BACHELOR OF DESIGN (B. DES)
INTERACTION DESIGN (IX)

SCHEME OF EXAMINATION

[1st to 8th Semester]

&

SYLLABUS

[1st to 8th Semester]

Offered by

University School of Design and Innovation

BATCH 2024 onwards

GURU GOBIND SINGH
INDRAPRASTHA
UNIVERSITY

Guru Gobind Singh Indraprastha University
East Delhi Campus, Surajmal Vihar,
Delhi – 110092 [India]
www.ipu.ac.in

EVALUATION SCHEME FOR BATCH 2024 ONWARDS:

	Marking Scheme	Practical Subjects	Theory Subjects
i.	Continuous evaluation by teachers	40%	40%
ii.	Semester Term-End Examination	60%	60%

FIRST SEMESTER

Group	Paper Number	Paper	Lecture (L)/ Tutorial (T)	Studio (S)/ Practical (P)	Credits	Status
	PRACTICAL/ STUDIO SUBJECTS					
PC	**DIF 101**	**Design Studio-I**		6	**6**	**M**
PC	**DIF 103**	**Elements and Principles of Design**		6	**6**	**M**
PC	**DIF 105**	**Representation Techniques & Design Fundamentals**		4	**4**	**M**
SEC	**DIF 107**	**Computer Graphics-I**		3	**3**	**M**
SEC	**DIF 109**	**Geometrical Construction**		3	**3**	**M**
	LECTURE/ THEORY SUBJECTS					
AEC	**DIF 111**	**Communication Skills**	2		**2**	**M**
AEC	**DIF 113**	**Environmental Studies**	2		**2**	**M**
		Total	**4**	**22**	**26**	

SECOND SEMESTER

Group	Paper Number	Paper	Lecture (L)/ Tutorial (T)	Studio (S)/ Practical (P)	Credits	Status
	PRACTICAL/ STUDIO SUBJECTS					
PC	**DIF 102**	**Design Studio-II**		6	**6**	**M**
PC	**DIF 104**	**3D Visualization and Illustration**		4	**4**	**M**
SEC	**DIF 106**	**Computer Graphics-II**		3	**3**	**M**
SEC	**DIF 108**	**Typography Fundamentals**		3	**3**	**M**
SEC	**DIF 110**	**Makers Lab***		4	**4**	
	LECTURE/ THEORY SUBJECTS					
PC	**DIF 112**	**Universal Design**	2		**2**	
PC	**DIF 114**	**Communication Studies and Semiotics**	2		**2**	
AEC	**DIF 116**	**Constitution of India**	2		**2**	**M**
		Total	**6**	**20**	**26**	

** **NUES** Non University Exam Subject, Comprehensive evaluation by the concerned teacher, out of 100, as per detailed syllabus*

***Note: PC**: Program Core, **ES**: Engineering Science, **SEC**: Skill Enhancement Course, **PCE**: Professional Core Elective, **OAE**: Open Area Elective, **AEC:** Ability Enhancement Course*

THIRD SEMESTER

Group	Paper Number	Paper	Lecture (L)/ Tutorial (T)	Studio (S)/ Practical (P)	Credits	Status
PRACTICAL / STUDIO SUBJECTS						
PC	**DIX 201**	**Interaction Design Studio-I**		8	**8**	**M**
PC	**DIX 203**	**Sequential Narratives-I**	2	2	**4**	**M**
SEC	**DIX 205**	**Advanced Typography**		4	**4**	**M**
SEC	**DIX 207**	**Layout Design and Illustration Techniques**		4	**4**	**M**
SEC	**DIX 209**	**Photography**		4	**4**	
LECTURE / THEORY SUBJECTS						
PC	**DIX 211**	**History of HCI and Visual Communication**	2		**2**	**M**
		Total	**4**	**22**	**26**	

FOURTH SEMESTER

Group	Paper Number	Paper	Lecture (L)/ Tutorial (T)	Studio (S) /Practical(P)	Credits	Status
PRACTICAL / STUDIO SUBJECTS						
PC	**DIX 202**	**Interaction Design Studio-II**		8	**8**	**M**
PC	**DIX 204**	**Visual Identity and Branding**		6	**6**	**M**
SEC	**DIX 206**	**Mix Media Animation**		4	**4**	
SEC	**DIX 208**	**Motion Graphics-I**		4	**4**	**M**
LECTURE / THEORY SUBJECTS						
SEC	**DIX 210**	**Theory of UI/UX**	2		**2**	**M**
PC	**DIX 212**	**Communication Theory**	2		**2**	
		Total	**4**	**22**	**26**	

***Note: PC**: Program Core, **ES**: Engineering Science, **SEC**: Skill Enhancement Course, **PCE**: Professional Core Elective, **OAE**: Open Area Elective, **AEC:** Ability Enhancement Course*

FIFTH SEMESTER

Group	Paper Number	Paper	Lecture (L) / Tutorial (T)	Studio (S) /Practical(P)	Credits	Status
	PRACTICAL / STUDIO SUBJECTS					
SEC	**DIX 301**	**Infographic Design**		4	**4**	**M**
PC	**DIX 303**	**Sequential Narratives-II**		6	**6**	**M**
SEC	**DIX 305**	**Web Interface Design**		4	**4**	**M**
PC	**DIX 307**	**Design Project**		6	**6**	**M**
PCE	**As per the PCE list**	**One PCE (Program core Elective) from the PCE List as per the decision of APC (Academic Program Committee)**	4		**4**	
	LECTURE / THEORY SUBJECTS					
PC	**DIX 315**	**Design Semantics**	2		**2**	**M**
		Total	**6**	**20**	**26**	

Program Core Electives (PCE) List for Semester 5*

Paper No.	Paper Title	Lecture (L)/ Tutorial (T)	Studio (S)/ Practical (P)	Credits	Status
DIX 309	**Book and Publication Design**	-	4	4	
DIX 311	**Drawing and Representation**	-	4	4	
DIX 313	**Design with Assistive Technology**	-	4	4	

*Programme Core Elective (PCE) can be augmented as per industry/ academic requirement(s).

***Note: PC**: Program Core, **ES**: Engineering Science, **SEC**: Skill Enhancement Course, **PCE**: Professional Core Elective, **OAE**: Open Area Elective, **AEC:** Ability Enhancement Course*

SIXTH SEMESTER

Group	Paper Number	Paper	Lecture (L) /Tutorial (T)	Studio (S) /Practical(P)	Credits	Status

	PRACTICAL / STUDIO SUBJECTS					
SEC	**DIX 302**	**Introduction to 3D Design**		8	**8**	**M**
PC	**DIX 304**	**Micro and Macro Interactions**		6	**6**	**M**
OAE	**As per the OAE list**	**One OAE (Open Area Elective) from the OAE List as per the decision of APC (Academic Program Committee)**		3	**3**	
PC	**DIX 312**	**Motion Graphics-II**		4	**4**	**M**
ES	**DIX 314**	**Introduction to AR/VR**		3	**3**	**M**
	LECTURE / THEORY SUBJECTS					
PC	**DIX 316**	**Creative/Script Writing**	2		**2**	
		Total	**5**	**21**	**26**	

SEVENTH SEMESTER

Group	Paper Number	Paper	Lecture (L) /Tutorial (T)	Studio (S) /Practical (P)	Credits	Status
	PRACTICAL / STUDIO SUBJECTS					
PC	**DIX 401**	**Packaging Design and Applications**		8	8	**M**
EC	**DIX 403**	**Gesture-based Interactions**		6	6	**M**
PC	**DIX 405**	**Design Research Techniques**	2	4	6	**M**
AEC	**DIX 407**	**Design Entrepreneurship**	2	4	6	**M**
	LECTURE / THEORY SUBJECTS					
PC	**DIX 409**	**Game Design Theory**	2		2	**M**
		Total	**6**	**22**	**28**	

***Note: PC**: Program Core, **ES**: Engineering Science, **SEC**: Skill Enhancement Course, **PCE**: Professional Core Elective, **OAE**: Open Area Elective, **AEC:** Ability Enhancement Course*

EIGHTH SEMESTER

Group	Paper Number	Paper	Lecture (L) / Tutorial (T)	Studio (S) /Practical(P)	Credits	Status
	PRACTICAL / STUDIO SUBJECTS					

PC	**DIX 402**	**Design Thesis**		20	**20**	**M**
PC	**DIX 404**	**Design Degree Show***		4	**4**	
LECTURE/THEORY SUBJECTS						
PC	**DIX 406**	**Professional Practice**	2		**2**	**M**
		Total	**2**	**24**	**26**	

**** NUES** Non University Exam Subject, Comprehensive evaluation by the concerned teacher, out of 100, as per detailed syllabus*

***Note: PC**: Program Core, **ES**: Engineering Science, **SEC**: Skill Enhancement Course, **PCE**: Professional Core Elective, **OAE**: Open Area Elective, **AEC:** Ability Enhancement Course*

M Mandatory for award of degree

Credits in Semester	**I**	**II**	**III**	**IV**	**V**	**VI**	**VII**	**VIII**	**TOTAL CREDITS**
	26	**26**	**26**	**26**	**26**	**26**	**28**	**26**	**210**

NOTE:

1. The total number of Credits of the B. Design program =210
2. Student shall be required to appear in examination of all courses. However, to award a student shall be required to earn a minimum of 200 credits including mandatory subjects [M].

FOR LATERAL ENTRY STUDENTS:

1. The total number of Credits of the B. Design program =160
2. Each student shall be required to appear for examination in all courses Third Semester onwards. However, to award a student shall be required to earn a minimum of 150 credits including mandatory subjects [M].

Open Area Elective (OAE) List

Paper No.	Paper Title	Lecture (L) /Tutorial (T)	Studio (S)/ Practical (P)	Credits	Status

DID 308	**Digital Fabrication**	-	3	**3**	
DID 310	**Light and Fixture Design**	-	3	**3**	
DID 312	**Design of Intelligent Devices**	-	3	**3**	
DIN 314	**Merchandising & Display Design**	-	3	**3**	
DIN 316	**Design For Sustainability**	-	3	**3**	
DIN 318	**Furniture Design**	-	3	**3**	
DIX 306	**Creative Coding**	-	3	**3**	
DIX 308	**Visual Communication**	-	3	**3**	
DIX 310	**Environmental Graphic Design**	-	3	**3**	

* Students must opt for an open elective course that has **not** been taken by them previously in their course of study.

FIRST SEMESTER

Course Code: DIF 101	L/T	S/P	C
Subject: Design Studio-I	0	6	6
Marking Scheme: Teachers Continuous Evaluation: 40 Marks End Term Practical Examination: 60 Marks			

Course Outcomes:								
CO1	To relate with various elements and principles of design and develop an understanding of design for users.							
CO2	To Interpret the works of renowned designers from varied fields of design and identify various design processes.							
CO3	To build technical design knowledge and To apply basic designing skills using creative thinking processes.							
CO4	To communicate effectively through documentation, graphical and verbal presentations.							
CO/ PO	**PO01**	**PO02**	**PO03**	**PO04**	**PO05**	**PSO1**	**PSO2**	**PSO3**
CO1	3	2	1	2		3		
CO2	1	3	3	3	1	1	2	3
CO3	1	3	3	3	2	1	3	2
CO4		1	2	1	3		3	2

Course Content

Unit I
DESIGN & USER
Understanding design and user and various terminologies associated with design. Understanding relation between design and user. Basic Anthropometry, identifying design elements and principles.

Unit II
DESIGN THINKING & DESIGN PROCESS
Exploring various design processes in varied fields of design. Understanding each element of the design process. Learning and developing documentation and basic design interpretation skills.

Unit III
CREATIVE THINKING
Out of the box thinking, idea mapping, storyboarding exercises, Mind mapping, brainstorming, problem solving techniques. Design, Invention, opportunity, problems, improvement, Simple Design exercises. Creative Design process – conceptual design, embodiment design, detail design, Iterations.
Understanding and generating the idea, its expression in different methods using manual, digital media etc., Schematic Design development, Mock up models and visualizations.

Unit IV
DESIGN DEVELOPMENT
Design development (on appropriate scale)-representations of drawings, Expression of the design through 3d Model development on appropriate scale and materials, Design communication & Final portfolio submission (manual or digital output)

Text Books/ Reference Books:

1. Neufert, E.(2019). Neufert Architects' Data. (Fifth Edition). Wiley-Blackwell.
2. Chakrabarti, D. (1997). Indian Anthropometric Dimensions for Ergonomic Design practice. National Institute of Design.
3. Lewrick, M. , Link, P. , Leifer, L. (2020). The Design Thinking Toolbox: A Guide to Mastering the Most Popular and Valuable Innovation Methods (Design Thinking Series). Wiley.
4. Stone, T. (2010). Managing the Design Process-Concept Development: An Essential Manual for the Working Designer: 1. Rockport Publishers.
5. Judkins, R. (2015). Art of Creative Thinking. Hachette Book Publishing.

FIRST SEMESTER

Course Code: DIF 103	L/T	S/P	C
Subject: Elements and Principles of Design	0	6	6

Marking Scheme:
Teachers Continuous Evaluation: 40 Marks
End Term Practical Examination: 60 Marks

Course Outcomes:

CO1	To relate and compare basic principles of design through elements of design.
CO2	To understand and skillfully apply design principles effectively in different media.
CO3	To assess various forms, shapes and spaces and explain the applications of Gestalt's law of visual perception.
CO4	To create various innovative explorations using the skills and knowledge of design theories.

CO/ PO	**PO01**	**PO02**	**PO03**	**PO04**	**PO05**	**PSO1**	**PSO2**	**PSO3**
CO1	3	2	1	2		3		
CO2	1	3	3	3	1	1	2	3
CO3	1	3	3	3	2	1	3	2
CO4		1	2	1	3		3	2

Course Content

Unit I
ELEMENTS OF DESIGN
An introduction to various elements: line, color, shape, form, texture and space. Concept of visual language and visual design within the context of flat 2D pictorial space.

Unit II
PRINCIPLES OF DESIGN
Principles of design, Introduction to symmetry, balance, rhythm, repetition, scale/proportion, volume unity and variety within the context of visual scheme and design. Gestalt laws, composition, and figure and ground relationships.

Unit III
SHAPE-FORM EXPLORATIONS
Abstraction, Expression and Meaning in Form–To appreciate and articulate the language of form, to sensitize students towards manipulation of forms in 2D and 3D also Form integration and transition.

Unit IV
NEGATIVE-POSITIVE SPACE
Introduction to the concept of negative space. Balancing of positive and negative spaces. Use of symmetry, generation of patterns, and textures using simple elements.

Text Books/ Reference Books:

1. Structure and Form in Design: Critical Ideas for Creative Practice, Hann, M., 2013, A&C Black
2. Design Syntactics: A functional approach to visual product form Theory, Models, and Methods, Warell, A., 2001, Chalmers University of Technology
3. Principles of Form & Design, Wucius Wong, 1993, Wiley Publication
4. Creativity and art: three roads to surprise, Boden, M. A., 2012, OUP Oxford
5. Elements of Design and the Structure of Visual Relationships, H.G. Greet and R. R. Kostellow, 2002, Architectural Press, NY

FIRST SEMESTER

Course Code: DIF 105	L/T	S/P	C

Subject: Representation Techniques & Design Fundamentals							0	4	4
Marking Scheme: Teachers Continuous Evaluation: 40 Marks End Term Practical Examination: 60 Marks									
Course Outcomes:									
CO1	To recall fundamental techniques of concept sketches, design development sketches.								
CO2	To understand & develop the appropriate skills for visualization and representation.								
CO3	To interpret and understand the fundamentals involved in 2-dimensional design- its elements, features and principles.								
CO4	To create compelling and detailed line drawings of real or imaginary objects. To effectively explain an idea through visual language.								
CO/ PO	**PO01**	**PO02**	**PO03**	**PO04**	**PO05**	**PSO1**	**PSO2**	**PSO3**	
CO1	3	2	1	2		3			
CO2	1	3	3	3	1	1	2	3	
CO3	1	3	3	3	2	1	3	2	
CO4		1	2	1	3		3	2	

Course Content

Unit I
LINES & COLOUR
Introduction to pencil exercises. grades and points of pencils, lines and tone, Rapid sketching, representing concepts - sketching for ideation; lines; geometric shapes; introduction to colour and texture.Color wheel, color combinations, and its dimensions: hue, value, and chroma. Depth and dimension, detail & texture, sunlight & shadow. Introduction – fundamentals of drawing and its practice, introduction to drawing equipment, familiarization, use and handling of various media, drawing techniques. Grid based drawing, analytical representation; Inside and outdoor sketching.

Unit II
LIGHT & SHADOW
Rendering and Sciography, Studies in light and shadow of 3-dimensional form representations; pencil rendering, Representing reality Mimetic Imagery and Abstraction; Representing Memory and Imagination; Object representation;; Figure drawing gestures and movements.

Unit III
DESIGN ELEMENTS IN NATURE
Expressions and explorations using Points, Lines, Planes and Volumes Its relation in context to nature and environment Representing Nature and life.

Unit IV
VISUAL PRINCIPLES OF DESIGN
Study and understanding of Frame of Reference or Point of Views Principles of colour theory and explorations. Understanding of the visual relationships – balance, proportion, order, symmetry, rhythm, etc. Study of visual principles of composition: grids, layouts, asymmetry, balance and asymmetry.

Text Books/ Reference Books:

1. Interaction of Color, 2013, Authors Josef Albers and Nicholas Fox Weber, Yale University Press.
2. The Art of Drawing, Madison Books, Willy Pogany, 1996, Madison Books
3. Techniques for watercolor, pen and ink, pastel and coloured markers, R. Kasprin, Design Media, 1999, John Wiley & Sons
4. Elements of Design, Gail Greet Hannah, 2002, Princeton Architectural Press.
5. Color Theory: An essential guide to color-from basic principles to practical applications (Artists library) Paperback-2013 by Patti Mollica (Author).

FIRST SEMESTER

Course Code: DIF 107	L/T	S/P	C

Subject: Computer Graphics-I							0	3	3
Marking Scheme: Teachers Continuous Evaluation: 40 Marks End Term Practical Examination: 60 Marks									
Course Outcomes:									
CO1	To define the computer aided design. To demonstrate experimentation with drawing, digital rendering and presentation techniques.								
CO2	To build practical skills in the computer software for design presentations.								
CO3	To inspect knowledge and understanding of digital rendering skills and its relevance in Design.								
CO4	To assess functional and aesthetic requirements of design and the skills of application of those in digital graphics.								
CO/ PO	**PO01**	**PO02**	**PO03**	**PO04**	**PO05**	**PSO1**	**PSO2**	**PSO3**	
CO1	3				3		2	3	
CO2			3		3		2	3	
CO3	1	2	1		3		2	3	
CO4	2	2		2	3	2	2	3	

Course Content

Unit I
2D COMPUTER AIDED DESIGN
Introduction to Computer Aided Designing (Essentiality of CAD), User Interface Understanding Coordinate System, Drafting Basic Shape with Dimension, Unit System, layers, Drawing creating drawings.

Unit II
3D COMPUTER AIDED DESIGN
Plotting, Hatching & Applying Various Patterns, Customizing Different Dimension Styles, Layout Slide Show, Managing Project File, File Import Export. Basic 3D Extrusions.

Unit III
INTRODUCTION TO IMAGE EDITING SOFTWARE
Introduction to Interface and various functions of tools and techniques, Introduction to tools selection & color models, Creating shapes & patterns and various visual effects, Transforming & retouching, Filters and their specific effects, Working with type, Saving a file

Unit IV
CREATION OF GRAPHIC IMAGES
Developing of Layers, Working with different layers to obtain desirable graphic effects, Introduction to CMYK, Colour & tonal adjustment, Creation of graphics for visual design

Text Books/ Reference Books:

1. Openshaw, S., & Turton, I. (2005). High Performance Computing and the Art of Parallel Programming. Routledge.
2. K Lalit Narayan, K Mallikarjuna Rao, & M MM Sarcar. (2008). Computer aided design and manufacturing. Prentice-Hall Of India.
3. Snider, L. (2014). Photoshop CC. Sebastopol, Ca ; O'reilly Media
4. Faulkner, A., Conrad Chavez, C. (2018). Adobe Photoshop CC Classroom in a Book. Pearson Education.
5. Akenine-Mo¨ller, T., Haines, E. , Hoffman, N., Pesce, A., Iwanicki, M., Hillaire, S. (2018). Real-Time Rendering (Fourth Edition). A K Peters/CRC Press.

