Moderate (Medium)

3: Substantial (High)

6. Reference Books:-

- Unity Game Development in 24 Hours by [Ben Tristem](#) (Author), [Mike Geig](#) (Author)
- **Unity in Action: Multiplatform Game Development in C# with Unity 5 1st Edition** by [Joe Hocking](#) (Author)
- **Introduction to Game Design, Prototyping, and Development: From Concept to Playable Game with Unity and C# 1st Edition** by [Jeremy Gibson Bond](#) (Author)
- **Learning C# by Developing Games with Unity 5.x - Second Edition 2nd Revised edition** Edition by [Greg Lukosek](#) (Author)
- **Unity 5.x By Example Paperback – March 23, 2016** by [Alan Thorn](#) (Author)
- **Unity AI Game Programming -** by [Ray Barrera](#) (Author), [Aung Sithu Kyaw](#) (Author), [Clifford Peters](#) (Author), [Thet Naing Swe](#) (Author)
- **Mastering Unity 2D Game Development - Second Edition 2nd Revised edition** Edition
by [Ashley Godbold](#) (Author), [Simon Jackson](#) (Author)
- **Unity 5.x Shaders and Effects Cookbook Paperback – February 26, 2016**
by [Alan Zucconi](#) (Author)
- **Unity UI Cookbook Paperback – December 29, 2015** by [Francesco Sapio](#) (Author)
- **Unity 5.x Cookbook Paperback – October 5, 2015**
by [Matt Smith](#) (Author), [Chico Queiroz](#) (Author)
- 3D Game Design with Unreal Engine 4 and Blender (Kindle Edition)
by [Justin Plowman](#)
- An Introduction to Unreal Engine 4 (Paperback)
by [Andrew Sanders](#)

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- Unreal Engine Game Development Cookbook (Paperback)
by John P. Doran
- Mastering the Art of Unreal Engine 4 - Blueprints (Paperback)
by Ryan Shah
- Unreal Engine Lighting and Rendering Essentials (Paperback)
by Muhammad A Moniem



Course: Project-3D Game Character, Creature & Environment C: L: T: P:: 5:3:0:6

1. Course Brief: In this course, students will explore concepts and approaches involved in creating successful character/Creature designs that can be applied to video games. Following a first week delving into some foundational concepts for successful character or creature design, each of the remaining coming weeks is structured as a master class where students will observe the professional character design workflow. Each design will take on two different design challenges on the fly and address the various issues in designing characters for games, such as movement, expression, and technical limitations. At the end of each week, Students will have an opportunity to try out some of the concepts from that week's lesson on characters of your design. Strong 3D characters and character animations are keys parts of modern games. Games like Diablo, Overwatch, God of war, or Call of Duty have well-defined characters that are central for users to see and control. In 3D Modelling, we investigate what makes for a great game character's design.

2. Learning Objective:

- Display knowledge on storytelling in general and in individual media
- Display knowledge on storytelling traditions and stereotypes
- Display knowledge on the role and importance of visual storytelling in contemporary media landscapes.
- Display knowledge on publication of characters/figures and their copyrights implications

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- Display knowledge of forms of character design and their application

3. Course Contents:

A. Practical/Tutorial

- Rig basic bipedal and quadra-pedal three dimensional models.
- Apply virtual light and camera tools to render believable environments.
- Create and map custom textures for use in environmental and character models.
- Design and create visual effects for games and animation.
- Design specific components for both entertainment and business industries at a professional level.
- Develop and produce 2D and 3D game and animation resources.
- Write basic scripts to augment and customize technical procedural processes.

A student needs to pursue a short project on digital platform-based service experience design

4. Course Outcomes

CO1: Student will learn the complete process from ideation to research, understanding unique silhouettes, forms, basic building blocks, culture, fashion and anatomy which will be extensively involved in it

CO2: Students will learn to differentiate and develop from realistic, semi-realistic, stylized to toons, and approach it is using a similar process.

Table: Correlation of POs and PSOs v/s COs

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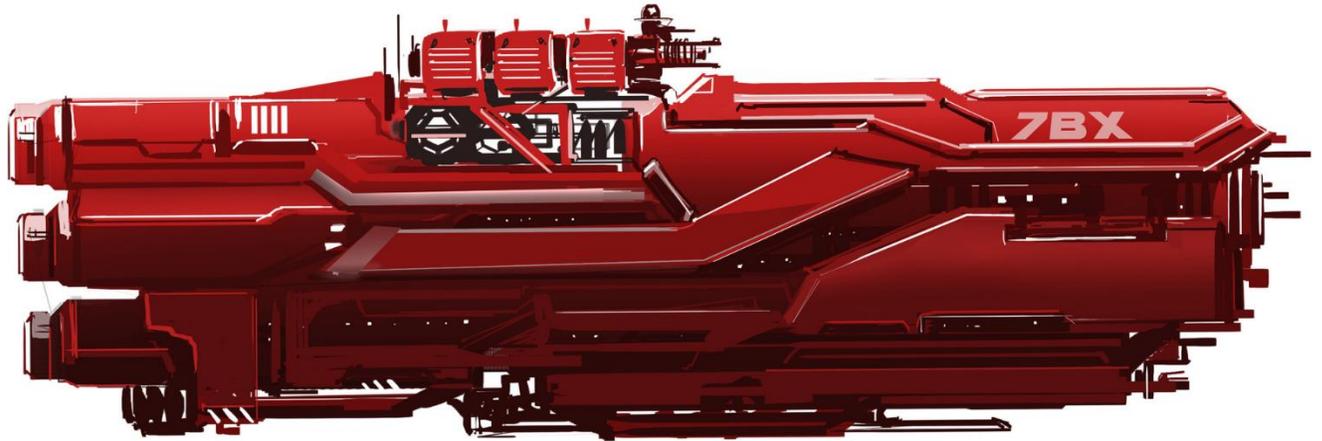
	Develop a creative mind-set	Empathy	Creative Articulation	Discovery to Realization	Design for Future	Inter-Disciplinary Approach	Entrepreneurial Spirit	Teamwork	Professional Ethics	Sustainable Solution	Local and Global Context	Lifelong Learning	Understand Game Development Stages	Understand Environment and Character Design	Develop Programming Language and Application	Develop Advance skills in AI/AR/VR/XR
PO/CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4
CO1	2	3	3	1	2	2	1	1	1	1	1	1	3	3	0	3
CO2	1	3	3	1	1	1	0	1	1	1	1	1	2	3	1	3

