

**FFCBCS Structure & Syllabus of B.Des – UX  
Applicable for Batch: 2021-2025**

**DIT UNIVERSITY  
Dehradun**



**Detailed Course Structure & Syllabus  
of  
B.Des – UX**

# FFCBCS Structure & Syllabus of B.Des – UX

## Applicable for Batch: 2021-2025

### Structure of B.Des (UX/UI) FFCBCS Program

Basket/ Area	Minimum Credits to be taken	Credit per course	Courses
<b>Language &amp; Literature (LL)</b> Core: Professional Communication Elective: Choose any 2 LL course	6	3	2
<b>Discipline Core (DC)</b>	110	-	45
<b>Discipline Elective (DE)</b> Core: None Elective: Choose any 6 DE courses	18	3	6
<b>Skill Enhancement Courses (SEC)</b> Core: None Elective: Choose any 3 SEC courses	6	2	3
<b>Ability Enhancement Courses (AEC)</b> Core: Entrepreneurship & start-ups Elective: Environmental Science, Indian Constitution, Aptitude & Soft Skills	6	2	3
<b>Humanities &amp; Liberal Arts (HL)</b> Core: None Elective: Choose any 2 HL Courses	6	3	2
<b>Free Electives (FE)</b> Core: None Elective: Choose any 2 FE Courses	6	3	2
<b>Total Credits</b>	<b>158</b>		

### DIT University B.Des (UX/UI) FFCBCS Program Structure

Basket/ Area	Credits	Weightage (%)
Language & Literature (LL)	6	3.8
Discipline Core (DC)	110	69.5
Discipline Elective (DE)	18	11.5
Skill Enhancement Courses (SEC)	6	3.8
Ability Enhancement Courses (AEC)	6	3.8
Humanities & Liberal Arts (HL)	6	3.8
Free Electives (FE)	6	3.8
<b>Total</b>	<b>158</b>	<b>100</b>

# FFCBCS Structure & Syllabus of B.Des – UX

## Applicable for Batch: 2021-2025

### Course Baskets (other than DC/DE) for B.Des (UX/UI) Program

Course Code	FFCBCS Baskets (Other than DC/DE)					
	Language & Literature (Min 6 credits to be taken)	Contact Hours				Credits
		Name of Courses	L	T	P	
LAF181	Professional Communication	2	0	2	-	3
LAF182	Indian English Literature	3	0	0	-	3
LAF183	English Language Teaching	3	0	0	-	3

Course Code	Skill Enhancement (Minimum 6 Credits to be taken)					
	Name of Courses	Contact Hours				Credits
		L	T	P	S	
CSFXXX	Technical Training 1	0	0	4	-	2
CSFXXX	Technical Training 2	0	0	4	-	2
CSFXXX	Value Added Training 1	0	0	4	-	2
CSFXXX	Value Added Training 2	0	0	4	-	2
DC	MOOCS Courses (as advised by the departments)	2	0	0	-	2

Course Code	Ability Enhancement (Minimum 6 Credits to be taken)					
	Name of Courses	Contact Hours				Credits
		L	T	P	S	
CHF201	Environmental Science	2	0	0	-	2
LAF285	Indian Constitution	2	0	0	-	2
MEF483	Entrepreneurship & Start-ups*	0	0	4	-	2
UCF201	Aptitude & Soft Skills	2	0	0	-	2
*Core course for B.Des(UX)						

Course Code	Humanities & Liberal Arts (Minimum 6 Credits to be taken)					
	Name of Courses	Contact Hours				Credits
		L	T	P	S	
LAF281	Introduction to Psychology	3	0	0	-	3
LAF381	Positive Psychology & Living	3	0	0	-	3
LAF481	Application of Psychology	3	0	0	-	3
LAF282	Human Values	3	0	0	-	3
LAF283	Literature, Language & Society	3	0	0	-	3
LAF284	Principles of Management	3	0	0	-	3
LAF482	Intellectual Property Rights	3	0	0	-	3
LAF382	Engineering Economics	3	0	0	-	3

# FFCBCS Structure & Syllabus of B.Des – UX

## Applicable for Batch: 2021-2025

Course Code	Free Electives (Minimum 6 Credits to be taken)					
	Name of Courses	Contact Hours				Credits
		L	T	P	S	
ECF481	Analogue Electronics (ECE)	2	0	2	-	3
ECF482	Cellular Communication Networks (ECE)	2	0	2	-	3
ECF381	Microcontroller (ECE)	2	0	2	-	3
ECF382	Bio Medical Instrumentation (ECE)	2	0	2	-	3
ECF483	Digital Image Processing (ECE)	2	0	2	-	3
CSF381	Software Project Management	3	0	0	-	3
CSF345	Introduction to Data Science	3	0	0	-	3
CSF482	Introduction to Cyber Security	3	0	0	-	3
MEF381	Composite Materials	3	0	0	-	3
MEF481	Total Quality Management	3	0	0	-	3
MEF482	Renewable Energy Sources	3	0	0	-	3
PEF381	Carbon Capture & Sequestration	3	0	0	-	3
PEF491	Polymer Technology	3	0	0	-	3
PEF492	Health, Safety & Environment in Industry	3	0	0	-	3
CEF281	Properties of Materials	3	0	0	-	3
CEF382	Disaster Preparedness, Planning & Management	3	0	0	-	3
CEF481	Environmental Management & Sustainability	3	0	0	-	3
CEF482	Natural Dynamics	3	0	0	-	3
CEF483	GIS	3	0	0	-	3
CEF484	Resource Dynamics & Economic Implications	3	0	0	-	3

# FFCBCS Structure & Syllabus of B.Des – UX

## Applicable for Batch: 2021-2025

### Course Baskets: B.Des (UX/UI) FFCBCS DC & DE Baskets

Discipline Core (110 Credits)							
	Name of Courses	Pre- requisite Courses	L	T	P	S	C
IXF101	Sketching & Drawing	None	0	0	2	0	1
IXF102	Introduction to Visual Design	None	0	0	2	1	2
IXF103	Fundamentals of Design	None	0	0	4	0	2
IXF104	History of Art & Evolution of Design	None	2	0	0	0	2
IXF105	Empathy and Understanding Problems	None	0	0	2	1	2
IXF106	Introduction to UX Design	None	0	0	6	0	3
IXF107	Design Communication & Visualizing Ideas	None	0	0	6	0	3
IXF108	Sketching & Drawing Advance	S & D	0	0	2	0	1
IXF109	Visual Design Tools	IVD	0	0	4	0	2
IXF111	Basics of UI Development	None	0	0	4	0	2
IXF112	Technology in Experience Design	None	0	0	2	1	2
IXF113	UX Design Advance	IUXD	0	0	6	0	3
IXF114	Integrated Studio for UX	None	0	0	6	0	3
IXF201	Service Design & Task Flows	None	0	0	2	1	2
IXF202	Introduction to UI Design	None	0	0	2	1	2
IXF203	Information & Data Study	None	0	0	2	1	2
IXF204	Introduction to User Research	Empathy	0	0	2	1	2
IXF205	Design Thinking	None	0	0	2	1	2
IXF206	Ethnography & People Design	None	0	0	6	0	3
IXF207	Information Architecture	None	0	0	6	0	3
IXF208	User Research Application	IUR	0	0	2	1	2
IXF209	Introduction to Interaction Design	None	0	0	2	1	2
IXF211	Data Analytics	None	0	0	2	1	2
IXF212	UI Design Advance	IVD	0	0	2	1	2
IXF213	Service Design & Task Flows Advance	SDTF	0	0	2	1	2
IXF214	Design Thinking Application	DT	0	0	4	1	3
IXF215	Introduction to 6D	None	0	0	6	0	3
IXF301	Wireframing and Prototyping	None	0	0	2	1	2
IXF302	Visual Design Tools Advance	VDT	0	0	4	0	2
IXF303	Usability Testing	None	0	0	2	1	2
IXF304	Technology in Experience Design Advance	TED	0	0	2	1	2
IXF305	UX and Digitalization	None	0	0	6	0	3
IXF306	Innovation Management	None	0	0	4	1	3
IXF307	Omnichannel Experience Design	None	0	0	2	2	3
IXF308	UX Design for Futuristic Technologies	None	0	0	2	1	2
IXF309	Interaction Design Advance	IID	0	0	6	0	3
IXF311	UX Design for Rural India	None	0	0	4	0	2
IXF312	Industry Specific UX Design	None	0	0	4	0	2
IXF313	Integrated Studio for UX Advance	Studio UX	0	0	6	0	3
IXF401	Business, UX & Design Management	None	0	0	2	0	1
IXF402	Product Design & Life Cycle Management	None	0	0	2	0	1
IXF403	Gamification and UX	None	0	0	4	0	2
IXF404	HMI	None	0	0	4	0	2
IXF405	Live Project (Studio)	None	0	0	6	0	3
IXF406	Live Project (Client's Location)	Live Project (Studio)	-	-	-	-	12

## **FFCBCS Structure & Syllabus of B.Des – UX**

### **Applicable for Batch: 2021-2025**

<b>Discipline Electives (Minimum 18 Credits to be taken)</b>							
	<b>Name of Courses</b>	<b>Pre- requisite Courses</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>S</b>	<b>C</b>
IXF341	Culture and Design	None	0	0	2	2	3
IXF342	Sustainable Design	None	0	0	2	2	3
IXF343	Applied Ergonomics	None	0	0	2	2	3
IXF344	UX Design for Web	None	0	0	6	0	3
IXF345	UX Design for Mobile	None	0	0	6	0	3
IXF346	UX Design for Physical Product	None	0	0	6	0	3
IXF441	Designing for IOT	None	0	0	6	0	3
IXF442	Designing for Wearable	None	0	0	6	0	3
IXF443	Designing for Smart TV	None	0	0	6	0	3

# FFCBCS Structure & Syllabus of B.Des – UX

## Applicable for Batch: 2021-2025

### Detailed Syllabus

Program/Branch: B.Des – UX & UI

<b>Subject Code</b>	IXF 101	<b>Subject Title</b>	<b>SKETCHING &amp; DRAWING</b>						
<b>LTPS</b>	0,0,2,0	<b>Credit</b>	1	<b>Subject Category</b>	DC	<b>Year</b>	1 <sup>st</sup>	<b>Semester</b>	I

#### **Course Objective:**

The course should enable the student to sketch and represent ideas and objects visually from still life or by memory.

#### **Unit 1: Basics of Sketching and Drawing**

History of sketching & drawing, Sketching & its types, Drawing & its types, Difference between sketching and drawing, Common drawing media, Basics of drawing - Line, points, squares, circles, triangles, 2d sketching & drawing

#### **Unit 2: Shapes and forms**

Creating layout, shape, line & shadows, shine, Overlap, Texture detail, 3D sketching & drawing. Perspective using forms, cuboid, prisms, cones, sphere.