FIRST SEMESTER

Course Code: DIF 109							L/T	S/P	C
Subject: Geometrical Construction							0	3	3
Marking Scheme: Teachers Continuous Evaluation: 40 Marks End Term Practical Examination: 60 Marks									
Course Outcomes:									
CO1	To comprehend the drafting tools to produce qualitative work.								
CO2	To formulate and use observation-based knowledge and methods to implement scale, dimension, composition in manual drafting.								
CO3	To identify different processes and terminologies in 2d and 3d graphical representations.								
CO4	To assess and explain learning of visualization of solids to surface developments and vice versa.								
CO/ PO	**PO01**	**PO02**	**PO03**	**PO04**	**PO05**	**PSO1**	**PSO2**	**PSO3**	
CO1	1	2	1	1		1	2	2	
CO2	1	2		2	1	2	2	3	
CO3	2	2		3	2	2	3	3	
CO4	1	2		3	3	3	3	3	
Course Content									
Unit I DRAWING FUNDAMENTALS Lettering and Dimensioning, Elements of dimensioning - systems of dimensioning, scale.									
Unit II ORTHOGRAPHIC PROJECTIONS Principles and projection methods of orthographic projection, Development of surfaces, Sections.									
Unit III AXONOMETRIC & ISOMETRIC PROJECTION Development of surfaces for various regular solids. Isometric Projection and Axonometric Projection Isometric Projection: Isometric scales, Isometric projections of simple and combination of solids.									
Unit IV PERSPECTIVE Perspective Projection: Perspective views 1 point, 2 point– Plane figures and simple solids and combination of solids.									
Text Books/ Reference Books: 1. Ching, F. D. (n.d.). Architectural Graphics Ed. 6. John Wiley & Sons. 2. Bhatt, N.D. and Panchal, V.M. (1996). Engineering Drawing – Plane and Solid Geometry. Charotar Publishing House. 3. Dhawan, RK. (2019). A Textbook Of Engineering Drawing (Lpspe). S Chand Publishing. 4. McGraw-Hill, G. (2003). Basic Technical Drawing. McGraw-Hill Inc.,US. 5. Gill, P.S. (2013). Engineering Drawing. S.K. Kataria & Sons.									

FIRST SEMESTER

Course Code: DIF 111	L/T	S/P	C
Subject: Communication Skills	2	0	2

Marking Scheme:
Teachers Continuous Evaluation: 40 Marks
End Term Practical Examination: 60 Marks

Course Outcomes:

CO1	The Student will be able to relate and understand the basic concepts of communication.
CO2	The Student will be able to demonstrate non verbal and verbal communications in real life situations.
CO3	The Student will be able to apply writing and documenting information skills in relevant formats.
CO4	The Student will be able to apply speaking skills and learn profusely about Professional, Social and cultural etiquettes along with teamwork.

CO/ PO	**PO01**	**PO02**	**PO03**	**PO04**	**PO05**	**PSO1**	**PSO2**	**PSO3**
CO1			1				2	1
CO2			1				2	1
CO3			1				2	1
CO4			1				2	1

Course Content

Unit-I
SENTENCE STRUCTURE & VOCABULARY
Parts of speech, writing well formed sentences, Subject - verb agreement, Punctuation/ Spellings, common errors.

Unit-III
VERBAL & NON VERBAL COMMUNICATION
Process of communication , communication as a process, formal & informal communication, intercultural communication, barriers to effective communication and remedies, characteristics of effective communication. Concept and elements of non-verbal communications.

Unit-III
WRITING SKILLS
Letter, email writing, Technical Documents, Types, structure, Significant features of Resume Writing & Report Writing, Project/ Research Proposal Writing.

Unit-IV
FORMAL COMMUNICATION & PRESENTATION ETIQUETTES
Speaking Skills, Self introduction and branding, Holding a conversation, Professional Skills, body language and formal/ professional presentation etiquettes. Presentation skills, interview skills, group discussions, electric and social media communication.

Text Books/ Reference Books:

1. High English Grammar and Composition by Wren, P.C. & Martin H., S.Chand & Company Ltd, New Delhi.
2. Technical Communication: Principles & Practice by Meenakshi Raman, New Delhi: Oxford University Press
3. Be Grammar Ready: The Ultimate Guide to English Grammar by John Eastwood, New Delhi, Oxford University Press, 2020.
4. Communication Skills: A Workbook by Sanjay Kumar & Pushp Lata, New Delhi , Oxford University Press 2018.
5. Advanced Technical Communication by Kavita Tyagi & Padma Mishra, New Delhi, PHI Learzipe, 2011.

FIRST SEMESTER

Course Code: DIF 113						L/T	S/P	C
Subject: Environmental Studies						2	0	2
Marking Scheme: Teachers Continuous Evaluation: 40 Marks End Term Practical Examination: 60 Marks								
Course Outcomes:								
CO1	To recall the elements of the ecosystem and the environment and its challenges.							
CO2	To understand our natural resources, ecosystem and the biodiversity of the planet, obtain basic knowledge on environment pollution, its types and pollutants.							
CO3	To identify the Social Issues and the impact of Population on the Environment.							
CO4	To analyze the role of a designer in maintaining a clean environment and useful environment for the future generations and in maintaining ecological balance and preserving bio- diversity.							
CO/ PO	**PO01**	**PO02**	**PO03**	**PO04**	**PO05**	**PSO1**	**PSO2**	**PSO3**
CO1		2	1			2	2	1
CO2		2	1			2	2	1
CO3		2	1			2	2	1
CO4		3	1			2	2	1

Course Content

Unit I

ENVIRONMENT

Description of concept of environment and ecology-need for public awareness Interaction among ecological factors as related to water, land, air light and temperature. Factors Responsible for Change-Global Warming and climate change-loss of biodiversity, deforestation and desertification

Unit II

ECOSYSTEM

Structure, Function and energy cycles in the ecosystem. Ecological succession, Ecosystem development, Climax concept Interrelation between natural and built environment in urban and rural settlements Forest resources: Use and over-exploitation, deforestation, case studies- timber extraction, mining, dams and their effects on forests and tribal people. Land and soils: formation of soils, its types, basic features and properties as related to the built environment. Water and precipitation, water cycle, Prevention and control of water pollution. Water resources: Use and over-utilization of surface and ground water, floods, drought, conflicts over water, dams-benefits and problems Conservation and management, impact of manmade environment on water.

Unit III

ENVIRONMENTAL CHALLENGES

Air and air pollution: its causes and impact on human settlements. Control measures of: (a) Air pollution (b) Water pollution (c) Soil pollution (d) Marine pollution (e) Noise pollution (f) Thermal pollution (g) Nuclear hazards – soil waste management: disaster management: floods, earthquake, cyclone and landslides. Environment protection act – Air (Prevention and Control of Pollution) act – Water (Prevention and control of Pollution) act – Wildlife protection act – Forest conservation act.

Unit IV

SUSTAINABLE DEVELOPMENT

From unsustainable to sustainable development – urban problems related to energy. Water conservation, rainwater harvesting, and watershed management. Resettlement and Rehabilitation of people; its problems and concerns.

Text Books/ Reference Books:

1. Textbook of environments courses of UG, courses, Baructa E, 2004, UGC University Press, Joseph,

Benny, 2005, Env.Studies Tata McGraw Hill.
2. "Ecology and Environment", Sharma P.D., 2018, Rastogi Publications, Meerut, India.
3. "Practical Ecology for PlannersDevelopers and Citizens", Perlman, D. andMiclder, J., 2004, Island Press.
4. "The Ecological City: Preserving andRestoring Urban Biodiversity", Platt, R.H., 1994, N.Y. Academy of Sciences.
5. "Perspectives in Environmental Studies", Aruba Kashia andKashia C.P., 2005, New age International(P) Ltd., New Delhi.

SECOND SEMESTER

Course Code: DIF 102							L/T	S/P	C
Subject: Design Studio-II							0	6	6
Marking Scheme: Teachers Continuous Evaluation: 40 Marks End Term Practical Examination: 60 Marks									
Course Outcomes:									
CO1	To Demonstrate and Illustrate research-based knowledge and methods and the synthesis of information to provide context specific solutions.								
CO2	To develop and assess design briefs and select a design process for reaching a design solution								
CO3	To demonstrate basic designing skills and knowledge using creative thinking processes and create design solutions.								
CO4	To demonstrate and assess creative skills of documentation, graphical, fabrication & model making and verbal presentations.								
CO/ PO	**PO01**	**PO02**	**PO03**	**PO04**	**PO05**	**PSO1**	**PSO2**	**PSO3**	
CO1	3	2	1	2		3			
CO2	1	3	3	3	1	1	2	3	
CO3	1	3	3	3	2	1	3	2	
CO4		1	2	1	3		3	2	

Course Content

Unit I
RESEARCH AND DOCUMENTATION
Various types of research and data collection. Understanding and selecting a user group based on ethnography, cultural or other parameters. Observation and field research. Documentation and analysis of research.

Unit II
CREATING BRIEF
Creating the design brief based on research. Selecting design process, ideating and brainstorming design solutions and interventions.

Unit III
CONCEPT DEVELOPMENT
Understanding and generating the idea, its expression in different methods using manual, digital media etc., Schematic Design development with spatial planning, Mock up models and visualizations with materials.

Unit IV
DESIGN DEVELOPMENT
Design development (on appropriate scale)- detailed drawings, Expression of the design through 3d Model development on appropriate scale and materials, Design communication & Final portfolio submission (manual or digital output).

Text Books/ Reference Books:

1. Neufert, E.(2019). Neufert Architects' Data. (Fifth Edition). Wiley-Blackwell.
2. Dechiara, J, Julius Panero, J., Zelnik, M. (2019). Time-Saver Standards for Interior Design. McGraw-Hill Inc., US.
3. Laurel, Brenda. Design research: Methods and perspectives. MIT press, 2003.
4. Kothari, C. R. Research methodology: Methods and techniques. New Age International, 2004.
5. Sanoff, Henry. Visual research methods in design. John Wiley & Sons Incorporated, 1991.

SECOND SEMESTER

Course Code: DIF 104							L/T	S/P	C
Subject: 3D Visualization and Illustration							0	4	4
Marking Scheme: Teachers Continuous Evaluation: 40 Marks End Term Practical Examination: 60 Marks									
Course Outcomes:									
CO1	To Understand the representation principles and apply them to various projects.								
CO2	To be able to make imagery through memory and imagination, image manipulation and form high quality renderings.								
CO3	To be able to visualize ideas; do visual design explorations.								
CO4	To be able to project ideas in a compelling manner from imagination to media.								
CO/ PO	**PO01**	**PO02**	**PO03**	**PO04**	**PO05**	**PSO1**	**PSO2**	**PSO3**	
CO1	3	2	1	2		3			
CO2	1	3	3	3	1	1	2	3	
CO3	1	3	3	3	2	1	3	2	
CO4		1	2	1	3		3	2	

Course Content

Unit I
INTRODUCTION TO FORM EXPLORATIONS
This includes Free hand rapid sketching, doodling and rendering techniques. Students will explore both 2D and 3D format going beyond the actual dimensions of the perceived form.

Unit II
VISUAL IDEA GENERATION
Deriving new ideas from shapes and patterns. This includes use of both manual and digital tools for idea generation through illustration techniques and methods. An abstract to a representational outcome and vice versa.

Unit III
TECHNIQUES AND METHODS OF IMAGE MANIPULATION
Derivation of new ideas and visual meanings by juxtaposition, manipulation and alteration of existing visual schemes for idea generation. The theme could be anything ranging from abstract forms or ideas to representational motifs.

Unit IV
VISUAL REPRESENTATIONS
Introduction to Importance of text and words in illustrations. Storytelling through illustrated drawings and representation of concepts in the form of word illustrations.

Text Books/ Reference Books:

1. Experiences in Visual Thinking, Rober McKim, 2018, Brooks/Cole Publishing Company
2. Exploring Drawing for Animation (Design Exploration Series), Stephen Missal, 2003, Thomson Delmar Learning
3. Design Drawing, D. K. Francis Ching, 2018, John Wiley & Sons
4. Design Drawing techniques for architects, graphic designers and artists, Tom Porter,2019, Oxford Architectural Press
5. The complete guide to illustration & design, Terence ed. Dalley, 1980, Phaidon, Oxford.

SECOND SEMESTER

Course Code: DIF 106							L/T	S/P	C
Subject: Computer Graphics-II							0	3	3
Marking Scheme: Teachers Continuous Evaluation: 40 Marks End Term Practical Examination: 60 Marks									
Course Outcomes:									
CO1	To understand Vector Graphics and Raster Graphics.								
CO2	To learn and understand Layouts.								
CO3	To develop an understanding of projects and documents using Vector and Raster Graphics.								
CO4	The students will be able to prepare Layout Designs, Brochure and Print related designs, Digital Designs.								
CO/ PO	**PO01**	**PO02**	**PO03**	**PO04**	**PO05**	**PSO1**	**PSO2**	**PSO3**	
CO1	3				3		2	3	
CO2	1		3		3		2	3	
CO3		2	1		3		2	3	
CO4	2	2		2	3	2	2	3	

Course Content

Unit I
INTRODUCTION TO VECTOR BASED SOFTWARE
Artboards, Vector basics / Selection & Direct selection tool, page Fill & Stroke effects, Color / Swatches / Pantone's / Gradients& more. Creating shape vectors, grouped vectors & Compounding vector shapes, Drawing with the Pen tool / Brush tool / Pencil tool. The Blob brush tool & Eraser tool, setting up a document / Placing in a drawing / Sketch Image trace tool for sketches Drawing.

Unit II
INTRODUCTION TO INTERFACE
Tracing a hand drawn sketch & converting to vector graphics, Compounding vector shapes & strokes / Pathfinder Tool, Coloring & Text, Coloring a vector drawing, Adding type to a poster, Finishing & Exporting, Exporting ready for print.

Unit III
INTRODUCTION TO WORKSPACE
Application Bar, Control Bar, Toolbar, Floating Panels, Guides/Rulers, Columns/Margins, Using The Zoom Tool, Customizing Workspace.

Unit IV
VECTOR BASED PROJECTS
Developing graphic based projects (print based/tangible outcomes), Introduction to Printing Techniques and related outcomes.

Text Books/ Reference Books:

1. Karlins, D. (2020). Adobe Illustrator CC. John Wiley & Sons, Inc.
2. CPA John Kimani, & Dr. James Scott. (2023). Adobe Illustrator Professional Level. FinstockEvarsity Publishers.
3. DeJarld, T., & Kelly Kordes Anton. (2019). Adobe InDesign Classroom in a Book (2020 release). Adobe Press.
4. Shufflebotham, R. (2021). InDesign in easy steps, 3rd edition. In Easy Steps.

SECOND SEMESTER

Course Code: DIF 108							L/T	S/P	C
Subject: Typography Fundamentals							0	3	3
Marking Scheme: Teachers Continuous Evaluation: 40 Marks End Term Practical Examination: 60 Marks									
Course Outcomes:									
CO1	To recall and illustrate the use of type, type---families and their variations.								
CO2	To develop an understanding of calligraphy, Compositions with type, Expressive typography, 3-dimensional typography.								
CO3	To develop an understanding of Explorative printing on different surfaces.								
CO4	To apply and analyze attained skills in creating Info graphics by using different type faces and tools.								
CO/ PO	**PO01**	**PO02**	**PO03**	**PO04**	**PO05**	**PSO1**	**PSO2**	**PSO3**	
CO1	3				3		2	3	
CO2			3		3		2	3	
CO3	1	2	1		3	2	2	3	
CO4	2	2		2	3	3	2	3	
Course Content									
Unit I TYPE Introduction to type and its history. Type as a form and means of communication. Type in our environment.									
Unit II TYPEFACES Introduction to Indian Type, Learning to see and recognize typefaces, type families and know about type designers. Construction of type with hand.									
Unit III STRUCTURE OF TYPE Structure and anatomy of the type; x---height, ascenders, descenders, counter, cap--- height, baseline. Typographic variables: kerning, tracking, leading, Spacing, Classification of type.									
Unit IV TRADITIONAL PRINTING Semantics of type Legibility and readability issues in type. Vernacular letter---forms. Introduction to traditional printing techniques like Block printing, Screen printing, Hot stamping.									
Text Books/ Reference Books: 1. Carter, R., Maxa, S., Sanders, M., Meggs, P. B., & Day, B. (2018). Typographic design : form and communication. John Wiley & Sons, Inc. https://www.wiley.com/en-us/Typographic+Design%3A+Form+and+Communication%2C+7th+ Edition-p-9781119312567. 2. Hurlburt, A. (1999). The grid : a modular system for the design and production of newspapers, magazines, and books. Wiley.. 3. Cullen, K. (2005). Layout workbook : a real-world guide to building pages in graphic design. Rockport Publishers. 4. Puhalla, D., & Cullen, K. (2018). Layout Workbook: Revised and Updated. Rockport Publishers.									

SECOND SEMESTER

Course Code: DIF 110	L/T	S/P	C
Subject: Makers Lab*	0	4	4

Marking Scheme:
Teachers Continuous Evaluation: 40 Marks
End Term Practical Examination: 60 Marks

Course Outcomes:

CO1	To define and choose the soft materials for Model-Making And Material Exploration on the bases of its properties.
CO2	To experiment with soft and pliable material to create new forms.
CO3	To develop and compare skills and techniques to make simple form models.
CO4	To select and adapt hands on skills and techniques to make models on variable materials using skillful joinery techniques.

CO/ PO	**PO01**	**PO02**	**PO03**	**PO04**	**PO05**	**PSO1**	**PSO2**	**PSO3**
CO1	3	2	1	2		3		
CO2	1	3	3	3	1	1	2	3
CO3	1	3	3	3	2	1	3	2
CO4		1	2	1	3		3	2

Course Content

Unit I
MODEL MAKING & TOOLS
Need; role of scale models in design: general practices: Essentials of model making: understanding of various tools and machines employed, best practices involved in operating the tools and the techniques. Introduction to the Mount Board/Paper/Boards for model making – types, properties etc. Hand building techniques on different planes - making rigid forms like, cubic, spherical, pyramidal shaped forms, depiction of steps, free forms, sculptures, etc.

Unit II
MATERIALS AND TECHNIQUES (CLAY/ PLASTER OF PARIS)
Introduction to the clay/ Plaster of Paris for model making, types and mixtures, properties etc. Hand building techniques- coiling, hand building with clay strips- making a small sculpture in Relief work – addition - making a mural, scooping – tile work.

Unit III
MATERIALS AND TECHNIQUES (WOOD/ CANE/ BAMBOO)
Understanding the material and tools by making objects which allow students to explore the forms, surfaces, textures and patterns. Explore different joinery, support conditions, and wove

Unit IV
MATERIALS AND TECHNIQUES (METAL)
Metals in built form activity – horizontal, vertical and inclined surfaces – in interior environment elements- products and furniture forms - doors, windows, grilles, railing, stair etc. Metals and other materials – form and joinery.

Text Books/ Reference Books:

1. The crafts and art of Bamboo, Rev. updated edition, Carol Stangler, 2009, Lark books
2. Sand Casting by K. G Subhramaniam
3. Clay modelling for beginners by Jeanie Hirsch 2015
4. Taunton's Complete Illustrated Guide to Woodworking, Lonnie Bird, Jeff Jewitt Thomas lie- Nielsen,

2005, Taunton
5. Woodworking Basics : Mastering the essentials of craftsmanship, Peter Korn, 2003, Taunton.

SECOND SEMESTER

Course Code: DIF 112						L/T	S/P	C
Subject: Universal Design						2	0	2
Marking Scheme: Teachers Continuous Evaluation: 40 Marks End Term Practical Examination: 60 Marks								
Course Outcomes:								
CO1	To Define the origin and principles of Universal Design and its application.							
CO2	To classify and illustrate a user group.							
CO3	To develop an understanding of inclusive and accessible design and classify various design guidelines for inclusivity.							
CO4	To assess adaptation of SDG in developing design solutions.							
CO/ PO	**PO01**	**PO02**	**PO03**	**PO04**	**PO05**	**PSO1**	**PSO2**	**PSO3**
CO1		2				1		1
CO2		2		1		1		1
CO3		2	2	3		3		2
CO4	2	2	3	3	2	3	1	2

Course Content

Unit I
UNIVERSAL DESIGN
Introduction to universal design - Its Origin and emergence, Need and its relevance today, Examples of UD. Principles of Universal Design, Goals of Universal Design, Understanding above from various design spectrums. Application of universal design.

