SEMESTER 3

B. DES

SEMESTER 3

DESIGN STUDIO - 1

Course Code	**BDPCS301**	**CIA Marks**	**60**
Teaching Hours/Week (L: T:S: P)	**0: 0:10: 0**	**EJ Marks**	**40**
Credits	**10**	**Exam Hours**	**NA**
Prerequisites (if any)	**BDPCS201**	**Course Type**	**Studio**

Course Objectives:

1. To encourage students to analyse design problems through different methods and develop original design concepts.
2. To foster interdisciplinary thinking (knowledge from art, culture, technology and sustainability) in the creative process.
3. To train students to translate abstract concepts into tangible design solutions.

SYLLABUS

Module No.	Syllabus Description	Contact Hours
1	**Minor Project – Problem Analysis** Introduction of a simple project focussed on understanding user, function and/or environment. Introduction to user research techniques (surveys, interviews, observation). Visual mapping and representation of observations, insights and opportunities.	**60**
2	**Major Project – Design Solution** Application of lateral thinking techniques (that encourages an interdisciplinary approach) to develop novel design concepts for the simple project. Communication of design concepts through sketches, maps and soft prototyping. Development of concept into refined design solution.	**80**

Course Assessment Method
(CIE: 60 marks, EJ: 40 marks)

Continuous Internal Evaluation Marks (CIE):

Attendance	Assignments	Total
6	54	60

External Jury Marks (EJ)

External Jury	Total
Portfolio of entire semester assignments to be evaluated by the Jury Panel	40

Course Outcomes (COs)

At the end of the course students should be able to:

Course Outcome		Bloom's Knowledge Level (KL)
CO1	To understand the design process.	K2
CO2	To identify the needs of the target audience.	K4
CO3	Produce visual and verbal presentations.	K6
CO4	Develop concepts through creative explorations	K6
CO5	Translate abstract concepts, ideas and narratives into design solutions	K6

Note*: K1- Remember, K2- Understand, K3- Apply, K4- Analyse, K5- Evaluate, K6- Create*

Reference Books				
Sl. No	Title of the Book	Name of the Author/s	Name of the Publisher	Edition and Year
1	Lateral Thinking: Creativity Step by Step	Edward De Bono	Harper Perennial	February 2015
2	Odyssey (Pepsi to Apple…A Journey of Adventure, Ideas and the Future)	John Sculley, John A Byrne	Stoddart Publishing Co.	January 1989
3	The Art of Innovation	Tom Kelley	Profile Books	June 2016

4	Design Methods: Seeds of Human Futures	John Christopher Jones	Wiley- Interscience	February 2009
5	The Design Process	Karl Aspelund	Fairchild Books	February 2015

Video Links (NPTEL, SWAYAM…)	
Module No.	**Link ID**
1	https://www.ted.com/talks/tony_fadell_the_first_secret_of_design_is_noticing?utm_campaign=tedspread&utm_medium=referral&utm_source=tedcomshare
1	https://www.ted.com/talks/david_kelley_human_centered_design?utm_campaign=tedspread&utm_medium=referral&utm_source=tedcomshare
1	tps://www.ted.com/talks/yves_behar_designing_objects_that_tell_stories?utm_campaign=tedread&utm_medium=referral&utm_source=tedcomshare
1	https://www.ted.com/talks/paul_bennett_design_is_in_the_details?utm_campaign=tedspread&utm_medium=referral&utm_source=tedcomshare
2	https://www.ted.com/talks/joshua_prince_ramus_behind_the_design_of_seattle_s_library?utm_campaign=tedspread&utm_medium=referral&utm_source=tedcomshare

SEMESTER 3

HISTORY OF DESIGN

Course Code	BDPCT302	CIA Marks	60
Teaching Hours/Week (L: T:S: P)	2: 0: 0: 0	ESE Marks	40
Credits	2	Exam Hours	3
Prerequisites (if any)	BDPCS201	Course Type	Theory

Course Objectives:

1. To provide an overview of the evolution of design , exploring its intersections with art, culture, technology, and society.
2. To critically examine socially conscious design movements and pioneers who shaped global and Indian design practices.
3. To foster an understanding of design's role in addressing social and environmental challenges.

SYLLABUS

Module No.	Syllabus Description	Contact Hours
1	**Industrial Revolution:** Mechanization, mass production, and its influence on aesthetics. Arts and Crafts Movement: Ethical production and revival of craftsmanship (William Morris, Christopher Dresser). **Indian Context:** Mughal influence on craft and interiors; Swadeshi Movement and its emphasis on indigenous crafts.	9
2	**Modernism and the Bauhaus (1900–1950):** Modernism's "form follows function" philosophy and minimalism. Bauhaus principles: Interdisciplinary approach blending art, craft, and industrial design. Socially conscious design during global conflicts: Utility-driven design. Ulm school of thought. **Indian Context:** The Santiniketan aesthetics, Kala Bhavan philosophies.	12

3	**Postmodernism and Globalization (1950–2000):** Postmodernism: Eclectic and playful approaches rejecting modernist rigidity. Design for rebuilding economies post-WWII: Modern furniture, and appliances. Branding and the rise of global consumer culture. . **Indian Context:** Establishment of NID and its focus on blending tradition with modernity. Charles and Ray Eames (*India Report*), Kohei Sugiura (cross-cultural graphic design), and Kirti Trivedi, MP Rajan (Indian design education reform).	**15**
4	**Contemporary Design and Future Directions (2000 and beyond):** Design for social change: Inclusivity, accessibility, and sustainability. Integration of emerging technologies (AR, VR, AI) in design practice**.**	**6**

Course Assessment Method
(CIA: 60 marks, EJ: 40 marks)

Continuous Internal Assessment Marks (CIA):

Attendance	Assignments	Total
6	**54**	**60**

End Semester Examination Marks (ESE)

In Part A, all questions need to be answered and in Part B, each student can choose any one full question out of two questions

Part A	Part B	Total
20	**20**	**40**

Course Outcomes (COs)

At the end of the course students should be able to:

Course Outcome		Bloom's Knowledge Level (KL)
CO1	Understand the relationship between design, society, and technology.	K2
CO2	Apply foundational skills in design critique and appreciation.	K3
CO3	Analyze key design movements and characteristics	K4

Note*: K1- Remember, K2- Understand, K3- Apply, K4- Analyse, K5- Evaluate, K6- Create*

Reference Books				
Sl. No	**Title of the Book**	**Name of the Author/s**	**Name of the Publisher**	**Edition and Year**
1	An Introduction to Design and Culture: 1900 to the Present	Penny Sparke	Routledge	2019
2	Design of the 20th Century	Charlotte Fiell and Peter Fiell	Taschen	2012
3	Design for the Real World: Human Ecology and Social Change	Victor Papanek	Thames & Hudson.	2019
4	The Language of New Media	Lev Manovich	MIT Press	2002
5	The Design History Reader	Grace Lees-Maffei and Rebecca Houze (Eds.)	Bloomsbury Academic	2010
6	History of Modern Design	David Raizman	Thames & Hudson	2010
7	The Non-Designer's Design Book	Robin, W	Pearson Education India	2008

Reference Links	
Module No.	**Link ID**
1.	https://www.academia.edu/28689470/Kohei_Sugiura_Graphic_Design_Methodology_and_philosophy
2.	http://echo.iat.sfu.ca/library/eames_58_india_report.pdf
3.	https://iiti.academia.edu/KirtiTrivedi

SEMESTER 3

DESIGN METHODOLOGY

Course Code	**BDPCT303**	**CIA Marks**	**60**
Teaching Hours/Week (L: T:S: P)	**2: 0: 0: 0**	**ESE Marks**	**40**
Credits	**2**	**Exam Hours**	**3**
Prerequisites (if any)	**BDPCS201**	**Course Type**	**Theory**

Course Objectives:

1. To introduce a range of design processes and methodologies, emphasizing their application in solving complex problems.

2. To explore the integration of creativity, intuition, and systematic approaches in design frameworks.

3. To develop an understanding of the ethical, cultural, and sustainable dimensions of design processes.

SYLLABUS

Module No.	Syllabus Description	Contact Hours
1	**Foundations of Design Processes:** Introduction to design processes: Definitions, significance, and core stages such as research, ideation, prototyping, testing, and implementation, Historical evolution of design methodologies, with case studies, from early practices to contemporary frameworks, Comparison of linear and iterative approaches and their applications in design, Techniques for defining design problems, identifying constraints, and utilizing research to enhance design solutions.	**8**
2	**Design Frameworks and Methodologies:** Overview of structured processes: Waterfall and stage-gate models.	**8**

	Iterative frameworks: Double Diamond, design sprints, and agile methodologies with real-world applications. Systems thinking: Addressing complexity through interconnected design, with examples from service design. Collaborative methodologies: Participatory and co-design processes for inclusive design solutions.	
3	**Creativity, Visualization, and Prototyping:** Creativity tools and techniques: Brainstorming, SCAMPER, lateral thinking, and mind mapping. Visualization methods: Journey mapping, personas, storyboarding, and concept sketches to communicate design ideas effectively. Prototyping in design: Using low-fidelity (paper models, sketches) and high-fidelity (digital and physical) prototypes to test and refine ideas. Feedback and iteration: Incorporating user input through prototyping to enhance design solutions.	**6**
4	**Ethics, Sustainability, and Emerging Trends** Ethics in design: Creating inclusive designs, respecting intellectual property, and focusing on user safety and well-being. Sustainable practices: Designing with the environment in mind, using recyclable materials, and reducing waste. New design methods: Exploring how technologies like AI and computer tools help create new ideas and designs. Cultural and global influences: Understanding how different cultures and global trends shape design approaches.	**6**

Course Assessment Method
(CIA: 60 marks , ESE : 40 marks)

Continuous Internal Assessment Marks (CIA):

Attendance	Continuous Assessment based on assignments Internal Examination	Total
6	**54**	**60**

End Semester Examination Marks (ESE)

In Part A, all questions need to be answered and in Part B, each student can choose any one full question out of two questions

Part A	Part B	Total
20	20	40

Course Outcomes (COs)

At the end of the course students should be able to:

Course Outcome		Bloom's Knowledge Level (KL)
CO1	Understand the basics of the design process.	K2
CO2	Apply these principles to solve real-world challenges	K3
CO3	Critically analyze and compare different methodologies	K4

Note*: K1- Remember, K2- Understand, K3- Apply, K4- Analyse, K5- Evaluate, K6- Create*

Reference Books				
Sl. No	**Title of the Book**	**Name of the Author/s**	**Name of the Publisher**	**Edition and Year**
1	Designerly Ways of Knowing	Nigel Cross	Springer.	2006
2	The Design of Everyday Things	Don Norman	Basic Books.	2013
3	Change by Design: How Design Thinking Creates New Alternatives for Business and Society.	Tim Brown	Harper Business	2009
4	The Design Process Handbook	Stuart Pugh	Addison-Wesley	1990
5	Creative Confidence: Unleashing the Creative Potential Within Us All	Tom Kelley and David Kelley	Crown Business	2013
6	Design Thinking for Strategic Innovation: What They Can't Teach You at Business or Design School	Idris Mootee	Wiley	2013
7	The Art of Innovation: Lessons in Creativity from IDEO, America's Leading Design Firm	Tom Kelley	Currency/Doubleday	2001

SEMESTER 3

FORM STUDIES

Course Code	BDPCS304	CIA Marks	100
Teaching Hours/Week (L: T:S: P)	0: 1: 3: 0	ESE Marks	NA
Credits	4	Exam Hours	NA
Prerequisites (if any)	BDPCS201	Course Type	Tutorial & Studio

Course Objectives:

1. To introduce students to the fundamental principles of form, space, and volume.
2. To explore the relationship between form, function, and aesthetics.
3. To equip students with the skills to analyze, interpret, and create aesthetically pleasing and functional forms.