0: No Relation 1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

5. Prerequisites and Materials: Students must know how to sketch (Traditionally or digitally) and build a basic sculpt of human/creature (Digital-low poly)

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Year 3

Semester 6

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Course Brief: Designing user interfaces has been popular since the advent of personal computers, digital games, and graphical user interfaces. Practitioners have taken it to sufficient maturity in terms of standards and collaboration and processes. This course will allow students to learn these facets and create prototypes to demonstrate how user interfaces are intended to work – as low fidelity and high-fidelity prototypes. Latter will involve exploring visual design and style elements of a user interface.

The former will focus on wire-framing, navigation. Both will be based on a good understanding of users as personas and corresponding user journeys. Secondly, a good user interface design needs to be validated by testing with users, and students will get acquainted with several testing methodologies that deal with usability and validation, especially against a variety of form factors. Lastly, students will need to understand related processes, especially from software engineering such as waterfall, agile methodologies of software development, to help align their design processes with business processes (functional requirements) and technical architectures, which together address feasibility aspects of a user interface design.

UI, or User Interface, refer to the methods (keyboard control, mouse control) and interfaces (inventory screen, map screen) through which a user interacts with your game. UX, or User Experience, refers to how intuitive and enjoyable those interactions are.

4. Learning Objective:

- Understand user and its requirement
- Optimize user's experience along with fun element
- Simpler and more intuitive HUD and icons

2.Course Contents:

- Introduction and Overview
- What if UI and UX design?

- Concept of Usability - definition, and elaboration
- GUI Design and Aesthetics
- UI Design Process
- User Research Techniques: Interviews, Survey, Contextual Inquiries, Targeting User Group: Persona and Scenarios, etc.
- Usability evaluation of prototypes
- User Interfaces beyond screens
- Designing for AR/VR
- Voice Users Interfaces
- Gestural Interfaces

B. Practical/Tutorial

A student has to pursue following assignments – Redesign Icons and HUD of an existing game

5. Course Outcomes

CO1: Students will understand the difference between UI and UX.

CO2: Understand the fundamentals of UI design and various usability principles of good interface design.

CO3: Students will be able to evaluate how to utilize user research techniques to prototype and evaluate UIs & UX for various contexts

Table: Correlation of POs and PSOs v/s COs

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	Develop a creative mind-set	Empathy	Creative Articulation	Discovery to Realization	Design for Future	Inter-Disciplinary Approach	Entrepreneurial Spirit	Teamwork	Professional Ethics	Sustainable Solution	Local and Global Context	Lifelong Learning	Understand Game Development Stages	Understand Environment and Character Design	Develop Programming Language and Application	Develop Advance skills in AI/AR/VR/XR
PO1	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO 11	PO 12	PSO1	PSO2	PSO3	PSO4
CO1	2	2	1	1	1	2	1	1	1	1	1	1	3	0	2	1
CO2	1	1	2	0	2	3	1	1	1	1	1	1	3	0	2	1
CO3	1	1	2	0	2	3	1	1	1	1	1	1	3	0	2	1

0: No Relation 1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

6. Prerequisites and Materials

- Familiarity with UCD approach and various Design methods
- Knowledge of various UI prototyping software.
- Ability to conceptualize novel interfaces.

Reference Books:-

- **Game Development Essentials: Game Interface Design By Kevin Saunders, Jeannie Novak**
- Designing the User Experience of Game Development Tools by David Lightbown

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Course: Immersive Games Technology

C: L: T: P:: 3:2:1:3

Course Brief: This course covers both virtual and augmented reality, where software and hardware are evolving at a massive pace. Students will acquire knowledge and skills in creative and technical design and immersive expertise within the gaming industry. Students will also have opportunities to design and develop games that meet end-user needs for entertainment, education, rehabilitation, and industrial applications.

By studying Applied Immersive Game Design, students will understand idea generation, game structure, and interface design, and gain practical experience in prototyping for a range of platforms, animation software, and game engines, with an emphasis on virtual, augmented, and mixed reality.

1. Learning Objective:

- Learning Outcomes (Theoretical):
- Students will be able to describe the importance of the immersive interface technologies (VR/AR/MR) and its potential impacts on our society.

2. Course Contents:

A. Theoretical/Practical

- Students will understand how a game engine works and an overview of its software framework.