Unit II
USER GROUP
Definition of user, user group, characterization of user group on the bases of gender, age, geography, economics, abilities etc and challenges associated with it. Case studies

Unit III
DESIGN FOR INCLUSIVITY
Inclusive design, accessible design, Research and design guidelines for studying and designing for inclusivity. Accessibility Standards and Guidelines Physical accessibility standards for Barrier free environment.

Unit IV
SUSTAINABLE DEVELOPMENT GOALS
Introduction to sustainable development goals, Its Origin and emergence, Need and its relevance today, Examples and goals of SDG, Understanding above from various design spectrums. Adaptation of sustainable development goals -Understanding above from various design spectrums, Government Initiatives & policies, Understanding Context, Visual Mapping & Resource Mapping.

Text Books/ Reference Books:

1. Inclusive Design : Designing And Developing Accessible Environments by Rob Imrie Peter Hall, T&F India
2. Universal Design: Principles and Models by Roberta Null (Editor)
3. Chakrabarti, D. (1997). Indian Anthropometric Dimensions for Ergonomic Design practice.National

Institute of Design.
4. Universal Design for Learning: Theory and Practice Paperback – by David Gordon (Author), Anne Meyer (Author), David H. Rose (Author)
5. Universal Design for learning- in the classroom Tracey E.Hall, Anne Meyer, David H.Rose

SECOND SEMESTER

Course Code: DIF 114							L/T	S/P	C
Subject: Communication Studies and Semiotics							2	0	2
Marking Scheme: Teachers Continuous Evaluation: 40 Marks End Term Practical Examination: 60 Marks									
Course Outcomes:									
CO1	The Student will be able to understand the science of signs: Semiotics and the related Communication theories that regulate Signs, systems and their meanings.								
CO2	To identify the foundational documents of the French, American, and Russian semiotic schools, Semiotics Theory and deconstructing Structure of communication through semiotics.								
CO3	To explain about the key theories, concept and analytical methods of applying main communication theories of Structural Semiotics, Social Semiotics and Cognitive Semiotics.								
CO4	To apply and analyze the semiotic analysis on selective specific material: Cultural artifacts, social phenomena, etc.								
CO/ PO	**PO01**	**PO02**	**PO03**	**PO04**	**PO05**	**PSO1**	**PSO2**	**PSO3**	
CO1	3				3		2	3	
CO2			3		3		2	3	
CO3	1	2	1		3	2	2	3	
CO4	2	2		2	3	3	2	3	

Course Content

Unit I
SEMIOTICS & COMMUNICATION
Introduction to semiotics & communication theory, Foundations that include the semiotics stemming from F. de Saussure's linguistics - structural semiotics - and then, with the pragmatic current, focuses on the specific contexts of interaction, leading finally.

Unit II
THEORY OF C.S. PEIRCE
Theory of C.S. Peirce's semiotics, which places interpretation at the center of the functioning of the different types of signs and opens the way today to cognitive semiotics.

Unit III
SEMIOTICS THEORY
The Units and their meaning, Working of all 3 Basic Units: Semantics, Syntactic and Pragmatics to decode meaning of signs, values associated with a sign and the interaction of receivers with a sign for meaning- making.

Unit IV
APPLICATIONS OF SEMIOTIC MODEL
A semiotic analysis of a certain phenomenon and presents it in a written and oral form (presentation mode) along with print documentation.

Text Books/ Reference Books:

1. Kress Gunther, 2010, London, Routledge Multimodality: A Social Semiotic Approach to Contemporary Communication.

2. Chandler David, 2007, London, Routledge Semiotics: The Basics (Second Edition).
3. Barthes Roland,1967, Hill and wang , Elements of semiology.
4. Carolyn Handa, 2004, Boston:Bedford/St.Martins, 2004.Visual Rhetoric in a Digital World: A Critical Sourcebook.

SECOND SEMESTER

Course Code: DIF 116						L/T	S/P	C
Subject: Constitution of India						2	0	2
Marking Scheme: Teachers Continuous Evaluation: 40 Marks End Term Practical Examination: 60 Marks								
Course Outcomes:								
CO1	To define the nation's constitution as well as their basic rights. They develop an understanding of their own country's constitution and understanding their own human rights.							
CO2	To understand the relationship between individuals and groups, the society and people.							
CO3	To build human values as well as intellectual and analytical skills with the students.							
CO4	To build an understanding of respecting the rights of other people in their maturity.							
CO/ PO	**PO01**	**PO02**	**PO03**	**PO04**	**PO05**	**PSO1**	**PSO2**	**PSO3**
CO1		2	1			2	2	1
CO2		2	1			2	2	1
CO3		2	1			2	2	1
CO4		3	1			2	2	1

Course Content

Unit I
CONSTITUTION
Meaning of the constitution law and constitutionalism Historical perspective of the Constitution of India; Salient features and characteristics of the Constitution of India, Scheme of the fundamental rights.

Unit II
FUNDAMENTAL DUTIES & FEDERAL STRUCTURE
The scheme of the Fundamental Duties and its legal status; The Directive Principles of State Policy – Its importance and implementation; Federal structure and distribution of legislative and financial powers between the Union and the States.

Unit III
GOVERNMENT
Parliamentary Form of Government in India – The constitution powers and status of the President of India Amendment of the Constitutional Powers and Procedure; The historical perspectives of the constitutional amendments in India; Emergency Provisions : National Emergency, President Rule, Financial Emergency.

Unit IV
LOCAL SELF GOVERNMENT
Local Self Government – Constitutional Scheme in India; Scheme of the Fundamental Right to Equality; Scheme of the Fundamental Right to certain Freedom under Article 19, Scope of the Right to Life and Personal Liberty under Article 21.

Text Books/ Reference Books:

1. Constitution of India, Shukla V. N., 2001, Eastern Book Company Publishers, Lucknow, 10th EDT, pg no 19-304
2. Indian Constitutional Law, Jain M.P., 2008, Wadhwa Publication, 5th EDT, pg no 827-1362
3. Environmental law and policy in India, Divan Shyam and Armin Rosencranz, 2002, Oxford University Press Publisher, New Delhi, 2nd EDT, pg no 579-601
4. The Constitutional Law of India, DR. Joshi. K.C., 2013, Central Law Publishers, 2nd Edt.

THIRD SEMESTER

Course Code: DIX 201	L/T	S/P	C
Subject: Interaction Design Studio-I	0	8	8

Marking Scheme:
Teachers Continuous Evaluation: 40 Marks
End Term Practical Examination: 60 Marks

Course Outcomes:

CO1	The Student will be able to Retain and Understand the fundamental principles of Interaction Design that would help in designing meaningful user experiences with visual prototyping methods.
CO2	The Student will be able to Interpret and Implement goals and how intuitive aspects form the design language of interactive systems, products and services, as part of a Major App Design Project.
CO3	The Student will be able to formally and Meaningfully Apply User Experience research methods and test UX Prime Models (Fitts Law, Jakob's Law, Gareth's Model) in all class assignments.
CO4	The Student will be able to Assimilate Insights and Critically select to Evaluate a user experience using basic user research methods.

CO/ PO	**PO01**	**PO02**	**PO03**	**PO04**	**PO05**	**PSO1**	**PSO2**	**PSO3**
CO1	1	2	3	3	3	2	2	2
CO2	2	2	3	3	3	3	3	3
CO3	2	3	3	3	3	2	3	3
CO4	2	3	3	3	3	3	3	3

Course Content

Unit I
FUNDAMENTALS OF USER EXPERIENCE DESIGN
Understanding/Insight/Perception – User Personas, User Scenarios, Use Cases, Affinity Diagrams, Empathy Mapping, Information Architecture Basics: Card Sorting, Visual Prototyping for Low and High Fidelity using basics of UI. Utilize the learning in designing for basic user interface assignments.

Unit II
DESIGN THINKING & DESIGN TOOLS IN INTERACTIONS
Preparation of designs based on the Five phases of Design Thinking (Empathize, Define, Ideation, Prototype and Test). Setting Goals of Design Thinking in Interactive Designs and applying Design Thinking Process in class activities. Design Tools explorations, such as Figma to identify and implement appropriate methods of UI for effective UX.

Unit III
UX PRIME MODELS & APPLICATIONS
Understanding and generating the ideas with Mental Models and Metaphors knowledge and their applications in user interface design projects analyzed as case studies, as part of specific use cases.

Unit IV
METHODS OF USER RESEARCH
Knowing the importance of User Research in user experience design and selection of appropriate methods to test/ evaluate a user experience design as a major assignment for the course.

Text Books/ Reference Books:

1. Sharp, H., Preece, J., Rogers, Y. (2019). Interaction Design: Beyond Human-Computer Interaction. John Willey and Sons Publications, UK.
2. Johnson, J. (2020). Designing with the mind in mind: simple guide to understanding user interface design guidelines. Morgan Kaufmann, US.
3. Tidwill, J., Brewer, C., Valencia-Brooks, A. (2020). Designing interfaces: patterns for effective interaction design. O'Reilly Media, US.
4. Macdonald, D. (2019). Practical ui patterns for design systems: fast-track interaction design for a seamless user experience.Apress.
5. Yablonski, J. (2020). Laws of ux: using psychology to design better products & services. O'Reilly Media, US.

THIRD SEMESTER

Course Code: DIX 203	L/T	S/P	C
Subject: Sequential Narratives-I	2	2	4

Marking Scheme:
Teachers Continuous Evaluation: 40 Marks
End Term Practical Examination: 60 Marks

Course Outcomes:

CO1	The Student will be able to Retain and Understand in order to Write and Draw for Comics, Graphic Novels and Storyboards.
CO2	The Student will be able to Understand and Apply basic elements and approaches to Write and Draw for Graphic Novels.
CO3	The Student will be able to Apply, Interpret and Implement elements and approaches Meaningfully to Write and Draw for Storyboards.
CO4	The Student will be able to Assimilate Insights and Critically Write and Draw with respect to time factor in Narratives – combining learnings of CO1, CO2 and CO3.

CO/ PO	**PO01**	**PO02**	**PO03**	**PO04**	**PO05**	**PSO1**	**PSO2**	**PSO3**
CO1	1	1	2	2	2	1	2	2
CO2	2	2	3	3	3	1	2	2
CO3	2	3	3	3	3	2	2	3
CO4	2	3	3	3	3	2	3	3

Course Content

Unit I
PERSPECTIVE DRAWING
Understanding/Insight/Perception – One Point, two Point and 3 Point Perspective, Objects in Perspective – Furniture, Interior and Exteriors of the Buildings etc.

Unit II
SEQUENTIAL ART
Understanding and Applying Sequential Art, Storyboarding Examples, Thumbnail Drawings, Animatics Examples, Comics and Graphic Novels, Narrative Exercise, Single Page Story Design, Panel Design and Camera Work.

Unit III
STORY DEVELOPING
Creating, Generating and Developing a Story structure and narrative arc including all the Essential components of a story.

Unit IV ASSIGNMENTS Creating a one-page comic, Creating a multi-page comic (More than 2 pages).
Text Books/ Reference Books: 1. John, Smudge (2022). Storyboard Notebook: Creative Sketchbook with Board Frames | Storyboarding & Storytelling - Book for Writers, Filmmakers, Animators and More. Zara Roberts, US. 2. Bong J. H. (2020). Parasite: A Graphic Novel in Storyboards. Grand Central Publishing, US. 3. Maury A., Bob B., Jim C., Dana M., Joe O. (2020). The Art of Comic Book Drawing: More Than 100 Drawing and Illustration Techniques for Rendering Comic Book Characters and Storyboards. Walter Foster Publishing. 4. David H.R., Benjamin R.P. (2013). Storyboarding Essentials: SCAD Creative Essentials (How to Translate Your Story to the Screen for Film, TV, and Other Media). Watson-Guptill Publishers. 5. Anson J. (2013). Professional Storyboarding: Rules of Thumb. Focal Press.

THIRD SEMESTER

Course Code: DIX 205					L/T	S/P	C
Subject: Advanced Typography					0	4	4
Marking Scheme: Teachers Continuous Evaluation: 40 Marks End Term Practical Examination: 60 Marks							
Course Outcomes:							
CO1	The Student will be able to Retain and Understand the details of page composition and the relationship of space to clarity, readability and legibility matters in roman typography for digital screens.						
CO2	The Student will be able to Interpret and Implement goals with respect to the text-based typographic applications, grid systems, layout and page systems, along with typographic expression and communication – in Web UI and Mobile UI Design assignment briefs.						
CO3	The Student will be able to formally and Meaningfully Understand and Apply Semantic Issues of Typographic Applications.						
CO4	The Student will be able to Assimilate Insights and Critically Digital Typefaces for Implementing after Evaluations the Aesthetically Advanced functions of an Effective Typographic Design.						
CO/ PO	**PO01**	**PO02**	**PO03**	**PO04**	**PO05**	**PSO1**	**PSO2**	**PSO3**
CO1	2	2	2	2	3	1	2	2
CO2	2	2	3	3	3	1	2	2
CO3	2	3	3	3	3	2	2	3
CO4	3	3	3	3	3	2	3	3
Average	2.25	2.5	2.75	2.75	3	1.5	2.25	2.5
Course Content								
Unit I PAGE COMPOSITIONS ON DIGITAL SCREENS Understanding and Applying Form, Function & Reader: Organizing typographic information, content representation and layouts in context of Digital Typography in-class activities and assignments.								
Unit II STRUCTURE, GRIDS & HIERARCHY IN DIGITAL TYPOGRAPHY Applications and Implementations of layouts with respect to typographic hierarchy and grids. Implementing								

significant typographic emphasis and information hierarchy in mobile and web UI design assignments.
Unit III COMMUNICATION AND AESTHETICS IN DIGITAL TYPOGRAPHY Generating the design ideas with Typography and Expression. Implementing and Evaluating Typeface Pairing introduced as part of fundamental UI principles.
Unit IV AESTHETICS Exploring Colours, size, scale, orientations, weight and related aesthetic component communication and expression-based inter-relations studied in practical in-class hands-on activities with digital typography.
Text Books/ Reference Books: 1. Yablonski, J. (2021). The Typographic Medium (History and Foundations of Information Science. The MIT Press, US. 2. Rigchi,C., James, J. (2021). Type Specimens: A Visual History of Typesetting and Printing. Dori Griffin, US. 3. Rurans, R. (2020). On The Road to Variable: The Flexible Future of Typography. Victionary Publishers. 4. Unger, G. (2018). Theory of Type Design. Nai010 publishers. 5. Carter, R., Maxa, S., Sanders, M., Meggs, P.B. and Day, B. (2018). Typographic Design: Form and Communication. John Wiley and Sons, UK.

THIRD SEMESTER

Course Code: DIX 207							L/T	S/P	C
Subject: Layout Design and Illustration Techniques							0	4	4
Marking Scheme: Teachers Continuous Evaluation: 40 Marks End Term Practical Examination: 60 Marks									
Course Outcomes:									
CO1	The Student will be able to Understand Creation of an Idea by Retaining and utilizing applied knowledge of the basic fundamentals of Layout Design.								
CO2	The Student will be able to Interpret and Implement goals by learning to Integrate Hand Drawings and Graphical Elements into a Digital Platform.								
CO3	The Student will be able to formally and Meaningfully Understand and make use of Digital Tools for 3D visualization.								
CO4	The Student will be able to Assimilate Insights and Critically Review and Evaluate the evolution of final design illustration layouts through project-based learning.								
CO/ PO	**PO01**	**PO02**	**PO03**	**PO04**	**PO05**	**PSO1**	**PSO2**	**PSO3**	
CO1	1	1	2	2	2	1	2	2	
CO2	1	2	2	3	3	1	2	2	
CO3	2	2	3	3	3	2	2	3	
CO4	2	3	3	3	3	2	3	3	
Course Content									
Unit I BASIC LAYOUT DESIGN AND CONCEPTUALIZATION Understanding and Applying basic layout design and its conceptualization. Study of grids and layouts. Creative									

exploration: compositions with drawing experiments. Study of Graphic information processing, icons, graphs, maps, charts, etc. in layouts.
Unit II SKETCHING AND DIGITAL ILLUSTRATIONS Applications and Implementations of layouts from sketch to digital illustrations. Exploring ideas and concepts in the form of digital collage. Implementing digital line drawing skill, Principles in generative, Freehand illustration, interactive, graphical thinking, checklists, Textures add depth to the 2D pieces, etc.
Unit III CREATIVITY, TOOLS AND TECHNIQUES Generating the design ideas with Typography and Expression. Implementing and Evaluating Typeface Pairing introduced as part of fundamental UI principles.
Unit IV AESTHETICS Exploring Colours, size, scale, orientations, weight and related aesthetic component communication and expression-based inter-relations studied in practical in-class hands-on activities with digital typography.
Text Books/ Reference Books: 1. Alade, A. (2020). The Addictive Sketcher Paperback – Import. Search Press. 2. Tondreau, B. (2020). Illustrators Annual 2020: (Children's Picture Book Illustrations, Publishing And Illustrator Art Reference Book). Rockport Publishers, UK. 3. Bang, M. (2020). The Art Of Onward. Pixar Publishers, US. 4. Richard, D. (2019). Illustration 2020.Shoeisha Co., Ltd. 5. Ambrose, G., Harris, P. (2018). Layout For Graphic Designers: An Introduction (Basics Design) . Bloomsbury Visual Arts, UK.

THIRD SEMESTER

Course Code: DIX 209						L/T	S/P	C
Subject: Photography						0	4	4
Marking Scheme: Teachers Continuous Evaluation: 40 Marks End Term Practical Examination: 60 Marks								
Course Outcomes:								
CO1	The Student will be able to Understand, Associate and Relate different parts of a Camera as part of the Introductions to photography and working of a camera.							
CO2	The Student will be able to Assimilate, Acquire and Articulate using all Essential Knowledge of Outdoor Photography.							
CO3	The Student will be able to Solve, Analyze and Deconstruct the basic problems in cinematography using different statements like lights, camera angles, movements, shots.							
CO4	The Student will be able to Apply, Integrate and Experiment with Lights and Camera Fundamentals for Films and Photography.							
CO/ PO	**PO01**	**PO02**	**PO03**	**PO04**	**PO05**	**PSO1**	**PSO2**	**PSO3**
CO1	1	1	2	2	2	1	2	2
CO2	1	2	2	3	3	1	2	2
CO3	2	2	3	3	3	2	2	3
CO4	2	3	3	3	3	2	3	3
Course Content								

Unit I HISTORY OF PHOTOGRAPHY Understanding and Applying Brief History of Photography, Chronicles of Development of Camera, History of Indian cinema and the Impact of film in society and Analysis. in classes, discussions and assignments.
Unit II FILM STUDIES Photographic Techniques and Applications in making Films, Theme, Story and ScreenPlay, Cinematography, Sound and editing, Short film, Documentary and Feature Film, Movie genres, Western films.
Unit III CAMERA Working of Camera: Analyzing and Utilizing the Components, Functions & Types of Cameras, Camera and lens, Element of photography, Understating light, Compositing rules.
Unit IV OUTDOOR STUDY WITH CAMERA Camera angles, Shot sizes, Camera movements, Outdoor study of photography- capture silhouette image, monochromatic image.
Text Books/ Reference Books: 1. Rebecca, A.F. (2020). Making a Photographer: The Early Work of Ansel Adams. Yale University Press, US. 2. Watkins, A. (2016). Photography, Its Principles and Applications. Creative Media Partners LLC. 3. Roberts, R. (2020). On The Road to Variable: The Flexible Future of Typography. Victionary Publishers. 4. Gerard, U. (2018). Theory of Type Design. Nai010 publishers. 5. Rob, C., Sandra, M., Mark, S., Phillip, B.M. and Ben,D. (2018). Typographic Design: Form and Communication. John Wiley and Sons, UK.