SYLLABUS

Module No.	Syllabus Description	Contact Hours
1	**Introduction to Form** Elements and principles of form creation Geometric organic and abstract forms Form as a means of communication, theories of form (Gestalt) and their application	14
2	**Form Generation and Explorations** Form generation techniques such as radii manipulation, form transition etc. Nature inspired form generation The impact of size and proportion on form How form relates to its environment	14
3	**Form: Materials and Techniques** Form explorations using various materials such as clay, wood, metal, plastic, digital tools.	14
4	**Form and Human experience** Designing for human comfort and efficiency	14

	The psychological impact of form Cultural influences on form Form and sustainability.	

Course Assessment Method
(CIA: 100 marks)

Continuous Internal Assessment Marks (CIA):

Attendance	Continuous Assessment based on assignments Internal Examination	Total
10	**90**	**100**

Course Outcomes (COs)

At the end of the course students should be able to:

Course Outcome		Bloom's Knowledge Level (KL)
CO1	Understand the basics of form development.	K2
CO2	Apply their knowledge to various design disciplines.	K3
CO2	Analyze critically about form, experiment with different materials and techniques.	K4

Note*: K1- Remember, K2- Understand, K3- Apply, K4- Analyse, K5- Evaluate, K6- Create*

Reference Books				
Sl. No	**Title of the Book**	**Name of the Author/s**	**Name of the Publisher**	**Edition and Year**
1	**Elements of design: Rowena Reed Kostellow and the structure of visual relationships**	Gail Greet Hannah	Princeton Architectural Press.	2002
2	The Art of Looking Sideways	Alan Fletcher	Phaidon Press	2001
3	Geometry of design: studies in proportion and composition	Elam K	Princeton Architectural Press	2001

4	On growth and form	Bonner J. T.(Ed).	Cambridge University Press	1992
5	The golden ratio: The story of phi, the world's most astonishing number.	Livio M	Broadway Books	2008
6	Cradle to Cradle-Remaking the Way We Make Things	Michael Braungart, William McDonough.	Vintage	2019
7	Sacred geometry: Philosophy and practice (Vol. 4)	Lawlor R., & Bernstein M	Thames and Hudson	1982
8	Emotional Design: Why We Love (or Hate) Everyday Things	Don Norman.	Basic Civitas	2004
9	Language of Vision	Gyorgy Kepes	Creative Media Partners, LLC	2021

SEMESTER 3

INTERACTION DESIGN

Course Code	**BDPCS305**	**CIA Marks**	**100**
Teaching Hours/Week (L: T:S: P)	**0: 1: 3: 0**	**ESE Marks**	**NA**
Credits	**4**	**Exam Hours**	**NA**
Prerequisites (if any)	**BDPCS201**	**Course Type**	**Tutorial & Studio**

Course Objectives:

1. To understand basic interaction design principles and gain familiarity with UI and UX Design concepts.

SYLLABUS

Module No.	Syllabus Description	Contact Hours
1	Understanding the design of interactive products and services. Introduction to interfaces and interactions for digital and physical media.	**14**
2	Introduction to user interface (UI) design and various interaction design principles. Understanding micro-interactions	**14**
3	Introduction to user experience (UX) design and UX research. Conducting user studies to understand user behaviour around interactive products	**14**
4	Exploration of different methods of interactive prototyping.	**14**

Course Assessment Method
(CIE: 100 marks)

Continuous Internal Assessment Marks (CIA):

Attendance	Continuous Assessment based on assignments Internal Examination	Total
10	**90**	**100**

Course Outcomes (COs)

At the end of the course students should be able to:

Course Outcome		Bloom's Knowledge Level (KL)
CO1	Understand the basic principles of Interaction Design.	K2
CO2	Apply the principles in the projects.	K3

Note*: K1- Remember, K2- Understand, K3- Apply, K4- Analyse, K5- Evaluate, K6- Create*

Reference Books				
Sl. No	**Title of the Book**	**Name of the Author/s**	**Name of the Publisher**	**Edition and Year**
1	Designing interactions (Vol. 17)	Moggridge, B., & Atkinson, B	Cambridge: MIT press.	2007
2	The Design of Everyday Things	Donald A. Norman	Basic Books, Inc., USA.	2002
3	The encyclopedia of human-computer interaction.	Kaptelinin, V., Soegaard, M., & Dam, R. F.	Interaction Design Foundation.	2015
4	Observing the User Experience, Second Edition: A Practitioner's Guide to User Research (2nd. ed.).	Elizabeth Goodman, Mike Kuniavsky, Andrea Moed.	Morgan Kaufmann Publishers Inc., San Francisco, CA, USA.	Second Edition,
5	The Elements of User Experience: User-Centered Design for the Web and Beyond (2nd Edition)	Jesse James Garrett.	New Riders.	Second Edition,
6	Designing interfaces: Patterns for effective interaction design.	Tidwell, J.	O'Reilly Media, Inc	2005

PROGRAM ELECTIVE 1 : BDPEL31N

SEMESTER 3

Human Anatomy for Designers

Course Code	BDPEL311	CIA Marks	100
Teaching Hours/Week (L: T:S: P)	0: 1: 0: 3	ESE Marks	NA
Credits	2	Exam Hours	NA
Prerequisites (if any)	BDPCS201	Course Type	Tutorial & Practical

Course Objectives:

1. To offer basic understanding of human anatomical structures in visual terms.
2. To serve the students as a springboard for conceiving of human forms into meaningful designs.
3. To enhance the aesthetic and conceptual expression in the design world with the incorporation of human images in a variety of concrete and abstract patterns, which does not seem to be much in use currently in Indian context.

SYLLABUS

Module No.	Syllabus Description	Contact Hours
1	**Introductory lecture** with visual support of still and moving images (animation): Emergence of human body as an important image in art; its various stylistic features and later significance. Anthropocentrism (human-centeredness) in art and its merit and demerits. Further possibilities for exploring the body in the visual media: illustration, posters, story narration, animation film etc.	8
2	**Studio practice**: Introduction to drawing and materials Drawing human proportions of adults and children of different ages with gender variations in front back and profile views.	16

	Full figure human body in various postures and angles (above and below the eye-level) in drawing with different materials. Focus on movements: walking, running, athletic, wrestling and gymnastic postures etc. Study of limbs: arm, hand, palm, fingers; leg, foot and their foreshortening	
3	Study of body parts: foot, torso, shoulder and lower parts based on old masters' drawing, photographs and life-study Study of skeleton structure which determines the outer structure of the body: full skeleton, skull, rib, and spine Bones and their relationship to the body and muscular structures.	**16**
4	Study of body parts: foot, torso, shoulder and lower parts based on old masters' drawing, photographs and life-study Study of skeleton structure which determines the outer structure of the body: full skeleton, skull, rib, and spine Bones and their relationship to the body and muscular structures.	**16**

Course Assessment Method
(CIA: 100 marks)

Continuous Internal Assessment Marks (CIA):

Attendance	Assignments: Project work	Total
10	**90**	**100**

Course Outcomes (COs)

At the end of the course students should be able to:

Course Outcome		Bloom's Knowledge Level (KL)
CO1	Apply acquired skill effectively in the field	K**3**
CO2	Analyse the current design practice and identify its problem	K**4**
CO3	Create new concepts and images required for a specific context	K**6**

Note*: K1- Remember, K2- Understand, K3- Apply, K4- Analyse, K5- Evaluate, K6- Create*

Reference Books				
Sl. No	**Title of the Book**	**Name of the Author/s**	**Name of the Publisher**	**Edition and Year**
1	Constructive Anatomy	George Bridgman	Dover Publication	2000
2	Drawing Lessons from the Great Masters	Robert Beverly Hale	Watson Guptill	new edition, 2000
3	Drawing the Head for Artists: Techniques for Mastering Expressive Portraiture	Oliver Sin	Quarry Books	2019
4	Anatomy Drawing	Victor Perard	Grace Prakashan	2006
5	Atlas of Human Anatomy for the Artist	Stephan Roger Peck	Oxford University Press	1982
	Figure Study Made Easy	Aditya Charya	Grace prakashan	16th edition

SEMESTER 3

Advanced Typography

Course Code	BDPEL312	CIA Marks	100
Teaching Hours/Week (L: T:S: P)	0: 1: 0: 3	ESE Marks	NA
Credits	2	Exam Hours	NA
Prerequisites (if any)	BDPCS201	Course Type	Tutorial & Practical

Course Objectives:

1. To evaluate traditional notions of legibility and functionality to create experiential typography
2. To gain advanced skills in digital tools and software for creating static,motion and interactive typography
3. To explore how typography interacts with physical spaces,motion and algorithms to create immersive experiences

SYLLABUS

Module No.	Syllabus Description	Contact Hours
1	**Type Anatomy,Size & Scale** Introduction to Type Anatomy: Understanding letterform structure, including serifs, counters, terminals, stems, and ascenders.Exploring Type Size,Importance of Scale. Type Families & Superfamilies,Alignment and Visual Hierarchy. Modular Grids and techniques..	16
2	**Type Consumerism** Understanding Type Consumerism: Explore how typography influences consumer behavior and brand perception. Case studies: Iconic brands and how their typographic choices shaped their identity.The Psychology of Type, Typography and Emotive Typography in Design. Sensory Type.	12
3	**Introduction to Modular Letterforms:** Definition.History and influence: Modular design in Bauhaus and modern graphic design. **Ornamental Type and Experimental type**.	12

	Explore the process of ornamentation over an already known typeset Influential designers: David Carson, Neville Brody, and their approaches to experimental type.	
4	**Introduction to Kinetic Typography:**Definition and evolution: Typography in motion across mediums like film, web, and interactive design. **Understanding Environmental Typography:** Typography as a part of physical spaces, including signage, murals, and installations. **Introduction to Generative Typography:**Typography created using algorithms, coding, or data input.,Concepts of randomness, repetition, and data-driven design.	**16**

Course Assessment Method
(CIA: 100 marks)

Continuous Internal Assessment Marks (CIA):

Attendance	Assignments	Total
10	**90**	**100**

Course Outcomes (COs)

At the end of the course students should be able to:

Course Outcome		Bloom's Knowledge Level (KL)
CO1	Understand experimental typographic techniques	K2
CO2	Apply their learning in Multidisciplinary Typographic Applications	K4
CO3	Create a unique typographic voice of their own	K6

Note*: K1- Remember, K2- Understand, K3- Apply, K4- Analyse, K5- Evaluate, K6- Create*

Reference Books				
Sl. No	**Title of the Book**	**Name of the Author/s**	**Name of the Publisher**	**Edition and Year**
1	Thinking with Type	Ellen Lupton	Princeton Architectural Press	October 2010
2	Why Fonts Matter	Sarah Hyndman	Virgin Books	January 2016
3	Type in Motion	Matt Woolman	Thames & Hudson Ltd	September 2005
4	Works:Paula Scher	Paula Scher	Thames & Hudson Ltd	June 2024
5	Form+Code in Design, Art, and Architecture	Casey Reas	Princeton Architectural Press	September 2010

SEMESTER 3

Storytelling and Narrative

Course Code	BDPEL313	CIA Marks	100
Teaching Hours/Week (L: T:S: P)	0: 1: 0: 3	ESE Marks	NA
Credits	2	Exam Hours	NA
Prerequisites (if any)	BDPCS201	Course Type	Tutorial & Practical

Course Objectives:

1. To gain an overview of the craft of visual storytelling and creating narratives
2. To understand the building blocks, different possible media and techniques of storytelling and creating narratives
3. To effectively communicate compelling narratives in different contexts

SYLLABUS

Module No.	Syllabus Description	Contact Hours
1	Introduction to storytelling and the basic building blocks required for storytelling (context, word, image, form etc). An overview of the history of storytelling practices and technologies. Visual syntactics and the interpretation of visuals.	8
2	Understanding and applying the process of developing a story or narrative from concept to the final outcome (including structuring of content to create narratives, narrative voice, visual hierarchy and the flow of information, navigation, storyboard, moodboard, look and feel (representation), composition, design of the experience, prototyping, etc).	12