#### **Unit 3: Still and real-life sketching**

Application learning with still life, real life sketching

#### **Unit 4: Drawing Techniques**

Blind contour drawing, Negative space drawing, One-point perspective, Two-point perspective, Three-point perspective linear perspective, planar analysis and line variations, contours, freehand perspective, line into value., Gesture Drawing, Drawing from a photo, Double image drawing.

#### **Unit 5: Drawing human figure**

Human Anatomy- Proportion drawing using shapes and drawing human figure composition. John Muir Laws

#### **LEARNING OUTCOME:**

To become familiar with the basic methods, techniques & tools of sketching and drawing

- To take part in a community of artists
- To enjoy the challenging and nuanced process of sketching and drawing
- Developing a working concept of what it means to draw.
- Reinforcing the principles of traditional drawing skills.
- Developing new ways of thinking, seeing, and creating.
- Building confidence through exercises that help explore different types of mark making

#### **Text Books:**

1. Rendering with Pen & Ink – Robert W. Gill

#### **Reference Books:**

1. Keys to drawing - Bert Dodson
2. 2. Sketching the basics - Koos Eissen and Roselien Steur
3. Artist's Drawing Techniques - Dorling Kindersley

# FFCBCS Structure & Syllabus of B.Des – UX

## Applicable for Batch: 2021-2025

<b>Subject Code</b>	IXF102	<b>Subject Title</b>	<b>INTRODUCTION TO VISUAL DESIGN</b>						
<b>LTPS</b>	0,0,2,1	<b>Credit</b>	2	<b>Subject Category</b>	DC	<b>Year</b>	1 <sup>st</sup>	<b>Semester</b>	I

### Course Objective:

The course should enable the student to understand visual design and composition.

### Unit 1: Basic elements of visual design

Introduction to basic elements of visual design – detailed study of color, color wheel, visual hierarchy, legibility and readability, grid, layout

### Unit 2: Typography

What is typography, Typefaces history and study, Types of fonts - serif and non-serif, Font anatomy, Importance of Typography in modern age UI design, Usage of type for print vs digital, Latest Trends in Typography

### Unit 3: Iconography

What is iconography, visualization of icons, industry standards and specifications for iconography, designing for various form factors, trends in iconography, User perception about iconography

### Unit 4: Introduction to Visual Tools

Introduction to visual design tools including lab session on elements of visual design and tools

### Unit 5: Project work

Project work in tools & elements of visual design

### LEARNING OUTCOME:

To understand the elements of visual design

- To master the creation of page layouts
- To Obtain and working knowledge of visual design tools
- To comprehend the application of elements and tools of visual design

### Text Books:

### Reference Books:

1. Graphic Design The New Basics - Ellen Lupton and Jennifer Cole Phillips
2. The Visual Miscellaneum - David McCandless



# FFCBCS Structure & Syllabus of B.Des – UX

## Applicable for Batch: 2021-2025

<b>Subject Code</b>	IXF 103	<b>Subject Title</b>	<b>FUNDAMENTALS OF DESIGN</b>						
<b>LTPS</b>	0,0,4,0	<b>Credit</b>	2	<b>Subject Category</b>	DC	<b>Year</b>	1 <sup>st</sup>	<b>Semester</b>	I

### Course Objective:

The course should enable the student to to understand and apply principals of design

#### Unit 1: Elements of Design

Introduction to design, Colour and its attributes, line, shape including categories texture, space, form.

#### Unit 2: Design Action Model and Principles of Design

7 Stage model of action cycle for design tools, Unity, harmony and methods, balance and its types, hierarchy, Scale/proportion, dominance/emphasis, rhythm, similarity and contrast

#### Unit 3: Laws of Design

Gestalt’s principle – 1, Hick’s law, The Pareto principle - 80/20 rule, The rule of thirds, Proximity, Feedback, Fitts’ law, The golden ratio, Occam’s razor, Fibonacci sequence, Mental models, emotional design, Composition of Design

#### Unit 4: Designing for people

Understanding people’s psychology and Behaviour, Famous Case studies on people centric design, Things to remember when designing for people

#### Unit 5: Project Work

Project work on fundamentals of design

### LEARNING OUTCOME:

Be able to understand elements and principles of design

- Able to grasp stage model of action cycle
- Be able to understand design laws and their importance in design field
- To comprehend various rules of composition of design
- To gain hands-on experience of fundamentals of design

### Text Books:

### Reference Books:

1. Universal principles of Design - William Lidwell, Kritina Holden, Jill Butler
2. Design of Everyday life – Don Norman
3. Universal methods of design – Brus hanignton
4. Hundred things every designer needs to know about people – Susan Weins Chenk

# FFCBCS Structure & Syllabus of B.Des – UX

## Applicable for Batch: 2021-2025

Subject Code	IXF 104	Subject Title	HISTORY OF ART & EVOLUTION OF DESIGN						
LTPS	2,0,0,0	Credit	2	Subject Category	DC	Year	1 <sup>st</sup>	Semester	I

### Course Objective:

The course should enable the student to understand art forms in history

#### Unit 1: Art Forms in history

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

#### Unit 2: Historical interpretation of art

Art appreciation and historical interpretation of art in its cultural contexts.

#### Unit 3: Evolution of design in everyday things

Understanding the evolution in design through forms and everyday things.

#### Unit 4: Paradigm Shift in Design from 19<sup>th</sup> century to modern time

Journey of design across in the 19<sup>th</sup> century to modern times.

#### Unit 5: Project

Project submission on history of Art & design

### LEARNING OUTCOME:

- Get to know art forms in history
- To understand art in cultural context
- Able to comprehend evolution in Design and UX
- To envisage the paradigm, shift in design as per the various technology changes

### Text Books:

#### Reference Books:

1. The story of the Art - Ernst Gombrich
2. Gardner's Art Through the Ages - Helen Gardner
3. Design by Evolution: Advances in Evolutionary Design - Luigi C. Barone

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## Applicable for Batch: 2021-2025

<b>Subject Code</b>	IXF 105	<b>Subject Title</b>	<b>EMPATHY AND UNDERSTANDING PROBLEMS</b>						
<b>LTPS</b>	0,0,2,1	<b>Credit</b>	2	<b>Subject Category</b>	DC	<b>Year</b>	1 <sup>st</sup>	<b>Semester</b>	I

### Course Objective:

To understand and apply the concept of empathy and empathizing with users effectively

#### Unit 1: Introduction to Empathy

What is Empathy, learn how to understand users & their problems, techniques to empathize with users and identify key user problems.

#### Unit 2: Analysing facts from Empathy to Dig Deeper

Learn how to gain insights from empathy and define problems statements

#### Unit 3: Empathy Tools and Techniques

Empathy tools – techniques for getting empathy insights through interviews

#### Unit 4: Application of Empathy in design

Empathy maps, emotional mapping, observation, field study with actual users

#### Unit 5: Project

Project submissions empathy mapping

### LEARNING OUTCOME:

- To understand the concept of empathy and empathizing with users effectively
  - Discern the facts after dully analyzing the information received from the user
  - To learn how to define the problem on the basis of facts
  - To grasp various empathy techniques and tools
- To practice various tools to comprehend root cause of the problem leading to correct definition

### Text Books:

### Reference Books:

1. Empathy: Why it matters, how to get it - Roman Kizanie
2. The Art of Empathy: A complete Guide to life's most essential skill - Karla McLaren

# FFCBCS Structure & Syllabus of B.Des – UX

## Applicable for Batch: 2021-2025

<b>Subject Code</b>	IXF 106	<b>Subject Title</b>	<b>INTRODUCTION TO UX DESIGN</b>						
<b>LTPS</b>	0,0,6,0	<b>Credit</b>	3	<b>Subject Category</b>	DC	<b>Year</b>	1 <sup>st</sup>	<b>Semester</b>	I

### Course Objective:

The course should enable the student to understand how UX evolved and works.

#### Unit 1: Evolution of UX Design

Understand the evolution of UX design as an industry practice and learning about UX industry experts, Design around us, Job roles and responsibilities in the UX industry

#### Unit 2: Processes and Methodologies

Understanding UX design processes and methodologies – user centered design, 5S model

#### Unit 3: Tools and Technology in UX Design

Tools, prototype, Industry standards, Technology, NFC, Chatbot, Siri

#### Unit 4: Multiple Domains and Trends in UX Design

UX industry trends in various sectors

#### Unit 5: Project

Project on UX design process and industry trends

### LEARNING OUTCOME:

- To understand the concept of UX design and how it has evolved
- Able to understand UX design process and methodology
- Able to understand how UX industry works
- To know the job, roles and responsibilities in UX industry
- To understand the importance of UX in digitalization and different types of industries **Text Books:**

### Reference Books:

1. Designing for Digital Age: How to create human-centered products and services  
- Kim Goodwin
2. Sketching the User experiences - Bill Buxton
3. The design of everyday things - Don Norman
4. The elements of user experience - Jesse James Garrett

# FFCBCS Structure & Syllabus of B.Des – UX

## Applicable for Batch: 2021-2025

<b>Subject Code</b>	IXF 107	<b>Subject Title</b>	<b>DESIGN COMMUNICATION &amp; VISUALIZING IDEAS</b>						
<b>LTPS</b>	0,0,6,0	<b>Credit</b>	3	<b>Subject Category</b>	DC	<b>Year</b>	1 <sup>st</sup>	<b>Semester</b>	I

### Course Objective:

#### Unit 1: Visualization techniques

Learning visualization techniques through - visual identity design, metamorphism visualization techniques

#### Unit 2: Ideation Methods

Brainstorming and mind mapping.

#### Unit 3: Information Visualization

Information visualization through infographics and designing brand communication.

#### Unit 4: Communicating Design Ideas

Documenting and communicating design ideas through presentations, role play and group activities.

#### Unit 5: Project

Project in design communication and visualization

### LEARNING OUTCOME:

- Get to know different visualization techniques
- To learn to generate new ideas
- To grasp the methods of presenting complex information visually
- To comprehend and effectively communicate the design ideas
- To apprehend the application of design communication and visualization

### Text Books:

### Reference Books:

1. Cool Infographics: Effective Communication with Data Visualization and Design – Randy Krum
2. Information Visualization: Perception for Design - Colin Ware

# FFCBCS Structure & Syllabus of B.Des – UX

## Applicable for Batch: 2021-2025

<b>Subject Code</b>	IXF 108	<b>Subject Title</b>	<b>SKETCHING &amp; DRAWING ADVANCE</b>						
<b>LTPS</b>	0,0,2,0	<b>Credit</b>	1	<b>Subject Category</b>	DC	<b>Year</b>	1 <sup>st</sup>	<b>Semester</b>	II

### Course Objective:

The course should enable the student to sketch and represent ideas and objects visually from still life or by memory.