THIRD SEMESTER

Course Code: DIX 211							L/T	S/P	C
Subject: History of HCI and Visual Communication							2	0	2
Marking Scheme: Teachers Continuous Evaluation: 40 Marks End Term Practical Examination: 60 Marks									
Course Outcomes									
CO1	The Student will be able to Retain and Understand the visual arts to communicate stories and concepts throughout history and across disciplines. From cave paintings to digital media, students will Explore how visual techniques have been used to communicate emotions and share new ideas.								
CO2	The Student will be able to Understand, Observe, Interpret and Build new concepts in a better way with the awareness of important historical and intellectual foundations of Human Computer Interaction (HCI).								
CO3	The Student will be able to Meaningfully Utilize the knowledge regarding significant advances in HCI Technologies (1960s and till date) in their Interaction Design Tech-oriented project involvements.								
CO4	The Student will be able to Assimilate Insights, Effectively select and filter out wicked visual communication problems that need intervention of HCI and visual communication (both).								
CO/ PO	**PO01**	**PO02**	**PO03**	**PO04**	**PO05**	**PSO1**	**PSO2**	**PSO3**	

CO1	1	1	1	2	2	1	1	2
CO2	1	1	2	2	2	1	2	2
CO3	2	2	2	3	3	2	2	3
CO4	2	2	3	3	3	2	3	3

Course Content

Unit I

ORIGIN OF VISUAL COMMUNICATION

Understanding and Retaining the Importance of Written Language, Arts and science in technical drawings and various art mediums. Major Historical Evolutions of the word and image in Arts and Science, Photography, Animation, Films, etc.

Unit II

NEW FORMS OF VISUAL COMMUNICATION AND ORIGIN OF HCI

Applications and Implementations of digital billboards, media through mobile devices, laptops, and that's expanding to virtual reality and augmented reality. Digital Media, evolutions and transitions over time to contemporary forms, communications and meanings.

Unit III

HCI: A HISTORICAL AND INTELLECTUAL OVERVIEW

A glimpse at historical computers and Intellectual Foundations [Vannevar Bush and Memex, J.C.R. Licklider and man-computer symbiosis] and meaningfully utilize it for course documentation tasks.

Unit IV

SIGNIFICANT HCI ADVANCES (1960s till date)

Exploring Time sharing, Sutherland's Sketchpad, Engelbart's NLS; Introduction to Personal Computers: Dynabook, Computer Lib, Alto, Altair Commercial Machines, Innovations from the MIT Media Lab (Desktops and Mentals Models, Collaboration and communication, Self-Expression and Social Change).

Text Books/ Reference Books:

1. Shneiderman, B. (2022). Encounters with HCI Pioneers A Personal History and Photo Journal. Springer International Publishing, US.
2. Grudin, Jonathan (2022). From Tool to Partner: The Evolution of Human-Computer Interaction. Springer International Publishing, US.
3. Becker, C.R. (2020). Learn Human-Computer Interaction: Solve Human Problems and Focus on Rapid Prototyping and Validating Solutions Through User Testing. Packt Publishing, UK.
4. Hereder, E., Augstein, M., Wörndl, W. (2019). Personalized Human-Computer Interaction. De Gruyter Publishers.
5. Fitzpatrick, G. (2018). A Short History of Human Computer Interaction: A People-Centred Perspective, SIGUCCS '18.

FOURTH SEMESTER

Course Code: DIX 202		L/T	S/P	C
Subject: Interaction Design Studio-II		0	8	8
Marking Scheme: Teachers Continuous Evaluation: 40 Marks End Term Practical Examination: 60 Marks				
Course Outcomes:				
CO1	The Student will be able to Retain, Understand and Apply the elements of interaction design including menus, screen design, animation, and graphics design will be addressed for various platforms, including online applications and mobile devices.			
CO2	The Student will be able to Correlate and Organize upon the learnings from DI IX 301: Interaction Design Studio-I of semester 3 and take those design thinking methods forward to build on user research, storytelling and prototyping.			
CO3	The Student will be able to formally and Meaningfully Apply the learnings about Methods for Collecting User Requirements, Synthesizing and Visualizing Concepts, Prototyping User Interfaces, e.g. in the form of mobile apps, and evaluating prototypes.			
CO4	The Student will be able to Critically to Create and Evaluate new designs, interpret data, optimize the			

	existing UI, conduct competitor analysis, create storyboards, create sitemaps/ prototypes, wireframes, develop mock apps, track usability goals to create effective final product.							
CO/ PO	**PO01**	**PO02**	**PO03**	**PO04**	**PO05**	**PSO1**	**PSO2**	**PSO3**
CO1	2	2	2	3	3	2	2	2
CO2	2	2	3	3	3	3	3	3
CO3	2	3	3	3	3	2	3	3
CO4	3	3	3	3	3	3	3	3

Course Content

Unit I

ADVANCED USER EXPERIENCE DESIGN

Understanding/Insight/Perception – Introducing types of Screen Designs and advanced principles of visual design and information design. Utilize the learning in advanced mobile UI based and allied assignments.

Unit II

ANALYZING, INTERPRETING AND PROTOTYPING

Describing, Analysing, Critiquing and Investigating user experience. Interpreting types and applications of selective type of interactions from: Mobile UI and communications, Pervasive and Ubiquitous approaches undertaken in User Experience project undertaken by each student.

Unit III

ADVANCED USER RESEARCH

Covers needs analysis, methods to support design and innovation, design in different shapes and materials, prototyping, and design documentation.

Unit IV

DESIGN TO SUPPORT ENGAGING USER EXPERIENCES

Secondary Research of engagement techniques and culminating those to Represent users' experiences in the design process. Design and detailing in Prototyping users' experiences.

Text Books/ Reference Books:

1. Pereyra, Irene (2023). Universal Principles of UX: 100 Timeless Strategies to Create Positive Interactions Between People and Technology. Rockport Publishers, UK.
2. Marcelo M. S., Francisco R., Tareq Z. A. (2020). Handbook of Usability and User Experience: Research and Case Studies. CRC Press, Taylor and Francis Group, UK.
3. Kaufmann, M., Hartson, R., and Pyla, P.. (2019). The UX book: agile UX design for a quality user experience (2nd Ed). Elsevier Science US.
4. Allanwood, G., and Beare, P. (2019). User experience design: A practical introduction. Bloomsbury Visual Arts, London, UK.
5. Wynn, E., Hult, H.V. (2019). Qualitative and Critical Research in Information Systems and Human-Computer Interaction: Divergent and Convergent Paths.Now Publishers.

FOURTH SEMESTER

Course Code: DIX 204							L/T	S/P	C
Subject: Visual Identity and Branding							0	6	6
Marking Scheme: Teachers Continuous Evaluation: 40 Marks End Term Practical Examination: 60 Marks									
Course Outcomes:									
CO1	The Student will be able to Gain and Retain the Knowledge of various design elements/components and principles of branding.								
CO2	The Student will be able to Retain, Understand and Apply the origins, meaning and purpose of branding.								
CO3	The Student will be able to formally and Meaningfully Apply, Assimilate and Experiment with the learnings about Brand and Branding Methods on an array of Digital Platforms.								
CO4	The Student will be able to Critically Create and Evaluate new brand identity designs and Utilize Branding to understand its importance in marketing of goods, products, and events.								
CO/	**PO01**	**PO02**	**PO03**	**PO04**	**PO05**	**PSO1**	**PSO2**	**PSO3**	

PO								
CO1	1	2	2	2	3	1	2	2
CO2	1	2	2	3	3	2	2	3
CO3	2	2	3	3	3	2	3	3
CO4	2	3	3	3	3	3	3	3

Course Content

Unit I
ABOUT BRANDING
Understanding/Insight/Perception – Understanding of branding: its history, meaning, and purpose. To know about various brands and their impact on design trends.

Unit II
VISUAL INPUTS IN BRAND DESIGN
Describing, Analysing, Critiquing and Investigating - To learn the use of shapes and forms and the role of colors in the creation of brand design. The focus will be on the creation of brand name and type through logo, typography and layout design.

Unit III
CAMPAIGNS IN BRAND DESIGN
Making use of illustrations, photography, videos, and animation for campaigning /promotional purposes on various digital platforms.

Unit IV
DESIGN PROCESS IN BRAND DESIGN
To decode branding as a design process and its application in projects for creating an identity and promotion of various goods, products, and events. This includes the application of a strategic approach to researching, conceptualizing, and implementing brand-related design ideas.

Text Books/ Reference Books:

1. Shumate, A.M. (2020). Logo Design Theory: How Branding Design Really Works. New Riders, NJ.
2. Airey, D. (2019). Identity Designed: The Definitive Guide to Visual Branding. Rockport Publishers, UK.
3. Malinic, Radim (2019). Book of Branding: A Guide to Creating Brand Identity for Startups and Beyond Brand Nu Limited, UK.
4. Wheeler, A. (2017). Designing Brand Identity: An Essential Guide For The Whole Branding. John Wiley and Sons, UK.
5. Brooking, C.S. (2016). Creating A Brand Identity: A Guide For Designers. Laurence King, UK.

FOURTH SEMESTER

Course Code: DIX 206	L/T	S/P	C
Subject: Mix Media Animation	0	4	4

Marking Scheme:
Teachers Continuous Evaluation: 40 Marks
End Term Practical Examination: 60 Marks

Course Outcomes:

CO1	The Student will be able to Gain, Retain and Apply the Knowledge about the fundamentals of Mix-Media Animation.
CO2	The Student will be able to Retain, Understand and Implement the Animation Production Process.
CO3	The Student will be able to formally and Meaningfully Apply, Assimilate and Experiment with the related hardware, software and other tools for experimental animation.
CO4	The Student will be able to Critically Create and Evaluate new designs in Flip Book, clay modeling,

	cutout animation and set design.							
CO/ PO	**PO01**	**PO02**	**PO03**	**PO04**	**PO05**	**PSO1**	**PSO2**	**PSO3**
CO1	2	2	2	3	3	2	2	3
CO2	2	2	3	3	3	2	2	3
CO3	2	3	3	3	3	2	3	3
CO4	2	3	3	3	3	3	3	3

Course Content

Unit I
INTRODUCTION TO MIX MEDIA ANIMATION
Understanding/Insight/Perception – Introduction to Mix Media Animation, Types of Animation, Types of Mix Media Animation, Importance of Pre-production, Production, and Post Production Process.

Unit II
TREATMENT
Idea – script – treatment, designing characters and prop, planning your shots – basic film grammar/composition of shots, the storyboard, editing – Animatics and story reels.

Unit III
MEDIA
Explore, Implement Designs using various software used for Stop Motion Animation and Live Action Videos along with Cut Out Animation.

Unit IV
USING MIX MEDIA FOR PRODUCTION
To decode Hardware requirements for stop motion animation, Clay Animation, Stop Motion Techniques, Flip book, Animation set designing- interior & exterior, Clay Character Modeling & Animation, Technique of working in groups, Budgeting, Time and Money, etc.

Text Books/ Reference Books:

1. Whitaker, H. and Halas, J. (2021). Timing for Animation. CRC Press, UK.
2. Zinman, Gregory (2020). Making Images Move: Handmade Cinema and the Other Arts. University of California Press, Berkeley, US.
3. Shaw, S. (2017). Stop Motion: Craft skills for model animation (3rd Edition). Routledge, UK.
4. Hurtado, D. (2016). Flipping Out: The Art of Flip Book Animation: Learn to illustrate & create your own animated flip books step by step. Walter Foster Publishing, CA, USA.
5. Capps, C. (2013). The Animator Inside Of You How To Make Stop Motion and Clay Animation Basic Tricks and Tips. Abobe Inc.

FOURTH SEMESTER

Course Code: DIX 208	L/T	S/P	C
Subject: Motion Graphics-I	0	4	4

Marking Scheme:
Teachers Continuous Evaluation: 40 Marks
End Term Practical Examination: 60 Marks

Course Outcomes:

CO1	The Student will be able to Gain, Retain and Apply the Knowledge about the fundamentals of Motion Graphics.
CO2	The Student will be able to Retain, Apply and Implement the about different styles and treatment of content in visuals, compositing and motion graphics.
CO3	The Student will be able to formally and Meaningfully Analyze, Assimilate and Experiment the

	importance of cognitive in visual effects, compositing and motion graphics in films and videos							
CO4	The Student will be able to Critically Create and Evaluate Visual Effects, Compositing and Motion Graphics for Films and Videos.							
CO/ PO	**PO01**	**PO02**	**PO03**	**PO04**	**PO05**	**PSO1**	**PSO2**	**PSO3**
CO1	1	2	2	2	3	1	2	3
CO2	1	2	2	3	3	2	2	3
CO3	2	2	3	3	3	2	3	3
CO4	2	3	3	3	3	3	3	3

Course Content

Unit I
INTRODUCTION TO MOTION GRAPHICS
Understanding/Insight/Perception – Introduction to Mix Media Animation, Types of Animation, Types of Mix Media Animation, Importance of Pre-production, Production, and Post Production Process.

Unit II
INTRODUCTION TO COMPOSITING SOFTWARE
Implementation of the learnings in the Digital Compositing Software layer based, User Interface Basics and importing images into Compositing Software - Playing back Videos and changing project settings.

Unit III
CREATING MEDIA
Explore, Implement Designs using various software used for Stop Motion Animation and Live Action Videos along with Cut Out Animation.

Unit IV
COMPOSITING
Basic layer-based compositing, Color Correction, Adjustment layers, multi-layer compositing.

Text Books/ Reference Books:

1. Curran, S. (2020). Motion Graphics: Graphic Design for Broadcast and Film. Rockport Publishers, UK.
2. Betancourt, Michael (2020). The History of Motion Graphics. Wildside Press LLC, Holicong, Pennsylvania, US.
3. Shaw, A. (2019). Design for Motion: Fundamentals and Techniques of Motion Design**,** Routledge, UK.
4. Myers, T. and Myers, C. (2018). Creating Motion Graphics with After-Effects (5th Edition). Routledge, UK.
5. Myers, T. and Myers, C. (2016). After Effects Apprentice. Routledge, UK.

FOURTH SEMESTER

Course Code: DIX 210	L/T	S/P	C
Subject: Theory of UI/UX	2	0	2

Marking Scheme:
Teachers Continuous Evaluation: 40 Marks
End Term Practical Examination: 60 Marks

Course Outcomes:

CO1	The Student will be able to Retain and Understand the knowledge at a beginner's level regarding the basic UX and UI principles, need and importance in professional scenarios, roles and responsibilities of a UX designer, etc.

CO2	The Student will be able to Understand, Observe, Interpret and Build new concepts in a better way with the awareness of the practical methods to improve their interaction design works (e.g., task analysis, usability testing, user interviewing).
CO3	The Student will be able to Meaningfully Utilize the knowledge to Recognize Good and Bad UI/UX as well as how to transfer their technical skills and knowledge into a career in UI/UX.
CO4	The Student will be able to Assimilate Insights, Effectively select and filter out Factors and Apply them to sell the UI/UX design interventions in client projects / management teams.

CO/ PO	**PO01**	**PO02**	**PO03**	**PO04**	**PO05**	**PSO1**	**PSO2**	**PSO3**
CO1	1	1	2	2	2	1	1	2
CO2	1	1	2	2	3	1	2	2
CO3	2	2	2	3	3	2	2	3
CO4	2	2	3	3	3	2	3	3

Course Content

Unit I
ORIENTATION TO NEED AND IMPORTANCE OF UI/UX
Understanding and Retaining the Importance of Concept and Trends of UI/UX. Mental models, Cognitive models in UX. Team Collaborative and techniques and how to work together. Best Practices in UI/UX Industry sectors as case studies**.**

Unit II
PRAGMATICS OF UI/UX
Applications and Implementations of Visual Design Principles, wireframing and storyboarding, 6 Design steps in UX, Competitor analysis, Usability Heuristics Laws for UX.

Unit III
BASIC PROTOTYPING
Basic Prototyping theory and how to test designs in UX, UX Deliverables and its process in web interface, product and service-oriented projects.

Unit IV
BUSINESS APPROACHES IN UI/UX
Implementing and Evaluating Value Proposition, Target Audience, Revenue Streams, Channels, Cost Structure, Partnerships, Key Activities and Key Metrics.

Text Books/ Reference Books:

1. Albert, B., Tulis, T. (2022). Measuring the User Experience: Collecting, Analyzing, and Presenting UX Metrics (Interactive Technologies), 3rd Edition. Morgan Kaufmann Publishers, US.
2. Kantamneni, Satyam (2022). User Experience Design: A Practical Playbook to Fuel Business Growth. John and Wiley Publications, UK.
3. Staianno, F. (2022). Designing and Prototyping Interfaces with Figma: Learn Essential UX/UI Design Principles by Creating Interactive Prototypes for Mobile, Tablet, and Desktop. Packt Publishing, UK.
4. Nunnally, B., Farkas, D. (2021). UX Research: Practical Techniques for Designing Better Products. Upfront Books.
5. Couldwell, A. (2019). Laying the Foundations: A book about design systems. Owl Studios, Moscow city.

FOURTH SEMESTER

Course Code: DIX 212	L/T	S/P	C
Subject: Communication Theory	2	0	2

Marking Scheme:
Teachers Continuous Evaluation: 40 Marks
End Term Practical Examination: 60 Marks

Course Outcomes:

CO1	The Student will be able to Retain and Understand the knowledge and an in-depth understanding of the fundamental principles and theories related to communication systems.
CO2	The Student will be able to Understand, Observe, Interpret and Build new concepts to Develop his/her analytical and design skills through the study of communication processes/theories and the completion of design-oriented assignments.
CO3	The Student will be able to Meaningfully Utilize the knowledge to Apply Human Information processing strategies by Laying Emphasis on Processing of Information through the lens of Visual Perception Design Theories and Approaches.
CO4	The Student will be able to Assimilate Insights at the end of course by Integrating and Evaluating Appropriate Methods and Tools in analyzing communication signal, channel and system in achieving specific design goals and would submit mini project documentation.

CO/ PO	**PO01**	**PO02**	**PO03**	**PO04**	**PO05**	**PSO1**	**PSO2**	**PSO3**
CO1	1	1	2	2	2	1	1	2
CO2	1	1	2	2	3	1	2	2
CO3	2	2	2	3	3	2	2	3
CO4	2	2	3	3	3	2	3	3

Course Content

Unit I
NEED AND MEANING OF COMMUNICATION
Overview of communication system. Classification and representation of communications signals.

Unit II
POPULAR COMMUNICATION THEORIES AND MODELS
Applications and Implementations of Shannon-Weaver Linear Communication Model, Aristotle's Communication Model, Laswell's Communication Model, Interactive Communication Model, Berlo's Model of Communication, Schramm's Model of Communication and respective applications of these models/ underlying theories.

Unit III
POPULAR HUMAN INFORMATION PROCESSING STUDIES
Narrative Theory. Information Theory: meaning, purpose, applications, spatio-temporal message design.

Unit IV
VISUAL GESTALTEN
Implementing and Evaluating Visual Perception in design and related 9 Gestalt Laws of perceptual organization to craft form and content relationships for effective communication.

Text Books/ Reference Books:

1. Kelly, James; Smith, Ken and Josephson, Sheree (2020). Handbook of Visual Communication Theory, Methods, and Media. Taylor & Francis, UK.
2. Patrick Cheung, H.Y. (2017). The Dynamics of Interaction Design Theory. Cognella Incorporated.
3. Mortensen, D.C. (2017). Communication Theory, 2nd Edition. Routledge, UK.
4. Amare, N., Manning. A. (2016). A Unified Theory of Information Design: Visuals, Text and Ethics. Talor and Francis Group, UK.
5. Armstrong, H. (2012). Graphic Design Theory: Readings from the Field. Princeton architectural Press, USA.

FIFTH SEMESTER

Course Code: DIX 301	L/T	S/P	C
Subject: Infographic Design	0	4	4

Marking Scheme:
Teachers Continuous Evaluation: 40 Marks
End Term Practical Examination: 60 Marks

Course Outcomes:

CO1	The student will be able to Retain and Understand the art and science behind translating data into a visual medium that is easy to comprehend as well as increase user engagement.
CO2	The student will be able to Understand, Observe, Interpret, and Build Integrated Visuals with Texts and Images for Interactive themes – based on Design Guidelines for Infographics.
CO3	The student will be able to Meaningfully Utilize the knowledge of Minimalism and design powerful, aesthetic, and visually appealing infographics.
CO4	The student will be able to Assimilate Insights, Effectively select elements, and design Infographic Design from Users' perspectives, and giving them control and flexibility for data manipulation as part of the dynamic interactive Infographic approach (a trend popular in industry sectors).