3	Exploration of different media and existing formats of storytelling (static, dynamic and interactive narratives - media like publications, graphic narratives, comic strips, interactive formats, digital applications, films, spatial narratives, traditional methods etc). This would include study and analysis of important works of storytelling to understand different possibilities.	**12**
4	Application of the understanding and explorations in a class project based on a given context (content specific).	**24**

Course Assessment Method
(CIA: 100 marks)

Continuous Internal Assessment Marks (CIA):

Attendance	Assignments	Total
10	**90**	**100**

Course Outcomes (COs)

At the end of the course students should be able to:

Course Outcome		Bloom's Knowledge Level (KL)
CO1	Gain an understanding of the basic components and structure of narratives and storytelling in different contexts	K2
CO2	Apply their understanding in design projects	K3
CO3	Explore and create effective narratives in a given context	K6

Note*: K1- Remember, K2- Understand, K3- Apply, K4- Analyse, K5- Evaluate, K6- Create*

Reference Books				
Sl. No	**Title of the Book**	**Name of the Author/s**	**Name of the Publisher**	**Edition and Year**
1	Ways of Seeing	John Berger	Penguin	2008
2	Understanding Comics	Scott McCloud	William Morrow Paperbacks	1992
3	Design is Storytelling	Ellen Lupton	Cooper Hewitt	2017
4	The Hero with a Thousand Faces	Joseph Campbell	Princeton University Press	1972
5	Design as Art	Bruno Munari	Penguin	2019
6	The Poetics of Space	Gaston Bachelard	Penguin	2014
7	Invisible Cities	Italo Calvino	RHUK	1997

SEMESTER 3

Basic Coding

Course Code	BDPEL314	CIA Marks	100
Teaching Hours/Week (L: T:S: P)	0: 1: 0: 3	ESE Marks	NA
Credits	2	Exam Hours	NA
Prerequisites (if any)	BDPCS201	Course Type	Tutorial & Practical

Course Objectives:

1. To introduce fundamental programming concepts and computational thinking
2. To develop problem-solving skills through coding exercises.
3. To apply coding knowledge in design-related projects.
4. To familiarize students with basic data structures and algorithms.
5. To enable students to create interactive applications relevant to design.

SYLLABUS

Module No.	Syllabus Description	Contact Hours
1	Overview of programming languages and their relevance to design. Introduction to computational thinking and problem-solving strategies. Understanding variables, data types, and basic operators. Setting up the programming environment. Writing simple programs to perform basic calculations. Exercises on variable assignments and data type manipulations.	8
2	Conditional statements: if, else-if, else. Looping constructs: for, while, and do-while loops. Importance of control structures in automating tasks. Writing programs that utilize conditional statements for decision making. Implementing loops to handle repetitive tasks. Debugging exercises to identify and fix logical errors.	12
3	Definition and purpose of functions. Parameters, return values, and scope of variables. Modular programming concepts for code reusability. Creating functions to perform specific tasks.Passing	12

	arguments and returning values. Developing modular code for a simple application.	
4	Introduction to arrays, lists, and dictionaries. Understanding the significance of data structures in organizing information. Basic algorithms for searching and sorting data. Implementing arrays and lists to store collections of data. Exercises on manipulating data structures for design applications.Basics of event-driven programming. Incorporating user input and basic graphics. Case studies on the application of coding in design projects. Final project: Design and implement an interactive application relevant to a design problem.	**24**

Course Assessment Method
(CIA: 100 marks)

Continuous Internal Assessment Marks (CIA):

Attendance	Assignments	Total
10	**90**	**100**

Course Outcomes (COs)

At the end of the course students should be able to:

Course Outcome		Bloom's Knowledge Level (KL)
CO1	Understand basic programming concepts, including variables, data types, and control structures.	K2
CO2	Develop algorithms to solve simple problems and implement them in code.	K3
CO3	Utilize basic data structures such as arrays and lists in programming tasks.	K3
CO4	Create interactive applications incorporating user input and basic graphics.	K6
CO5	Apply coding skills to design-related projects, demonstrating integration of programming and design.	K6

Note*: K1- Remember, K2- Understand, K3- Apply, K4- Analyse, K5- Evaluate, K6- Create*

Reference Books				
Sl. No	**Title of the Book**	**Name of the Author/s**	**Name of the Publisher**	**Edition and Year**
1	Python Programming: An Introduction to Computer Science	J.M.Zelle	Franklin, Beedle & Associates Inc	2nd, 2010
2	Structure and Interpretation of Computer Programs.	Harold Abelson, Gerald Jay Sussman, Julie Sussman	MIT Press	2nd, 1996
3	Computer Networking: A Top-Down Approach.	James F. Kurose, Keith W. Ross	Pearson Education	7th, 2017
4	Think Like a Programmer: An Introduction to Creative Problem Solving.	V. Anton Spraul	No Starch Press	2012
5	Code: The Hidden Language of Computer Hardware and Software.	Scott Granneman	Microsoft Press.	2014

SEMESTER 3

Product Detailing

Course Code	BDPEL315	CIA Marks	100
Teaching Hours/Week (L: T:S: P)	0: 1: 0: 3	ESE Marks	NA
Credits	2	Exam Hours	NA
Prerequisites (if any)	BDPCS201	Course Type	Tutorial & Practical

Course Objectives:

1. To provide an overview of product detailing.
2. To emphasize on the importance of studying individual parts/ components in detail.
3. To brief about the inclusions of design for manufacturing and assembly of individual parts or components in a product.
2. To give the ability to manipulate a 2D Drawing to a High-Fidelity Model

SYLLABUS

Module No.	Syllabus Description	Contact Hours
1	**Foundations of Product Detailing** Importance of product detailing, focusing on function, form, manufacturability, and user experience. Overview of industry standards. Criteria for material selection, properties of key materials, manufacturing influences, and sustainability considerations.	10
2	**Technical Detailing and Precision** **Tolerances and Fits:** Importance, types (clearance, interference, transition), and GD&T basics. **Fastening and Joining:** Fasteners, welding, soldering, adhesives, snap-fits, and press-fits. **Surface Finishing:** Finishes for functionality and aesthetics, including mechanical, chemical, and coatings.	12

3	**User-Centric Design and Testing** Human-centered design principles. Ergonomic detailing for comfort and ease of use. User feedback incorporation into detailed design. Types of prototypes: visual, functional, and engineering. Rapid prototyping techniques (3D printing, CNC machining).Testing for functionality, durability, and compliance.	**10**
4	**Application and Communication** Creating detailed engineering drawings. Bill of Materials (BOM) preparation. CAD tools for detailed design documentation. Presentation and communication of detailed design concepts. Design and detail a complete product. Incorporate all aspects of the syllabus into the project. Present detailed drawings, prototypes, and justification of design decisions.	**24**

Course Assessment Method
(CIA: 100 marks)

Continuous Internal Assessment Marks (CIA):

Attendance	Assignments	Total
10	**90**	**100**

Course Outcomes (COs)

At the end of the course students should be able to:

Course Outcome		Bloom's Knowledge Level (KL)
CO1	Understand the importance of analyzing individual parts/components.	K3
CO2	Apply techniques of manufacturing and assembly of parts in products.	K3
CO3	To create products or parts based on material selection, product architecture.	K6
CO4	Create sketches or ideas considering aesthetics, ergonomics, and visual design	K6

Note*: K1- Remember, K2- Understand, K3- Apply, K4- Analyse, K5- Evaluate, K6- Create*

Reference Books				
Sl. No	**Title of the Book**	**Name of the Author/s**	**Name of the Publisher**	**Edition and Year**
1	Industrial Design of Plastics Products	J.M. Gordon Jr	John Wiley and Sons	2003
2	Plastic Forming	J.D. Beadle (Ed.)	MacMillan Press,	1971
3	Product Development for Manufacturing	J.W. Priest, S. M. Jose	Marcel Dekker Inc.	2001
4	Product Design and Manufacturing	Chitale A. K. and Gupta R.C.	Prentice Hall India Learning Private Limited	2011
5	Design for Manufacturability Handbook	Bralla G. J.	McGraw-Hill Handbooks	1998
6	Product design for manufacture and assembly	Boothroyd G, Dewhurst P. and Knight A. W.	CRC Press	2010
7	Mechanical assemblies: their design, manufacture, and role in product development	Whitney D. E.	Oxford university Press	2004
8	Industrial Design: Materials and Manufacturing Guide	Lesko J.	Wiley	2008
9	Product development and design for manufacturing : a collaborative approach to producibility and reliability.	Priest J.W. and Sanchez J. M.	Marcel Dekker	2001
10	Making it: Manufacturing techniques for Product Design	Lefteri C.	Laurence King Publishing	2007

SEMESTER 3

Wood - Materials and Processes

Course Code	BDPEL316	CIA Marks	100
Teaching Hours/Week (L: T:S: P)	0: 1: 0: 3	ESE Marks	NA
Credits	2	Exam Hours	NA
Prerequisites (if any)	BDPCS201	Course Type	Tutorial & Practical

Course Objectives:

1. To understand the properties, types, and behavior of wood as a natural and engineered material
2. To develop skills in woodworking techniques, including joinery, wood bending, and finishing.
3. To explore the historical and contemporary use of wood in design, with an emphasis on sustainability.
4. To integrate woodworking principles into creative design solutions using both manual and mechanized tools.
5. To introduce students to hardware, fixtures, and finishes used in woodworking.

SYLLABUS

Module No.	Syllabus Description	Contact Hours
1	Types of wood: Softwood, hardwood, engineered wood. Structure of wood: Pith, annual rings, heartwood, sapwood, cambium layer, bark, medullary rays. Wood conversion methods: Plain saw, rift saw, quarter saw. Common defects: Shakes, cracks, twisted fibers, knots, warping. Wood seasoning: Air drying, kiln drying, and advanced methods. Case Studies: Traditional Kerala and Japanese joinery techniques Wood identification (hands-on samples of different types). Identifying wood defects and grading samples.	8

2	Safety practices in woodworking workshops. Introduction to tools: Hand tools (saws, chisels), portable tools, and stationary power tools. Basic woodworking techniques: Bevels, chamfers, grooves, rebates, housing, and edge-to-edge joints. Exploration of simple joineries: Mortise and tenon, dovetail, bridle, wedge, and finger joints. Creating basic utility objects like trays or racks using basic joinery techniques.	**12**
3	Complex joinery techniques and their applications in furniture design. Introduction to wood bending and hardware integration.Constructing dovetail joints, finger joints, and lockable joints. Wood bending: Steam bending and laminate bending to create curved elements. Project: Design and fabricate a small furniture item (stool, side table) incorporating advanced joineries and bent wood.	**20**
4	Surface preparation, sanding techniques, and introduction to different wood finishes. Applying finishes: Wax, French polish, PU varnish, and stains. Experimenting with surface textures using abrasive tools and staining techniques. Group project: Design and fabricate a multi-functional wooden product (e.g., modular storage system) using sustainable practices.	**16**

Course Assessment Method
(CIA: 100 marks)

Continuous Internal Assessment Marks (CIA):

Attendance	Assignments	Total
10	**90**	**100**

Course Outcomes (COs)

At the end of the course students should be able to:

Course Outcome		Bloom's Knowledge Level (KL)
CO1	Demonstrate a comprehensive understanding of wood as a design material, including its characteristics and properties.	K2
CO2	Execute various joinery methods and advanced woodworking techniques using appropriate tools.	K2 & K6
CO3	Apply woodworking techniques to create functional and aesthetic objects.	K5
CO4	Evaluate wood finishes, hardware, and fixtures for specific design projects.	K6
CO5	Design and fabricate wood products that balance functionality, aesthetics, and sustainability.	K6

Note*: K1- Remember, K2- Understand, K3- Apply, K4- Analyse, K5- Evaluate, K6- Create*

Reference Books				
Sl. No	**Title of the Book**	**Name of the Author/s**	**Name of the Publisher**	**Edition and Year**
1	Collins Complete Woodworker's Manual	Jackson, A., & Day, D.	Langara College	2011
2	Joinery	Taunton Press.	Editors of Fine Woodworking	2016
3	Tage Frid Teaches Woodworking	Tage Frid	Taunton Press.	2005
4	Woodworking Wisdom & Know-How Everything You Need to Design, Build and Create	Taunton Press.	Workman Publishing Company	2014
5	The Essential Wood Book: The Woodworker's Guide to Choosing and Using Lumber	Tim Snyder	Cedar Lane Press	2020

SEMESTER 3

Textile - Materials and Processes

Course Code	BDPEL317	CIA Marks	100
Teaching Hours/Week (L: T:S: P)	0: 1: 0: 3	ESE Marks	NA
Credits	2	Exam Hours	NA
Prerequisites (if any)	BDPCS201	Course Type	Tutorial & Practical

Course Objectives:

1. To understand the historical and cultural significance of textile design.
2. To identify and analyze diverse textile designs and patterns.
3. To cultivate an appreciation for cultural heritage and the art of textile creation.
4. To critically appraise the quality of fabrics based on their design, construction, and finishing.