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- Students will learn the fundamentals of computer graphics and animation, and the basics of Artificial Intelligence in computer games.
- Students will be able to describe the histories and fundamentals of 3D user interfaces for interaction and navigation in immersive games.
- Students will have a better understanding of human sensory systems and human factors in immersive technologies as an area of Human-Computer Interaction, and able to apply this knowledge to improve the design and implementation of better immersive gaming experience.
- Students will be able to explain multi-sensory technologies and how they can enhance immersive gaming experiences.

3. Course Outcomes

CO1: Students will be able to operate immersive interface hardware devices include three and six-degree-of-freedom (DOF) head-mounted displays and motion controllers.

CO2: Students will have a good command of the C# programming language. Students will have some experience using multiple mixed reality devices and depth-sensing technologies to raise awareness of the current technologies and their limitations.

CO3: Students will be able to create & develop games and other applications for immersive interfaces using the integrated development environments that include the Unity game engine and Visual Studio C#.

Table: Correlation of POs and PSOs v/s COs

	Develop a creative mind-set	Empathy	Creative Articulation	Discovery to Realization	Design for Future	Inter-Disciplinary Approach	Entrepreneurial Spirit	Teamwork	Professional Ethics	Sustainable Solution	Local and Global Context	Lifelong Learning	Understand Game Development Stages	Understand Environment and Character Design	Develop Programming Language and Application	
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CO1	2	2	2	2	1	2	0	1	1	1	1	1	1	0	2	3
CO2	2	2	3	3	3	3	0	1	1	1	1	1	1	0	3	2
CO3	2	2	3	3	3	3	0	1	1	1	1	1	1	0	3	3

0: No Relation 1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

4. Prerequisites and Materials: Students must have heard and read about the technology which will be using in to create immersive games experience

5. Reference Books: -

- Handbook of Research on immersive Digital games in Educational Environment – Aliane Loureiro Krassmann
- Ready Player One (Ready Player One, #1) by Ernest Cline
- Ender's Game (Ender's Saga, #1) by Orson Scott Card

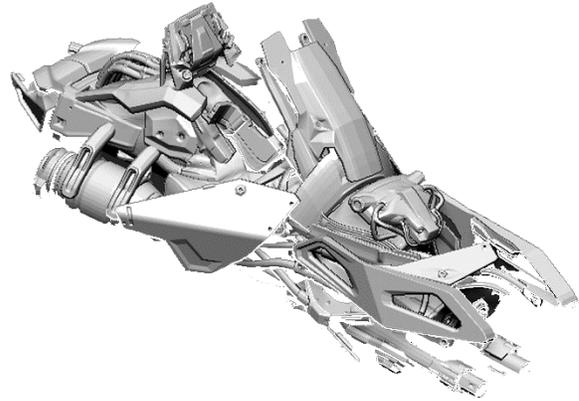
Course: (PE)Creative Game Assets – II Organic and Inorganic

: C: L: T: P:: 3:2 0:3

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1. **Course Brief:** This course helps students to discover the relationship between form, function, and story through vehicle and prop design. Passing on from the initial introduction, students will have their hands-on modeling professional level objects after getting their research done on what they want to make with all the documents supporting the same. They will start from making a simple weapon that could be from a mid-level knife to a gun or turret depends on what they want to make either simple yet effective or complex. Same goes for the vehicle could be starting from a very simple jeep till making supercars. This course allows them to hone the drawing and research skills that will help them succeed in their careers. Through instructor-guided practice, students can develop core skills, including organic and inorganic modeling, detailed sculpting, and how to locate, source, and collect project reference materials. Emphasize the application of research in the design process. The course includes research field trips.



2. Learning Objective:

Students will learn how to use reference images, create a model, light the scene, set the camera using the rule of thirds, shade the model using variations of materials, and Render. This course gives both the techniques and the confidence to do more,

3. Course Contents:

B. Theoretical/ Practical

- Introduction and interface
- High poly Modeling
- Lighting and camera
- Shading and rendering
- Rendering variations of the model

4. Course Outcomes

Students will be able to differentiate between the organic and inorganic surfaces.

CO1: Learn how to create high-quality details using sculpting tools, which will enhance students model to the next level. Create hard surface and mechanical parts

CO2: Learn the process of designing a fantastic looking 3D asset as well as create realistic customize alphas. Export render passes and composite in photoshop for the final professional image

CO3: Learn how to write a detailed Character/ Creature bible Learn how to build a creature that is strong, interesting and will capture the viewer’s attention

Table: Correlation of POs and PSOs v/s COs

	Develop a creative mind-set	Empathy	Creative Articulation	Discovery to Realization	Design for Future	Inter-Disciplinary Approach	Entrepreneurial Spirit	Teamwork	Professional Ethics	Sustainable Solution	Local and Global Context	Lifelong Learning	Understand Game Development Stages	Understand Environment and Character Design	Develop Programming Language and Application	Develop Advance skills in AI/AR/VR/XR
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CO1	1	1	3	1	1	1	0	1	1	1	1	1	3	3	1	1
CO2	1	1	3	1	1	1	0	1	1	1	1	1	3	3	1	1
CO3	1	1	3	1	1	1	0	1	1	1	1	1	3	3	1	1