CO/ PO	**PO01**	**PO02**	**PO03**	**PO04**	**PO05**	**PSO1**	**PSO2**	**PSO3**
CO1	2	2	2	3	3	1	2	2
CO2	2	2	3	3	3	2	2	3
CO3	2	3	3	3	3	2	3	3
CO4	2	3	3	3	3	3	3	3

Course Content

Unit I
FUNDAMENTALS OF INFOGRAPHIC DESIGN
Understanding and Retaining the Importance of Information Visualization basics for interactive data representations. Types: Charts, Graphs, and Maps.

Unit II
TEXT-IMAGE INTEGRATION AND DESIGN GUIDELINES
Guidelines for applying Integrations of elements of visual interest such as illustrations, photos, and icons with texts to represent a visual theme. Aspects of Clear Information Dissemination, Informational Honesty, and Shareability from the users' perspective are applied in the design language of the infographic.

Unit III
MINIMALISM AND INFOGRAPHIC DESIGN
Learning the techniques behind processing Infographics based on the design philosophy of Minimalism. Choice of Fonts, Limited Colour palette, and Simple Graphical/Illustrative approaches of representations.

Unit IV
DESIGN WITH INTERACTIVE INFOGRAPHICS
Assimilation of knowledge by learning to design dynamic infographics that are flexible, welcome users as active participants in receiving information through data manipulations.

Text Books/ Reference Books:

1. Holmes, N. (2022). Joyful Infographics: A Friendly, Human Approach to Data (AK Peters Visualization Series). Taylor & Francis Ltd., UK.
2. Publishing, S. (2021). Infographic Design: Visual Storytelling with Information and Data. Gingko Pr Inc., CA.
3. Schwochow, J. (2021). The World Explained in 264 Infographics. Prestel Publishing, Germany.
4. Sandu. (2021). Infographic Design Visual Storytelling with Information and Data. Gingko Press, USA.
5. Rendgen, S., Wiedemann, J. (2020). Information Graphics. Taschen America Llc, US.

FIFTH SEMESTER

Course Code: DIX 303	L/T	S/P	C
Subject: Sequential Narratives-II	0	6	6

Marking Scheme:
Teachers Continuous Evaluation: 40 Marks
End Term Practical Examination: 60 Marks

Course Outcomes:

CO1	The student will be able to Understand the StoryBoard and Comic Books.
CO2	The student will be able to Understand and Observe story structure and narratives.
CO3	The student will be able to Utilize the knowledge of drawing a detailed storyboard.
CO4	The student will be able to Create his/her own graphic novels and visual narratives.

CO/ PO	**PO01**	**PO02**	**PO03**	**PO04**	**PO05**	**PSO1**	**PSO2**	**PSO3**
CO1	1	1	1	2	2	1	1	2
CO2	1	1	2	2	2	1	2	2
CO3	2	2	2	2	3	2	2	3
CO4	2	2	2	3	3	2	3	3

Course Content

Unit I
OVERVIEW
Understanding sequential art and its role in storytelling, storyboarding examples, thumbnail examples, and animatic examples.

Unit II
COMICS AND GRAPHIC NOVELS
Brief history of comics and graphic novels, major contributors, and frequently used terms in Graphic Novels. Script writing to comic design.

Unit III
STORYBOARDING
Creating single-page comics. Acting and use of Facial Expressions in Graphic Novels. Panel Design, POV, Understanding Distance and Cropping, and Creating Different Types of Frames in Comics.

Unit IV
INTEGRATION OF ELEMENTS
Story structure and narrative arc, Essential components of a story. Using the method of storytelling in various mediums: web, mobile apps, games, etc.

Text Books/ Reference Books:

1. Woo, B., and Stoll, J. (2021). The Comics World: Comic Books, Graphic Novels, and Their Publics. University Press of Mississippi, USA
2. Yoai (2021). Anime Art Class. Rock Point Gift & Stationery.
3. Hartmann, R. (2020). The Structure of Story: How to Write Great Stories by Focusing on What Really Matters, Kilingo, USA.
4. Lee, Stan. (2019). Stan Lee's Master Class. Watson-Guptill Publishers.
5. Torta, Stephanie, and Vladimir Minuty. Storyboarding: Turning Script into Motion. Bloomfield, Mercury Learning & Information, 2017.

FIFTH SEMESTER

Course Code: DIX 305	L/T	S/P	C
Subject: Web Interface Design	0	4	4

Marking Scheme:
Teachers Continuous Evaluation: 40 Marks
End Term Practical Examination: 60 Marks

Course Outcomes:

CO1	The student will be able to Retain and Understand the basic overview of Web Technologies and allied Progressive Web Applications that craft the UI.
CO2	The student will be able to Interpret and Implement goals and how intuitive aspects form the design language of the two kinds of website designs: Static and Dynamic.
CO3	The student will be able to formally and Meaningfully Apply the Knowledge of Domains and Hosting as part of the main Web Interface Design Project. Well thought and Critical Responsive Web Interface Design Outcomes are the main objectives.
CO4	The student will be able to Assimilate Insights and Critically select to Evaluate their Website Design on the basis of Web Standards and W3C recommendations using effective, client-driven Interface approaches.

CO/ PO	**PO01**	**PO02**	**PO03**	**PO04**	**PO05**	**PSO1**	**PSO2**	**PSO3**
CO1	1	2	3	3	3	2	2	2
CO2	2	2	3	3	3	3	3	3
CO3	2	3	3	3	3	2	3	3
CO4	2	3	3	3	3	3	3	3

Course Content

Unit I
WEB TECHNOLOGIES & PROGRESSIVE WEB APPLICATIONS
Understanding/Insight/Perception – Adobe Dreamweaver, Dreamweaver Interface Basics, Layout Tools, Form Tools, etc. HTML 4.01, XHTML 1.1, and JAVA. Mark-up Languages and Basic Structure orientations. CSS3 and HTML5: Introduction and Overview on applications as part of interface design.

Unit II
TYPES OF WEBSITE DESIGNS
Static Interface versus Dynamic Interface Websites and their Applications. Single-page websites, API approach, Mobile optimized website. Roles of 5G, Advanced IoT and Wireless Architecture in Contemporary Web Interfaces.

Unit III
RESPONSIVE WEB INTERFACE DESIGN WITH BOOTSTRAP
Introduction to Responsive Design, Mobile first design concepts, Common device dimensions, View-port tag, Using CSS media queries, Menu conversion script, Basic Custom Layout; Introduction to Bootstrap, Installation of Bootstrap, Grid System, Forms, Buttons, Icons Integration, Using CSS3 in Practical Layout. Applying Website Maintenance: Web Hosting Basics, Types of Hosting, Registering Domains, etc.

Unit IV
WEB INTERFACE STANDARDS AND BEST PRACTICES
Knowing the importance of W3C Recommendations on User-Friendly aspects in Web Interface Designs and implementing these best practices in major web interface projects.

Text Books/ Reference Books:

1. MacDonald (2022). Practical UI Patterns for Design Systems: Fast-Track Interaction Design for a Seamless User Experience. Springer, India.
2. Calonaci, D. (2021). Designing User Interfaces Exploring User Interfaces, UI Elements, Design Prototypes and the Figma UI Design Tool. BPB Publications, India.
3. Tidwill, J., Brewer, C., Valencia-brooks, A. (2020). Designing Interfaces: Patterns for Effective Interaction Design. Third Edition. O'Reilly Media, US.
4. Robbins, J. (2018). Learning Web Design: A Beginner's Guide to HTML, CSS, JavaScript, and Web Graphics. Fifth Edition (Greyscale Indian Edition). Shroff/O'Reilly, India.

5. Frain, B. (2020). Responsive Web Design with HTML5 and CSS: Develop future-proof responsive websites using the latest HTML5 and CSS techniques (3rd ed.). Packt Publishing.

FIFTH SEMESTER

Course Code: DIX 307						L/T	S/P	C
Subject: Design Project						0	6	6
Marking Scheme: Teachers Continuous Evaluation: 40 Marks End Term Practical Examination: 60 Marks								
Course Outcomes:								
CO1	The student will be able to Retain and Understand the learnings from 3rd and 4th semester courses regarding need finding and implementations in Interaction Design Studio-I and II to weaving stories in narratives, advanced typography, and communication, other visual design learnings, etc.							
CO2	The student will be able to Interpret and Implement goals and how to sensitively approach redesigning a new interface, service, or product for their Interaction Design Capstone Project.							
CO3	The student will be able to formally and Meaningfully Apply the Knowledge by working under the apprenticeship of a Delhi-based Industry partner in order to develop real-world design challenges for this final project.							
CO4	The student will be able to Assimilate Insights and Critically select to Evaluate their Final Design Project under the guidance of the Industry partner and share their design portfolio to highlight project work(s) and document their design process.							
CO/PO	**PO01**	**PO02**	**PO03**	**PO04**	**PO05**	**PSO1**	**PSO2**	**PSO3**
CO1	1	2	2	3	3	2	2	3
CO2	2	2	2	3	3	2	3	3
CO3	2	2	3	3	3	3	3	3
CO4	2	3	3	3	3	3	3	3

Course Content

Unit I

NEED FINDING AND PROBLEM STATEMENT

Understanding/Insight/Perception: Setting goals and values and filtering design insights with respect to emergent user needs, breakdowns, clever hacks, and opportunities for improvements.

Unit II

IDEATION, PROTOTYPING, AND DESIGN HEURISTICS

Brainstorming for multiple Idea Generations, following the Immersion process via whiteboard, butcher paper, or stick post-its on a wall. Fleshing out Design Ideas through Storyboarding and making paper prototypes Students will be finally conducting Heuristic Evaluations (HEs) to highlight usability issues for better design solutions.

Unit III

PLANNING AND TESTING PROTOTYPES

Written articulations of Clear, Actionable Goals by crafting a Development Plan document. Writing a time estimate into their plan and tracking how long it actually takes in all steps. Detailed Testing of the final prototype in person to find usability bugs and potential improvements.

Unit IV

USER TESTING AND RESULTS

Knowing the importance of CHI-squared tests and A/B Tests for statistical analysis of the numerical data would establish user behavioral insights factually.

Text Books/ Reference Books:

1. Schmidt, E. (2023). UX: Tips And Tricks for Planning and Analyzing Data in UX Projects. IngramSpark, US.
2. Baer, K. (2021). Information Design Workbook, Revised and Updated: Graphic approaches, solutions, and inspiration + 30 case studies. Rockport Publishers, UK.
3. Spies, M., Wenger, K. (2020). Branded Interactions: Marketing Through Design in the Digital Age. Thames and Hudson, UK.
4. Blokdyk, G. (2019). Interaction design A Complete Guide. 5starCooks, Australia.
5. Norman, D. A. (2019). Design of Future Things. Basic Books, USA.

FIFTH SEMESTER (PROGRAM CORE ELECTIVE)

Course code: DIX 309	L/T	S/P	C
Subject: Book and Publication Design	0	4	4

Marking Scheme:
Teachers Continuous Evaluation: 40
End Term Practical Examination: 60

Course Outcomes:

CO1	Students will be able to understand and select effectively the book formats and binding types to plan design outcomes of a full designed and printed book/ publication.
CO2	Students will learn the graphical elements as well as other aspects of the process of Publication Design to create, imagine, innovate form and content in a new book/publication design project.
CO3	Students will retain, understand and apply the knowledge of the production process in the final design detailing and executions in new book/publication design project.
CO4	Students will demonstrate new insights and outcomes on interactive and reader-friendly qualities of their final book/publication.

CO/PO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PSO1**	**PSO2**	**PSO3**
CO1	2	3	2	2	2	3	2	2
CO2	2	3	2	2	2	3	1	2
CO3	3	2	3	3	2	3	2	2
CO4	2	2	2	3	2	3	2	2

Course Content

Unit I
OVERVIEW: BOOKS AND KINDS OF BOOKS
Components of a Book and Formats: learning how to insert and lay out the chosen content and images, Testing for eye movement, hierarchy etc. Kinds of Books: Altered, Cut and Fold (Books, Brochures, Sets); Shaped /Themed Books (Tunnel, Accordian and Flag Books); Book binding (Japanese Binding, Perfect Binding, Coptic Binding).

Unit II
PUBLICATION/BOOK DESIGN PROCESS
Book Design Process, majorly including: Discovery, Structure, Ideas, Print Specifications, Design, Image Making, Layout, Cover Design, Production. Grid exercises, explorations and experiments. Flat Plan and Page Division Designs, executions with Typesetting within grids and layouts in a series of hands-on activities.

Unit III
BOOK PRODUCTION ASPECTS
Imparting print, production, publishing (with emphasis on the role of designer as a collator, aggregator, etc.), making files print-ready, etc. as part of an exposure visit to book making and binding service in the city of Delhi.

Unit IV
BOOKS DISPLAY SHOWCASE
Final Book/Publication Design project showcase/exhibit for additional feedbacks, discussions and evaluations as a group project to conclude the course.

Text/Reference Books :

1. Bernie, Debbie (2024). The Design of Books: An Explainer for Authors, Editors, Agents, and Other

Curious Readers. The University of Chicago Press, US.
2. Shaoqiang, Wang (2022). Book Design From the Printing Basics to the Most Impressive Designs. Hoaki Book Publishing Group, Barcelona.
3. Viction:workshop (2020). A Book on Books: New Aesthetics in Book Design, Viction:ary, Hong Kong, Korea.
4. Mendelsund, Peter and Alworth, David J. (2020). The Look of the Book Jackets, Covers, and Art at the Edges of Literature. The Crown Publishing Group, Penguin Random House, UK.
5. Ambrose, Gavin and Harris, Paul (2018). Layout for Graphic Designers: An Introduction. Bloomsbury Publishing, UK.

FIFTH SEMESTER (PROGRAM CORE ELECTIVE)

Course Code: DIX 311	L/T	S/P	C
Subject: Drawing and Representation	0	4	4

Marking Scheme:
Teachers Continuous Evaluation: 40 Marks
End Term Practical Examination: 60 Marks

Course Outcomes:

CO1	Students would be able to understand, retain and practice the fundamentals of isometric perspective and grid constructions in isometric sketching.
CO2	Students would learn the process of Isometric Design to create, imagine and innovate isometric perspective for 3D form generations.
CO3	Students would explore, analyze and implement the techniques of flat shapes conversions to 3D perspective view as part of five major hands-on assignments.
CO4	Students would demonstrate and display the assignments as part of course display in the last week for peer-peer and peer-faculty feedbacks, discussions and evaluations to conclude the course.

CO/PO	**PO01**	**PO02**	**PO03**	**PO04**	**PO05**	**PSO1**	**PSO2**	**PSO3**
CO1	2	3	2	3	2	3	2	2
CO2	2	3	3	3	2	3	1	2
CO3	3	3	3	3	2	3	2	2
CO4	3	2	3	3	2	3	2	2

Course Content

Unit I
OVERVIEW: ISOMETRIC DRAWINGS AND PERSPECTIVE
Introduction to the isometric drawing techniques for communicating or representing ideas/concepts on paper, through a series of Preliminary Sketches, Development Sketches, Working Drawings, Presentation Drawings for skill developments.

Unit II
ISOMETRIC DESIGN PROCESS
Consideration of core elements: Lines, Shapes, Planes, Grid, Form, Size and Proportions in a range of exercises/assignments on perspective drawing, isometric drawing, orthographic drawing and product drawing in latest digital software(s).

Unit III
ISOMETRIC DESIGN DETAILING AND EXECUTIONS
Fine-tuning the executions in the finalized designs in the assignments by detailing the orthographic projections as well as pictorial compositional views. The refinement of final designs through the optical aspects of dimensions, sections, detailed views and exploded views is implemented.

Unit IV
ISOMETRIC DESIGN DISPLAY SHOWCASE
Final Isometric Design series of assignments showcase/exhibit for additional feedbacks, discussions and evaluations as a group project to conclude the course.

Text Books/ Reference Books:

1. Simple, Jack (2021). Isometric Design: A Jack Simple Journal | Turquoise. Independently published.
2. Isometric Notebooks (2019). 3D Design Isometric Paper Notebook - Suitable for Landscaping, Architecture, Sculpture Or 3D Printer Projects - Grid of .28" Equilateral Triangles. Independently published.
3. Jafar, Darwis (2019). Isometric Game Design Sketchbook Isometric Sketchbook, 6x9, 105 Pages. Independently published.
4. Design, Whita (2018). 120 Numbered Pages of 0.28" Triangular Isometric Graph Paper for Designing Worlds. Independently published.
5. Wiltshire, A. P (2004). Isometric Design. lloyd-sier publishing, London, UK.

FIFTH SEMESTER (PROGRAM CORE ELECTIVE)

Course code: DIX 313							L/T	S/P	C
Subject: Design with Assistive Technology							0	4	4

Marking Scheme:
Teachers Continuous Evaluation: 40
End Term Practical Examination: 60

Course Outcomes:

CO1	Students would be able to understand, retain and learn about the principles and praxis of designing assistive technologies for individuals with disabilities.
CO2	Students would apply and create solutions with the multivariate, individualistic factors that affect the acceptance of an assistive technology, the essential technical criteria and constraints that affect the manufacturing and production process.
CO3	Students would explore, analyze and implement design solutions with assistive technologies as enablers through outreach and interactions with disabled communities in special schools/ organizations in the city of Delhi.
CO4	Students would demonstrate and display their group projects for validations, feedbacks and evaluations of the for the lived and human experience of disability in assistive technology design.

CO/PO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PSO1**	**PSO2**	**PSO3**
CO1	2	3	2	3	2	3	2	2
CO2	2	3	3	3	2	3	1	2
CO3	3	3	3	3	2	3	2	2
CO4	3	2	3	3	2	3	2	2

Course Content

Unit I
OVERVIEW: ASSISTIVE TECHNOLOGIES
Types of Assistive Technologies from no to low-tech to high tech solutions: Vision-based, Hearing-based, Speech-communication based, learning-cognition-developmental based, mobility-seating-positioning based, daily living based, environmental adaptations, vehicle modifications and transportations, computers and related peripherals, recreation-sports and leisure based.

Unit II
DISABILITY AND ASSISTIVE TECHNOLOGIES
Use case studies of traditional assistive technologies to explore issues such as stigmatization, normality, social inclusion, participation, and quality of life, all of which affect an individual's decision to accept or abandon an assistive technologies as part of group projects in class (3-4 student' groups major assignment)

Unit III
RESEARCH PLAN AND APPROACH
Each students' group as a team will research the disability involved and prior art that has addressed this problem, design a solution that addresses the technical, personal and environmental needs of the situation, and respond to

critical feedback given by the instructor, classmates, the individual with a disability and their caregivers.

Unit IV

PROJECT DISPLAY/ SHOWCASE

Final Project display that would showcase group project-based learning, centred around a design project in which small teams of students work closely with a person with a disability in the Delhi city to design a device/ equipment/ app/ novel solution that reduces their experience of disability.

Text/Reference Books :

1. Andres, Frederic and Dhamdhere, Sangeeta (2022). Assistive Technologies for Differently Abled Students. IGI Global Publications Pvt. Ltd.
2. Suryadevara, Nagender Kumar and Mukhopadhyay, Subhas Chandra (2020). Assistive Technology for the Elderly. Elsevier Science.
3. Singh, Ajay, Jung Yeh, Chia and Viner, Mark (2019). Special Education Design and Development Tools for School Rehabilitation Professionals. IGI Global Publications Pvt. Ltd.
4. Gilbert, Regine, M. (2019) Inclusive Design for a Digital World Designing with Accessibility in Mind. Apress, US.
5. Ravneberg, Bodil and, Söderström, Sylvia (2018). Disability, Society and Assistive Technology. Taylor and Francis, Routledge, UK.