### Unit 1: Exploring mediums

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

### Unit 2: Perspectives in Sketching and drawing

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

### Unit 3: Illusions and human anatomy

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

### Unit 4: Real Life sketching

Application learning with still life, real life sketching, still life, Nature, Geometry in professional practice

### Unit 5: Project

Advanced Project on sketching & drawing

### LEARNING OUTCOME:

- Draw from objects out of your head
- Understand the fundamentals of art
- Draw the human face and figure
- Draw realistic light and shadow
- Draw perspective drawings

### Text Books:

### Reference Books:

1. Universal principles of Design - William Lidwell, Kritina Holden, Jill Butler
2. Design of Everyday life – Don Norman
3. Universal methods of design – Brus hanignton
4. Hundred things every designer needs to know about people – Susan Weins Chenk

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## Applicable for Batch: 2021-2025

<b>Subject Code</b>	IXF 109	<b>Subject Title</b>	<b>VISUAL DESIGN TOOLS</b>						
<b>LTPS</b>	0,0,4,0	<b>Credit</b>	2	<b>Subject Category</b>	DC	<b>Year</b>	1 <sup>st</sup>	<b>Semester</b>	II

### Course Objective:

The course should enable the student to sketch and represent ideas and objects visually from still life or by memory virtually

#### Unit 1: Photoshop

Photoshop – Interface & Workspace, modifying workspace, tools and layers, blending options

#### Unit 2: Photoshop Continued

Photoshop – layer effect filters, Image editing and enhancing, mixing, layer masking, External Plug-ins

#### Unit 3: Illustrator

Illustrator - Interface & Workspace, modifying workspace, tools and layers, blending options

#### Unit 4: Illustrator Continued

Illustrator – working with vectors, object libraries, layer effect filters, Image editing and enhancing, mixing, layer masking, drawing, External Plug-ins

#### Unit 5: Project

Lab work on visual design tools, Project on visual design tools

### LEARNING OUTCOME:

Be able to Design vector artwork

- Able to prepare graphics for web and print
- To implement useful keyboard shortcuts
- Learn illustrator the way a professional would use it
- Practice everything you learn during the course

### Text Books:

### Reference Books:

1. The Adobe Photoshop CC Book for Digital Photographers - Scott Kelby
2. Adobe Illustrator CC Classroom in a Book ( 2017 release) - Brian Wood

# FFCBCS Structure & Syllabus of B.Des – UX

## Applicable for Batch: 2021-2025

<b>Subject Code</b>	IXF 111	<b>Subject Title</b>	<b>BASICS OF UI DEVELOPMENT</b>						
<b>LTPS</b>	0,0,4,0	<b>Credit</b>	2	<b>Subject Category</b>	DC	<b>Year</b>	1 <sup>st</sup>	<b>Semester</b>	II

### Course Objective:

The course should enable the student make website UI

#### Unit 1: Basic Development

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

#### Unit 2: HTML Pages

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

#### Unit 3: CSS

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

#### Unit 4: Attributes

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

#### Unit 5: Project

Project and lab in front-end-development

### LEARNING OUTCOME:

To understand the basic structure of the web page

- To learn the basic concepts of HTML and CSS
- To learn CSS' role in creating user interfaces for mobiles and websites
- A deeper understanding of the DOM (document object model) and how CSS interacts with it.

### Text Books:

### Reference Books:

1. Responsive web design with HTML 5 and CSS 3 - Ben Frain
2. CSS mastery: Advance web standards Solutions - Andy Budd
3. HTML and CSS: Design and Build Websites - Jon Duckett



# **FFCBCS Structure & Syllabus of B.Des – UX**

## **Applicable for Batch: 2021-2025**

<b>Subject Code</b>	IXF 112	<b>Subject Title</b>	<b>TECHNOLOGY IN EXPERIENCE DESIGN</b>						
<b>LTPS</b>	0,0,2,1	<b>Credit</b>	2	<b>Subject Category</b>	DC	<b>Year</b>	1 <sup>st</sup>	<b>Semester</b>	II

### **Course Objective:**

The course should enable the student to understand the use of technology in latest UX developments

#### **Unit 1: Technology for digital experience**

Understanding technology for digital experience and product ecosystems – form factors, operating systems, wifi, Bluetooth, sensors and other hardware components.

#### **Unit 2: Technological feasibility and viability**

Understanding technological feasibility and viability. Technology constraints on design.

#### **Unit 3: Futuristic Technologies**

Learning about futuristic technologies and their implementation in design, Wearable medical devices

#### **Unit 4: Futuristic Technologies Continued**

Details of Internet of Things, Augmented reality and virtual reality, ATM, KIOSK

#### **Unit 5: Research Project**

Research project on upcoming technologies and defining product ecosystems and constraints of key technologies

### **LEARNING OUTCOME:**

- Get to know futuristic technologies and their implementation in design
- Able to comprehend technology constraints on design
- To Understand technology for digital experience and product ecosystems
- Research project in design using latest technology

### **Text Books:**

### **Reference Books:**

1. Emotions, technology and design - Sharon Y. Tettegah
2. Augmented Reality: Principles and Practice - Dieter Schmalstieg
3. Augmented Reality: An emerging technologies guide - Gregory Kipper and Joseph Rampolla

# FFCBCS Structure & Syllabus of B.Des – UX

## Applicable for Batch: 2021-2025

<b>Subject Code</b>	IXF 113	<b>Subject Title</b>	<b>UX DESIGN ADVANCE</b>						
<b>LTPS</b>	0,0,6,0	<b>Credit</b>	3	<b>Subject Category</b>	DC	<b>Year</b>	1 <sup>st</sup>	<b>Semester</b>	II

### Course Objective:

The course should enable the student to comprehend and make an UX Project

#### Unit 1: UX methodologies

Deep-dive in UX methodologies

#### Unit 2: Case Studies

Case studies in UX design

#### Unit 3: Heuristic evaluation

Heuristic evaluation

#### Unit 4: Product UX Lifecycle

Understanding product UX lifecycle.

#### Unit 5: Project

Project on UX design

### LEARNING OUTCOME:

- To be able to understand how UX works in different sectors
- Capable of comprehending real scenario in digital industries and understand effectiveness of UX design
- To comprehend evaluation method and benefits in project
- Able to document and present evaluation data effectively

### Text Books:

### Reference Books:

1. 100 things every designer needs to know about people - Susan Weinschenk
2. Don't make me think - Steve Krug
3. The UX Book - Rex Hartson and Pardha Pyla

# FFCBCS Structure & Syllabus of B.Des – UX

## Applicable for Batch: 2021-2025

<b>Subject Code</b>	IXF 114	<b>Subject Title</b>	<b>INTEGRATED STUDIO FOR UX</b>						
<b>LTPS</b>	0,0,6,0	<b>Credit</b>	3	<b>Subject Category</b>	DC	<b>Year</b>	1 <sup>st</sup>	<b>Semester</b>	II

### Course Objective:

The course should enable the student to apply the concepts of UX design to the live problem of organization.

**Unit** - Project on UX design implementation with industry relevant problem statement.

### LEARNING OUTCOME:

- Able to effectively apply the concepts of UX design to the live problem of organization.

### Text Books:

### Reference Books:

# FFCBCS Structure & Syllabus of B.Des – UX

## Applicable for Batch: 2021-2025

<b>Subject Code</b>	IXF 201	<b>Subject Title</b>	<b>SERVICE DESIGN &amp; TASK FLOWS</b>						
<b>LTPS</b>	0 0 2 1	<b>Credit</b>	2	<b>Subject Category</b>	DC	<b>Year</b>	2 <sup>nd</sup>	<b>Semester</b>	III

### Course Objective:

The course should enable the student to understand task flow for operators

#### **Unit 1: Introduction to service design**

Introduction to Service design, History with case studies

#### **Unit 2: Basics of task flows**

What are task flows, basics to create task flows, Implementing into simple problems

#### **Unit 3: Methodology of service design**

Defining the users involved with analytical tools, define the requirements for the service and its logical and organizational structure, Representation of the service by means of techniques that illustrate all the components of the service, including physical elements, interactions, logical links

#### **Unit 4: System Design for Public sector**

Public services include public goods and governmental services such as the military, police, infrastructure (public roads, bridges, tunnels, water supply, sewers, electrical grids, telecommunications, etc.), public transit, public education, along with health care and those working for the government itself, such as elected officials.

#### **Unit 5: Project on System design for public sector**

Project based

### LEARNING OUTCOME:

Understanding tasks, processes and systems

- Be able to find and execute user touch points, ecosystem diagram, value proposition map
- Using CJM to understand user flows
- Understanding task flows, creating task flows and systems engineering
- Learning KPIs for efficiency in service design and systems engineering
- Shortest path Service design in different domains
- Be able to understand the importance of User research
- Understanding the different user research methodologies
- Able to grasp hands-on experience of tools for user research
- Understanding cognitive psychology and user behavior

### Text Books:

### Reference Books:

# FFCBCS Structure & Syllabus of B.Des – UX

## Applicable for Batch: 2021-2025

SUBJE CT CODE	IXF 202	SUBJE CT TITLE	INTRODUCTION TO UI DESIGN						
LTPS	0 0 2 1	Credit	2	Subject Category	DC	Year	2 <sup>nd</sup>	Semester	III

### Course Objective:

The course should enable the student to make UI design through Digital tools

### Unit 1: Basic elements of UI design

Introduction to basic elements of visual design – detailed study of color, color wheel, visual hierarchy, legibility and readability, grid, layout

### Unit 2: Typography

What is typography, Typefaces history and study, Types of fonts - serif and non-serif, Font anatomy, Importance of Typography in modern age UI design, Usage of type for print vs digital, Latest Trends in Typography

### Unit 3: Iconography

What is iconography, visualization of icons, industry standards and specifications for iconography, designing for various form factors, trends in iconography, User perception about iconography

### Unit 4: Introduction to Visual Tools

Introduction to visual design tools including lab session on elements of visual design and tools

### Unit 5: Project work

Project work in tools & elements of visual design

### LEARNING OUTCOME:

- Learning UI design guidelines for different platforms and operating systems
- Understanding the principles and fundamentals of UI Design.
- To be able to learn and get hands on Iconography & typography for interface design.
- To fundamentals of screen design based on design guidelines and Cross platform screen design.
- To master with the practical training in UI design for digital screens

### Text Books:

### Reference Books:

1. Graphic Design The New Basics - Ellen Lupton and Jennifer Cole Phillips
2. The Visual Miscellaneous - David Mc Candles