SYLLABUS

Module No.	Syllabus Description	Contact Hours
1	**Introduction** An overview of the history of textiles in India, focusing on key techniques such as surface embellishments, hand weaving, dyeing, printing, painting etc. Includes an exploration of Indian textile techniques with emphasis on symbolic motifs, colours, and their cultural significance	8

2	**Fabric Construction** **Methods of Fabric Formation** Techniques such as weaving, knitting, felting, bonding, lace making, and knotting. **Fabric Classification** Categorization of fabrics based on use, materials, weave construction, thickness, and surface characteristics. **Fabric Construction Methods** Loom preparatory processes and the basic motions of weaving. Types and components of looms, including shuttle and shuttleless looms. Foundational concepts in weaving. **Translation of Weaves into Fabric Design** Drafting, denting, lifting, and their interrelationships in fabric construction. **Types of Weaves** Overview of various weave types and their characteristics and its representation through graphs.	**16**
3	**Processes Involved: Dyeing and Printing** **Dyeing** **Types of Dyes:** Direct, Acid, Reactive, Basic, Vat, Azoic, Sulphur, Disperse, and Mordant dyes. **Methods of Dyeing:** Overview of various dyeing techniques and their applications.	**16**

	Printing **Methods of Printing:** Direct, Discharge, and Resist printing techniques. **Applications of Printing:** Techniques such as Block Printing, Roller Printing, Duplex Printing, Stencil Printing, and Screen Printing.	
4	**Surface Ornamentations** To understand the various techniques of surface ornamentations like embroidery, painting, surface embellishments etc. To explore traditional and contemporary methods of embellishing textiles. To develop creative skills in designing and applying ornamentation techniques. **Field study - Visit to Textile manufacturing units, dye houses, studios, boutiques etc. Market study on available fabrics, furnishings etc..**	**16**

Course Assessment Method
(CIA: 100 marks)

Continuous Internal Assessment Marks (CIA):

Attendance	Assignments	Total
10	**90**	**100**

Course Outcomes (COs)

At the end of the course students should be able to:

Course Outcome		Bloom's Knowledge Level (KL)
CO1	Apply a comprehensive understanding of textiles as a design material.	K3
CO2	Apply surface ornamentation techniques to enhance textiles	K3
CO3	Evaluate surface finishes and decorative accessories for specific design projects	K5
CO4	Create textile products balancing functionality, aesthetics, and sustainability	K6

Note*: K1- Remember, K2- Understand, K3- Apply, K4- Analyse, K5- Evaluate, K6- Create*

Reference Books				
Sl. No	**Title of the Book**	**Name of the Author/s**	**Name of the Publisher**	**Edition and Year**
1	Textiles and Texturing of India	R. K. Gupta	Kalyani Publishers	2010 1st edition
2	Fabric Science	Joseph J. Pizzuto	Fairchild Books	2020 11th Edition
3	The Art of Dyeing in India	R. K. Joshi	Abhinav Publications	1989 1st Edition
4	Textile Dyeing and Printing	S.P. Condon	Macmillan	1986 1st Edition
5	Surface Design for Fabric	Dawn A. Hines	Lark Books	1997 Lark Books

SEMESTER 4

B. DES

SEMESTER 4

DESIGN STUDIO - 2

Course Code	**BDPCS401**	**CIA Marks**	**60**
Teaching Hours/Week (L: T:S: P)	**0: 0: 10: 0**	**EJ Marks**	**40**
Credits	**10**	**Exam Hours**	**NA**
Prerequisites (if any)	**BDPCS301**	**Course Type**	**Studio**

Course Objectives:

1. To foster a holistic approach to solving design problems.
2. To familiarize students with the environmental, social, and economic benefits of integrating sustainability in design.
3. To develop skills of visualization, presentation and communication through prototyping.

SYLLABUS

Module No.	Syllabus Description	Contact Hours
1	**Design Thinking** Introduction of a design project in a defined context. Identification of stakeholders and study of contextual aspects. Alignment of study with UN SDG (Sustainable Development Goals) objectives. Contextual mapping and synthesis of study insights, patterns and observations using visual representation techniques.	**60**
2	**Prototyping & Design** Ideation and exploration of concepts through low fidelity prototypes, models, mock-ups, simulations etc. User/ peer group testing, feedback and iterative design refinement. Communication of design process and final outcome using visual mediums, technical drawings and prototypes.	**80**

Course Assessment Method
(CIE: 100 marks)

Continuous Internal Evaluation Marks (CIE):

Attendance	Continuous Assessment based on assignments Internal Examination	Total
10	90	100

Course Outcomes (COs)

At the end of the course students should be able to:

Course Outcome		Bloom's Knowledge Level (KL)
CO1	To impart the idea of applying design thinking in solving complex problems.	K2
CO2	To understand the relevance of prototypes in design development and not just as a communication tool.	K2
CO3	Apply sustainable practices in everyday life.	K3

Note*: K1- Remember, K2- Understand, K3- Apply, K4- Analyse, K5- Evaluate, K6- Create*

Reference Books				
Sl. No	Title of the Book	Name of the Author/s	Name of the Publisher	Edition and Year
1	The Design of Everyday Things	Don Norman	Basic Books	November 2013
2	Change by Design: How Design Thinking Creates New Alternatives for Business and Society	Tim Brown	Harper Collins	September 2009
3	Designing for Sustainability: A Guide to Building Greener Digital Products and Services	Tim Frick	O'Reilly Media	August 2016
4	Prototyping: A Practitioner's Guide	Todd Zaki Warfel	Rosenfeld Media	November 2009

5	Creative Confidence: Unleashing the Creative Potential Within Us All	Tom Kelley & David Kelley	Harper Collins Publishers	October 2013

Video Links (NPTEL, SWAYAM…)	
Module No.	**Link ID**
1	https://www.ted.com/talks/tim_brown_designers_think_big?utm_campaign=tedspread&utm_medium=referral&utm_source=tedcomshare
1	https://www.ted.com/talks/david_kelley_how_to_build_your_creative_confidence?utm_campaign=tedspread&utm_medium=referral&utm_source=tedcomshare
2	https://www.ted.com/talks/joachim_horn_a_solution_for_building_a_generation_of_inventors?utm_campaign=tedspread&utm_medium=referral&utm_source=tedcomshare
2	https://www.ted.com/talks/neil_gershenfeld_unleash_your_creativity_in_a_fab_lab?utm_campaign=tedspread&utm_medium=referral&utm_source=tedcomshare

SEMESTER 4

DESIGN AND ENVIRONMENT

Course Code	**BDPCT402**	**CIA Marks**	**60**
Teaching Hours/Week (L: T:S: P)	**2: 0: 0: 0**	**ESE Marks**	**40**
Credits	**4**	**Exam Hours**	**3**
Prerequisites (if any)	**BDPCS101**	**Course Type**	**Theory**

Course Objectives:

1. To explore the interconnected relationship between the environment and design.
2. To critically examine this relationship at both the macro level, encompassing environment, society, and design, and the micro level, focusing on the user and design.
3. To evaluate the future of design within the context of contemporary environmental discussions and challenges.

SYLLABUS

Module No.	Syllabus Description	Contact Hours
1	Introduction Introduction to Design and Environment. Emergence of Environmental Concerns in Design. Environmentalism and design. Major Theories of the Environment.	**8**
2	Understanding Environment in Macro and Micro Perspectives Environment in the Macro Perspective Relationship Between Geography and Design. Understanding Environment in the Micro Perspective User-Centric Design: Key theories, approaches, and real-world examples of designing with the user in focus. User-Centric Design Principles: Integrating accessibility, usability, and emotional engagement in design processes.	**8**

	Users in Analog and Digital Design Worlds: A comparative analysis of how design interacts with both physical and virtual environments.	
3	Inclusive Design Design and User Inequities Design and Gender Design and Accessibility Design and Economic Disparity	**6**
4	Sustainability and Design: Designing for the future. Theories, Approaches and Examples.	**6**

Course Assessment Method
(CIA: 60 marks, ESE: 40 marks)

Continuous Internal Assessment Marks (CIA):

Attendance	Assignments	Total
6	**54**	**60**

End Semester Examination Marks (ESE)

In Part A, all questions need to be answered and in Part B, each student can choose any one full question out of two questions

Part A	Part B	Total
20	**20**	**40**

Course Outcomes (COs)

At the end of the course students should be able to:

Course Outcome		Bloom's Knowledge Level (KL)
CO1	Understand evolution of design as a discipline, exploring its relationship with the environment and key theoretical frameworks in this domain.	K2
CO2	Apply sustainability principles into design practices, emphasizing their impact on the field.	K3
CO3	Apply the principles of inclusive design, addressing considerations of gender, accessibility, and economic disparity.	K3

Note*: K1- Remember, K2- Understand, K3- Apply, K4- Analyse, K5- Evaluate, K6- Create*

Reference Books				
Sl. No	**Title of the Book**	**Name of the Author/s**	**Name of the Publisher**	**Edition and Year**
1	Design for the Real World.	Papanek, Victor.	Thames and Hudson	1972
2	Cradle to Cradle: Remaking the Way We Make Things.	McDonough, William, & Braungart, Michael.	North Point Press	2002
3	Ecological Design.	Van der Ryn, Sim, & Cowan, Stuart.	Island Press	1995
4	The Design of Everyday Things.	Norman, D	Basic books	2013
5	Inclusive Design: Designing for the Whole Population.	Coleman, Roger.	Springer Science & Business Media	2003
6	Biomimicry: Innovation Inspired by Nature.	Benyus, Janine.	Harper Collins	2009
7	Design with Nature.	McHarg, Ian L	American Museum of Natural History	1969

PROGRAM ELECTIVE 2 : BDPEL42N

SEMESTER 4

Animation Design

Course Code	BDPEL421	CIA Marks	100
Teaching Hours/Week (L: T:S: P)	0: 1: 0: 3	ESE Marks	NA
Credits	2	Exam Hours	NA
Prerequisites (if any)	BDPCS205	Course Type	Tutorial & Practical

Course Objectives:

1. To familiarize the students with various approaches, methods and techniques of Animation
2. To apply this understanding to create quality animated content.