FIFTH SEMESTER

Course Code: DIX 315							L/T	S/P	C
Subject: Design Semantics							2	0	2
Marking Scheme: Teachers Continuous Evaluation: 40 Marks End Term Practical Examination: 60 Marks									
Course Outcomes:									
CO1	The student will be able to Retain and Understand the visual arts to communicate stories and concepts throughout history and across disciplines. From cave paintings to digital media, students will Explore how visual techniques have been used to communicate emotions and share new ideas.								
CO2	The student will be able to Understand, Observe, Interpret, and Build new concepts in a better way with an awareness of the important historical and intellectual foundations of Human-Computer Interaction (HCI).								
CO3	The student will be able to Meaningfully Utilize the knowledge regarding significant advances in HCI Technologies (the 1960s and till date) in their Interaction Design Tech-oriented project involvements.								
CO4	The student will be able to Assimilate Insights, and Effectively select and filter out wicked visual communication problems that need the intervention of HCI and visual communication (both).								
CO/ PO	**PO01**	**PO02**	**PO03**	**PO04**	**PO05**	**PSO1**	**PSO2**	**PSO3**	
CO1	1	1	1	2	2	1	1	2	
CO2	1	1	2	2	2	1	2	2	
CO3	2	2	2	3	3	2	2	3	
CO4	2	2	3	3	3	2	3	3	
Course Content									
Unit I OVERVIEW: SEMANTIC INTERACTION DESIGN Understanding and Retaining the Importance of Interaction Language, Usability Issues, and UX Actions with respect to Actions Grammar in the Design Semantics of Interaction Design.									
Unit II SEMANTIC INTERACTION FRAMEWORK AND ALLIED CONCEPTUAL MODEL(S) Applications and Implementations of all the layers of the Conceptual Models as a Foundation of Semantic Interaction Design (Grammar, Visualization, Flow, and Game).									

Unit III
NATURAL LANGUAGE MAPPING TO INTERACTION GRAMMAR
Learning the techniques behind processing Natural Language to Interaction Design Grammar mapping. Practicing the mapping of natural linguistic structures directly to on-screen digital artifacts with GUIs, conversational experiences (chatbots), likewise.

Unit IV
SIGNIFICANT THEORIES DEVELOPING OBJECT-ACTION RELATIONSHIPS IN UX
Assimilation of knowledge by learning descriptive and exploratory HCI theories: Design by Levels, Stages of Action, Activity Theory and leveraging Consistency. Deciphering the Semantic Inconsistencies in UX through Good and Bad case studies.

Text Books/ Reference Books:

1. Rosenberg, D. (2020). UX Magic. Independently published.
2. Kuang, C., Fabricant, R. (2020). User Friendly. WH Allen, Penguin Random House, UK.
3. Dauer, J. (2020). Creative Culture: Human-Centered Interaction, Design, & Inspiration. Lead Hand Books; 2nd Of Cultivating a Creative Culture ed. Edition.
4. Maienborn,C., Heusinger, K. and Portner, P. (2019). Semantics - Foundations, History and Methods. De Gruyter, UK.
5. Shneiderman B. et. al. (2018). Designing the User Interface: Strategies for Effective Human-Computer Interaction 6th Edition. Pearson Publishers, USA

SIXTH SEMESTER

Course Code: DIX 302	L/T	S/P	C
Subject: Introduction to 3D Design	0	8	8

Marking Scheme:
Teachers Continuous Evaluation: 40 Marks
End Term Practical Examination: 60 Marks

Course Outcomes:

CO1	The student will be able to Understand the basic overview of 3D software.
CO2	The student will be able to create a model of 3D Design and 3D Objects.
CO3	The student will be able to Meaningfully Apply the Knowledge to create a 3D Environment.
CO4	The student will be able to implement the basic texture on their created 3D designs.

CO/ PO	**PO01**	**PO02**	**PO03**	**PO04**	**PO05**	**PSO1**	**PSO2**	**PSO3**
CO1	1	2	3	3	3	2	2	2
CO2	2	2	3	3	3	3	3	3
CO3	2	3	3	3	3	2	3	3
CO4	2	3	3	3	3	3	3	3

Course Content

Unit I
INTRODUCTION
Introduction to lines, circles, and other geometrical shapes, Understanding the concepts of geometry and its implementation into software. Understanding 3-dimensional forms. Creating Cubes and Cuboids etc.

Unit II
ADVANCED MODELING
Introduction to Organic and Inorganic Modeling. Creating the 3D objects and understanding the 3D flow, Understanding issues while modeling.

Unit III
3D DETAILING
Understanding High Poly and Low Poly Modeling, Introduction to 3D texturing, and colouring the objects. Understanding the Deformers and Modifiers for 3D models.

Unit IV DETAILED ENVIRONMENT Creating a Detailed Environment and Product in 3D.
Text Books/ Reference Books: 1. Azarami, F. (2021). 3D Modeling for Advanced Design and Application. Kendall Hunt Publishing Company, USA. 2. Murdock, K. L. (2020). Autodesk maya 2020 basics guide. Sdc Publications. No Starch Press, USA. 3. Murdock, Kelly (2020). Kelly L. Murdock's 3ds Max 2021 Complete Reference Guide. Mission, Sdc Publications, SDC publications, USA. 4. Coward, C. (2019). A Beginner's Guide to 3D Modeling: A Guide to Autodesk Fusion 360. No Starch Press, USA. 5. Tickoo, S. (2019). Autodesk Maya 2019: A Comprehensive Guide, 11th Edition. CADCIM Technologies, USA.

SIXTH SEMESTER

Course Code: DIX-302						L/T	S/P	C
Subject: Micro and Macro Interactions						0	6	6
Marking Scheme: Teachers Continuous Evaluation: 40 Marks End Term Practical Examination: 60 Marks								
Course Outcomes:								
CO1	The student will be able to Retain and Understand the key factors behind the structural identity of micro and macro interactions while crafting for specific user groups in the context of user interactivity with digital products/artifacts.							
CO2	The student will be able to Understand, Observe, and Interpret UI based System Behaviors from User perspectives in assignments and major projects.							
CO3	The students will be able to meaningfully utilize their knowledge of micro and macro interactivity by educating themselves in the context of a broader design and business community. They would learn how a user can and should interact with technology, which cycles back to the macro interactions.							
CO4	The student will be able to assimilate insights and effectively help define the types of behaviors and events that will help user groups use the system correctly in assignments and major projects. They'll learn how the feedback loop that is created between the micro and macro builds value and a human-centered approach for your users and society.							
CO/ PO	**PO01**	**PO02**	**PO03**	**PO04**	**PO05**	**PSO1**	**PSO2**	**PSO3**
CO1	2	3	3	3	3	2	2	2
CO2	2	3	3	3	3	2	3	3
CO3	3	3	3	3	3	3	3	3
CO4	3	3	3	3	3	3	3	3
Course Content								

Unit I

MICRO AND MACRO INTERACTIONS:

Understanding digital elements of micro and macro interactivity.

Rationale correlations and meanings of micro and macro interactions, User/system triggered micro interactions model approach, Key factors of micro-interactions: user goals, system functionality, system feedback, Key factors of macro interactions: user goals, culture/societal norms, technology capabilities.

Unit II

UI SYSTEM BEHAVIORS AND INTERACTIVITY

Designing with user-to-user communications and emotions, developing based on a series of system functionalities, Sustaining macro interactions through design, and crafting new micro-interactions to enhance usability.

Unit III

MICRO AND MACRO SYSTEMIC MODEL

Techniques from Chris R. Becker's 2001 model of micro and macro interactions, Practical application and relevance in contemporary digital contexts.

Unit IV

MULTIDIMENSIONAL MICRO AND MACRO INTERACTIONS

Brand communications in micro and macro interactions, System status and its impact on interactions.

Supporting error prevention and preventing reworks in the context of business understanding and developments.

Text Books/ Reference Books:

1. Roberts, N.C. (2023). Design Strategy: Challenges in Wicked Problem Territory. MIT Press, USA.
2. Alechnavicius, Vy. (2021). Get Into UX: A Foolproof Guide to Getting Your First User Experience Job. Experience Designed Publications.
3. Kim, G.J. (2020). Human-Computer Interaction: Fundamentals and Practice
4. Bongers, B. (2021). Understanding Interaction: The Relationships Between People, Technology, Culture, and the Environment Volume 1: Evolution, Technology, Language and Culture. CRC Press, USA.
5. Saffer, D. (2013). Microinteractions: Designing with Details. O'Reilly Media, UK.

SIXTH SEMESTER

Course Code: DIX 312						L/T	S/P	C
Subject: Motion Graphics-II						0	4	4
Marking Scheme: Teachers Continuous Evaluation: 40 Marks End Term Practical Examination: 60 Marks								
Course Outcomes:								
CO1	The student will be able to understand the concept of motion graphics.							
CO2	The student will be able to create motion graphics on different software.							
CO3	The student will be able to identify and apply the different types of mediums of graphics in motion graphics.							
CO4	The student will be able to create and demonstrate the motion graphics according to the script.							
CO/ PO	**PO01**	**PO02**	**PO03**	**PO04**	**PO05**	**PSO1**	**PSO2**	**PSO3**
CO1	2	2	3	3	3	1	2	2
CO2	2	3	3	3	3	2	2	2
CO3	2	3	3	3	3	2	3	3
CO4	3	3	3	3	3	3	3	3
Course Content								
Unit I CREATING COMPOSITION FOR MOTION GRAPHICS Defining Composition, Adding Layers, Layer blending, Size of Composition, Resolution and Quality, Safe areas, Ruler & Guide.								
Unit II BASIC ANIMATION Definition of Timeline, Broadcasting Standards and Frame Rate, Different Types of Keyframes, Various File formats for Output, Textacy (Using Texts in Motion Graphics) : Creating and Animating Text.								

Unit III LAYER BLENDING AND USE OF LIGHTS, CAMERA, COLOR CORRECTION Different Blending Techniques, Different Techniques of Creating Masks: Painting & Using Shape Tools. Applying Camera and Lights, Adjusting Camera & Light Settings, Color Correction.
Unit IV NESTING COMPOSITION & PRE-COMP AND RENDERING Nested Composition, Uses of Nested Composition Creating a Nesting Composition, Pre-Comp, Uses of Pre-Comp, Creating a Pre-Comp, rendering the final project.
Text Books/ Reference Books: 1. Meyer, Chris, and Trish Meyer. Creating Motion Graphics with after Effects. Taylor & Francis, 11 Feb. 2013. 2. Crook, I., & Beare, P. (2015). Motion Graphics: Principles and Practices from the Ground Up. Fairchild Books. 3. Dodds, David. Hands-on Motion Graphics with Adobe after Effects CC: Develop Your Skills as a Visual Effects and Motion Graphics Artist. Birmingham, Packt Publishing, 2019. 4. Meyer, Trish, and Chris Meyer. After Effects Apprentice: Real-World Skills for the Aspiring Motion Graphics Artist. New York, Routledge, 2016. 5. Meyer, Chris. Creating Motion Graphics with After Effects: Essential and Advanced Techniques. 2018.

SIXTH SEMESTER

Course Code: DIX 314						L/T	S/P	C
Subject: Introduction to AR/VR						0	3	3
Marking Scheme: Teachers Continuous Evaluation: 40 Marks End Term Practical Examination: 60 Marks								
Course Outcomes:								
CO1	The student will be able to Retain and Understand the overview and introduction to Immersive Technologies; along with the foundations of perceptual engineering.							
CO2	The student will be able to Understand, Observe, and Interpret concepts developed with the help of Quick Prototyping with assets and scripts in UNITY 3D.							
CO3	The student will be able to Meaningfully Utilize the knowledge of AR evolution and types of AR (marker, marker less, AR spark, Gesture-based) as well as VR evolution Google CARDBOARD VR, 360 VR, 3DOF vs 6DOF for the main immersive design project.							
CO4	The student will be able to Assimilate Insights, Effectively through Advanced AR/VR and Industry use cases as well as The Human Centric AR/VR.							
CO/ PO	**PO01**	**PO02**	**PO03**	**PO04**	**PO05**	**PSO1**	**PSO2**	**PSO3**
CO1	2	3	3	3	3	2	2	2
CO2	2	3	3	3	3	2	3	3
CO3	3	3	3	3	3	3	3	3
CO4	3	3	3	3	3	3	3	3
Course Content								
Unit I IMMERSIVE TECHNOLOGIES								

To Explore, Understand and Experience various VR and AR demonstrations through the study of Mechanics, History, Terminologies, and Trends. Visual Anatomy and Perception would help learn and explore perceptual concepts with demos as part of the foundation of perceptual engineering.

Unit II

INTRODUCTION TO SOFTWARES

To apply the Ability by a learner/ student to make a quick prototype with assets and scripts from store/lib through detailed hands-on practice in the softwares.

Unit III

IMMERSIVE TECH TOOLS AND PLATFORMS

Ability to make quick AR prototypes with readily available assets and scripts from store/lib by studying AR Evolutions and Types of AR: marker, marker less, AR spark, Gesture-based. Ability to make quick 360 VR assets and scripts from store/lib..

Unit IV

HUMAN-CENTRIC GUIDELINES

Ability to understand XR technologies value addition for business by studying AR /VR systems with IOT, AI, and Haptics. To learn how to define objectives for VR testing and explore VR testing methods by studying User Centered Design, User Experience and 3D User Interface.

Text Books/ Reference Books:

1. Jung, T., Tom Deick, M.C. (2023). XR-Metaverse Cases: Business Application of AR, VR, XR and Metaverse (Business Guides on the Go). Springer International Publishing AG, US.
2. Berger, R. (2022). Storytelling for New Technologies and Platforms: A Writer's Guide to Theme Parks, Virtual Reality, Board Games, Virtual Assistants, and More. CRC Press LLC, US.
3. Mazamanyan, D. (2020). Virtual Reality, Augmented Reality und 360°-Videos: VR, AR und 360°-Videos im Vergleich. Independently published.
4. Wells, R. (2020). Unity 2020 By Example: A project-based guide to building 2D, 3D, augmented reality, and virtual reality games from scratch, 3rd Edition. Packt Publishing Ltd., UK.
5. Pangilinan, E., Lukas, S., & Mohan, V. (2019). Creating Augmented and Virtual Realities: Theory & Practice for Next-Generation Spatial Computing. O'Reilly, United Kingdom.

SIXTH SEMESTER

Course Code: DIX 316							L/T	S/P	C
Subject: Creative / Script Writing							2	0	2
Marking Scheme: Teachers Continuous Evaluation: 40 Marks End Term Practical Examination: 60 Marks									
Course Outcomes:									
CO1	The student will be able to Retain and Understand the structure of a well-crafted story by learning sources of storylines, adaptation techniques, storytelling and concept development modes.								
CO2	The student will be able to Understand, Observe, Interpret and Build new concepts in a storyline via script writing by utilizing essential elements of a captivating story.								
CO3	The student will be able to Meaningfully Utilize the knowledge regarding explorations of different themes and genres in scriptwriting.								
CO4	The student will be able to Assimilate Insights, Effectively select dialogues, related interactive elements to create a script effectively in a story to resonate with the intended audience.								
CO/ PO	**PO01**	**PO02**	**PO03**	**PO04**	**PO05**	**PSO1**	**PSO2**	**PSO3**	
CO1	1	1	1	2	2	1	1	2	
CO2	1	1	2	2	2	1	2	2	
CO3	2	2	2	2	3	2	2	3	
CO4	2	2	2	3	3	2	3	3	
Course Content									

Unit I OVERVIEW: CONCEPT DESIGN Idea – Script- Treatment, Character Design, Prop Design/ Set Design, cartoon animation writing and storytelling, understanding the nuances of creating engaging characters, and building immersive worlds.
Unit II SCRIPT WRITING & IMPORTANCE OF A STORYLINE The art of storytelling through script writing. Character growth, plot development, and theme , Role of script in films (Documentaries), how to write a script. Writing scripts for different types of documentary films. Research on different types of script, Understanding the expansion of Ideas. Enhancing your script from first draft to third draft.
Unit III STORYBOARDING ELEMENTS FOR CREATIVE SCRIPTS Types of storyboards: hand-drawn, digital, paper, and screen. Creating visually engaging frames that communicate the narrative. Conveying mood, composition, and pacing through storyboards.
Unit IV CREATIVE TECHNIQUES AND STYLES FOR CRITICAL THINKING Story telling, Different Components of a Story, Researching for the Story, Internet as a Medium for Storytelling, Creating a Script from Story.
Text Books/ Reference Books: 1. John, S. (2022). Storyboard Notebook: Creative Sketchbook with Board Frames Storyboarding & Storytelling - Book for Writers, Filmmakers, Animators and more. Zara Roberts. 2. Singh, L.K. (2021). Film Script Writing. Notion Press Media Pvt Ltd, Chennai, India. 3. Andrews, C. (2020). Script Planner: A Workbook for Outlining 20 Script Ideas. Creative Manuscript Services. 4. Dahl, R., Blake, Q. (2020). Roald Dahl Creative Writing with James and the Giant Peach. Puffin Publications, US. 5. Trottier, D. (2019). The Screenwriter's Bible: A Complete Guide to Writing, Formatting, and Selling Your Script. Silman-James Press, US.

SEVENTH SEMESTER

Course Code: DIX 401						L/T	S/P	C
Subject: Packaging Design and Applications						0	8	8
Marking Scheme: Teachers Continuous Evaluation: 40 Marks End Term Practical Examination: 60 Marks								
Course Outcomes:								
CO1	The student will be able to understand the concept of various Packaging Designs, on the basis of different product categories.							
CO2	The student will be able to Construct 3D Packaging mockups and Models.							
CO3	The student will be able to Identify and Apply the method, material, Practical, and Production considerations involved in Package Design.							
CO4	The student will be able to Demonstrate the importance of package design visibility in the commercial marketplace.							
CO/ PO	**PO01**	**PO02**	**PO03**	**PO04**	**PO05**	**PSO1**	**PSO2**	**PSO3**
CO1	2	2	3	3	3	1	2	2
CO2	2	3	3	3	3	2	2	2
CO3	2	3	3	3	3	2	3	3
CO4	3	3	3	3	3	3	3	3
Course Content								

Unit I

INTRODUCTION TO PACKAGING DESIGN

Understanding of Packaging: its meaning, and purpose. Packaging materials, Specialty Packaging, Machinery selection, Selection of packaging material and their impact on design trends. Principles of packaging design, Packaging design process.

Unit II

TYPES OF PACKAGING MATERIALS

It includes recyclable materials such as PET or HDPE Plastic, Cardboard and paper wrapping. These materials, once sorted correctly for recycling, can be shredded, pulped or melted down and remolded to create new raw material for packaging.

Unit III

STUDY OF 2-D AND 3D PACKAGING

Using the Digital Software for Packaging design, printing in CMYK, RGB, Shapes and forms, Role of design in the creation of Packaging Design. Product Packaging with different layout designs, Redesigning, Gift Hamper packaging. Corporate Design, Designing Posters, Book Cover Design, Brochure and Packaging Design, Designing Letterheads.

Unit IV

STEPS OF PACKAGE TESTING

Vibration: Sine, random, or bounce. Shock: Half sine, saw-tooth, or trapezoidal pulses. Drop: Transit drop, bench handling. Impact: Drop-weight, pendulum. Climate Hazards: Temperature, humidity, rain. Mechanical Handling: Forklift handling, Packaging design case study.

Text Books/ Reference Books:

1. Jukowski, K. (2023). Packaging design in consumer culture. Our Knowledge Publishing, North and South Kivu.
2. Jackson, P. (2022). Creative Packaging: One-Piece Packaging Solution: ONE-PIECE PACKAGING SOLUTION. Sendpoints Publishing, China.
3. Wang, S. (2022). Wrap It Up: Creative Structural Packaging Design. Includes Diecut Patterns. Hoaki, Barcelona.
4. SendPoints, Edi. (2020). Anatomy of Packaging Structures: Creative Packaging Structures. SendPoints Publishing Co., Ltd., China.
5. Ambrose, G., Harris P. (2017). Packaging the Brand: The Relationship Between Packaging Design and Brand Identity. Bloomsbury Visual Arts.

SEVENTH SEMESTER

Course Code: DIX 403							L/T	S/P	C
Subject: Gesture-based Interactions							0	6	6
Marking Scheme: Teachers Continuous Evaluation: 40 Marks End Term Practical Examination: 60 Marks									
Course Outcomes:									
CO1	The student will be able to Retain and Understand the technology of HCI in a rapidly evolving world of design with Natural User Interfaces or Gesture-based interfaces.								
CO2	The student will be able to Construct and Design with 3 different Types of Gestures in the context of different applications (consumer electronics, automotive or gaming sectors, etc).								
CO3	The student will be able to Meaningfully Utilize the knowledge regarding explorations within Natural User Interfaces and will learn crafting experiences with gestures much beyond only a mouse, keypad or joystick.								
CO4	The student will be able to Demonstrate the importance of Gesture-based Interactions in selective User tasks and construct a storytelling series project around the same.								
CO/ PO	**PO01**	**PO02**	**PO03**	**PO04**	**PO05**	**PSO1**	**PSO2**	**PSO3**	
CO1	2	2	3	3	3	1	2	2	
CO2	2	3	3	3	3	2	2	3	
CO3	2	3	3	3	3	2	3	3	

CO4	3	3	3	3	3	3	3	3

Course Content

Unit I

OVERVIEW

Understanding– Eye movement, scrolling, tilting, pinching, tapping, tipping, and shaking are common gestures. Also, the advancement in technology makes the future of Gesture-based User Interface (GUI) exciting and challenging.