0: No Relation 1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

5. Prerequisites and Materials

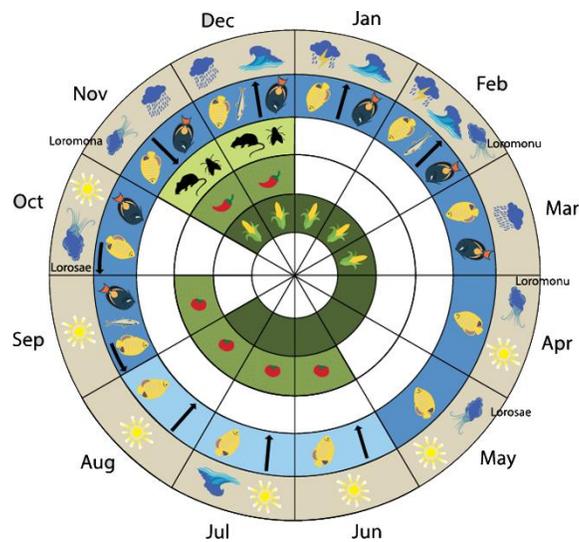
- Competent and confident with using relevant computer programs
- Artists who want to learn to bring their assets alive.
- Students who wish to expand their Skill Set in this domain.
- Completely beginners who are willing to work hard.

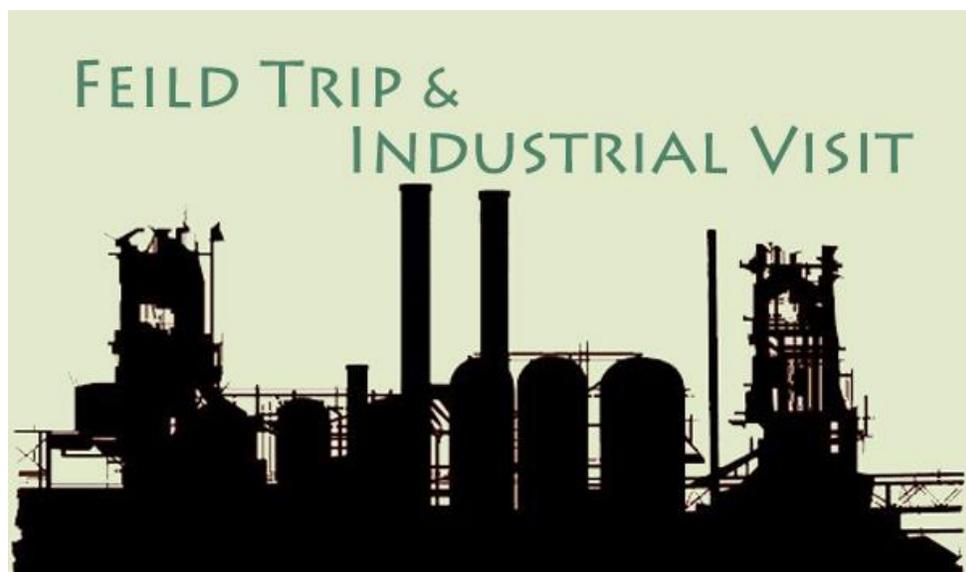
Reference Books:-

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- Digital Modeling by William Vaughan
- 3D Modeling For Beginners By Danan Thilakanathan
- Anatomy for 3D Artists Chris Legaspi and Mario Anger
- [Blender Master Class](#) by Ben Simonds





Course: Industrial Visit

C: L: T: P :: 1:1:0:0

Course Brief: This course aims at giving a hands-on exposure to how things are serviced, manufactured, or developed in a given industrial set up. The role of the student would be to observe and learn the production methods and witness how mass production is handled and executed.

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The management will fix up the destination, and it will be mandatory for each student to go there on self - finance basis.

The schedule is approximately 5 to 7 days, inclusive of the travel days by train.

1. Course Outcomes

CO1: Demonstrate understanding of manufacturing done in an Industry

CO2: Demonstrate understanding of design management

Table: Correlation of POs v/s COs

	Develop a creative mind-set	Empathy	Creative Articulation	Discovery to Realization	Design for Future	Inter-Disciplinary Approach	Entrepreneurial Spirit	Teamwork	Professional Ethics	Sustainable Solution	Local and Global Context	Lifelong Learning	Understand Game Development Stages	Understand Environment and Character Design	Develop Programming Language and Application	Develop Advance skills in AI/AR/VR/XR
PO/CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4
CO1	0	2	0	0	2	0	0	1	1	1	1	1	2	0	0	0
CO2	0	2	0	0	0	0	0	1	1	1	1	1	0	0	0	0

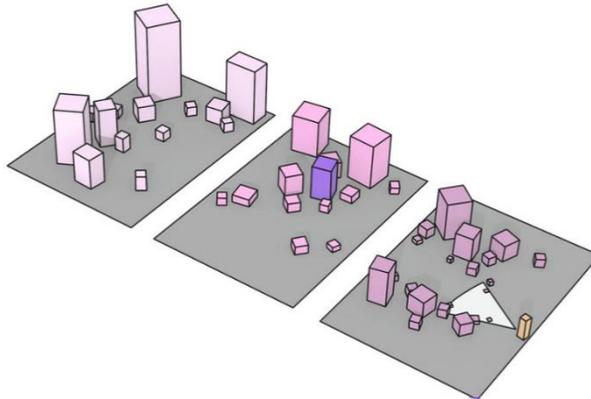
0: No Relation 1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

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2. Prerequisites and Materials:

- Students must have a keen interest and urge to observe and learn.