# FFCBCS Structure & Syllabus of B.Des – UX

## Applicable for Batch: 2021-2025

<b>Subject Code</b>	IXF 203	<b>Subject Title</b>	<b>INFORMATION &amp; DATA STUDY</b>						
<b>LTPS</b>	0 0 2 1	<b>Credit</b>	2	<b>Subject Category</b>	DC	<b>Year</b>	2 <sup>nd</sup>	<b>Semester</b>	III

### Course Objective:

The course should enable the student to identify and analyses information and data study

### Unit 1: Industry driven by data

Pharma- R&D driven by data, retail- shopping driven by data, E-commerce- what to show driven data, Banking- Personal finance management

### Unit 2: Sources of Data

Learn how to gain Google analytics, company internal data

### Unit 3: Defining Data driven UX

Learning how to define the data for the User experience, Case study on data driven UX

### Unit 4: Basics of Data analysis and information

What is information, actionable input from data collection, process of data analysis, parameters that UX designer can use (location, time, direction), data in the new IOT world-connected device data, what is big data and its effect on users/ux design

### Unit 5: Defining parameters for UX

Parameter for UX ROI, Parameters that can be collected and used about user, parameters about customer, how to define parameters

### LEARNING OUTCOME:

- To understand the need of information and data study
- Discern the facts after dully analyzing the information received from the user
- To learn how to define the problem based on facts
- To grasp various ecosystems for data
- To practice various tools to comprehend root cause of the problem leading to correct data study

### Text Books:

### Reference Books:

# FFCBCS Structure & Syllabus of B.Des – UX

## Applicable for Batch: 2021-2025

<b>Subject Code</b>	IXF 204	<b>Subject Title</b>	<b>INTRODUCTION TO USER RESEARCH</b>						
<b>LTPS</b>	0 0 2 1	<b>Credit</b>	2	<b>Subject Category</b>	DC	<b>Year</b>	2 <sup>nd</sup>	<b>Semester</b>	III

### Course Objective:

The course should enable the student to understand user and design accordingly

#### Unit 1: Introduction to User Research

Introduction to User Research and its Importance, Understanding User interactions

#### Unit 2: User Research methodologies

Planning for a User Research User Segment, defining persona for research & recruiting users, preparing a Questionnaire for user research, Focus group discussion - do and don'ts, Online surveys - tools, do and don'ts, Analysis Interview Tips & Techniques

#### Unit 3: Field study: Hands on practice of methodologies

Preparing and Conducting Stakeholder workshop, Preparing questionnaire for Interviews, and Online surveys

#### Unit 4: Tools of Empathy and analysis

Tools of empathy like Persona, Empathy Map and User Journey Map, Documenting Qualitative Research, Documenting Quantitative Research

#### Unit 5: Project Work

Project work on User research

### LEARNING OUTCOME:

- Be able to understand the importance of User research
- Understanding the different user research methodologies
- Able to grasp hands-on experience of tools for user research
- Understanding cognitive psychology and user behavior.
- Performing a user research with users on a chosen problem

### Text Books:

### Reference Books:

# FFCBCS Structure & Syllabus of B.Des – UX

## Applicable for Batch: 2021-2025

Subject Code	IXF 205	Subject Title	DESIGN THINKING						
LTPS	0 0 2 1	Credit	2	Subject Category	DC	Year	2 <sup>nd</sup>	Semester	III

### Course Objective:

The course should enable the student to understand wicked problems and using design to solve them

### Unit 1: Introduction to Design thinking and Wicked problems

Learning the meaning of design thinking and how it has evolved to solve wicked problems

around the world, four pillars of wicked problems

### Unit 2: Design thinking process

Deep dive into the 5D process

### Unit 3: Case studies in Design thinking

Getting to know the real-world applications and success stories of different industries

### Unit 4: Tools and techniques in Design thinking

Learning the tools and getting hands on practice on each tool

### Unit 5: Project

Project on Design thinking

### LEARNING OUTCOME:

- Get to know what design thinking and wicked problem is
- To learn to generate new ideas
- To grasp the methods of the design thinking 5d process
- To comprehend and effectively use the tools and techniques to solve wicked problems
- To apprehend the application of design thinking with case studies

### Text Books:

### Reference Books:



# FFCBCS Structure & Syllabus of B.Des – UX

## Applicable for Batch: 2021-2025

<b>Subject Code</b>	IXF 206	<b>Subject Title</b>	<b>ETHNOGRAPHY &amp; PEOPLE DESIGN</b>						
<b>LTPS</b>	0 0 6 0	<b>Credit</b>	3	<b>Subject Category</b>	DC	<b>Year</b>	2 <sup>nd</sup>	<b>Semester</b>	III

### Course Objective:

The course should enable the student to understand different classes of users and design for humans

### Unit 1: Introduction to Ethnography and its Importance in UX

History and Origin of Ethnography, How people think and feel, what motivates them, People are social, form and features of Ethnographic anthropology of India research, Theory and ethnography in modern

### Unit 2: Ethnography as method

Conducting ethnographic research, Understanding cognitive and organizational psychology, evaluating ethnographic research data

### Unit 3: Introduction to semiotics

History and meaning of semiotics, Basics of semiotics, Understanding Symbol, sign and Icon, difference between symbol, icon and sign, Signifier, signified and signification. Applications in real time world in the form of storytelling

### Unit 4: Elective- Ethnography study on Globalization

Plutchiks wheel of emotion, K-pop culture effect on design, Bollywood globalization, Study on how colonization changed the ethnography of regions, Nation branding around the world.

### Unit 5: Representation of Ethnographic data

Pictorial representation of the study in the form of painting, installation, product, etc.

### Assignments: Project in each unit 24 Hours

#### LEARNING OUTCOME:

- To understand the users
- To understand the user's interaction with the environment, people and culture
- To take part in different UX domains and societies
- Creating ethnography mood boards, user scenarios, storyboards
- Understanding research problems, data gathering techniques
- Perform field study to understand people design

### Text Books:

### Reference Books:

# FFCBCS Structure & Syllabus of B.Des – UX

## Applicable for Batch: 2021-2025

<b>Subject Code</b>	IXF207	<b>Subject Title</b>	<b>INFORMATION ARCHITECTURE</b>						
<b>LTPS</b>	0 0 6 0	<b>Credit</b>	3	<b>Subject Category</b>	DC	<b>Year</b>	2 <sup>nd</sup>	<b>Semester</b>	III

### Course Objective:

The course should enable the student to understand and implement information architecture.

#### Unit 1: Introduction to Information Architecture

What is Information architecture, Structure, hierarchy and types of Information architecture, Principles and steps of Information Architecture

#### Unit 2: Tools and Techniques of Information architecture

Learning affinity mapping, Card sorting, Analysis of Information architecture, Using excel as a tool for card sorting, Activity based.

#### Unit 3: Dream hooks

Understanding the meaning of dream hooks, Tools like how might we, Idea generation tools and Methodology of dream hooks, Implementing dream hooks

#### Unit 4: Implementing Dream hooks with Information architecture

#### Unit 5: Project

Project submission on Dream hooks implemented with Information architecture on any Industry

### LEARNING OUTCOME:

- Understanding Information architecture
- Tools and techniques of Information architecture
- Hands on using excel as a tool for card sorting
- Creating IA for different industries,
- Learning types and structures and structures of IA

### Text Books:

### Reference Books:

# FFCBCS Structure & Syllabus of B.Des – UX

## Applicable for Batch: 2021-2025

<b>Subject Code</b>	IXF 208	<b>Subject Title</b>	<b>USER RESEARCH APPLICATION</b>						
<b>LTPS</b>	0 0 2 1	<b>Credit</b>	3	<b>Subject Category</b>	DC	<b>Year</b>	2 <sup>nd</sup>	<b>Semester</b>	IV

### Course Objective:

The course should enable the student to enquire and understand users

#### Unit 1: User research characteristics

What is user research and how is it performed?

#### Unit 2: User research methodologies

Detailed orientation on user research methodologies comprising of, Personas for research, preparing questioners, defining focus groups, dos and don'ts, survey tools

#### Unit 3: Introduction to the tools for user research

Detailed approach into the implementation of user research tools through workshops

#### Unit 4: Use of cognitive psychology and user behavior

Use of empathy mapping and customer journey mapping to understand user needs

#### Unit 5: Field research

Solving a pre chosen user problem performing an actual user research

### LEARNING OUTCOME:

- The phenomenon of user research is learnt through hands on training
- Exploring different user research methodologies ensuring appropriate solution
- The tools for user research become familiar
- Introduction to basic cognitive psychology and user behavior
- Field experience on user researching through a pre-selected problem

### Text Books:

### Reference Books:

# FFCBCS Structure & Syllabus of B.Des – UX

## Applicable for Batch: 2021-2025

<b>Subject Code</b>	IXF 209	<b>Subject Title</b>	<b>INTRODUCTION TO INTERACTION DESIGN</b>						
<b>LTPS</b>	0 0 2 1	<b>Credit</b>	2	<b>Subject Category</b>	DC	<b>Year</b>	2 <sup>nd</sup>	<b>Semester</b>	IV

### Course Objective:

The course should enable the student design interactive products

#### Unit 1: Introduction to Interaction design

Understanding scope and history of interaction in design, case studies

#### Unit 2: User Centered design

What is User Centered Design? User-Centered Design Process, UCD is an Iterative Process, UCD Considers the Whole User Experience, Investment in UCD Pays off, Benefits of UCD and UX,

UCD Waterfall process map

#### Unit 3: Design of interactive products

Ergonomics (Physical, cognitive and organizational)

#### Unit 4: Methods of interaction design

Learning the different methods which includes tools and techniques of interaction design, Understanding micro-interactions

#### Unit 5: Project

Project on Ergonomics

### LEARNING OUTCOME:

- Learning the Importance and scope of Interaction design,
- User centered design
- Design of interactive products
- Methods of interaction design
- Tools for interaction design
- Get to know futuristic technologies and their implementation in design

### Text Books:

### Reference Books:

# FFCBCS Structure & Syllabus of B.Des – UX

## Applicable for Batch: 2021-2025

<b>Subject Code</b>	IXF 211	<b>Subject Title</b>	<b>DATA ANALYTICS</b>						
<b>LTPS</b>	0 0 2 1	<b>Credit</b>	2	<b>Subject Category</b>	DC	<b>Year</b>	2 <sup>nd</sup>	<b>Semester</b>	IV

### Course Objective:

The course should enable the student to analyses, comprehend and design for big data

### Unit 1: Data in UX Design

Revisit of data driven UX, data driven card sorting, data driven user research, data driven user testing