SYLLABUS

Module No.	Syllabus Description	Contact Hours
1	Introduction: Early attempts to create moving images. A brief history of animation.	8
2	Techniques of Animation and workflow: Different types of animation (time-lapse, stop motion, cut-out, silhouette, digital animation, 3D animation, motion graphics, vfx, etc), Animation workflow and design (pre-production, production and post-production stages).	12
3	Principles of animation and their use in bringing images to life. Understanding the use of camera angles, sound design, acting and staging for animation. Study and break-down of existing films and animated content.	12
4	Animation design project (pre-production, production and post-production)	24

Course Assessment Method
(CIA: 100 marks)

Continuous Internal Assessment Marks (CIA):

Attendance	Assignments	Total
10	90	100

Course Outcomes (COs)

At the end of the course students should be able to:

Course Outcome		Bloom's Knowledge Level (KL)
CO1	Understand the basic concepts and techniques of animation.	K2
CO2	Students must be able to apply their understanding to create quality animated content.	K6

Note*: K1- Remember, K2- Understand, K3- Apply, K4- Analyse, K5- Evaluate, K6- Create*

Reference Books				
Sl. No	**Title of the Book**	**Name of the Author/s**	**Name of the Publisher**	**Edition and Year**
1	The Animator's Survival Kit	Richard Williams	Faber	2009
2	Timing for Animation	Harold Whitaker, John Halas	CRC Press, Taylor and Francis group	3rd edition 2021
3	Bridgman's complete Guide to Drawing from Life	George B Bridgman	Sterling	5th edition 2017
4	Cartoon Animation with Preston Blair	Preston Blair	Walter Foster Publishing	2020
5	Directing the Story	Francis Glebas	Routledge	1st edition 2008
6	Sketching for Animation	Peter Parr	Bloomsbury	2018

7	Elemental Magic: The Technique of Special Effects Animation	Joseph Gilland	Routledge	1st edition 2011
8	Animation: A World History (Volumes 1, 2 & 3)	Giannalberto Bendazzi	Routledge	2016
9	Lessons in Pictorial Composition	Louis Wolchonok	Dover Publications	1st edition 1950
10	The Encyclopedia of Animation Techniques	Richard Taylor	Running Press	1996
11	Special Effects: an oral history	Pascal Pinteau	Harry N Abrams	2005
12	The Dictionary of Visual Language	Philip Thompson, Peter Davenport	Penguin	1982

SEMESTER 4

Information Design

Course Code	BDPEL422	CIA Marks	100
Teaching Hours/Week (L: T:S: P)	0: 1: 0: 3	ESE Marks	NA
Credits	2	Exam Hours	NA
Prerequisites (if any)	BDPCS301	Course Type	Tutorial & Practical

Course Objectives:

1. To give an insight to the students on Information Design thereby enhancing their ability to collect, process, and disseminate information and to produce understanding.
2. To apply this understanding in creating their own designs effectively.

SYLLABUS

Module No.	Syllabus Description	Contact Hours
1	Theoretical foundations of information design: definition and the history of information design. Understanding the need for information design. Break-down and analysis of existing information designs.	8
2	Making sense out of chaos, complex and unorganised information (making sense out of data, structuring of information, tools for thinking, planning, and problem solving). Design thinking for solving problems and critically evaluation of practices and designing better solutions.	12
3	Techniques to improve organisation, accessibility of content and clarity. Methods of communication and presenting the content more effectively (visual communication, data visualisation, interactive experiences, wayfinding, etc). Human centered design and collaborative approach to information design.	16

4	Design project involving the application of this understanding to create a practical and effective information design solution to a design problem.	**20**

Course Assessment Method
(CIA: 100 marks)

Continuous Internal Assessment Marks (CIA):

Attendance	Assignments	Total
10	**90**	**100**

Course Outcomes (COs)

At the end of the course students should be able to:

Course Outcome		Bloom's Knowledge Level (KL)
CO1	Inculcate the ability to understand and critically evaluate designs and diagnose problems with presentation of information.	K2
CO2	Develop and design better and more effective design solutions	K6

Note*: K1- Remember, K2- Understand, K3- Apply, K4- Analyse, K5- Evaluate, K6- Create*

Reference Books				
Sl. No	**Title of the Book**	**Name of the Author/s**	**Name of the Publisher**	**Edition and Year**
1	The Visual Display of Quantitative Information	Edward R Tufte	Graphics Press USA	2nd edition 2001
2	Envisioning Information	Edward R Tufte	Graphics Press USA	1990
3	Information is Beautiful (book & website)	David MacCandless	Collins	2012
4	Information Design	Robert E Jacobsen	MIT Press	2000

5	The Practical Guide to Information Design	Ronnie Lipton	Wiley	1st edition 2011
6	Information design: An Introduction	Rune Pettersson	John Benjamins Publishing Company	2002
7	Information Design Workbook: Graphic Approaches, Solutions, and Inspiration + 30 case studies	Kim Baer	Rockport Publishers	2021
8	Information Design Unbound	Sheila Pontis, Michael Babwahsingh	Bloomsbury	2023
9	Raw Data: Infographic Designers Sketchbooks	Steven Heller, Rick Landers	Thames & Hudson	2014

SEMESTER 4

User Interface Design

Course Code	BDPEL423	CIA Marks	100
Teaching Hours/Week (L: T:S: P)	0: 1: 0: 3	ESE Marks	NA
Credits	2	Exam Hours	NA
Prerequisites (if any)	BDPCS301	Course Type	Tutorial & Practical

Course Objectives:

1. To introduce students to the field of User Interface Design
2. To apply the design thinking process in UI Design
3. To introduce students to the tools used in UI Design

SYLLABUS

Module No.	Syllabus Description	Contact Hours
1	**Introduction to UI/UX**, definition and difference. Principles of good UI design, **Emerging Trends**: Designing with AI and Designing for AI, AR, VR, MR,XR, Dark mode, Voice activated UI, Atomic design Students are required to apply the design thinking process in a suitable UI project. **Empathise:** User Study, Stakeholder Study, Competitor Benchmarking **Define:** Defining the Requirements	8
2	**Ideate:** apply Ideation techniques like Brainstorming, Crazy 8s, Mindmapping, SCAMPER etc, Information Architecture- Navigation and user flows Prototyping- lo fidelity prototyping and testing	8

3	**Prototype:** Prototype the UI by applying the Visual Design Fundamentals: Principles of Design, Gestalt Principles, Colour theory, Typography, iconography, layouts/grids, Negative space, Visual Hierarchy, Design Systems, Style guides and Component libraries, Colour and accessibility UX Writing, Interaction design- Micro interactions, Animations and transitions, Responsive and Adaptive Design	**24**
4	**Test:** A/B testing , User Testing, feedback, Iterations, Future design directions. Test for ethics/dark patterns , **Portfolio:** Students to collate their works during the semester and publish portfolios on online platforms (Behance/Dribble etc)	**16**

Course Assessment Method
(CIA: 100 marks)

Continuous Internal Assessment Marks (CIA):

Attendance	Assignments	Total
10	**90**	**100**

Course Outcomes (COs)

At the end of the course students should be able to:

Course Outcome		Bloom's Knowledge Level (KL)
CO1	To understand basics of prototyping tools like Figma, Adobe XD, Marvel etc.	K2
CO2	To apply the design thinking process to the minor project assigned	K3
CO3	To evaluate the usability and effectiveness of User Interfaces	K5
CO4	To ideate and create usable and visually appealing and interactive User Interface as part of the minor project	K6

Note*: K1- Remember, K2- Understand, K3- Apply, K4- Analyse, K5- Evaluate, K6- Create*

Reference Books				
Sl. No	**Title of the Book**	**Name of the Author/s**	**Name of the Publisher**	**Edition and Year**
1	The Design of Everyday Things	Don Norman	Basic Books	2nd edition 2013
2	Designing Human-Centric AI Experiences	Akshay Kore	Apress	1st edition, 2022
3	Writing Is Designing: Words and the User Experience	Michael J. Metts, Andy Welfle	Rosenfeld Media	1st edition, 2020
4	Don't Make Me Think, Revisited : A Common Sense Approach to Web & Mobile Usability	Steve Krug	Pearson Education	3rd edition, 2015
5	Designing Interfaces: Patterns for Effective Interaction Design	Jenifer Tidwell, Charles Brewer, Aynne Valencia	Shroff/O'Reilly	3rd edition 2024

SEMESTER 4

Product Ergonomics

Course Code	BDPEL424	CIA Marks	100
Teaching Hours/Week (L: T:S: P)	0: 1: 0: 3	ESE Marks	NA
Credits	2	Exam Hours	NA
Prerequisites (if any)	BDPCS301	Course Type	Tutorial & Practical

Course Objectives:

1. To introduce fundamental ergonomic principles and their relevance in product design.
2. To develop an understanding of human anatomy, physiology, and psychology in the context of design.
3. To apply ergonomic considerations to enhance user comfort, safety, and efficiency in product design.
4. To familiarize students with methods for evaluating and testing ergonomic performance in products and spaces.
5. To integrate ergonomic principles into the design process to create user-centered products and spatial environments.

SYLLABUS

Module No.	Syllabus Description	Contact Hours
1	Definition and scope of ergonomics in product and spatial design. Historical development and significance of ergonomics. Key ergonomic principles: human-centered design, user comfort, safety, and efficiency. Case studies analyzing ergonomic successes and failures in products and spatial environments. Group discussions on the impact of ergonomics on user experience.	12
2	Overview of human anatomy, physiology, and psychology relevant to product and spatial design. Anthropometry: human body measurements	12

	and variability for product and spatial applications. Perception, cognition, and human behavior in spaces. Conducting anthropometric measurements for various user groups. Creating spatial layouts considering reach, posture, and movement patterns.	
3	Ergonomic design for products: posture, grip, reach, and movement. Safety considerations: minimizing risk and preventing user injury. Efficiency in product design: reducing user effort and enhancing performance.Ergonomics in workspaces, public spaces, and living environments. Understanding proxemics and spatial behavior in different cultures. Designing for user comfort and accessibility in spaces: circulation, reach, and visual fields. Redesigning a hand-held product to improve ergonomic features.	**16**
4	Ergonomic assessment techniques for products and spaces: usability testing, task analysis, and user feedback. Tools and instruments for ergonomic evaluation. Integrating ergonomics into the design process: balancing aesthetics and functionality. Designing an ergonomic workspace layout considering furniture and spatial arrangement and conducting usability tests.	**16**

Course Assessment Method
(CIA: 100 marks)

Continuous Internal Assessment Marks (CIA):

Attendance	Assignments	Total
10	**90**	**100**

Course Outcomes (COs)

At the end of the course students should be able to:

Course Outcome		Bloom's Knowledge Level (KL)
CO1	Understand fundamental ergonomic principles and their application in product and spatial design.	K2

CO2	Apply ergonomic principles to design products and spaces that enhance user comfort, safety, and efficiency.	K3
CO3	Analyze human anatomical, physiological, psychological, and spatial factors influencing design.	K4
CO4	Evaluate and test ergonomic effectiveness and user satisfaction in both products and spaces.	K5
CO5	Integrate ergonomic considerations seamlessly into the design process to develop user-centered solutions.	K6

Note*: K1- Remember, K2- Understand, K3- Apply, K4- Analyse, K5- Evaluate, K6- Create*

Reference Books				
Sl. No	**Title of the Book**	**Name of the Author/s**	**Name of the Publisher**	**Edition and Year**
1	Introduction to Ergonomics	Robert Bridger	CRC Press	3rd, 2017
2	Bodyspace: Anthropometry, Ergonomics and the Design of Work	Stephen Pheasant & Christine Haslegrave	CRC Press	2nd, 2005
3	Ergodesign Methodology for Product Design: A Human-Centered Approach.	Marcelo M. Soares	CRC Press	2021
4	Designing Pleasurable Products: An Introduction to the New Human Factors	Patrick W. Jordan	CRC Press	2000
5	Workplace Ergonomics: A Practical Guide.	David B. Shute	CreateSpace Independent Publishing	2012
6	Indian Anthropometric Dimensions for Ergonomic Design Practice.	Debkumar Chakrabarti	National Institute of Design	1997
7	Human Dimension and Interior Space	Julius Panero, Martin Zelnik	Ten speed	2014
8	Ergonomics for the Layman-Applications in Design	Prabhir Mukhopadhyay	CRC Press	2019

SEMESTER 4

Advance prototyping and manufacturing process

Course Code	BDPEL425	CIA Marks	100
Teaching Hours/Week (L: T:S: P)	0: 1: 0: 3	ESE Marks	NA
Credits	2	Exam Hours	NA
Prerequisites (if any)	BDPCS301	Course Type	Tutorial & Practical

Course Objectives:

1. To provide in-depth knowledge of advanced prototyping and manufacturing techniques.
2. To enable students to create functional prototypes using cutting-edge tools and methods.
3. To integrate advanced manufacturing processes into innovative product design.