Course: Level design for Games

C: L: T: P:: 2:3:0:2

Course Brief: This course not only covers the basics of what Level Design is. However, it also goes further as we look at Key fundamentals, best practices, and what makes a right level designer that is industry-ready. This module will give enrichment to students on how a level is designed in a game. This task will start by giving pre-made 3d assets to students and then using their liberal feel they will go ahead and design the entire playable level with lighting in a Game Engine.

In this course, People need to see theory in practice. This course will offer students access to level designers, building scenes, and teaching at the same time, showcasing not only the theory but how it will be represented in both Unity and Unreal Engine. There are also many Documents, Assignments, and Quizzes throughout the course.

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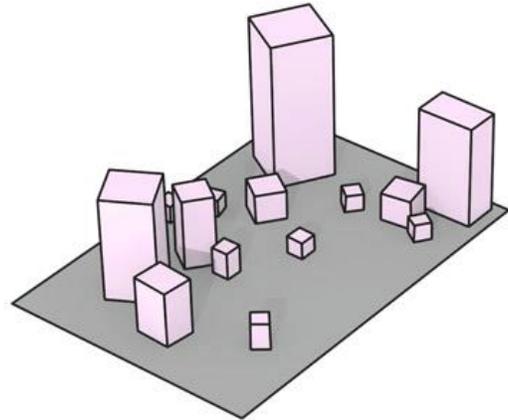
In this course of Game design, the Level design is a discipline of game development involving the creation of video game levels—locales, stages, or missions. Level design is commonly done using various programs.

3. Learning Objective:

- Laying out the large-scale features of the map, such as hills, cities, rooms, tunnels, etc., for players and enemies to move around in the map.
- Students are determining environmental conditions and "ground rules" such as day/night, weather, scoring systems, allowable weapons or gameplay types, time limits, and starting resources.
- Specifying certain regions where certain gameplay activities or behaviors occur, such as resource harvesting, base building, water traveling, etc.;
- Specifying non-static parts of a level, such as doors, keys, and buttons with associated mechanisms, teleporters, hidden passageways, etc.;
- Specifying locations of various entities, such as player units, enemies, monster spawn points, ladders, coins, resource nodes, weapons, save points,[\[15\]](#), etc.;
- Specifying the start and exit locations for one or more players;
- Adding aesthetic details such as level-specific graphic textures, sounds, animation, lighting, and music;
- Introducing scripted event locations, where specific actions by the player can trigger specified changes;
- Placing pathfinding nodes that non-player characters take as they walk around, the actions they will take in response to specific triggers, and any dialog they might have with the player.

4. Course Contents:

- *Introduction to Level Design*
- *Setting up Unreal Engine*
- *Setting up Unity*
- *Rational Design*
- *Composition in Level Design*
- *Guiding the Player*
- *Architecture in Level Design*
- **A Level Designer's Workflow**
- *How to Build a Level*



B. Practical/Tutorial

A student has to pursue following assignments –

Create a level design as per the design brief with immersive experience and practically playable.

5. Course Outcomes

CO1: Level design is necessary for two primary purposes - providing players with a goal

CO2: Providing players with an enjoyable play experience. The excellent level design strives to produce quality gameplay, provide an immersive experience, and sometimes, especially in story-based games, to advance the storyline

CO3: Understand and learn skilled use of textures and audio is necessary to produce immersive player experience.

CO4: Understand and create a procedural way to take the game ahead on different level

Table: Correlation of POs and PSOs v/s COs

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CO2	1	2	2	1	2	0	0	1	1	0	1	1	3	0	2	0
CO3	1	2	2	1	2	0	0	1	1	0	1	1	3	0	2	1
CO4	1	2	2	1	2	0	0	1	1	0	1	1	3	0	2	0

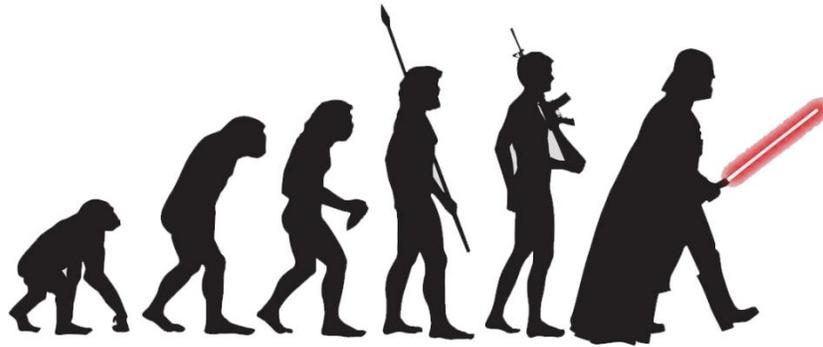
0: No Relation 1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

Reference Books:-

- **Level Design for Games: Creating Compelling Game Experiences 1st Edition** by [Philo](#) (Author)
- **Game Level Design (Game Development Series)** by [Ed Byrne](#)
- **Level Design: Concept, Theory, and Practice (2009)** by [Rudolf Kremers](#) (Author)

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Course: Project: Sequential Art - Graphic Novel