### Unit 2: Data in service design

Task flows and data, Efficiency and data, case study

### Unit 3: Data in decision for leadership

How to create actionable dashboard, drill down of data (layers)

### Unit 4: Gamification and Data analysis

Scores in gamification, badges and data

### Unit 5: Engagement and data analysis

How to provide engagement and personalization with data

### Unit 6: Project

### LEARNING OUTCOME:

- Able to effectively apply the concepts and psychology to analyze big and complex data
- To be able to understand the tool and fetch data in a structured form
- To able to read, structure, segment and conclude the heavy information

### Text Books:

### Reference Books:

# FFCBCS Structure & Syllabus of B.Des – UX

## Applicable for Batch: 2021-2025

<b>Subject Code</b>	IXF 212	<b>Subject Title</b>	<b>UI DESIGN ADVANCE</b>						
<b>LTPS</b>	0 0 2 1	<b>Credit</b>	2	<b>Subject Category</b>	DC	<b>Year</b>	2 <sup>nd</sup>	<b>Semester</b>	IV

### Course Objective:

The course should enable the student made advance user interfaces

#### Unit 1: Advance UI Interface design

Creation of cross platform interface design and responsive design

#### Unit 2: UI Concept, design guidelines and tools

Introduction to UI design concept and guidelines and Zeplin

#### Unit 3: UI design documentation

The process of UI design documentation and design delivery documentation

#### Unit 4: Practical Project

Hands on training through Project on interface designing

### LEARNING OUTCOME:

- Advance UI interface designing
- Cross platform interface design and responsive design
- UI concept and design guidelines
- UI design documentation and design delivery documentation
- Understanding how UI/UX work in different sectors together

### Text Books:

### Reference Books:

# FFCBCS Structure & Syllabus of B.Des – UX

## Applicable for Batch: 2021-2025

<b>Subject Code</b>	IXF 213	<b>Subject Title</b>	<b>SERVICE DESIGN &amp; TASK FLOWS ADVANCE</b>						
<b>LTPS</b>	0 0 2 1	<b>Credit</b>	2	<b>Subject Category</b>	DC	<b>Year</b>	2 <sup>nd</sup>	<b>Semester</b>	IV

### Course Objective:

The course should enable the student understand methodologies of service design

#### Unit 1: Complex service design case studies

Follow through on various Case studies and success stories

#### Unit 2: Deep dive into task flows

Learning to build complex task flows, Implementing into complex problems

#### Unit 3: Methodology of service design

Learning analytical tools and systems engineering

#### Unit 4: System Design for private sector

Learning through projects of MNC's, Hospitals, private roadway services etc.

### LEARNING OUTCOME:

- Case studies
- Introduction to task flows
- Methodologies of service design
- Hands on training with private sector companies

### Text Books:

### Reference Books:

# FFCBCS Structure & Syllabus of B.Des – UX

## Applicable for Batch: 2021-2025

Subject Code	IXF 214	Subject Title	DESIGN THINKING APPLICATION						
LTPS	0 0 4 1	Credit	3	Subject Category	DC	Year	2 <sup>nd</sup>	Semester	IV

### Course Objective:

The course should enable the student to understand how to apply design thinking in real world problems

### Unit 1: Advance tools in Design thinking

Learning tools like value proposition mapping and canvas, Feature mapping and ROI mapping

### Unit 2: Business advantage of Design thinking

Case studies and aspects of design thinking on business of various sectors, Design Management, Product lockdown

### Unit 3: Practicing product lockdown

UI design documentation, design delivery documentation

### Unit 4: Strategic design thinking

Project based: Strategic Product design (prototypes) and making wearable devices with UX in it

### LEARNING OUTCOME:

- Deep dive into complex wicked problems to solve them through strategies
- To be able to understand the various ways in which innovative products can be built
- To be able to follow the 5d process from scratch
- Understanding in the way of business advantages

### Text Books:

### Reference Books:



# **FFCBCS Structure & Syllabus of B.Des – UX**

## **Applicable for Batch: 2021-2025**

<b>Subject Code</b>	IXF 215	<b>Subject Title</b>	<b>INTRODUCTION TO 6D</b>						
<b>LTPS</b>	0 0 6 0	<b>Credit</b>	3	<b>Subject Category</b>	DC	<b>Year</b>	2 <sup>nd</sup>	<b>Semester</b>	IV

### **Course Objective:**

The course should enable the student to understand and implement the 6D process in UX & UI

### **Unit: Project**

Project on implementation of 6D process in any service/product

### **LEARNING OUTCOME:**

- Learning to design with 6D process
- Implementation of different tools and techniques at correct form and place
- Use of advance technology and hands-on implementation on the project
- Practice sessions to concretize the skills learnt

### **Text Books:**

### **Reference Books:**

# FFCBCS Structure & Syllabus of B.Des – UX

## Applicable for Batch: 2021-2025

<b>Subject Code</b>	IXF 301	<b>Subject Title</b>	<b>WIRE FRAMING AND PROTOTYPING</b>						
<b>LTPS</b>	0 0 2 1	<b>Credit</b>	2	<b>Subject Category</b>	DC	<b>Year</b>	3 <sup>rd</sup>	<b>Semester</b>	v

### Course Objective:

The course should enable the student to make wireframes and prototypes

### Unit 1: Basics guidelines of Wire framing

### Unit 2: Designing wireframes on paper

### Unit 3: Designing wireframes on Axure/In vision

### Unit 4: Designing digital wireframes for different UI platforms

### Practice and Project based- Web, Mobile Application, IOS, wearable

### LEARNING OUTCOME:

- Practice to learn the tools required to design wireframes and prototypes.
- Design wireframes on paper and translate paper concepts into digital wireframes.
- Understand and practice the techniques involved in designing digital wireframes for UI Platforms.
- Understand and practice the techniques involved in designing digital wireframes for HMI and other digital screens.
- Understand and practice the techniques involved in creating digital prototypes. Tools to be taught – AxureRP, invision

### Text Books:

### Reference Books:

# FFCBCS Structure & Syllabus of B.Des – UX

## Applicable for Batch: 2021-2025

<b>Subject Code</b>	IXF 302	<b>Subject Title</b>	<b>VISUAL DESIGN TOOLS ADVANCE</b>						
<b>LTPS</b>	0 0 4 0	<b>Credit</b>	2	<b>Subject Category</b>	DC	<b>Year</b>	3 <sup>rd</sup>	<b>Semester</b>	v

### Course Objective:

The course should enable the student to use digital drawing and graphics tools

### Unit 1: Illustrator

Learning and Practicing Advance level tool practice in visual concepts, typography, iconography, Visual elements

### Unit 2: Photoshop

Advance level tool practice in interface design for cross-platform, responsive, and web.

### Project on the subject

### LEARNING OUTCOME:

To be able to master the tools like illustrator and Photoshop for advance level concepts

### Text Books:

### Reference Books:

# FFCBCS Structure & Syllabus of B.Des – UX

## Applicable for Batch: 2021-2025

<b>Subject Code</b>	IXF 303	<b>Subject Title</b>	<b>USABILITY TESTING</b>						
<b>LTPS</b>	0 0 2 1	<b>Credit</b>	2	<b>Subject Category</b>	DC	<b>Year</b>	3 <sup>rd</sup>	<b>Semester</b>	v

### Course Objective:

The course should enable the student to learn the process of conducting usability tests and documenting it

### Unit 1: Process of Usability testing

What is Usability testing, Types of testing, Learning the steps to test different types of products/service/methods- planning, executing, information gathering and documentation, case studies

### Unit 2: Usability testing for Digital products

Learn how to create questionnaires, test cases and test moderation. Preparing for the testing of products, Understanding people's psychology and Behavior

### Unit 3: Tools and Techniques of Usability Testing

Usability testing methodologies – task-based user testing, A/B testing, lab based user testing, remote user testing, moderated & un-moderated user testing

### Unit 4: Project Work

Project work on Usability Testing- students will pick up a real-life digital application and conduct end-to-end usability testing on the product and submit a report for evaluation.

### LEARNING OUTCOME:

- Learn the process of conducting usability tests
- Learning steps for digital products
- Learning Preparations for usability testing
- Understanding Usability testing methodologies
- To able to Conduct the Usability testing and document it

### Text Books:

### Reference Books:

# FFCBCS Structure & Syllabus of B.Des – UX

## Applicable for Batch: 2021-2025

Subject Code	IXF 304	Subject Title	TECHNOLOGY IN EXPERIENCE DESIGN ADVANCE						
LTPS	0 0 2 1	Credit	2	Subject Category	DC	Year	3 <sup>rd</sup>	Semester	v

### Course Objective:

The course should enable the student to understand the role of technology in UX and UI and how it acts as an enabler for the same

### Unit 1: Introduction to software teams

Understand how software teams work, roles of different profiles; front end and back end, types of technologies for back end and front end, constraints of each technology

### Unit 2: Introduction to SDLC

Types, pros and cons of SDLC, what are the processes that they use and frameworks that they use. Learn SDLC methodologies such as agile, lean, and traditional/waterfall – pros & cons of each process.

### Unit 3: Agile and design thinking Framework

Deep dive into agile process, case studies, Framework of agile, The State of UX  
Agile Development, Agile Process Is Flexible, Top 10 Tips for UX Success From Agile Practitioners

### Unit 4: Ecosystem project

Understanding product ecosystems for futuristic technologies – industry 4.0,  
Practice – Project in SDLC in any one domain (eg; E-commerce, healthcare, BFSI, Manufacturing)

### LEARNING OUTCOME:

### Text Books:

### Reference Books:

# **FFCBCS Structure & Syllabus of B.Des – UX**

## **Applicable for Batch: 2021-2025**

<b>Subject Code</b>	IXF 305	<b>Subject Title</b>	<b>UX AND DIGITILIZATION</b>						
<b>LTPS</b>	0 0 6 0	<b>Credit</b>	3	<b>Subject Category</b>	DC	<b>Year</b>	3 <sup>rd</sup>	<b>Semester</b>	v

### **Course Objective:**

The course should enable the student to understand the aspects of digital media experience

### **Unit 1: UX and digitalization in different industry segments**

Understand by case studies how technology and digitalization is transforming different industry segments

– BFSI, manufacturing, retail, automotive, media, FMCG, logistics, oil & gas. Learning to

### **Project Work**

**Project work on any one industry**

### **LEARNING OUTCOME:**

Understanding different technologies

Be able to find and execute technologies keeping in mind user

To be able to perform Research and design for all industry segments using a toolkit.