Unit II

KINDS OF GESTURES AND APPLICATIONS

Describing, Analysing, Critiquing, and Investigating - Navigational gestures: It helps users to move around and explore a product. Action gestures: They are similar to scrolling. Transform gestures: They transform an element's size, position, and rotational features. Applications include – the automotive sector, consumer electronics sector (smartphones and tablets), the gaming sector, defense sector.

Unit III

DESIGN WITH GUIS VERSUS NUIS

Careful design and development as traditional Graphical User Interface (GUI) has given way to more natural interfaces like voice-based assistants, gesture recognition, and even brain-computer interfaces. Artificial Intelligence (AI) is playing a critical role in making NUIs more natural and intuitive. By combining natural interfaces and machine learning, students create highly personalized experiences in the major storytelling project.

Unit IV

FUTURE OF GESTURE-BASED INTERACTIONS

Creation of personalized NUI with AI, you can use platforms like Google's Dialogflow, Microsoft's Bot Framework, or Amazon's Alexa Skills Kit. These platforms provide NLP and machine learning capabilities, making it easier for developers to create conversational interfaces.

Text Books/ Reference Books:

1. Maher, M. L., and Lee, L. (2022). Designing for Gesture and Tangible Interaction. Springer International Publishing.
2. Rapp, A., Tirassa, M., Ziemke, T. (2019). Cognition and Interaction: From Computers to Smart Objects and Autonomous Agents. Frontiers Media, SA.
3. Bhowmick, A.K. (2014). Interactive Displays Natural Human-Interface Technologies. John Wiley & Sons, UK.
4. Wigdor, D., Wixon, D. (2011). Brave NUI World: Designing Natural User Interfaces for Touch and Gesture. Elsevier Science, US.
5. Saffer, D. (2008). Designing Gestural Interfaces. O-Reilly Media, US.

SEVENTH SEMESTER

Course Code: DIX 405							L/T	S/P	C
Subject: Design Research Techniques							2	4	6
Marking Scheme: Teachers Continuous Evaluation: 40 Marks End Term Practical Examination: 60 Marks									
Course Outcomes:									
CO1	The student will be able to Retain and Understand the basic orientation to Research through weekly talks by a variety of speakers including faculty, students, and guests from the academic and business communities in the UI/UX and allied interaction design fields.								
CO2	The student will be able to Write, Construct and Design an In-Depth Research Paper (research areas including range of themes from design, technologies, and interaction design).								
CO3	The student will be able to Meaningfully Utilize by engaging in the detailed thought process of identifying and solving challenging research problems.								
CO4	The student will be able to Demonstrate the importance of their Research mindset by presenting their authored papers; executed as a group assignment.								
CO/ PO	**PO01**	**PO02**	**PO03**	**PO04**	**PO05**	**PSO1**	**PSO2**	**PSO3**	
CO1	2	2	3	3	3	1	2	2	
CO2	2	3	3	3	3	2	2	3	

CO3	2	3	3	3	3	2	3	3
CO4	3	3	3	3	3	3	3	3

Course Content

Unit I
OVERVIEW
Weekly organized expert lectures for the Research Colloquium series till course end. Researchers and Practice-based Design Research practitioners would guide students in the art and science of research and research methods in UI/UX, Design, and Technologies within the larger paradigm of Interaction Design.

Unit II
RESEARCH IN INTERACTION DESIGN
Describing, Analyzing, Critiquing and Investigating – Weekly assignments given by subject experts would be geared towards exploration, evaluation, and application of research skills in Interaction Design and Technologies.

Unit III
RESEARCH DESIGN AND LEARNINGS
Selecting, studying, and discussing key texts related to the students' group area of research. Setting up a research design (including a research question, a hypothesis, and a paragraph on relevance) – based on the proposed thesis – according to generally accepted academic standards, the results of which are aimed at an academic audience.

Unit IV
THESIS TOPIC PRESENTATIONS
Discuss design area/topic with fellow students and instructors/ faculty guides on the basis of a fixed set of qualitative criteria and adjust the proposal where necessary for the groundworks for research topic for the main degree thesis to be in the succeeding semester (eight semester, DIX 402)

Text Books/ Reference Books:

1. Leavy, P. (2022). Research Design Quantitative, Qualitative, Mixed Methods, Arts-Based, and Community-Based Participatory Research Approaches. Guilford Publications, UK.
2. Muratovski, G. (2021). Research for Designers: A Guide to Methods and Practice. SAGE Publications, US.
3. Huntington-Klein, N. (2021). The Effect: An Introduction to Research Design and Causality. CRC Press, US.
4. Munot, M.V. and Bairag, V.. (2019). Research Methodology: A Practical and Scientific Approach
5. Harris, D. (2019). Literature Review and Research Design: A Guide to Effective Research Practice. Taylor and Francis, UK.

SEVENTH SEMESTER

Course Code: DIX 407	L/T	S/P	C
Subject: Design Entrepreneurship	2	4	6

Marking Scheme:
Teachers Continuous Evaluation: 40 Marks
End Term Practical Examination: 60 Marks

Course Outcomes:

CO1	The student will be able to retain and understand the basic orientation of design entrepreneurship, aims to provide design students with managerial, economic, and strategic thinking knowledge, as well as design skills and motivation to encourage entrepreneurial success.
CO2	The student will be able to Think, Interpret, and Implement design students to think like entrepreneurs and provide them with the models, tools, and frameworks to develop their businesses or ideas further.
CO3	The student will be able to Meaningfully Utilize by increasing their awareness levels of self-employment as a career option and develop attitudes, behaviors and capacities at the individual level to establish growth-oriented ventures.
CO4	The student will be able to Demonstrate their learnings by creating, deploying, and implementing a commercially viable idea within project-based learning – that would employ an experimental approach to develop new patterns of production and distribution, as well as creating business

	ideas that are able to mix innovation design, business design, making and new manufacture.							
CO/ PO	**PO01**	**PO02**	**PO03**	**PO04**	**PO05**	**PSO1**	**PSO2**	**PSO3**
CO1	2	2	3	3	3	1	2	2
CO2	2	3	3	3	3	2	2	3
CO3	2	3	3	3	3	2	3	3
CO4	3	3	3	3	3	3	3	3

Course Content

Unit I
ENTREPRENEURSHIP MODELS & CASE STUDIES
Different models of entrepreneurship, innovative product development, case studies, and guest lectures.

Unit II
BUSINESS AND DESIGN METHODS
Business and design methods, value creation, network development, partnerships, long-term societal and economic benefits.

Unit III
SELF-AWARENESS AND EMPLOYABILITY
Economic and financial implications, persuasive marketing, distribution and production planning.

Unit IV
PROJECT-BASED LEARNING
Project-based learning, idea deployment, value creation, network development, group project presentations, and documentation.

Text Books/ Reference Books:

1. Richardson, N. (2022). The Art of Enterprise: Entrepreneurship in Design. Routledge Publications, UK.
2. Lewrick, M. (2022). Design Thinking for Business Growth: How to Design and Scale Business Models and Business Ecosystems (Design Thinking Series). John Wiley and Sons, Inc., UK.
3. Witthoft,S. (2022). This Is a Prototype: The Curious Craft of Exploring New Ideas (Stanford d.school Library). Ten Speed Press, US.
4. Richrdson, N. (2022). The Art of Enterprise: Entrepreneurship in Design. Routledge, UK.
5. Downe, L. (2020). GOOD SERVICES: How to Design Services that Work. Laurence King Publishing Ltd, UK.

SEVENTH SEMESTER

Course Code: DIX 409	L/T	S/P	C
Subject: Game Design Theory	2	0	2

Marking Scheme:
Teachers Continuous Evaluation: 40 Marks
End Term Practical Examination: 60 Marks

Course Outcomes:

CO1	The student will be able to Understand the different types of games.
CO2	The student will be able to Understand the concept design of any game.
CO3	The student will be able to Explore the technical process of game design.
CO4	The student would Develop and Design a document for a Digital Game.

CO/ PO	**PO01**	**PO02**	**PO03**	**PO04**	**PO05**	**PSO1**	**PSO2**	**PSO3**
CO1	1	1	1	2	2	1	1	2

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

Course Content

Unit I
OVERVIEW: GAME DESIGN
What is Game Design, Role of Game Designer, Contents of a Game Design Document, Game engines, Introduction, Game Genres, Understanding Game Production Pipeline.

Unit II
GAME CONCEPT
The Game Idea, The High Concept, Visualizing the Game, Board game, Card game, Digital Games, Video Game Culture and Storytelling, Writing for Games.

Unit III
GAME DESIGN PROCESS
Game Flow, User Interface Design, Designing Audio, Technical Design, Schedules and Budgets, Special Considerations, The Needs of the Audience.

Unit IV
GAME DESIGN DOCUMENTS
Game Design Exercises, Basics of Game Design Document Writing, Case Studies - Game Design Documents, and Creative Aspects of Digital Games.

Text Books/ Reference Books:

1. Chris Solarski (2017), Interactive Stories and Video Game Art: A Storytelling
2. Simon Egenfeldnt-Nielsen et al (2008) Understanding Video Games: The Essential Video Game Storytelling: What Every Developer Needs to Know about Narrative
3. Interactive Storytelling for Video Games: A Player-Centered Approach to Creating Memorable Characters and Stories, Josiah Lebowitz, Chris Klug (2011), Focal Press.
4. Obuz, K. (2022). Game Development with Blender and Godot: Leverage the combined power of Blender and Godot for building a point-and-click adventure game. Packt Publishing.
5. Kujanpää, T., Drachen, A., & Nacke, L. E. (2016). Games User Research: A Case Study Approach [Hardcover]. Productivity Press, India.

EIGHTH SEMESTER

Course Code: DIX 402	L/T	S/P	C
Subject: Design Thesis	0	20	20

Marking Scheme:
Teachers Continuous Evaluation: 40 Marks
End Term Practical Examination: 60 Marks

Course Outcomes:

CO1	Students will be able to define a context, user requirements and briefs. Students should infer the research and create a methodology for the application of the knowledge to the design project.
CO2	Students will be able to develop their knowledge of professional principles with respect to user experience and interaction design.
CO3	Students will be able to discover design-integrated solutions for the project considering the users, interactivity, environment and sustainability impact of the design.

CO4	Students will be able to conclude the project both visually and verbally considering all the ethical principles of interaction design. Students should be able to build independent learning by applying modern appropriate tools, concepts and theories.

CO/ PO	**PO01**	**PO02**	**PO03**	**PO04**	**PO05**	**PSO1**	**PSO2**	**PSO3**	**PSO4**
CO1	3	2	1	2		3		3	
CO2	1	3	3	3	1	3	3		
CO3	1	3	3	3	2	2	3		3
CO4		1	2	1	3	2	2		3

Course Content

Unit I
SYNOPSIS AND RESEARCH DOCUMENTATION
Introduction/Background, Aims & Objective, Rationale of the topic, Site Identification and justification, Identify and group together common areas, Case studies and literature studies, Compare, contrast and evaluate issues, Demonstrate the relevance of the topic and research in the field of study.

Unit II
PROGRAM FORMULATION
Detailed Design Program, Design Criteria / Approach specific to the topic chosen, Mood Board and Themes, Conceptual Design.

Unit III
DESIGN INTERVENTIONS
Preliminary Design Drawings, Low-fidelity and High-fidelity sketches, wireframes, etc. Concept Drawings and Detailing process as well as end-user design product/solutions.

Unit IV
DESIGN PROPOSAL AND REPORT
Detailed design proposal, all Drawings, 2D/3D Prototypes/ Mockups; Primary and Secondary Research, Ideations and weaving them in a detailed Design Process in the Report.

Text Books/ Reference Books:

1. Pereyra, Irene (2023). Universal Principles of UX: 100 Timeless Strategies to Create Positive Interactions Between People and Technology. Rockport Publishers, UK.
2. Marcelo M. S., Francisco R., Tareq Z. A. (2020). Handbook of Usability and User Experience: Research and Case Studies. CRC Press, Taylor and Francis Group, UK.
3. Kaufmann, M., Hartson, R., and Pyla, P.. (2019). The UX book: agile UX design for a quality user experience (2nd Ed). Elsevier Science US.
4. Allanwood, G., and Beare, P. (2019). User experience design: A practical introduction. Bloomsbury Visual Arts, London, UK.
5. Wynn, E., Hult, H.V. (2019). Qualitative and Critical Research in Information Systems and Human-Computer Interaction: Divergent and Convergent Paths.Now Publishers.

EIGHTH SEMESTER

Course Code: DIX 404	L/T	S/P	C
Subject: Design Degree Show*	0	6	6

Marking Scheme (NUES):
Teachers Continuous Evaluation: 100 Marks

Course Outcomes:

CO1	Students will be able to apply their knowledge of design and publishing in creating and documenting the exhibition of their work.
CO2	Students will be able to assess and select their best works for exhibition.
CO3	Students will be able to plan and execute a professional design exhibition.

CO4	Students will be able to communicate their best interior design projects to industry professionals. Students will be able to create a network of professionals for their career growth.								
CO/ PO	**PO01**	**PO02**	**PO03**	**PO04**	**PO05**	**PSO1**	**PSO2**	**PSO3**	**PSO4**
CO1	2	3	2	2	3	2			
CO2		3		1	2	2			
CO3		3	2	2	3		3		2
CO4		3	3	3	3	2			3

Course Content

The students organize a Design Degree Show and present their work to the public. They are required to plan & design various product elements/literature and resources needed for their own Exhibition of work.

Text Books/ Reference Books:

1. Hook, Kristina (2024). Designing with the Body: Somaesthetic Interaction Design. MIT Press, US.
2. Chen, Wang (2020). Interactive Installation Art & Design Art Experience Driven by Technology. Artpower, Shenzhen, Guangdong, China.
3. L.M Boyl, Brian (2019). Interaction for Designers: How To Make Things People Love. Taylor & Francus, UK.
4. Sharp, Helen; Preece, Jennifer and, Rogers, Yvonne (2019). Interaction Design Beyond Human-Computer Interaction. Wiley and Sons Pvt. Ltd., UK.
5. Steane, Jamie and Yee, Joyce (2018). Interaction Design: From Concept to Completion. Bloomsbury Publishing, UK.

EIGHTH SEMESTER

Course Code: DIX 406	L/T	S/P	C
Subject: Professional Practice	2	0	2

Marking Scheme:

Teachers Continuous Evaluation: 40 Marks

End Term Theory Examination: 60 Marks

Course Outcomes:

CO1	The student will be able to understand and learn the procedures and practices involved in professional

	roleplay(s) in the areas of visual communication and user experience design.
CO2	The student will be able to comprehend the professional ethics of the interaction design / visual communication design profession as a whole.
CO3	The student will be able to identify various professional bodies of interaction design / visual communication design profession and stakeholders in especially industry-driven project(s).
CO4	The student will be able to illustrate an understanding of pitch, process, product and performance with respect to creative brief making for their main design degree projec.

CO/PO	**PO01**	**PO02**	**PO03**	**PO04**	**PO05**	**PSO01**	**PSO02**	**PSO03**	**PSO04**
CO1	1					2			
CO2	2	2							
CO3				3		2	2		
CO4	2				2				

Course Content

Unit I

PROFESSIONAL WORLD OF VISUAL COMMUNICATION AND USER EXPERIENCE DESIGN

Overview and Activities to grasp the essential procedures and practices involved in graphic design, visual communication, visual design, user experience design, user interfaces, interactive media, digital design, user experience products, gaming, service design and allied fields under the modern-day interaction design professional practice in Design Industry (context: India).

Unit II

HUMAN-CENTERED PRACTICES, PROFESSIONAL ETHICS & GENDER EQUALITY

Human-centered design approaches that benefit the lives of people. Roles and duties of a visual designer / user experience designer /interaction designer, scale of professional fees, mode of payment, professional conduct and ethics. Gender specific interaction design practices in global context as well as in context of India. Gender pay gap. Challenges of the profession. Preparations for the design industry (entry-level and how to tap growth factors: from the perspective of the design industry in India).

Unit III

PROFESSIONAL BODIES

Design principles and practices, Human-centered Design standards and regulations in India. Role of an interaction/visual communication designer with client and allied Project management skills and services. Interaction/ Visual Communication Designer's role in society and careers in the Design Profession.

Unit IV

PROFESSIONAL PROJECTS & COMPETITIONS

Learning to pitch design and business concepts for a professional (live) project in visual communication design/ user experience design/ interaction design. Building passion projects through established competitions, product and process detailing, list of deliverables, budget strategies and performance, innovation aspects in design outcomes as part of real-world project case studies (context: India).

Text Books/ Reference Books:

1. Yablonski, J. (2020). Laws of UX: using psychology to design better products & services. O'Reilly Media, US.
2. Munger, J. and, Dael, R.V. (2020). Putting People at the Heart of Policy Design: Using Human-Centered Design to Serve All. Asian Development Bank, India.
3. Mastoridis, K., Dyson, Mary C. and, Sioki, N. (2019). Design for Visual Communication Challenges and Priorities. Cambridge Scholars Publishing, UK.
4. Sharp, H., Preece, J., Rogers, Y. (2019). Interaction Design: Beyond Human-Computer Interaction. John Willey and Sons Publications, UK.
5. Benyon, D. (2019). Designing User Experience: A Guide to HCI, UX and Interaction Design. Pearson Education Limited, US.

OPEN ELECTIVES

- **DID 308 :** Digital Fabrication
- **DID 310 :** Light and Fixture Design
- **DID 312 :** Design of Intelligent Devices
- **DIN 314 :** Merchandising and Display design
- **DIN 316 :** Design for Sustainability
- **DIN 318 :** Furniture Design
- **DIX 306 :** Creative Coding
- **DIX 308 :** Visual Communication
- **DIX 310 :** Environmental Graphic Design

OPEN ELECTIVES

Course Code: DID 308	L/T	S/P	C
Subject: Digital Fabrication	0	3	3

Marking Scheme:
Teachers Continuous Evaluation: 40 Marks
End Term Practical Examination: 60 Marks

Course Outcomes:

CO1	Ability of the students to understand the technologies used in products.
CO2	Ability of the students to create real-time design modifications.
CO3	Ability of the students to make product models using new manufacturing technologies like 3D printing and Laser cutting.
CO4	Ability of the students to develop prototypes involving complex geometry.

CO/ PO	**PO01**	**PO02**	**PO03**	**PO04**	**PO05**	**PSO1**	**PSO2**	**PSO3**
CO1	2	2	3	3	2	3	2	2
CO2	3	2	2	3	3	3	1	2
CO3	1	2	3	3	2	3	1	2
CO4	2	2	1	3	1	3	2	2

Course Content

Unit I
LASER CUT MACHINE
Introduction to Laser cutting, developing 2D drawings of product parts in software, converting drawings for compatibility with laser cutters.

Unit II
3D PRINTING
Making 3D models with complex geometry, exporting them to printer-compatible formats, 3D printing of modeled CAD components, assembly of printed objects.

Unit III
CNC ENGRAVER
Introduction to CNC machining. Making 3D models with complex geometry, exporting them to printer-compatible formats, modifying the models for CNC machining, and machining the parts in different materials.

Unit IV
PRODUCT DEVELOPMENT
Mini-project involving a complex geometry, Assembly of different parts, Design of product with parts specifically developed using all the machines.

Text Books/ Reference Books:

1. Banzi M (2021) Getting started with Arduino, Shroff/Maker Media.
2. Phaidon E (2019) Mass Production, Phaidon Design Classics.
3. Overby A. (2020) CNC Machining Handbook: Building, Programming, and Implementation, McGraw-Hill Education TAB.
4. Jeff Geary, Dave Renshaw, (2021) 3D Printing & Laser Cutting: A Railway Modelling Companion, Crecy Publishing.