C: L: T: P :: 5:3:0:6

- 1. Course Brief:** Comics and graphic novels, or sequential art, are one of the world's excellent storytelling media. A comprehensive look at creating comic books specifically for the artist. This course combines nuts-and-bolts tips, rules, and insider info with easy-to-understand theory. They cover everything from the basics, to panel descriptions that inspire visuals, character-driven dialogue, the writer's relationship with the artist and the industry, and much more. Not just only about superheroes, the course treats the graphic novel as an open medium capable of expressing any content from genre to poetry.
- 2. Learning Objectives:** Students going to learn how to draft and draw them, how to talk about how they get made and how they work, how to understand—and how to enjoy— some of the kinds of comics and graphic novels (that is, some of the genres) that make up the history of this medium in the modern English-speaking world.
- 3. Course Contents:**
 - A. Theoretical /Practical**
 - To explore many genres of graphic novels and comics
 - To understand the various definitions of the graphic novel and comics

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- To consider how text and image function separately and how these forms function differently in combination
- To distinguish between and question the concepts of “High” and “Low” art
- To think independently and to research what others have written about the issues raised in this course
- To communicate in clear and persuasive prose interpretations of the works studied
- To verbally communicate the insights, interpretive positions, questions, and information you have about the literary works studied
- To build a body of resources that benefits the class as a whole

4. Course Outcomes

CO1: Students will be able to write and narrate the story as well as punch a robust dialogue.

CO2: After completion of this course, students can demonstrate skills like drawing sequential art as per the drafted story with dramatic and powerful drawings.

Table: Correlation of POs v/s COs

	Develop a creative mind-set	Empathy	Creative Articulation	Discovery to Realization	Design for Future	Inter-Disciplinary Approach	Entrepreneurial Spirit	Teamwork	Professional Ethics	Sustainable Solution	Local and Global Context	Lifelong Learning	Understand Game Development Stages	Understand Environment and Character Design	Develop Programming Language and Application	Develop Advance skills in
PO / CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO 11	PO 12	PSO1	PSO 2	PSO 3	PSO 4
CO 1	3	1	3	1	1	0	1	1	1	1	1	1	1	2	0	2

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CO 2	2	1	3	2	1	0	0	1	1	1	1	1	1	2	0	3
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0: No Relation 1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

5. Prerequisite and Materials: Basics of storyboards and a good understanding of perspective, posing, and anatomy

Reference Books: -

- Directing the Story By Francis Glebas
- Storyboarding Essentials: SCAD Creative Essentials
- Storyboards: Motion in Art By - Mark Simon
- **Framed Ink: Drawing and Composition for Visual Storytellers (2010)** by [Marcos Mateu-Mestre](#) (Author, Artist), [Jeffrey Katzenberg](#) (Foreword)
- The Storyboard Artist: A Guide to Freelancing in Film, TV, and Advertising- Giuseppe
- **Comics and Sequential Art: Principles and Practices from the Legendary Cartoonist (Will Eisner Instructional Books) 2008** by [Will Eisner](#) (Author)

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Year 4

Semester 7

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Course: Sun

0:2

1. **Course Brief:** Students will go to Live location and get hands-on experience with industry veterans.
2. **Learning Objective:** Students will get to learn straight away working on live projects

3. Course Outcomes

CO1: Get to learn by straight away work on live projects

Develop a creative mind-set

Empathy

Creative Articulation

Discovery to Realization

Design for Future

Inter-Disciplinary Approach

Entrepreneurial Spirit

Teamwork

Professional Ethics

Sustainable Solution

Local and Global Context

Lifelong Learning

Understand Game Development Stages

Understand Environment and Character Design

Develop Programming Language and Application

Develop Advance skills in AI/AR/VR/XR

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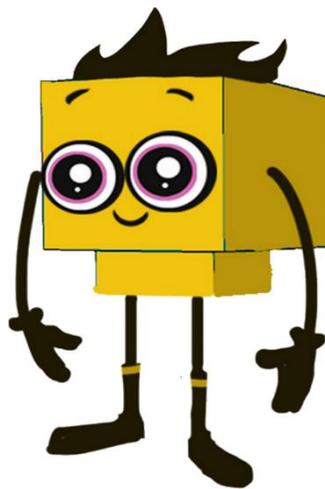
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PO/C	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4
CO1	1	1	0	1	1	3	3	1	1	1	1	1	3	3	1	2

Table: Correlation of POs v/s COs

0: No Relation 1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

4. Prerequisites and Materials: Willingness to learn from seniors



1.Course Brief: The course has been created by the games industry for the games industry. It gives the student a blend of both technical teaching and learning infrastructure that is relevant. The course is a popular way to gain entry into the video games industry. In the course you will learn how a QA Tester works with the designers and developers of a game to discover and document errors within the game. From the start you will develop an understanding of the main gaming mechanics which will enable you to learn how games are tested

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on every level, the reporting system that lists the bug errors and learn the quality control that games companies use. After finishing the course the student will have a working portfolio to show potential new employers.