SYLLABUS

Module No.	Syllabus Description	Contact Hours
1	**Prototyping Fundamentals** Importance in product design; conceptual, functional, and final prototypes. Overview of CAD/CAE tools; simulation and analysis for validation. Basics of additive manufacturing (3D printing) and key technologies (FDM, SLA, SLS, DMLS); material selection for prototyping.	12
2	**Advanced Manufacturing Techniques** Additive Manufacturing: Multi-material and hybrid 3D printing methods; applications in design and production. Subtractive Manufacturing: CNC machining and precision manufacturing for high-tolerance designs.	12

	Hybrid Manufacturing: Integration of additive and subtractive processes; design flexibility and production efficiency.	
3	**Material Innovation and Sustainability** Material Advances: Smart materials (e.g., shape memory alloys, conductive polymers); bio-based and eco-friendly materials. Sustainability: Reducing material waste through advanced techniques; circular manufacturing and closed-loop processes.	**16**
4	**Testing, Applications, and Project** Methods for strength, durability, and usability testing; simulation-driven optimization. Case studies in automotive, medical, and consumer electronics; trends in manufacturing technologies. Project: Design, produce, and evaluate a functional prototype integrating advanced techniques, materials, and validation methods.	**16**

Course Assessment Method
(CIA: 100 marks)

Continuous Internal Assessment Marks (CIA):

Attendance	Assignments	Total
10	**90**	**100**

Course Outcomes (COs)

At the end of the course students should be able to:

Course Outcome		Bloom's Knowledge Level (KL)
CO1	Understand advance prototyping and manufacturing techniques	K3
CO2	Apply advanced manufacturing processes into innovative product design.	K3
CO3	Create functional prototypes using cutting-edge tools and methods.	K6

Note*: K1- Remember, K2- Understand, K3- Apply, K4- Analyse, K5- Evaluate, K6- Create*

Reference Books				
Sl. No	**Title of the Book**	**Name of the Author/s**	**Name of the Publisher**	**Edition and Year**
1	Additive Manufacturing: Design, Methods, and Processes	Steinar Westhrin Killi	CRC Press	1st Edition, 2017
2	Rapid Prototyping: Principles and Applications	Chua Chee Kai, Leong Kah Fai, and Lim Chu Sing	World Scientific	3rd Edition, 2010
3	Additive Manufacturing Technologies: Rapid Prototyping to Direct Digital Manufacturing	Ian Gibson, David W. Rosen, and Brent Stucker	Springer	2nd Edition, 2015
4	Manufacturing Engineering and Technology	Serope Kalpakjian and Steven R. Schmid	Pearson	8th Edition, 2020
5	Fundamentals of Modern Manufacturing: Materials, Processes, and Systems	Mikell P. Groover	Wiley	7th Edition, 2019
6	Advanced Manufacturing Technologies for Engineers	Thomas Kenyon	Elsevier	1st Edition, 2018
7	Materials for Design	Victoria Ballard Bell	Princeton Architectural Press	1st Edition, 2009
8	Sustainable Manufacturing and Design: Concepts, Practices, and Applications	Kaushik Kumar and J. Paulo Davim	Woodhead Publishing	1st Edition, 2021
9	Smart Materials and Structures	M. V. Gandhi and B. S. Thompson	Springer	1st Edition, 1992
10	Product Design for Manufacture and Assembly	Geoffrey Boothroyd, Peter Dewhurst, and Winston A. Knight	CRC Press	3rd Edition, 2010

SEMESTER 4

Exhibition Design

Course Code	BDPEL426	CIA Marks	100
Teaching Hours/Week (L: T:S: P)	0: 1: 0: 3	ESE Marks	NA
Credits	2	Exam Hours	NA
Prerequisites (if any)	BDPCS301	Course Type	Tutorial & Practical

Course Objectives:

1. To introduce students to design principles and methodologies that are used in exhibition design.
2. To get insight into how creating interpretations and designing in space work together.
3. To create exhibition themes via hands-on documentation and presenting activities.

SYLLABUS

Module No.	Syllabus Description	Contact Hours
1	**Introduction** The role of design in conveying concepts, information, and items in an exhibition setting. Various components of a display.	12
2	**Types of exhibition settings.** The essential elements of exhibition design, terminology definitions and usage, and an overview of the various exhibition formats—permanent, temporary, and traveling—are covered.	12
3	**Exhibition experience.** The role of light in exhibition design, its effect on displays and storytelling. Relevance of graphic identity, imagery and typography. The role of perception and navigation.	16

4	**Visit a museum or gallery**. Exploration of the exhibition space and articulation of the visitor experience. Documentation and presentation of exhibition experience.	**16**

Course Assessment Method
(CIA: 100 marks)

Continuous Internal Assessment Marks (CIA):

Attendance	Assignments	Total
10	**90**	**100**

Course Outcomes (COs)

At the end of the course students should be able to:

Course Outcome		Bloom's Knowledge Level (KL)
CO1	To understand the role of design in exhibition spaces.	K2
CO2	To apply the learning in a real context.	K3
CO3	To analyse various types of exhibition settings.	K4

Note*: K1- Remember, K2- Understand, K3- Apply, K4- Analyse, K5- Evaluate, K6- Create*

Reference Books				
Sl. No	**Title of the Book**	**Name of the Author/s**	**Name of the Publisher**	**Edition and Year**
1	Exhibition design: an introduction.	Hughes, Philip	Laurence King Publishing, London.	Second edition (2015)
2	Exhibition design	Locker, Pam	AVA Publishing	2011
3	Creating Exhibitions: Collaboration in the Planning, Development, and Design of Innovative Experiences	Polly McKenna-Cress, Janet Kamien	Wiley	2013

4	The Object in Its Place	Signe S. Mayfield	Mingei International Museum in cooperation with Fine Arts Press	2020

SEMESTER 4

Metal and Plastics - Materials and Process

Course Code	BDPEL427	CIA Marks	100
Teaching Hours/Week (L: T:S: P)	0: 1: 0: 3	ESE Marks	NA
Credits	2	Exam Hours	NA
Prerequisites (if any)	BDPCS301	Course Type	Tutorial & Practical

Course Objectives:

1. To understand types of plastics and metals, their properties.
2. To gain knowledge of traditional and modern manufacturing processes, their advantages and constraints, selection of appropriate materials for design applications.
3. To develop prototypes/concepts using metals, plastics and their combinations.
4. To apply sustainability considerations in material selection and processing.

SYLLABUS

Module No.	Syllabus Description	Contact Hours
1	**Introduction to Metals:** ● Types of Metals (Ferrous & NonFerrous) ● Properties of Metals (Strength, Malleability & Ductility, Conductivity, corrosion resistance etc.) ● Common Metals used in Industrial Design (Aluminum, Steel, Copper, Brass, Titanium, etc.) ● Surface finishes & treatments ● Metal alloys and their applications **Introduction to Plastics** ● Types of Plastics (Thermoplastics vs. Thermosets) ● Polymer Structures & Properties (Flexibility, Strength, Transparency, etc.)	10

	• Common Plastics in Design (ABS, Polycarbonate, Acrylic, Nylon, PP, PVC, PET, etc.) • Biodegradable & Recyclable Plastics • Additives, Fillers, and Reinforcements used in Plastic products; their Design and Manufacturing implications.	
2	**Metals Manufacturing Processes** • Casting, Forming, Machining, Joining • Powder Metallurgy, Additive Manufacturing • Finishing and Surface Treatment	**12**
3	**Plastic Manufacturing Processes** • Injection & Blow Moulding, Extrusion, Thermoforming Roto Moulding, Vacuum Forming, Resin Transfer Moulding(RTM), Reaction Injection Moulding (RIM) etc. • Plastic joining techniques • 3D Printing with Plastics (FDM, SLA, SLS, etc.) • Surface Treatments and Finishing Techniques	**16**
4	• Industry Visits • Development of a product/component concept/prototype that has metal and plastic, with adequate documentation.	**18**

Course Assessment Method
(CIA: 100 marks)

Continuous Internal Assessment Marks (CIA):

Attendance	Assignments	Total
10	**90**	**100**

Course Outcomes (COs)

At the end of the course students should be able to:

Course Outcome		Bloom's Knowledge Level (KL)
CO1	Develop a clear understanding of metals and plastics and their properties and uses.	K2
CO2	Develop ability to conceptualise products using plastics, metals and their combinations.	K2
CO3	Understand best practices on Sustainable Design while designing Plastic/Metal products.	K2
CO4	Acquire good understanding of various manufacturing processes, surface treatments and finishing processes/techniques.	K3

Note*: K1- Remember, K2- Understand, K3- Apply, K4- Analyse, K5- Evaluate, K6- Create*

Reference Books				
Sl. No	**Title of the Book**	**Name of the Author/s**	**Name of the Publisher**	**Edition and Year**
1	Industrial Design of Plastics Products	J.M. Gordon Jr	John Wiley and Sons	2003
2	Industrial Design: Materials and Manufacturing Guide	Jim Lesko	John Wiley and Sons	2008
3	Manufacturing and Design Understanding the Principles of How Things Are Made	Erik Tempelman, Hugh Shercliff, Bruno Ninaber van Eyben	Elsevier Science	2014
4	Design for Manufacturability Handbook	James Bralla	Tata McGraw Hill Education	1998
5	Product Development for Manufacturing	J.W. Priest, S. M. Jose	Marcel Dekker Inc.	2001
6	Product Design and Manufacturing	Chitale A. K. and Gupta R.C.	Prentice Hall India Learning Private Limited	2011
7	Manufacturing Processes for Design Professionals	Rob Thompson	Thames & Hudson	2007
8	Sustainable Manufacturing and Design: Concepts, Practices, and Applications	Kaushik Kumar and J. Paulo Davim	Woodhead Publishing	1st Edition, 2021

SEMESTER 4

Sewing and Draping techniques

Course Code	BDPEL428	CIA Marks	100
Teaching Hours/Week (L: T:S: P)	0: 1: 0: 3	ESE Marks	NA
Credits	2	Exam Hours	NA
Prerequisites (if any)	BDPCS301	Course Type	Tutorial & Practical

Course Objectives:

1. To understand the various methods and applications of sewing on a variety of textile based materials and approach in its application.
2. To learn the skill and ability to develop a good quality construction in an apparel.
3. To develop skills in draping fabric as a means to designing apparel for the human body.
4. To understand the application critical to understanding the architecture of the garment and how it can be put together creatively, yet making it practical for production.