### **Text Books:**

### **Reference Books:**

# FFCBCS Structure & Syllabus of B.Des – UX

## Applicable for Batch: 2021-2025

<b>Subject Code</b>	IXF 306	<b>Subject Title</b>	<b>INNOVATION MANAGEMENT</b>						
<b>LTPS</b>	0 0 4 1	<b>Credit</b>	3	<b>Subject Category</b>	DC	<b>Year</b>	3 <sup>rd</sup>	<b>Semester</b>	v

### Course Objective:

The course should enable the student to understand the roles of innovation in creative environment

### Unit 1: Innovation & Creativity

What is Innovation? What is creativity? Difference between innovation and creativity, dynamics of creative thinking, becoming creatively fit as an individual, creative insight, idea generation

### Unit 2: Innovation in organizations

Learn what is innovation and how leading organization across the world are implementing innovation, Role of creativity and innovation in organizations, idea evaluation, creativity in teams, team's environment and creativity, creating climate for creativity and an enterprise, creating an environment that keeps creative people creating, managing creative employees, leading for creativity and innovation, creativity to innovation, Success stories

### Unit 3: innovation Management Process

Understanding what Innovation management is, Learn the 4 pillars of innovation, innovation maturity matrix and the innovation management process – problem identification, ideation, and implementation. Understanding innovation as a culture Innovation management tools – user study, social listening, customer care reports, data analytics, hackathons, paper prototyping, digital roadmap, market gap analysis, commercialization.

### Unit 4: Project

Research and implementing innovation management process for different industry segments.

### LEARNING OUTCOME:

- Understand the roles of skill, experience, motivation and culture in creative endeavor
- Appreciate how the perspective taken on creativity affects the policy used to engender it
- Differentiate between radical and incremental innovation
- Identify some potential disruptive innovations and take advantage of 'open' innovation
- Reflect on experiences of creativity and innovation at work

### Text Books:

### Reference Books:

# FFCBCS Structure & Syllabus of B.Des – UX

## Applicable for Batch: 2021-2025

<b>Subject Code</b>	IXF307	<b>Subject Title</b>	<b>OMNICHANNEL EXPERIENCE DESIGN</b>						
<b>LTPS</b>	0 0 2 2	<b>Credit</b>	3	<b>Subject Category</b>	DC	<b>Year</b>	3 <sup>rd</sup>	<b>Semester</b>	v

### Course Objective:

The course should enable the student to understand the concept of Omni channel design and build upon it

### Unit 1: Introduction to Omni channel experience design

What is Omni-channel experience design, Why do we need omni channel ux , Understanding all Omni-channel experiences will use multiple channels, but not all multi-channel experiences are Omni-channel. Multichannel vs. Omni channel

### Unit 2: Case studies

Bank of America’s Omni-channel UX, Sephora’s Omni channel UX, Walgreens’ Omni channel UX, caratlane and tanishq, fab furnish and home center at future groups

### Unit 3: Building Omni channel experiences

Elements of Omni channel experiences, Learn how to design omni-channel experiences – Mobile, web, wearable, cloud.

Customer service and offline touch points. Designing omni-channel product ecosystems and Design multi-channel interaction patterns.

### Project: Practice – Omni-channel User Experience Best Practices to Increase Customer Engagement

### LEARNING OUTCOME:

- To understand the concept of Omni channel design
- To learn how to build omni channel experience
- To grasp various key elements of building an Omni-channel experience
- To practice and create Omni-channel User Experience to Increase Customer Engagement

### Text Books:

### Reference Books:



# FFCBCS Structure & Syllabus of B.Des – UX

## Applicable for Batch: 2021-2025

<b>Subject Code</b>	IXF 308	<b>Subject Title</b>	<b>UX DESIGN FOR FUTURISTIC TECHNOLOGIES</b>						
<b>LTPS</b>	0 0 2 1	<b>Credit</b>	2	<b>Subject Category</b>	DC	<b>Year</b>	3 <sup>rd</sup>	<b>Semester</b>	VI

### Course Objective:

The course should enable the student to have an understanding on futuristic technologies and design for virtual and augmented reality and for IOT.

### Unit 1: Designing for AR

What is augmented reality, Examples, Case studies on augmented reality, implementing augmented reality in different industry domains  
Project based

### Unit 2: Designing for VR

What is virtual reality, Examples, Case studies on virtual reality, implementing augmented reality in different industry domains  
Project based

### Unit 3: Introduction to Internet of things (IOT)

What is Internet of things, Examples, Case studies on IOT, Implementing IOT in different industry domains  
Project based

### Project

### LEARNING OUTCOME:

- To be able to have an understanding on futuristic technologies
- To be able to practice and implement technologies in new ideas
- To be able to implement after understanding on different platforms

### Text Books:

### Reference Books:

# FFCBCS Structure & Syllabus of B.Des – UX

## Applicable for Batch: 2021-2025

<b>Subject Code</b>	IXF 309	<b>Subject Title</b>	<b>INTERACTION DESIGN ADVANCE</b>						
<b>LTPS</b>	0 0 6 0	<b>Credit</b>	3	<b>Subject Category</b>	DC	<b>Year</b>	3 <sup>rd</sup>	<b>Semester</b>	VI

### Course Objective:

The course should enable the student to understand and develop for micro interactions

### Unit 1: Introduction to micro-interactions

To evoke emotions and activity (to compel the user to do something), four triggers of micro-interactions.

### Unit 2: Rapid prototyping techniques

Tools and methods of rapid prototyping for idea generation  
Crazy 8, Scamper, 6 thinking hats

### Unit 3: Multi-Screen Interaction design

Service design case studies - ATM/Healthcare for multi-screen interaction design  
Practice & Project based

### Unit 4: Designing for futuristic technologies

Interaction design for gesture controls. Designing interactions for futuristic technologies – voice, AI.  
Project based on sound/voice and gesture controls

### Unit 5: Emotional Design

7 types of emotions- Example as case study for each emotion. Develop your own emotional study on any product/situation. How to manage emotions in interaction design. E.g.: Nostalgic in social media (Facebook feature)

### Project

### LEARNING OUTCOME:

- To be able to understand micro-interactions in detail
- Have a hands on tools and prototyping practice
- To be able to generate new ideas
- Get to understand technologies and connect with emotional design

### Text Books:

### Reference Books:

# FFCBCS Structure & Syllabus of B.Des – UX

## Applicable for Batch: 2021-2025

<b>Subject Code</b>	IXF311	<b>Subject Title</b>	<b>UX DESIGN FOR RURAL INDIA</b>						
<b>LTPS</b>	0 0 4 0	<b>Credit</b>	2	<b>Subject Category</b>	DC	<b>Year</b>	3 <sup>rd</sup>	<b>Semester</b>	VI

### Course Objective:

The course should enable the student to understand the need for rural innovation and develop products for them

### Project based:

Ethnographic study of rural India. Creating UX for low bandwidth regions. Digitalization for the bottom of the pyramid. Localization of experience

### LEARNING OUTCOME:

- Understanding the need of innovation in rural areas
- To be able to understand the users and suggest ideas
- To able to create ethnography study and analyze it
- Improve the experience with digitalization

### Text Books:

### Reference Books:

# **FFCBCS Structure & Syllabus of B.Des – UX**

## **Applicable for Batch: 2021-2025**

<b>Subject Code</b>	IXF 312	<b>Subject Title</b>	<b>INDUSTRY SPECIFIC UX DESIGN</b>						
<b>LTPS</b>	0 0 4 0	<b>Credit</b>	2	<b>Subject Category</b>	DC	<b>Year</b>	3 <sup>rd</sup>	<b>Semester</b>	VI

### **Course Objective:**

The course should enable the student to make projects for the industry

### **Project based:**

Experience design case studies in banking, retail, insurance, media, healthcare, pharma, logistics & travel, education

### **LEARNING OUTCOME:**

To be able to implement the grasp the different industries

To be able grasp the working and concepts of different domains

### **Text Books:**

### **Reference Books:**

# **FFCBCS Structure & Syllabus of B.Des – UX**

## **Applicable for Batch: 2021-2025**

<b>Subject Code</b>	IXF 313	<b>Subject Title</b>	<b>INTEGRATED STUDIO FOR UX ADVANCE</b>						
<b>LTPS</b>	0 0 6 0	<b>Credit</b>	3	<b>Subject Category</b>	DC	<b>Year</b>	3 <sup>rd</sup>	<b>Semester</b>	VI

### **Course Objective:**

The course should enable the student to work for the industry projects

### **Project based:**

On UX design implementation with industry relevant problem statement including 6D process

### **LEARNING OUTCOME:**

To be able to implement the learnings in a project on any one industry

### **Text Books:**

### **Reference Books:**

# FFCBCS Structure & Syllabus of B.Des – UX

## Applicable for Batch: 2021-2025

Subject Code	IXF 341	Subject Title	CULTURE AND DESIGN						
LTPS	0,0,2,2	Credit	3	Subject Category	DE	Year	3 <sup>rd</sup>	Semester	

### Course Objectives:

1. To understand design in cultural context
2. To learn cultural design principles and their implementation
3. To comprehend the evolution of Design with cultural Thinking
4. To learn the relevance of cultural design by studying the case studies of Multi-cultural User experience design.

### Unit-1 Introduction to concepts of culture and Design

- Cross cultural Design
- What is cross cultural design, How cross cultural design psychology affects UX Domains, different cultural models and dimensions as design guidelines, Understanding cross cultural design principles and culturally responsive experiences- Internationalization and Localization
- Inclusive design
- What is Inclusive Design, Why is it known for building Responsible experiences, what are inclusive design principles, examples like inclusive Skype.

### Unit-2 The Evolution of UX design with culture Thinking

What is cultural thinking? , Why cultural thinking revolves around behavior centered design, Cultural Evolution impacting the Design process.

### Unit-3 Cultural Trends in UX Industry

- Learn how cross cultural design affecting the Interface Design, bidirectional design, colors, fonts, icons, graphics
- Exploring different terminologies like Cultural Immersion, Design for inclusivity etc.

### Unit-4 Case studies of Multi - cultural User experience Design

- Starbucks in the US, Japan, Middle East and Austria; Ikea search field in Sweden, Saudi Arabia, the US and Japan.

### Unit-5 Project

- Cultural Research and implementation of cross cultural and inclusive design principles to improve the user experience products of different sectors.