2.Learning Objectives:

- Understand what Games Testing is & what will be required of you
- Gain a deeper understanding of the games industry
- Unmask the Secret Games Testing Profession
- Find out how to Earn Real Money doing what you love
- Download the resources you need to find where the REAL Games Tester Jobs are found
- Learn the different types of games testing jobs & Which Will Suite You

3.Course Contents:

B. Theoretical /Practical

- Discover the hidden places where aspiring games testers don't look
- Attend games interviews with confidence
- Get a deep understanding of where games testers fit in the games development lifecycle
- Get a deep understanding of How Games Testers Operate

4.Course Outcomes

CO1: Students will be able to find the loopholes in gameplay and do a bug test

CO2: After completion of this course, students can demonstrate skills like bug testing , find hidden places and help studio to ship the bug free game to client

Table: Correlation of POs v/s COs

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2023-27

	Develop a creative mind-set	Empathy	Creative Articulation	Discovery to Realization	Design for Future	Inter-Disciplinary Approach	Entrepreneurial Spirit	Teamwork	Professional Ethics	Sustainable Solution	Local and Global Context	Lifelong Learning	Understand Game Development Stages	Understand Environment and Character Design	Develop Programming Language and Application	Develop Advance skills in
PO/ CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO 11	PO 12	PSO1	PSO 2	PSO 3	PSO 4
CO1	3	1	3	1	1	0	1	1	1	1	1	1	1	2	0	2
CO2	2	1	3	2	1	0	0	1	1	1	1	1	1	2	0	0

0: No Relation 1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

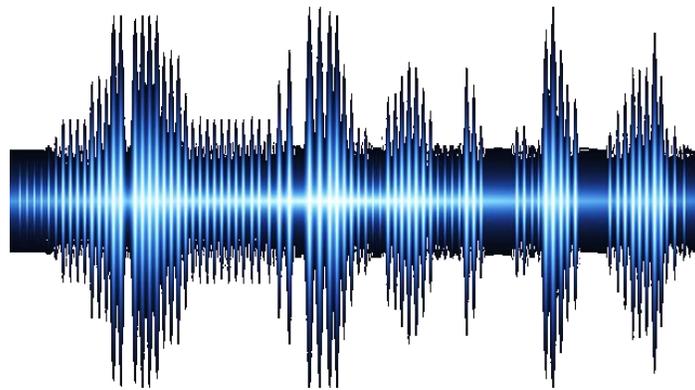
5.Prerequisite and Materials: Basics of how to play computer games

Reference Books: -

- **Game Testing by Charles Schultz**
- **Game Development Essentials : Game QA & Testing by Levy , Jeannie Novak**
- **Game Testing All in One (Game Development Series) by Charles M. Schulz , Robert Bryant , Tim Langdell**

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Course: Sound Design for Games

C: L: T: P :: 2:0:0:2

1.Course Brief:

The **Sound Design for Games** course provides students with the fundamental tools and techniques required to create and implement sound for video games. Among the topics covered are nonlinear and event-based audio triggering, digital audio processing and manipulation, and synthesis. In addition, students will gain an understanding of game engines and their role in audio implementation.

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2.Learning Objective: In this course, students will learn how to design sound, use and create sound library professionally.

- The different uses and affects of audio in games
- How to create compelling sounds for a game
- Creating audio asset types specific to games
- Considerations for mixing a game audioscape
- How to make audio feel immersive and "real"

3.Course Contents:

Theoretical / Practical

- The essential ways to use sound in games
 - Audio physics and vocabulary
 - How to define space with sound
 - Microphone types and characteristics
 - Recording/capturing assets
 - Thought process and aesthetics for Sound Design
 - Editing functions and navigation of Pro Tools
 - Creating audio asset types specific to games
- Part of the "Game Audio 101 & 201: Beginner to Advanced Game Sound Design" course bundle!

1. Course Outcomes

CO1: Students completing the course will know the essential ways to use sound in games

CO2: Student will understand and learn how to make sounds for games by examining both the artistic and technological aspects of audio conceptualization and creation.

Table: Correlation of POs v/s COs

	Develop a creative mind-set	Empathy	Creative Articulation	Discovery to Realization	Design for Future	Inter-Disciplinary Approach	Entrepreneurial Spirit	Teamwork	Professional Ethics	Sustainable Solution	Local and Global Context	Lifelong Learning	Understand Game Development Stages	Understand Environment and Character Design	Develop Programming Language and Application	Develop Advance skills in AI/AR/VR/XR
PO1	3	2	1	0	2	3	3	1	1	1	1	1	2	1	2	2
PO2	3	2	2	0	2	3	2	1	1	1	1	1	1	1	3	1
PO3																
PO4																
PO5																
PO6																
PO7																
PO8																
PO9																
PO10																
PO11																
PO12																
PSO1																
PSO2																
PSO3																
PSO4																

0: No Relation 1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

2. Prerequisites and Materials:

- Access to a DAW - Pro Tools is used in the course examples but all concepts can be applied to other DAWs as well.
- Wanting to learn how to make awesome game audio!

Reference Books:-

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- The Complete Guide to Game Audio *by Aaron Marks*
- Music for New Media: Composing for Videogames, Web Sites, Presentations and Other Interactive Media *by Paul Hoffert*
- Game Sound: An Introduction to the History, Theory, and Practice of Video Game Music and Sound Design *by Karen Collins*
- Creating Music and Sound for Games *by G. W. Childs*
- The Game Audio Tutorial: A Practical Guide to Sound and Music for Interactive Games *by Richard Stevens & Dave Raybould*



Course: Social Impact Games

C: L: T: P:: 2:0:1:2

3. Course Brief: This course offers knowledge and practice in cooperative game and games for social change. It promotes an experience of different types of cooperative games and how they can be applied in different contexts, including: corporate, educational, non-governmental, community, family, and personal. This course will share ideas and experiences and encourage the practice of cooperation in personal and professional environments.

4. Learning Objective: In this course, students will learn how to design and code, as many people all over the world use Unity. Games for Change more focus on social issues, which inspire students to build games for the good of others.