SYLLABUS

Module No.	Syllabus Description	Contact Hours
1	Introduction to different fabric types and tools and equipment used in textile draping . To introduce the students to the terminology and styles of draping used in a fashion. To develop skills in draping fabric as a means to designing apparel for the human body. To enable students to understand body proportions and methods of achieving required shapes, drape and fit of the visualized apparel. How to take measurements from a human body or body form, understanding fabric, various grains and its advantages.	12

2	How to 'block' a fabric (to align the warp & weft at right angles). Basics of ironing/balancing the grain of a fabric. Learn varieties of waistlines, high waist, empire line, low waist, princess line, style line, bodice, skirt, torso, halter, cutaway armholes, shift, sheath, tent, cropped length, A-line, flare, umbrella etc.	**16**
3	To develop a well-fitting toile/muslin & paper pattern for basic bodice. Dart manipulation & placement. Manipulation of ease and conversion of dart excess into gathers, tucks, pleats, style line or yokes. Develop a toile/muslin and paper pattern for torso /basic dress foundation.	**12**
4	Foundation for constructing made ups and garments. Basics of sewing techniques, tools, equipment and finishes. To provide a skill set & introduce the students to the sewing machine & its functioning including various seams, hems, bindings, edge finishes & other functional and value addition aspects vis-a-vis a range of materials. Constructing 3 dimensional forms and their detailing, essential to home furnishings also to be covered.	**16**

Course Assessment Method
(CIA: 100 marks)

Continuous Internal Assessment Marks (CIA):

Attendance	Assignments	Total
10	**90**	**100**

Course Outcomes (COs)

At the end of the course students should be able to:

Course Outcome		Bloom's Knowledge Level (KL)
CO1	Understand sewing methods and applications	K2
CO2	Understand apparel construction techniques.	K2
CO3	Apply their learning of draping skills in projects.	K3

Note*: K1- Remember, K2- Understand, K3- Apply, K4- Analyse, K5- Evaluate, K6- Create*

Reference Books				
Sl. No	**Title of the Book**	**Name of the Author/s**	**Name of the Publisher**	**Edition and Year**
1	The Art of Fashion Draping	Amaden-Crawford, Connie	Fairchild Books	Year: 2005, 3rd Edition
2	Encyclopedia of Sewing Machine Techniques	Bednar, Nancy	Sterling	Year: 2007
3	Sewing 101: A Beginner's Guide to Sewing	Creative Publishing International	Creative Publishing International	Year: 2002
4	Pattern Drafting for Fashion: Draping	Gilewska, Teresa	A. & C. Black	Year: 2011
5	Pattern Drafting for Fashion: Seam Assembly and Finishing	Gilewska, Teresa	A. & C. Black	Year: 2011

PROGRAM ELECTIVE 3 : BDPEL43N

SEMESTER 4

Film and Video Design

Course Code	BDPEL431	CIA Marks	100
Teaching Hours/Week (L: T:S: P)	0: 1: 0: 3	ESE Marks	NA
Credits	2	Exam Hours	NA
Prerequisites (if any)	BDPCS301	Course Type	Tutorial & Practical

Course Objectives:

1. Create a basic theoretical understanding of the art and craft of filmmaking by reading, writing about, and watching films critically.

2. Using Cinematography, Editing and Sound Design as a way of understanding the world.

3. A practical understanding of filmmaking by taking the students through the script to screen process.

SYLLABUS

Module No.	Syllabus Description	Contact Hours
1	Introduction to Filmmaking, Film Language & Film History.	4-
2	Introduction to Basics of Cinematography, Editing, Sound Design Practical: • Working with basics of Camera- Composition, Shot Types, Lensing, Storyboarding • Working with Basics of Editing. – Continuity, Montage • Working with basics of Sound – Recording using Microphones, Sound Design.	24-
3	Elements of Direction, Study of Directors, Understanding Mise En Scene, Screenwriting Basics. Practical: 3 Shot & 5 Shot Direction Exercises	8
4	Practical (Group Exercise) : Script to Screen process involving pre-production, production and post-production for making a Live Action Piece not more than 5 minutes in length - Fiction/ Non- Fiction/ Music Video/ Advertisement.	16

Course Assessment Method
(CIA: 100 marks)

Continuous Internal Assessment Marks (CIA):

Attendance	Assignments	Total
10	**90**	**100**

Course Outcomes (COs)

At the end of the course students should be able to:

Course Outcome		Bloom's Knowledge Level (KL)
CO1	Theoretical and Analytical Understanding	K2
CO2	Practical Understanding of the Elements	K3
CO3	Expressing through Direction	K4
CO4	Creating a Live Action Piece following all basic processes.	K6

Note*: K1- Remember, K2- Understand, K3- Apply, K4- Analyse, K5- Evaluate, K6- Create*

Reference Books				
Sl. No	**Title of the Book**	**Name of the Author/s**	**Name of the Publisher**	**Edition and Year**
1	How To Read a Film: Movies, Media, and Beyond	James Monaco	Harbor Electronic Publishing	4th Edition
2	Metz: Film Language (pr Only): A Semiotics of the Cinema	Christian Metz	University of Chicago Press	1st Edition
3	Blink of An Eye	Walter Murch	Silman-James Press,U.S	-
4	Five C's of Cinematography: Motion Picture Filming Techniques	Joseph V Mascelli	Silman-James Press,U.S	-
5	Theory And Practice – Film Sound	Elisabeth Weis and John Bellton	Columbia University Press	-

SEMESTER 4

Instructional Design

Course Code	BDPEL432	CIA Marks	100
Teaching Hours/Week (L: T:S: P)	0: 1: 0: 3	ESE Marks	NA
Credits	2	Exam Hours	NA
Prerequisites (if any)	BDPCS301	Course Type	Tutorial & Practical

Course Objectives:

1. To provide students the knowledge and abilities they need to create and utilize a variety of instructional materials.
2. To identify the fundamental benefits and drawbacks of the current educational resources and media.
3. To ensure efficient planning and the utilization of instructional resources.

SYLLABUS

Module No.	Syllabus Description	Contact Hours
1	**Introduction to Instructional Design.** Instructional design and its importance in education. Role of instructional designer. Identification of stakeholder goals, training and need assessment.	12
2	**Basic components of Instructional Design.** Clear goals and objectives, Learning activities, Assessments. Types of learning solutions - Theory-driven, Query-driven, Data-driven and Outcomes-driven.	12
3	**Instructional models.** Bloom's Taxonomy, ADDIE Model, Iterative Design, SAM Model, Learning Cycle Framework.	16

4	**Preparation of effective Instructional techniques** Micro learning, Story based learning, Scenario-based learning, Gamified Learning, Guided learning, Performance Support, Instructional Video, Case Studies etc The future of Instructional Design, AI and instructional design.	**16**

Course Assessment Method
(CIA: 100 marks)

Continuous Internal Assessment Marks (CIA):

Attendance	Assignments	Total
10	**90**	**100**

Course Outcomes (COs)

At the end of the course students should be able to:

Course Outcome		Bloom's Knowledge Level (KL)
CO1	Understand the importance of effective instructional designs.	K3
CO2	Analyse different instructional models and its applications.	K4
CO3	Create instructional learning contents using various techniques.	K6

Note*: K1- Remember, K2- Understand, K3- Apply, K4- Analyse, K5- Evaluate, K6- Create*

Reference Books				
Sl. No	**Title of the Book**	**Name of the Author/s**	**Name of the Publisher**	**Edition and Year**
1	The Systematic Design of Instruction	Dick, W., Carry, L. & Carey, J. O.	Allyn and Bacon.MA, Boston	6th Edition, 2005
2	Instructional Design	Smith P.L. & Ragan T.,J.	Wiley	1999
3	Mastering the Instructional Design Process : A Systematic Approach	Rothwell,W.J.& Kazanas, H. C	Pfeiffer	2nd Ed, 2008
4	. Instructional media and technologies for learning	Heinich, R., Molenda, M., Russell, J. D., & Smaldino, S. E.	Prentice-Hall.	1999

SEMESTER 4

Game Design - 1

Course Code	BDPEL433	CIA Marks	100
Teaching Hours/Week (L: T:S: P)	0: 1: 0: 3	ESE Marks	NA
Credits	2	Exam Hours	NA
Prerequisites (if any)	BDPCS301	Course Type	Tutorial & Practical

Course Objectives:

1. To introduce the students to the elements of play. To inform them of the fundamentals of game design.

2. To train students with different game mechanics in BOARD GAMES and help them explore the best materials for making the same.

SYLLABUS

Module No.	Syllabus Description	Contact Hours
1	**Key Concepts:** 1. Theories of play (Huizinga, Caillois, Sutton-Smith). 2. Types of play: structured vs. unstructured, competitive, cooperative. 3. Defining a game: rules, objectives, feedback, and conflict. **Activities:** 1. Group discussions on the importance of play in society and its role in learning. 2. Analyzing popular games to break down core game mechanics. **Assignments:** 1. Write a reflection on a personal play experience. 2. Analyze a simple game (e.g., Tic-Tac-Toe) to identify its core mechanics.	12
2	**Key Concepts:** 1. Core mechanics of board games: resource management, point systems, turn-taking, randomness, etc. 2. Balancing complexity and fun 3. Game flow and player engagement **Activities:** 1. Play various board games and dissect their mechanics in small groups. 2. Group discussions on the role of strategy vs. chance in board game	12

	design. **Assignments:** 1. Choose an existing board game and redesign one of its mechanics to create a new variant. 2. Present a written critique of a chosen board game's mechanics..	
3	**Key Concepts:** 1. Exploring materials: cards, dice, tokens, boards, digital vs. physical elements. 2. Impact of material choice on player experience and game dynamics. 3. Prototyping techniques for board games. **Activities:** 1. Experiment with different materials for game components. Create rapid prototypes of board games using paper, wood, 3D-printed elements, or found objects. **Assignments:** 1. Prototype a simple game using at least two different materials (e.g., cards and dice). 2. Reflect on how the choice of materials impacts gameplay and interaction.	**12**
4	**Key Concepts:** 1. Full board game design process: ideation, prototyping, playtesting, iteration. 2. Balancing aesthetics, functionality, and mechanics. 3. Finalizing game rules and preparing for presentation. **Activities:** 1. Work in teams to develop a unique board game. 2. Conduct multiple playtesting sessions, iterate based on feedback. 3. Explore packaging and presentation of the board game. **Assignments:** 1. Submit a finalized board game with a comprehensive rulebook. 2. Present the board game to the class, discussing design decisions and iterations. 3. Reflect on the design journey in a final report..	**20**

Course Assessment Method
(CIA: 100 marks)

Continuous Internal Assessment Marks (CIA):

Attendance	Assignments	Total
10	**90**	**100**

Course Outcomes (COs)

At the end of the course students should be able to:

Course Outcome		Bloom's Knowledge Level (KL)
CO1	Understand to play and games	K2
CO2	Analyse different board game mechanics	K4
CO3	Analyse different materials for board games.	K4
CO4	Apply the learning and create a board game	K6

Note*: K1- Remember, K2- Understand, K3- Apply, K4- Analyse, K5- Evaluate, K6- Create*

Reference Books				
Sl. No	**Title of the Book**	**Name of the Author/s**	**Name of the Publisher**	**Edition and Year**
1	Homo Ludens: A Study of the Play- Element in Culture	J. Huizinga	Beacon Press	1955
2	Man, Play and Games	R. Caillois	University of Illinois Press	2001
3	Game Design Workshop: A Playcentric Approach to Creating Innovative Games (4th ed.)	T. Fullerton	CRC Press	2018
4	Rules of Play: Game Design Fundamentals	K. Salen & E. Zimmerman	MIT Press	2004

SEMESTER 4

User Experience Design

Course Code	BDPEL434	CIA Marks	100
Teaching Hours/Week (L: T:S: P)	0: 1: 0: 3	ESE Marks	NA
Credits	2	Exam Hours	NA
Prerequisites (if any)	BDPCS301	Course Type	Tutorial & Practical

Course Objectives:

1. To introduce students to the field of User Experience Design
2. To understand and apply the design thinking process to create UX design satisfying the user
3. To acquire basic expertise in the tools used in UX design

SYLLABUS

Module No.	Syllabus Description	Contact Hours
1	**Introduction to UI/UX**, definition and difference. Design thinking, design thinking process **Empathise**- User Research: Secondary Research Field Studies(cafe/guerilla studies/intercepts), User Interviews, Observation studies, Stakeholder interviews, Habitat Studies, Dairy Studies, Competitive audit and benchmarking. Identifying biases in User Research. **Define:** Affinity Mapping, Empathy Maps, Persona, User Journey Maps, User Stories, Create Problem Statements(who,what,when,where,why,how), and Hypothesis Statement. Formulating Prioritised Requirements	16

2	**Ideate:** Information Architecture, card sorting, Navigation and user flows, "How might we", Crazy8s, Wireframing, Lo-fidelity prototypes and Testing	**12-**
3	**Prototype:** Create Hi-fidelity prototypes that are usable, accessible and inclusive, using tools(Figma/Adobe XD, Marvel)	**12**
4	**Testing and Iteration:** Usability Evaluation- Testing (Quantitative and Qualitative) and feedback, Test for accessibility and inclusivity, Ethics, Dark Patterns. Usability metrics, Future Research Direction **Portfolio:** Students to collate their works during the semester and publish portfolios on online platforms (Behance/Dribble etc)	**16**

Course Assessment Method
(CIA: 100 marks)

Continuous Internal Assessment Marks (CIA):