### LEARNING OUTCOME:

**Approved by the Academic Council at its 17<sup>th</sup> Meeting held on 24.03.2021**

# **FFCBCS Structure & Syllabus of B.Des – UX**

## **Applicable for Batch: 2021-2025**

- Implement cross cultural design and inclusive design principles into products.
- Able to integrate accessible design features into products and services for multi-cultural audience
- To envisage the paradigm shift in design as per the various cultural models

### **REFERENCE BOOKS:**

1. Cross cultural Design by Senongo Akpem
2. Design for Real Life by Eric Meyer & Sara Wachter-Boettcher
3. Inclusive Design by Heydon Pickering
4. Inclusive: A Microsoft Toolkit
5. An introduction to Design and Culture by Penny Sparke

# FFCBCS Structure & Syllabus of B.Des – UX

## Applicable for Batch: 2021-2025

Subject Code	IXF 342	Subject Title	SUSTAINABLE DESIGN						
LTPS	0,0,2,2	Credit	3	Subject Category	DE	Year	3 <sup>rd</sup>	Semester	

### Course Objective:

1. To make students empathize with the environment and understand a 360-degree perspective of sustainability
2. To make students understand that design sustainability = design responsibility
3. To learn the tools used for making a sustainable design
4. To able to innovate a sustainable solution for an existing problem

### Unit 1: Understanding Sustainability (6 hours)

Learning Sustainability and it's aspects(what is sustainability, history, why it is needed), case studies on sustainable designs, exercise on recognising a sustainable design. Understand Recycle, Reuse and Upcycle. Sustainable lifecycle.

### Unit 2: Sustainable Design as a Responsibility (15 hours)

What is a responsible design?, Sustainable Design is not only environmentally responsible but also consumer responsible. How a designer can develop a design sustainably? Factors to create a sustainable design. Sustainability indicators

### Unit 3: Tool for Designing Sustainably (18 hours)

Causal loop diagram, Life Cycle Assessment (LCA), Whole system mapping,

### Unit 4: Project (21 hours)

Design a solution (physical or digital) for an existing environmental problem

### Learning outcome:

- To understand the core of sustainability
- To learn how sustainable design is the need of the hour
- To realize their environmental roles as a responsible designer
- A deeper understanding of a product's environmental lifecycle

### Reference Books:

- Cause and Effect by Robert Klanten
- Cradle to Cradle: Remaking the Way We Make Things by William McDonough
- Design for a Living World by Ellen Lupton and J. Abbott Miller, eds.
- The Sustainable Design Book by Rebecca Proctor.



# FFCBCS Structure & Syllabus of B.Des – UX

## Applicable for Batch: 2021-2025

Subject Code	IXF 343	Subject Title	APPLIED ERGONOMICS						
LTPS	0,0,2,2	Credit	3	Subject Category	DE	Year	3 <sup>rd</sup>	Semester	

### Course Objectives:

1. To gain the conceptual understanding of applied ergonomics
2. To explore the relationship between applied ergonomics and functionality of the products.
3. To learn the importance of comfort design in UI/UX Industry
4. To build a deeper understanding of integration of applied ergonomics guidelines into web and mobile UX Design.

### Unit-1: Introduction to Applied Ergonomics.

Definition of Ergonomics/Human Factors?; Fundamentals of Ergonomics; Domains of ergonomics – Physical, cognitive and organizational; difference between applied and cognitive ergonomics; significance of Ergonomics – Factors affecting human performance when interacting with products; Theories and frameworks of ergonomic design- High level models: Distributed cognition, Activity Theory, situated action and Fitts’ Law.

### Unit-2: Applied ergonomics and User Interface Design

- Ergonomic Guidelines for Interface Design – Consistency, simplicity, cognitive directness, modality, display issues.

### Unit-3: Ergonomics for Mobile UX

- Mobile UI Ergonomics- easy and hard tap zones of mobile interface, how do users hold mobile devices – one hand, cradled two hand, thumb length for phone UI single hand use;
- Relationship between form factors and the application of ergonomics in mobile UI; Correlation of Mobile User Interface Guidelines and ergonomics or comfort design.

### Unit-4: Project

- Review various case studies to understand the applied ergonomics in products and services of different sectors and implement the best practices of applied ergonomics to enhance the user experience of badly designed products.

### Learning Outcome:

- Implement the best practices of applied ergonomics to enhance the user experience Design
- Able to integrate comfort design features keeping ergonomics design guidelines as the basis.

# **FFCBCS Structure & Syllabus of B.Des – UX**

## **Applicable for Batch: 2021-2025**

- To be able to analyze those features affecting the ergonomic aspect of the design.
- Able to execute the design not only from the aesthetical point of view but also from the functional point of view.

# FFCBCS Structure & Syllabus of B.Des – UX

## Applicable for Batch: 2021-2025

Subject Code	IXF 344	Subject Title	UX Design for WEB						
LTPS	0,0,6,0	Credit	3	Subject Category	DE	Year	3RD	Semester	VI

### Course Objective:

1. To understand what are the consumer's need when they visit a website and how to fulfill them
2. To make students learn about the purpose of website
3. To able to design a website using coding and software

### Unit 1: Understanding UX for Web (7 hours)

- Aesthetics and principles of Web designing,
- who your website users are and what they expect from the website.
- how business goals — yours or your client's — have to be uncovered and addressed for site success
- Information Architecture (IA) for Web

### Unit 2: Website Design for Business (6 hours)

- how to design your website depending upon who your visitors are,
- Including all three: whether your website is B2B (business-to-business), B2C (business-to-consumer), or an ecommerce site for selling products online.

### Unit 3: Coding and Software (17 hours)

HTML, Photoshop, Dreamweaver, Illustrator and exploring wordpress, wix etc

### Unit 4: Project (15 hours)

- A full-fledged website designed on either of three:
- B2B
- B2C
- E-commerce

### LEARNING OUTCOME:

- A good understanding of how websites solve a business purpose
- Knowing how to design for web

### Reference Books:

- Don't Make Me Think, Revisited: A Common Sense Approach to Web Usability (Steve Krug) ...
- Thinking, Fast And Slow (Daniel Kahneman)

# FFCBCS Structure & Syllabus of B.Des – UX

## Applicable for Batch: 2021-2025

Subject Code	IXF 345	Subject Title	UX Design for Mobile						
LTPS	0,0,6,0	Credit	3	Subject Category	DE	Year	3RD	Semester	

### Course Objective:

1. To understand designing for touch
2. To learn a mobile environment
3. To able to design a app for mobile

### Unit 1: Understanding UX for Mobile (15 hours)

- Aesthetic and principle of mobile designing.
- Designing for android vs ios.
- Android sensors, Android APIs
- Information Architecture (IA) for Mobile Design
- Understanding the five big constraints: limited data, finite battery, hand-held usage, divided user attention(include design for interruption) and small screens
- Understanding navigation, screen orientation, touch area, Text, content, Forms, Thumb positions, minimising user input, consistency, margins, icons/symbols, importance of back button, colors, sizing, gestures,
- Understanding the importance of on-boarding experience

### Unit 2: Advanced Wireframing (12 hours)

- How to make Skelton screens?
- Prototyping on: Invision, Marvel, Adobe XD, Proto.io, Origami Studio (any one of the mentioned)

### Unit 3: Project (18 hours)

- Designing an app from scratch for any field of student's interest

### LEARNING OUTCOME:

- A good understanding of details of mobile app
- Knowing how to design for mobile

### Reference Books:

- UX Design for Mobile by Pablo Perea Pau Giner
- Designing The User Interface 5th Edition by Steven Jacobs and Ben Shneiderman and Catherine Plaisant and Maxine Cohen, Pearson Education.

# FFCBCS Structure & Syllabus of B.Des – UX

## Applicable for Batch: 2021-2025

Subject Code	IXF 346	Subject Title	UX Design for Physical Products						
LTPS	0,0,6,0	Credit	3	Subject Category	DE	Year	3 <sup>rd</sup>	Semester	

### Course Objective:

1. To understand the past, present and future of UX in physical products
2. To identify the various research methods to make a good physical product in UX
3. To identify types and roles of UX products
4. To be able to work on a product that solves a real problem

### Unit 1: Introduction to Physical products (6Hours)

- Introduction to UX in physical products and its types.
- Sketching and drawing and creating the concepts

### Unit 2: User research in Product design (15 Hours)

- Type of user research tools such as day in a life, persona, interviews, empathy maps, and journey maps.
- Creating scenarios and analyze user touch points and interaction points.
- Methodology and applied research, tools and designs.
- Ergonomics and cognitive psychology

### Unit 3: User interface and material study (15 Hours)

- User behavior and his desirability for types of physical products
- Different industries and role of UX designers.
- Material study such as plastic, paper, digital device, screens, GUI and so on with 3D modeling using blender.
- Designing big scale products and role of emerging technology in Physical products

### Unit 4: Project (9 Hours)

- Research and design a device using real users and used cases. Apply 3D modeling and design interface using design tools.

### LEARNING OUTCOME:

- Understand the roles of skill, experience and meaning of physical products
- Ideate for a real user, empathy and its tools and differentiate between good and bad design
- Prototype and design using ergonomics and basic design guidelines, understand material and digital tools to design it.
- Identify some potential in real life scenario and industry relevant problem and design a physical product and its interface.

**Approved by the Academic Council at its 17<sup>th</sup> Meeting held on 24.03.2021**

# **FFCBCS Structure & Syllabus of B.Des – UX Applicable for Batch: 2021-2025**

## **Text Books:**

1. Design of everyday things, Don Norman
2. Design for How People Think: Using Brain Science to Build Better Products
3. Don't make me think, Steve Krug

# FFCBCS Structure & Syllabus of B.Des – UX

## Applicable for Batch: 2021-2025

<b>Subject Code</b>	IXF 401	<b>Subject Title</b>	<b>BUSINESS, UX &amp; DESIGN MANAGEMENT</b>						
<b>LTPS</b>	0 0 2 0	<b>Credit</b>	1	<b>Subject Category</b>	DC	<b>Year</b>	4 <sup>th</sup>	<b>Semester</b>	VII

### Course Objective:

The course should enable the student to understand how UX can help businesses

### Unit 1: Business UX

Understanding How a UX approach can help any business, The Business Value of UX Design, Strategy building, Aspects of key guidelines in UX business, values and emotions of user Behavior and cognitive psychology of market and business, Design policies

### Unit 2: Design Management

What is design management, Different types, Taking Charge of Processes and People The Evolution of Design Management, Areas of Design Management, Why Does Design Management Matter? Where Does Design Management Fall Within Businesses?

### Unit 3: Project

Understanding Design management and UX business

### LEARNING OUTCOME:

- Understanding business in UX
- Understanding the strategy involved in UX business
- Understanding design management
- Implementing design management in product design and business

### Text Books:

### Reference Books:

# FFCBCS Structure & Syllabus of B.Des – UX

## Applicable for Batch: 2021-2025

<b>Subject Code</b>	IXF 402	<b>Subject Title</b>	<b>PRODUCT DESIGN &amp; LIFE CYCLE MANAGEMENT</b>						
<b>LTPS</b>	0 0 2 0	<b>Credit</b>	1	<b>Subject Category</b>	DC	<b>Year</b>	4 <sup>th</sup>	<b>Semester</b>	VII

### Course Objective:

The course should enable the student to design products for users

### Unit 1: Introduction to Product lifecycle management

What is Product Lifecycle Management (PLM)? What is the Product Life Cycle?  
Product life cycle stages, Benefits, areas of PLM

### Unit 2: Product Development Platform

PLM, Supply Chain Collaboration, ALM and QMS, Multi-Tenant Cloud-Based  
PLM Software, How Arena Provided the All-In-One Product Development Platform  
Apical Instruments Needed. Phases of product lifecycle and corresponding technologies.