5. Course Contents:

Theoretical / Practical

- making confident choices
- real work experience
- knowing how to stand out
- making a social impact

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6. Course Outcomes

CO1: Students completing the course will know to identify the real-world problem and how to address it using games as a tool.

CO2: Create fully functional Games with Unity and C# or use their C# skills to Build any other useful thing that they want.

Table: Correlation of POs v/s COs

	Develop a creative mind-set	Empathy	Creative Articulation	Discovery to Realization	Design for Future	Inter-Disciplinary Approach	Entrepreneurial Spirit	Teamwork	Professional Ethics	Sustainable Solution	Local and Global Context	Lifelong Learning	Understand Game Development Stages	Understand Environment and Character Design	Develop Programming Language and Application	Develop Advance skills in AI/AR/VR/XR
PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4
CO1	3	2	1	0	2	3	3	1	1	1	1	1	2	1	2	2
CO2	3	2	2	0	2	3	2	1	1	1	1	1	1	1	3	3

0: No Relation 1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

7. Prerequisites and Materials:

- Aware of the present conditions and issues of real world
- Attitude towards reading, talking and want to do something for real-world problems
- Basics of C# and unity engine

Reference Books:-

- The Evolution and Social Impact of Video Game Economics

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- Doing Things with Games: Social Impact Through Play Book by Lindsay D. Grace
- Examining the Evolution of Gaming and Its Impact on Social, Cultural, and Political Perspectives
- A Parent's Guide to Video Games: The Essential Guide to Understanding how Book by Rachel Kowert



PORTFOLIO

Course: Project – Portfolio Design

C: L: T: P:: 5:3:0:6

1.Course Brief: Portfolio creation is essential for students to showcase their work, skills, talents, and interests in a field of study. Equally important is the skill to present or show the work. Portfolio creation and presentation skills course are intended to help students collate their work, systematically arrange them, represent and present it among a vast audience of different background.

3. Learning Objective:

- Learn the art of showing the work, building portfolios, and selecting the right work.
- Learn to present work.

4. Course Contents:

Practical

- a. Forming a body of work
- b. Selection of work for portfolio creation
- c. Self-branding
- d. Documentation, reporting

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	Develop a creative mind-set	Empathy	Creative Articulation	Discovery to Realization	Design for Future	Inter-Disciplinary Approach	Entrepreneurial Spirit	Teamwork	Professional Ethics	Sustainable Solution	Local and Global Context	Lifelong Learning	Understand Game Development Stages	Understand Environment and Character Design	Develop Programming Language and Application	Develop Advance skills in AI/AR/VR/XR
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CO2	2	1	1	1	3	2	0	1	1	1	1	1	1	1	2	0
CO3	1	1	3	2	0	1	1	1	1	1	1	1	2	3	0	1
CO4	2	1	3	2	0	1	1	1	1	1	1	1	2	2	0	0

e. Presenting the work

5. Course Outcomes

CO1: Learn how to make portfolios and present work to different types of Studios and companies.

CO2: Students will have an understanding of a tangible outcome

CO3: Students will show a cumulative effort and learning of how to create and present his/her work

CO4: Students will be able to understand and help client / companies / studios to present a clear visualization of thoughts

Table: Correlation of POs v/s COs

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Year 4

Semester 8

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GRADUATION PROJECT

Course: Graduation Project

C: L: T: P :: 15:0:0:30

1. Course Brief:

Dissertation project is a final interaction design project in the program curriculum. A student needs to have practical and field study-related experience in this project. Student might pursue this project either in the industry or in the academic institution as per the opportunities available for the project. Persuasion of this project is mandatory for partial fulfillment of the Bachelor of Design (B.Des.) program. Students generally have the opportunity to apply their theoretical learnings directly into real-life scenarios (as a live project).

2. Learning Objective:

- To know and understand the scope of the project
- To gain project handling experience
- To prepare assets for the development of the game.

3. Course Contents:

B. Practical

Following steps of simple Game design lifecycle may be useful to pursue the design project –

- Identify needs/ establish requirements
- Design
- Build an Interactive Version of game (Low Fidelity Prototype may be encouraged at this level)
- Evaluate
- Redesign (if required)

4. Course Outcomes

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CO1: Student should able to apply gained knowledge from other seven semesters in their design project

CO2: Student should able to examine and analyze the scope of new design under the design project

CO3: Student should able to justify the reason for selection of a design problem or solution

CO4: Students should able to formulate and evaluate unique/novel/new and effective solutions against specific design problem.

Table: Correlation of POs and PSOs v/s COs

	Develop a creative mind-set	Empathy	Creative Articulation	Discovery to Realization	Design for Future	Inter-Disciplinary Approach	Entrepreneurial Spirit	Teamwork	Professional Ethics	Sustainable Solution	Local and Global Context	Lifelong Learning	Understand Game Development Stages	Understand Environment and Character Design	Develop Programming Language and Application	Develop Advance skills in AI/AR/VR/XR
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CO2	1	1	1	2	1	1	3	1	1	1	1	1	1	2	1	2
CO3	2	1	3	2	1	1	3	1	1	1	1	1	1	3	2	3
CO4	3	1	2	1	1	2	3	1	1	1	1	1	3	3	1	2

0: No Relation 1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

5. Prerequisites and Materials

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- Students should have a basic understanding of the game development process and design process.
- Essential soft skills on illustration, presentation and prototyping skills might be required for this course.



Thank you

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Coordinator | Game Design

SCHOOL OF DESIGN

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