Attendance	Assignments	Total
10	**90**	**100**

Course Outcomes (COs)

At the end of the course students should be able to:

Course Outcome		Bloom's Knowledge Level (KL)
CO1	Understand and Define the Problem at hand	K2
CO2	Apply User Research at all stages of the design thinking process	K3
CO3	Evaluate User Interfaces on their usability	K5
CO4	Apply the user research to Create Digital User Interfaces based on User Centric Design	K6

Note*: K1- Remember, K2- Understand, K3- Apply, K4- Analyse, K5- Evaluate, K6- Create*

Reference Books				
Sl. No	**Title of the Book**	**Name of the Author/s**	**Name of the Publisher**	**Edition and Year**
1	The Design of Everyday Things	Don Norman	Basic Books	2nd edition 2013
2	Inclusive Design for a Digital World: Designing with Accessibility in Mind	Regine Gilbert	Springer India	2022
3	The Elements of User Experience: User-Centered Design for the Web	Jesse James Garrett	New Riders	2022
4	Don't Make Me Think, Revisited : A Common Sense Approach to Web & Mobile Usability	Steve Krug	Pearson Education	3rd edition, 2015
5	EMOTIONAL DESIGN	Don Norman	Basic Books	2005
6	Observing the User Experience: A Practitioner's Guide to User Research	Elizabeth Goodman, Mike Kuniavsky, Andrea Moed	Morgan Kaufmann Pub	2nd edition, 2012
7	Measuring the User Experience: Collecting, Analyzing, and Presenting Ux Metrics	William Albert, Thomas S. Tullis	Morgan Kaufmann Pub	3rd edition, 2022

SEMESTER 4

Furniture Design

Course Code	BDPEL435	CIA Marks	100
Teaching Hours/Week (L : T : S : P)	0 : 1 : 0 : 3	ESE Marks	NA
Credits	2	Exam Hours	NA
Prerequisites (if any)	BDPCS301	Course Type	Tutorial & Practical

Course Objectives:

1. To understand the evolution of furniture design through historical perspectives.
2. To explore materials, techniques, and ergonomic principles in furniture design.
3. To apply concepts of Colour, Material, and Finish (CMF) to enhance furniture aesthetics and functionality.
4. To analyse case studies and develop hands-on skills in designing small furniture projects.
5. To explore contemporary trends and sustainable practices in furniture design.

SYLLABUS

Module No.	Syllabus Description	Contact Hours
1	Brief introduction to the history of furniture: From ancient civilisations to contemporary design; Study of major styles and movements: Ancient (Egyptian, Greek, Roman), Renaissance and Baroque, Modernism (Bauhaus, Scandinavian design), Postmodernism and Minimalism; Influence of culture, art, and technology on furniture evolution	12
2	Traditional and modern materials: Wood, metal, plastic, composites, and sustainable alternatives; Furniture-making techniques: Joinery, laminating, bending, upholstery; Importance of CMF in Furniture Design	16
3	Anthropometry and ergonomic principles in furniture design; Designing for comfort, usability, and multifunctionality; Modular and	16

	space-saving furniture concepts; Design for diverse user needs: Accessibility and inclusivity	
4	Innovations in furniture design: Smart furniture and digital fabrication (e.g., 3D printing), Sustainable practices in furniture design; Case studies on iconic modern designers and brands (e.g., IKEA, Herman Miller, Knoll, Vitra)	**12**

Course Assessment Method
(CIA: 100 marks)

Continuous Internal Assessment Marks (CIA):

Attendance	Assignments	Total
10	**90**	**100**

Course Outcomes (COs)

At the end of the course students should be able to:

Course Outcome		Bloom's Knowledge Level (KL)
CO1	Understand the evolution of furniture design through historical and cultural contexts, recognising major styles and movements.	K2
CO2	Apply ergonomic principles, materials, techniques, and CMF (Colour, Material, Finish) concepts to the design of functional furniture.	K3
CO3	Analyse and evaluate iconic furniture designs and contemporary trends to develop a critical understanding of their impact on modern furniture.	K4
CO4	Create innovative and sustainable furniture designs that reflect functionality, ergonomics, and aesthetic principles, using appropriate materials and techniques.	K6

Note*: K1- Remember, K2- Understand, K3- Apply, K4- Analyse, K5- Evaluate, K6- Create*

Reference Books				
Sl. No	**Title of the Book**	**Name of the Author/s**	**Name of the Publisher**	**Edition and Year**
1	Furniture: World Styles from Classical to Contemporary	Judith Miller	DK Publishing	II (2010)
2	Chairs: 1,000 Masterpieces of Modern Design, 1800 to the Present Day	Charlotte & Peter Fiell	Welbeck Publishing	II (2023)
4	Furniture Design: An Introduction to Development, Materials and Manufacturing	Stuart Lawson	Quercus Publishing	II (2024)
5	Furniture Design: From Concept to Production	Jim Postell	Wiley	II (2012)
6	Pioneers of Modern Design: From William Morris to Walter Gropius	Nikolaus Pevsner	Yale University Press	IV (2005)
7	An Illustrated Guide to Furniture History	Joclyn M. Oats	Taylor & Francis	I (2022)

SEMESTER 4

Lighting Design

Course Code	BDPEL436	CIA Marks	100
Teaching Hours/Week (L: T:S: P)	0: 1: 0: 3	ESE Marks	NA
Credits	2	Exam Hours	NA
Prerequisites (if any)	BDPCS301	Course Type	Tutorial & Practical

Course Objectives:

1. To build understanding of light properties, photometry, and how humans perceive light.
2. To learn to select and specify appropriate light sources, luminaires, and control systems.
3. To formulate effective lighting strategies (interior/exterior) that balance aesthetics, functionality, and sustainability.
4. To address energy codes, environmental considerations, and best practices for sustainable lighting design.

SYLLABUS

Module No.	Syllabus Description	Contact Hours
1	**Fundamentals of Light & Perception** ● Introduction to Lighting Design: History, significance, basic terminology [lumens, lux, Correlated Colour Temperature(CCT), Colour Rendering Index (CRI)] ● Physics of Light: Reflection, Refraction, Absorption ● Photometry & Human Vision: Luminous flux, Intensity, Illuminance, Photoreceptors (rods and cones) of human eye and their function, colour perception.	12
2	**Light Sources, Luminaires & Controls** ● Light Sources & Technologies: Incandescent, fluorescent, LED, HID, OLED, colour temperature, CRI ● Luminaires & Fixture Types: Recessed, track, pendant, cove, sconces etc.	12

	• Lighting Controls: Dimmers, occupancy sensors, smart/IoT systems, AI in Lighting controls • Glare Control & Beam Angles: Managing visual comfort • Special purpose luminaires.	
3	**Interior & Exterior Lighting Design Strategies** • Layered Interior Lighting: Ambient, Task, Accent and Decorative lighting. • Exterior & Landscape Lighting: Façade illumination, Path lighting, Security Lighting, DarkSky compliance • Sustainable Lighting & Energy Codes/Standards, Retrofitting for efficiency. • Lifecycle & Maintenance: Balancing upfront costs with long term operation	**16**
4	**Advanced Techniques & Project** • Digital Tools & Simulations: DIAlux, AGi32, Revit (Lighting Analysis), SketchUp, VR based visualization- performance simulation and visualisation. • Specialty Lighting Topics: Humancentric/circadian lighting, Inclusive Lighting • Museum/Retail Lighting, Theatrical Lighting etc. • Professional Documentation: Lighting layouts and specifications, cost estimates, presentations.	**16**

Course Assessment Method

(CIA: 100 marks)

Continuous Internal Assessment Marks (CIA):

Attendance	Assignments	Total
10	**90**	**100**

Course Outcomes (COs)

At the end of the course students should be able to:

Course Outcome		Bloom's Knowledge Level (KL)
CO1	Identify & Explain the physical properties of light and how they affect design decisions.	K2
CO2	Analyze & Select appropriate lamp types, fixtures, and control systems for various settings.	K2
CO3	Create & Evaluate layered lighting schemes that enhance user experience and respect energy/sustainability constraints.	K3
CO4	Interpret & Implement relevant codes/standards and guidelines in design proposals.	K3

Note*: K1- Remember, K2- Understand, K3- Apply, K4- Analyse, K5- Evaluate, K6- Create*

Reference Books				
Sl. No	**Title of the Book**	**Name of the Author/s**	**Name of the Publisher**	**Edition and Year**
1	Fundamentals of Lighting	Susan M. Winchip	Fairchild Books/Bloomsbury	2nd Edition, 2017
2	Interior Lighting for Designers	Gary Gordon	John Wiley & Sons	5th Edition, 2015
3	Lighting Design Basics	Mark Karlen, James R. Benya, and Christina Spangler	Wiley	3rd Edition, 2017
4	Light: The Shape of Space: Designing with Space and Light	Lou Michel	John Wiley & Sons	1995

SEMESTER 4

Ceramics and Clay

Course Code	BDPEL437	CIA Marks	100
Teaching Hours/Week (L: T:S: P)	0: 1: 0: 3	ESE Marks	NA
Credits	2	Exam Hours	NA
Prerequisites (if any)	BDPCS301	Course Type	Tutorial & Practical

Course Objectives:

1. To introduce the fundamental properties of clay and ceramics, along with essential techniques like hand-building, sculpting, glazing, and firing.
2. To explore the historical, cultural, and practical significance of ceramics in art and daily life.
3. To foster creativity and artistic expression by designing and crafting unique ceramic pieces.

SYLLABUS

Module No.	Syllabus Description	Contact Hours
1	**Introduction to Clay and Basic Techniques** Basics of clay preparation, including wedging and kneading. Introduction to wheel-throwing techniques such as centering the clay and creating basic forms like cylinders. Creating functional pieces, like mugs, with trimming and handle attachment.	12
2	**Advanced Wheel Throwing and Replication** Advanced throwing techniques, including creating taller forms and adding lids. Process of making identical pieces, teaching the skills needed for precision and consistency in ceramic production.	12
3	**Surface Decoration Techniques** Various methods for decorating ceramics. Techniques such as burnishing, fluting, carving, sgraffito, and Mishima are introduced to add texture, pattern, and contrast to ceramic pieces.	16
4	**Firing and Glazing** Different firing processes and their effects on ceramics are explored. Various glazing techniques, such as dipping, brushing, and spraying, along with firing schedules to complete the ceramic pieces.	16

Course Assessment Method
(CIA: 100 marks)

Continuous Internal Assessment Marks (CIA):

Attendance	Assignments	Total
10	**90**	**100**

Course Outcomes (COs)

At the end of the course students should be able to:

Course Outcome		Bloom's Knowledge Level (KL)
CO1	Demonstrate practical skills in clay modeling, including hand-building, wheel-throwing, sculpting, and glazing.	K2
CO2	Understand the properties of clay and ceramics and apply appropriate techniques for shaping, firing, and finishing.	K2
CO3	Safely operate tools and equipment, including kilns, while appreciating the historical and cultural significance of ceramics.	K3
CO4	Create ceramic artworks that showcase creativity, technical proficiency, and artistic expression.	K6

Note*: K1- Remember, K2- Understand, K3- Apply, K4- Analyse, K5- Evaluate, K6- Create*

Reference Books				
Sl. No	**Title of the Book**	**Name of the Author/s**	**Name of the Publisher**	**Edition and Year**
1	Handmade in India: A Geographic Encyclopedia of Indian Handicrafts	Aditi Ranjan and M.P. Ranjan	Council of Handicraft Development Corporations (Craft Council of India) in collaboration with Abbeville Press	2007

2	Studio Pottery: A Critical Analysis of Contemporary Ceramic Art in India	Rahul Kumar	Delhi Art Gallery Publications	2016
3	The Complete Guide to Mid-Range Glazes	John Britt	Lark Crafts	2007
4	Clay Modelling for Beginners	Hirsch, J	CreateSpace Independent Publishing Platform	2015
5	Ceramics: Mastering the Craft	Richard Zakin	The Crowood Press	2000