### Unit 3: Product Lifecycle Management Integration 1

Rootstock Product Lifecycle Management Integration, Shared Product Information,  
How the Integration Works,

### Unit 4: Project Work

Project work on PLM

### LEARNING OUTCOME:

- Understanding the cycle of product design
- Be able to find and execute the technology required
- Understanding the importance of product management
- To be able to execute the cycle of product management

### Text Books:

### Reference Books:



# FFCBCS Structure & Syllabus of B.Des – UX

## Applicable for Batch: 2021-2025

<b>Subject Code</b>	IXF 403	<b>Subject Title</b>	<b>GAMIFICATION &amp; UX</b>						
<b>LTPS</b>	0 0 4 0	<b>Credit</b>	2	<b>Subject Category</b>	DC	<b>Year</b>	4 <sup>th</sup>	<b>Semester</b>	VII

### Course Objective:

The course should enable the student to understand and apply the strategy of gamification

### Unit 1: Introduction to Gamification

What is Gamification? Why is gamification so popular? Key ingredients of gamification – Motivation, mastery and triggers, Why and how gamification is not the same as game design

### Unit 2: Strategy of Gamification

The appeal of gamification in UX Design, Challenges in gamification, the power of gamification and how it can increase user engagement and fulfilment, How to manage, monitor, and measure of the impact of gamification work

### Unit 3: Gamification – The play centered design

Gamification in UX -Increasing User Engagement, Types of game mechanics for UX improvement, Player-Centred Design: Moving Beyond User-Centred Design for Gamification

### Unit 4: Project

Implementing Gamification in banking, healthcare, retail or management portal

### LEARNING OUTCOME:

To understand the strategy of gamification

To learn the key ingredients of gamification

To implement gamification for customer engagement

Creating appeal in UX design by gamification

### Text Books:

### Reference Books:

# FFCBCS Structure & Syllabus of B.Des – UX

## Applicable for Batch: 2021-2025

<b>Subject Code</b>	IXF 404	<b>Subject Title</b>	<b>HUMAN MACHINE INTERFACE</b>						
<b>LTPS</b>	0 0 4 0	<b>Credit</b>	2	<b>Subject Category</b>	DC	<b>Year</b>	4 <sup>th</sup>	<b>Semester</b>	VII

### Course Objective:

The course should enable the student to understand and create human machine interfaces

### Unit 1: Introduction to HMI

What is HMI? Who Uses HMI? Common Uses of HMI, What is the Difference between HMI and SCADA?

### Unit 2: Trends in HMI Technology

Understanding the different technologies of HMI, Past trends and current technologies, High Performance HMIs, Touch Screens and Mobile Devices, Remote Monitoring, Edge-of-Network and Cloud HMIs

Case studies in detail

### Unit 3: Futuristic HMI's

Understanding the current trends, exploring ways to implement Augmented Reality (AR) and Virtual Reality (VR) to visualize manufacturing functions.

### Unit 5: Project Work

Project work on HMI which includes current trends

### LEARNING OUTCOME:

- Be able to understand the interactions between human and machine □
- Understanding the different machines □
- Able to grasp hands-on experience of tools for creating interfaces for human and machine □
- Understanding cognitive psychology and user behavior. □
- Implementing the study to create interfaces for human machine interactions

### Text Books:

### Reference Books:

# **FFCBCS Structure & Syllabus of B.Des – UX**

## **Applicable for Batch: 2021-2025**

<b>Subject Code</b>	IXF 405	<b>Subject Title</b>	<b>LIVE PROJECT (STUDIO)</b>						
<b>LTPS</b>	0 0 6 0	<b>Credit</b>	3	<b>Subject Category</b>	PRJT	<b>Year</b>	4 <sup>th</sup>	<b>Semester</b>	VII

**Course Objective:**

**Live Project should be in any one domain and should be technology driven and aesthetically done to be able to strategically prove its importance in the real-time world.**

**LEARNING OUTCOME:**

**Text Books:**

**Reference Books:**

# **FFCBCS Structure & Syllabus of B.Des – UX**

## **Applicable for Batch: 2021-2025**

<b>Subject Code</b>	IXF 406	<b>Subject Title</b>	<b>LIVE PROJECT (ON CLIENT'S LOCATION)</b>						
<b>LTPS</b>	----	<b>Credit</b>	12	<b>Subject Category</b>	PRJT	<b>Year</b>	4 <sup>th</sup>	<b>Semester</b>	VIII

### **Course Objective:**

Final Degree project in the industry.

### **Degree Project in Industry**

#### **LEARNING OUTCOME:**

Industry project to be completed in semester 8 as an internship.

Projects reports are to be submitted in a set format and mentors are assigned to each student for guidance through the project.

The project is evaluated as the end-term examination in the form of a jury conducted by an industry and academic panel

#### **Text Books:**

#### **Reference Books:**

# FFCBCS Structure & Syllabus of B.Des – UX

## Applicable for Batch: 2021-2025

Subject Code	IXF 441	Subject Title	DESIGNING FOR IOT						
LTPS	0,0,6,0	Credit	3	Subject Category	DE	Year	4 <sup>th</sup>	Semester	

### Course Objective:

1. To understand the past, present and future of emerging technology
2. To identify the various sectors and industries and how they have implemented it
3. To understand the tools used in IOT
4. To be able to innovate and apply IOT to an existing problem

### Unit 1: Introduction to Internet of things (6Hours)

- What is IoT? The 5 internet revolutions? Evolution and its application. Past present and future of IOT.

### Unit 2: IOT in various industries (12 Hours)

- IOT used in various sectors such as education, construction, healthcare, agriculture. Famous works in the field of IOT. How does IOT help in solving a big problem and case study. Role of a UX designer, developer and other experts in IOT. Job roles and opportunities.

### Unit 3: Tools and innovation (9 Hours)

- Tools used to design an IOT interface, sensors, connectivity and function
- Data and IOT and cloud computing
- Design and code, interfaces and problem solving with IOT.
- IOT devices and its functions, hardware, software, used cases (seebo.com), ergonomics.

### Unit 4: Project (18 Hours)

- Research and working on an industry relevant problem. How can we provide solutions using IOT in any sector or a house problem? Explain the mechanics.

### LEARNING OUTCOME:

- Understand the roles of skill, experience and meaning of IOT
- Ideate for a technology driven future
- Jobs roles, tools and role in UX/UI
- Identify some potential in real life scenario and industry relevant problem

### Text Books:

- The Amazon Way on IoT: 10 Principles for Every Leader from the World's Leading Internet of Things Strategies
- Book by John Rossman
- User Experience Design for the Internet of Things by Claire Rowland

# FFCBCS Structure & Syllabus of B.Des – UX

## Applicable for Batch: 2021-2025

Subject Code	IXF 442	Subject Title	Designing for Wearables						
LTPS	0,0,6,0	Credit	3	Subject Category	DE	Year	4 <sup>th</sup>	Semester	

### Course Objective:

1. To understand the past, present and future of wearable devices
2. To identify the various sectors and industries and how they have implemented it
3. To identify types and roles of wearable devices
4. To be able to conceptualize a wearable device

### Unit 1: Introduction to Wearable devices (6Hours)

- What is a wearable device? History and evolution. Companies manufacturing and how has it impacted a customer.

### Unit 2: Types of wearable devices (6 Hours)

- Types of wearable devices.
- Technologies used in designing them.
- Case study and Industry constraints

### Unit 3: Tools and innovation (15 Hours)

- Use persona, empathy maps and CJM to understand the various touchpoints.
- User behavior and his desirability for wearable devices
- Gestures-Bite sized information, non-intrusive design.
- Synchronization, design and aesthetics of a wearable design from a user's point of view

### Unit 4: Project (18 Hours)

- Research and design a device using real users and used cases. Apply 3D modeling and design interface using design tools.

### LEARNING OUTCOME:

- Understand the roles of skill, experience and meaning of wearable devices
- Ideate for a real user, empathy and its tools
- Prototype and design using ergonomics and basic design guidelines
- Identify some potential in real life scenario and industry relevant problem and design a wearable device and its interface.

# **FFCBCS Structure & Syllabus of B.Des – UX**

## **Applicable for Batch: 2021-2025**

### **Text Books:**

1. Designing for wearable devices. Effective UX for Current and Future Devices author Scott Sullivan
2. Design for How People Think: Using Brain Science to Build Better Products

# FFCBCS Structure & Syllabus of B.Des – UX

## Applicable for Batch: 2021-2025

<b>Subject Code</b>	IXF 443	<b>Subject Title</b>	<b>Designing for Smart TVs</b>						
<b>LTPS</b>	0,0,6,0	<b>Credit</b>	3	<b>Subject Category</b>	DE	<b>Year</b>	4th	<b>Semester</b>	

### Course Objective:

1. To understand how a Smart TV works
2. To learn smart TV environment
3. To be able to design an app for Smart TVs

### Unit 1: Introduction to Smart TVs (12 hours)

- What is a smart TV, Evolution and history (generation of TV and contents), what purpose do TVs solve today in the era of Netflix, youtube, online channels, laptops and mobile phones along with deeply understanding the consumer group of smart TVs. Understanding that TV is a shared device.
- TVs and Gaming - Xbox
- Remote control in a smart TV. Bluetooth Keyboard/mouse
- Understanding TV UI and its Importance.
- Case studies on smart TVs talking about LG, Samsung, Korean Tech, Apple TV, Android TV, Roku TV, Panasonic etc

### Unit 2: Application of designing interactive TV experience (12 hours)

- TV appropriate apps and Designing for TV Apps, Smart TV interface, Information Architecture for TV.
- Understanding navigation, screen, contrast, focus state, different standards among various platforms, content, screen size and resolution, color, typography, list view vs detail view, visual hierarchy, search and density.
- 10-foot UI

### Unit 3: Project (21 hours)

- Designing an app for smart TV that can also be controlled via smart phones.

### Learning Outcome:

- A good understanding of details of a Smart TV from UX point of view
- Knowing how to design for Smart TV screens

### Reference Books:

- Designing with the Mind in Mind: Simple Guide to Understanding User Interface Design Guidelines by Jeff Johnson
- Designing Multi-Device Experiences: An Ecosystem Approach to User Experiences across Devices by Michal Levin.