OPEN ELECTIVES

Course Code: DID 310							L/T	S/P	C
Subject: Light and Fixture Design							0	3	3
Marking Scheme: Teachers Continuous Evaluation: 40 Marks End Term Practical Examination: 60 Marks									
Course Outcomes:									
CO1	Students will be able to explore and classify the different types of Electrical and Lighting Services in Interior Building Systems.								
CO2	Students will be able to classify the primary types of lamps and fixtures used in interior applications and use their applications and pros/cons.								
CO3	Ability of the students to make product models using new manufacturing technologies like 3D printing and Laser cutting.								
CO4	Ability of the students to develop prototypes involving complex geometry.								
CO/ PO	**PO01**	**PO02**	**PO03**	**PO04**	**PO05**	**PSO1**	**PSO2**	**PSO3**	
CO1	2	2	3	3	2	3	2	2	
CO2	3	2	2	3	3	3	1	2	
CO3	1	2	3	3	2	3	1	2	
CO4	2	2	1	3	1	3	2	2	

Course Content

Unit I
LASER CUT MACHINE
Introduction to Laser cutting, developing 2D drawings of product parts in software, converting drawings for compatibility with laser cutters.

Unit II
3D PRINTING
Making 3D models with complex geometry, exporting them to printer-compatible formats, 3D printing of modeled CAD components, assembly of printed objects.

Unit III
CNC ENGRAVER
Introduction to CNC machining. Making 3D models with complex geometry, exporting them to printer-compatible formats, modifying the models for CNC machining, machining the parts in different materials.

Unit IV
PRODUCT DEVELOPMENT
Mini-project involving a complex geometry, Assembly of different parts, Design of product with parts specifically developed using all the machines.

Text Books/ Reference Books:

1. Banzi M (2021) Getting started with Arduino, Shroff/Maker Media.
2. Phaidon E (2019) Mass Production, Phaidon Design Classics.
3. Overby A. (2020) CNC Machining Handbook: Building, Programming, and Implementation, McGraw-Hill Education TAB.
4. Jeff Geary, Dave Renshaw, (2021) 3D Printing & Laser Cutting: A Railway Modelling Companion, Crecy Publishing.

OPEN ELECTIVES

Course Code: DID 312	L/T	S/P	C
Subject: Design of Intelligent Devices	0	3	3

Marking Scheme:
Teachers Continuous Evaluation: 40 Marks
End Term Practical Examination: 60 Marks

Course Outcomes:

CO1	Use scientific and professional design methods in the implementation of independent work in the field.
CO2	Utilize appropriate research methodology to collect data.
CO3	Critically analyse the collected data and draw conclusions accordingly.
CO4	Present research findings and conclusions in the form of a research paper.

CO/ PO	**PO01**	**PO02**	**PO03**	**PO04**	**PO05**	**PSO1**	**PSO2**	**PSO3**
CO1	2	3	1	2	2	3	2	2
CO2	2	3	1	2	2	3	2	2
CO3	3	2	3	3	3	3	3	1
CO4	2	2	2	3	2	3	2	2

Course Content

Unit I
INTELLIGENT DEVICES
Introduction to Intelligent devices and its importance, understanding current affairs and finding need of the future, study of various intelligent devices and systems, Identification of problem, User analysis strategies and market study.

Unit II
CONCEPT DEVELOPMENT
Brainstorming, Introduction to IOT, Introduction to types of sensors, Types of Motros, IOT systems, Concept development, Concept Testing and selection, Selection of the components, Detailed drawing of the parts, assembly, selection of materials and IOT systems.

Unit III
PROTOTYPING
CAD model generation, Analysis of Product using simulations, Verifying working of prototype/codes, manufacturing of the parts and buying the required parts, Prototyping and assembly of the finished product.

Unit IV
TESTING
Testing of the prototype, getting feedback after testing, refining the product, market fit analysis, Data analysis of Product working, application of various testing methods to verify the product performance.

Text Books/ Reference Books:

1. Samuel Greengard, (2015) The Internet of Things, The MIT Press
2. Klaus Schwab, (2017) The Fourth Industrial Revolution, Portfolio Penguin
3. Fotios Chantzis (Author), Ioannis Stais (Author), Paulino Calderon (Author) (2021) Practical IoT Hacking: The Definitive Guide to Attacking the Internet of Things, No Starch Press
4. R. J. Hemalatha, D. Akila, et al. (2022)The Internet of Medical Things (IoMT): Healthcare Transformation (Advances in Learning Analytics for Intelligent Cloud-IoT Systems), Wiley-Scrivener.
5. Shalli Rani (2022) IoT-enabled Smart Healthcare Systems, Services and Applications, Wiley and Sons Pvt. Ltd., UK.

OPEN ELECTIVES

Course Code: DIN 314	L/T	S/P	C
Subject: Merchandising and Display Design	0	3	3

Marking Scheme:
Teachers Continuous Evaluation: 40 Marks
End Term Practical Examination: 60 Marks

Course Outcomes:

CO1	The student will be able to define and relate to the fundamental principles and concepts of Merchandising and display.
CO2	The student will be able to analyze the various factors that influence sales and will be able to identify the current trends in the interdisciplinary field.
CO3	The student will be able to demonstrate and assess the fundamental principles and concepts of designing an exhibit.
CO4	The student will be able to Evaluate various advertising techniques to make appropriate selection and create attractive visual displays to attract customers/users.

CO/ PO	**PO01**	**PO02**	**PO03**	**PO04**	**PO05**	**PSO1**	**PSO2**	**PSO3**
CO1	3	2	1	2		3	3	
CO2	1	3	3	3	1	1		3
CO3	1	3	3	3	2	1		2
CO4		1	2	1	3			2

Course Content

Unit I
VISUAL MERCHANDISING AND DISPLAY
Concept of commercial art and merchandising, Understanding Brand identity, merchandising principles and commercial display. The user interaction and user experience for display design and current trends. Elements of display. Case Study/ Education Visit.

Unit II
MERCHANDISING & DISPLAY DESIGN PROJECT
Preparation of design requirements and brief, area requirements based on standards and their interrelation and circulation patterns, designing a display and make a model/mock-up for presentation with photographs/videos.

Unit III
EXHIBIT DESIGN
Elements of an Exhib, Designing exhibit: Basic approaches, Lighting, environmental control and security. Exhibition Design interpretation and Case study/ Educational Visit. Creating, mounting and installation.

Unit IV
EXHIBIT DESIGN PROJECT
Design a complete exhibit from identifying and selecting a topic, creating its design brief, construct its theme and presentation, make a model/mock-up for presentation with photographs/videos.

Text Books/ Reference Books:

1. Neufert, E.(2019). Neufert Architects' Data. (Fifth Edition). Wiley-Blackwell.
2. Creating exhibitions : collaboration in the planning, development, and design of innovative experiences / Polly McKenna-Cress, Janet A. Kamien.Hoboken, New Jersey : Wiley, [2013]
3. Exhibitions: Concept, Planning and Design by Tom Klobe Publisher: American Alliance Of Museums (April 20, 2012) ISBN-10: 193325369X ISBN-13: 978-1933253695
4. Light and Emotions: Exploring Lighting Cultures / Conversations with Lighting Designers / edited by Vincent Laganier & Jasmine van der Pol Published by Birkhauser, GmbH, Basel, 2011.
5. Histories of Exhibition Design in the Museum (Museum Making) 1st Edition, Kate Guy, Hajra Williams, Claire Wintle, Routledge, 2023.

OPEN ELECTIVES

Course Code: DIN 316	L/T	S/P	C
Subject: Design for Sustainability	0	3	3

Marking Scheme:
Teachers Continuous Evaluation: 40 Marks
End Term Practical Examination: 60 Marks

Course Outcomes:

CO1	The student will be able to define and relate to the fundamental principles and concepts of sustainability.
CO2	The student will be able to demonstrate and develop knowledge of elements of sustainability.
CO3	The student will be able to identify various crafts.
CO4	The student will be able to apply the acquired knowledge as an Interior Design professional and analyze the application of craft in interiors.

CO/ PO	**PO01**	**PO02**	**PO03**	**PO04**	**PO05**	**PSO1**	**PSO2**	**PSO3**
CO1	3	2	1	2		3	3	
CO2	1	3	3	3	1	1		3
CO3	1	3	3	3	2	1		2
CO4		1	2	1	3			2

Course Content

Unit I
SUSTAINABILITY & VERNACULAR DESIGN
Importance of Sustainability. Principles of sustainable design. Evaluation of sustainable materials and process of application. Elements of style, materials and concepts of vernacular designs across North and South India and the world. Vernacular materials. Case studies/ Site visits.

Unit II
ELEMENTS OF SUSTAINABILITY
Exploring various elements of sustainability: form, material, techniques etc. Exploring the elements through design and application in class projects.

Unit III
CRAFT AND SUSTAINABILITY
Elements of style, materials and concepts of various arts and crafts across North and South India and the world. Assessing its sustainability and application. Case studies/ Site visits. Class projects to employ these to assist in analyzing their application and possibilities in current Design practice.

Unit IV
SUSTAINABLE FUTURE
Assessing modern techniques and forms to create sustainable designs. Conceptualizing and creating futuristic design interventions which are sustainable.

Text Books/ Reference Books:

1. Sustainability in Interior Design by Sian Moxon , Lawrence King Publishing , 2012
2. Sustainable Design for Interior Environments, second Edition, Susan M.Winchip, 2007
3. The sustainable design book by Rebecca proctor, Lawrence King Publishing 2015
4. Carol Stangler, The crafts and art of Bamboo, Rev. updated edition, Lark books, 2009.
5. Crafts in Interior Architecture; India. 1990 Onwards, Rishav jain, 2015.

OPEN ELECTIVES

Course Code: DIN 318	L/T	S/P	C
Subject: Furniture Design	0	3	3

Marking Scheme:
Teachers Continuous Evaluation: 40 Marks
End Term Practical Examination: 60 Marks

Course Outcomes:

CO1	The Student will be able to list and classify furniture with their correlation in any specific place of use.
CO2	The Student will be able to demonstrate intrinsic knowledge of the various kinds of furniture in any set of space and develop the understanding of the appropriateness of the type of material required.
CO3	The student will be able to apply design processes for furniture conceptualization and analyze furniture respecting the physical properties of the respective materials considered.
CO4	The Student will be able to vividly assess the visual and physical communication of furniture with the user and design furniture using various traditional and modern technologies.

CO/ PO	**PO01**	**PO02**	**PO03**	**PO04**	**PO05**	**PSO1**	**PSO2**	**PSO3**
CO1	3	2	1	2		3	3	
CO2	1	3	3	3	1	1		3
CO3	1	3	3	3	2	1		2
CO4		1	2	1	3			2
Average	1.67	2.25	2.25	2.25	2	1.67	3	2.33

Course Content

Unit I
FURNITURE DESIGN
Principal of Furniture design, Form ,Spatial Organization & types of furniture, Study of various furniture Residential, Outdoor, Commercial sites.Furniture design styles. Human factors, engineering and ergonomic considerations: Principles of Universal Design and their application in furniture design.

Unit II
MATERIALS & FORM FABRICATION
furniture design materials, Modern techniques of form generation and prototyping, Conceptualization, Form Generation and Theme board.

Unit III
FURNITURE JOINTS
Assembly, Furniture Joinery and Hardware. Final designed Prototype.

Unit IV
INNOVATIVE FURNITURE PROTOTYPING
Modern innovative techniques of form generation and prototyping, Sustainable furniture, Conceptualization, Form Generation and Theme board, Final designed Prototype and post Design Analysis.

Text Books/ Reference Books:

1. Robert W. Lang (2020). Great Book of Shop Drawings for Craftsman Furniture, Revised & Expanded Second Edition: Authentic and Fully Detailed Plans for 61 Classic Pieces (Fox Chapel Publishing) Complete Full-Perspective Views. Fox Chapel Publishing.
2. Kries, M., Eisenbrand, J., Bassi, A., Ferrari, F., Máčel, O., Pavitt, J., Roode, I.d , Rossi, C., Rüegg, A., Sparke, P., Sudjic, D., Tegethoff, W., Thau, C., Vindum, K., Ward, G.W.R. (2019). Atlas of Furniture Design. Vitra Design Museum.
3. Ching, F.D.K., Corky Binggeli, C. (2018). Interior Design Illustrated (4th Edn.). Wiley.
4. Mcelroy, K.(2017). Prototyping for Designers: Developing the Best Digital and Physical Products. O′Reilly.
5. Lovell, S.(2009). Limited Edition: Prototypes, One-Offs and Design Art Furniture. Birkhauser.

OPEN ELECTIVES

Course Code: DIX 306	L/T	S/P	C
Subject: Creative Coding	0	3	3

Marking Scheme:
Teachers Continuous Evaluation: 40 Marks
End Term Practical Examination: 60 Marks

Course Outcomes:

CO1	The Student will be able to Retain and Understand the basic knowledge and terminologies of fundamental AI concepts.
CO2	The Student will be able to Retain and Understand the basic knowledge and terminologies of programming.
CO3	The Student will be able to develop skills in Creating basic shapes and art forms through coding.
CO4	The Student will be able to Implement motion, interactivity, and dynamic effects in creative coding projects.

CO/ PO	**PO01**	**PO02**	**PO03**	**PO04**	**PO05**	**PSO1**	**PSO2**	**PSO3**
CO1	1	1	1	1	2	1	2	1
CO2	1	1	2	1	2	1	2	1
CO3	2	2	2	2	3	2	3	2
CO4	2	2	2	2	3	2	3	2

Course Content

Unit I
FOUNDATIONS OF CREATIVE TECHNOLOGIES
Fundamental AI concepts and hands-on experience with generative AI tools.

Unit II
FOUNDATIONS OF CREATIVE CODING
Explore the fundamentals of creative coding. Understanding the role of coding in design, introduction to coding languages and terminologies (e.g., HTML, CSS, JavaScript). Essential coding concepts like variables, functions, arrays, loops, coordinate systems, and the processing environment.

Unit III
CREATIVE ELEMENTS AND DESIGN
Creating lines, curves, basic shapes, color, and imaging, Drawing complex shapes, patterns and typography. Adding lights, cameras, and materials through code.

Unit IV
INTERACTIVITY AND USER ENGAGEMENT
Adding motion and transitions, introduction to particle systems, modifying applying forces to particle systems, completion and production, Avoiding errors and bugs. Applying animations, adding motion, adding interactivity with mouse, keyboard, and other input. Sensing and tracking.

Text Books/ Reference Books:

1. Artut, S. (2023). Geometric Patterns with Creative Coding: Coding for the Arts. Apress.
2. Greenberg, I. (2007). Processing: Creative Coding and Computational Art. Apress.
3. Zhang, y, & Funk M. (2021). Coding Art: The Four Steps to Creative Programming with the Processing Language. Apress.
4. Levin, G., & Brain, T. (2021). Code as Creative Medium: A Handbook for Computational Art and Design. APA Format, The MIT Press.
5. Matthew, D. (2024). Generative Art with JavaScript and SVG: Utilizing Scalable Vector Graphics and Algorithms for Creative Coding and Design. Apress.

OPEN ELECTIVES

Course Code: DIX 308							L/T	S/P	C
Subject: Visual Communication							0	3	3
Marking Scheme: Teachers Continuous Evaluation: 40 Marks End Term Practical Examination: 60 Marks									
Course Outcomes:									
CO1	Students will understand Studio-based hands-on working & learning with different mediums of visual communication.								
CO2	To illustrate, communicate effectively by graphical and technical means and have competency in visual language.								
CO3	They will justify the scripts with visual representation and analyze the concept of visuals in layouts								
CO4	Students will be capable of creating visual graphics and documenting it.								
CO/PO	**PO01**	**PO02**	**PO03**	**PO04**	**PO05**	**PSO01**	**PSO02**	**PSO03**	
CO1	2	3	3	3	3	2	2	2	
CO2	2	3	3	3	3	2	3	3	
CO3	3	3	3	3	3	3	3	3	
CO4	3	3	3	3	3	3	3	3	

Course Content

Unit I
INTRODUCTION VISUAL COMMUNICATION
Understanding and defining Visual Communication, types of visual communication, different techniques of communication and its application.

Unit II
DRAWING AND ILLUSTRATION
Understanding Concept of Illustration and different Illustrative Techniques, Copying of Great Masters, Application of different Illustration techniques and its composition.

Unit III
VISUAL STORYTELLING
It refers to the method of conveying a narrative or message through visual means, depiction of data, information, concepts, or ideas using graphical styles such as Comic stripes, Story boarding, photography, collages,etc.

Unit IV
VISUAL COMMUNICATION TRENDS
It refers to the evolving patterns, techniques, technologies, and approaches that influence how visual information is created, presented, and consumed by the audience.

Text Books/ Reference Books:

1. Brand , Willemien (2019). Visual Thinking: Empowering People & Organizations Through Visual Collaboration. BIS publishers.
2. Kirk, Andy (2019). Data Visualisation: A Handbook for Data Driven Design Paperback. SAGE Publications Ltd, US.
3. Caldwell, Cath (2019). Graphic Design For Everyone. DK publications.
4. Muller, Jens (2022). The History of Graphic Design. Taschen America LIC, US.
5. DK, Judith Miller, Smithsonian Institution (2021). Design, Second Edition: The Definitive Visual Guide (DK Definitive Cultural Histories). DK publications.

OPEN ELECTIVES

Course code: DIX 310	L/T	S/P	C
Subject: Environmental Graphic Design	0	3	3

Marking Scheme:
Teachers Continuous Evaluation: 40
End Term Practical Examination: 60

Course Outcomes:

CO1	Students would be able to understand and select effectively the elements of graphic design, art, architecture, lighting and textures for a selected built environment (public or private) as a space of user interactivity and experience.
CO2	Students would learn the strategic building blocks of wayfinding and signage design, guidelines and standards, fabrication techniques and sustainable materials.
CO3	Students would retain, understand and apply human-centered design standards in the research and ideation stages of working with all elements from CO1 and CO2 to craft a new visual language for a theme-based spatio-visual experience project.
CO4	Students would demonstrate new insights and outcomes on interactivity and experience with final testings.

CO/PO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PSO1**	**PSO2**	**PSO3**
CO1	2	3	1	2	1	3	2	2
CO2	2	3	1	2	1	3	1	2
CO3	3	2	3	3	2	3	1	1
CO4	2	2	2	3	1	3	2	2

Course Content

Unit I
OVERVIEW ON ENVIRONMENTAL GRAPHIC DESIGN [EGD]
3 Main Components of Wayne Hunt's Model, Salient Features, Functions, etc. Placemaking and the scope: Context, Expression, Communication Modes and Technology, Identity and Branding, Trends in EGD: Experiential Field visit(s); including: Modern Art & Culture/ Museums / Multimedia Installations. Group-activity based learning as special focus during on-site visit.

Unit II
HUMAN-CENTERED GUIDELINES AND STANDARDS
Society for Environmental Graphic Design (SEGD) standards, Human-Centered Design Guidelines for Public Spaces (Walkability, Continuity, Flexibility and Human-scaled Infrastructure), Areawide Design Guidelines for Public Spaces. Signage Design Guidelines (Interior and Exterior Signage Standards), 8 Design Principles for Wayfinding

Unit III
EXPERIENTIAL GRAPHICS, SIGNAGE AND WAYFINDING
Wayfinding and Navigation Strategies in Built Spaces (Case Study Research and Design Implementation) as part of a major built-space EGD project (individual project). Designing the User Experience in the built-space would incorporate Meaning of 'Image', Kinds of Materials and Material Trends, Patternmaking, Colour Psychology in Spaces, Typography and Spaces, Structuring, Organizing, Way-knowing, Way-showing, etc.

Unit IV
INTERACTIVE USER EXPERIENCE IN BUILT-SPACE
EGD Built Space Major Project for Urban Narratives – demonstration and presentation of the study as a tangible spatio-visual experience outcome that validates the applications of proposed Information System, The Graphic System and the Hardware (Materials) system to generate new design methods, strategy and innovation aspects for crafting memorable user experience.

Text/Reference Books :

1. Gjoko Muratovski, (2021). Graphic Life Celebrating Places, Telling Stories, Making Symbols, Images Publishing Group, US.
2. Nehl, Heiki and Schlaich, Sibylle (2021). Airport Wayfinding, Arthur Niggli Verlag.
3. Poulin, Richard (2018). The Language of Graphic Design Revised and Updated An Illustrated Handbook for Understanding Fundamental Design Principles, Rockport Publishers, UK.
4. Fine, Peter, C. (2016). Sustainable Graphic Design: Principles and Practices Bloomsbury Publishing, UK.
5. Hodson, Andrew (2015). Wayfinding Design in the Public Environment. Images Publishing, US.