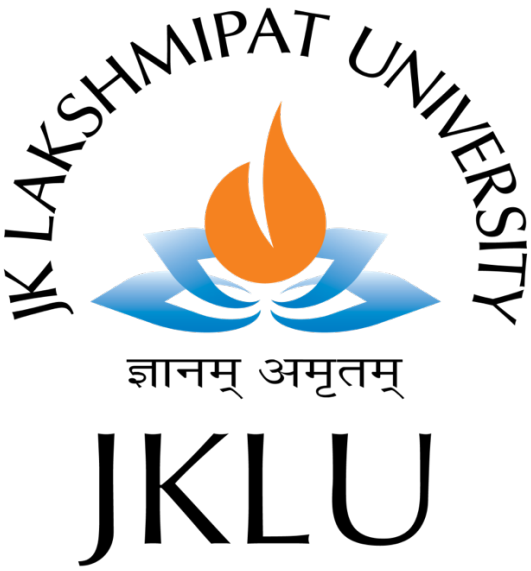


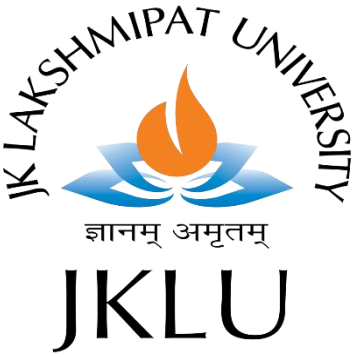
Handbook
of
Curriculum Structure & Syllabus

Master of Design in Product Design

(Programme Code : 4202)

Batch: 2021-23

Institute of Design



Vision

To be one of India's most innovative higher education institutions.

Mission

To realise its vision, the University will:

Practice teaching that inculcates critical thinking and problem solving,

Pursue research that leads to innovation and enhancement of real-life applications,

Offer experience that leads to all round development, and

Develop a culture that is strongly rooted in interdisciplinarity and learning by building, not just doing.

Values

Caring for people.

Integrity including intellectual honesty, openness, fairness, and trust.

Commitment to excellence.

IQAC Documentation

Document Name: Handbook of Curriculum Structure and Syllabus, Master of Design in Product Design (Programme Code: 4202) - Batch 2021-2023

Document Creation Date: Jan 27, 2022

Document Description: This document supplements the document titled Curriculum Structure: B. Des and M. Des Programmes and is prepared by the Institute of Design, JKLU to serve as an information baseline for further planning and delivery of courses w.r.t Master of Design in Product Design, Batch 2021-2023.

It includes Program Education Objectives, Programme Outcomes, Programme Specific Outcomes, Curriculum Structure, collation of Semester wise Course Description.

This document is in compliance with BoS (upto 4th meeting) and approvals of the Academic Council (upto 20th meeting).

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Vice Chancellor
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JK Lakshmipat University, Jaipur
Institute of Design
Course Structure/Curriculum for the M. Des in Product Design - (Batch 2021-2023)

Semester	Courses							Total Credits
I	Visual Representation Techniques	Documentation and Presentation Methods	Design Research Methods	Crafts, Culture & Habitat Studies	Student Seminar 01	Systems Design Project		22 Credits
	CD2100	CD2101	ID2120	ID2141	PD2140	PD2180		
	3 Credits	3 Credits	3 Credits	3 Credits	1 Credit	9 Credits		
Exit Option 01: Certificate in Design Thinking for Innovation								
I	Elements of Design	Form & Material Exploration	Computer-Aided Design	Product Analysis and Prototyping	Student Seminar 02	Product Design Project 01		22 Credits
	CD2260	PD2261	PD2200	PD2201	PD2240	PD2280		
	3 Credits	3 Credits	3 Credits	3 Credits	1 Credit	9 Credits		
Exit Option 02: PG Diploma in Product Design								
III	Product User Interface	Design for Manufacturing	Ergonomics for Product Design	Universal Design	Design Explorations with IoT and Electronics Platforms	Student Seminar 03	Product Design Project 02	22 Credits
	PD2320	PD2300	PD2321	PD2322	XD2360	PD2340	PD2380	
	3 Credits	2 Credits	3 Credits	2 Credits	2 Credits	1 Credit	9 Credits	
IV	Elective*	Entrepreneurship for Designers	Product Design Graduation Project					25 Credits
		PD2420	PD2480					
	1 Credit	3 Credits	21 Credits					
							Total	91 Credits

Elective	Codes
Branding	ID2205
Game Design	ID2206
Sustainability	PD2207
Circular Economy	PD2208
Speculative and Critical Design	PD2209

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INSTITUTE OF DESIGN

Master of Design (Product Design)

Course Title: Visual Representation Techniques

Course Code: CD2100

Credits: 3.0

Duration: 3 Weeks

Course Description & Content

This course teaches one of the most fundamental abilities needed in a designer, that is, ability to think, reflect and express visually. It is an exploration-based course that exposes the student to various tools, methods and process.

Learning Outcomes

- Ability to represent objects, people and physical environment.
- Ability to represent abstract and complex ideas.
- Ability to depict temporality by representing activities, product-usage, stories and narratives.
- Ability to think, deliberate and critique through sketching and rendering.

Methodology

- Lectures, demonstrations and presentations.
- Exploration using sketching/drawing/rendering.
- Assignments.
- Design-Crit (Collective & Constructive Critique of a Design Process.)

Evaluation Criteria

- Skills
- Levels of improvement
- Levels of thinking & Reflection
- Overall output
- Innovation & creativity
- Jury

S.No.	Components	Weightage
1	Communication/Presentation	Nil
2	Skills	10%
3	Process and management	Nil
4	Application of concepts	Nil
5	Understanding & clarity of concepts	Nil
6	Attitude towards learning	Nil
7	Levels of improvement	10%
8	Levels of thinking & Reflection	10%
9	Overall output	20%
10	Innovation & creativity	10%
11	Research & analysis	Nil
12	Class participation	Nil
13	Teamwork	Nil
14	Observation and perception	Nil
15	Jury	40%
	Total	100%

Suggested Readings

- Skaggs, S. (2017). FireSigns: A Semiotic Theory for Graphic Design (Design Thinking, Design Theory) (Illustrated ed.). The MIT Press.
- Blanciak, F. (2008). Siteless: 1001 Building Forms (Illustrated ed.). The MIT Press.

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JK LAKSHMIPAT UNIVERSITY

INSTITUTE OF DESIGN

Master of Design (Product Design)

Course Title: Documentation and Presentation Methods

Course Code: CD2101

Credits: 3.0

Duration: 3 Weeks

Course Description & Content

This course equips the student with an ability to (a) represent and (b) communicate her thoughts, concepts and ideas, with others, both through visuals and words, in a clear, effective and elegant manner. It exposes the student to the tools and techniques as well as the elements and grammar.

Learning Outcomes

- Principles of Typography, Photography, Imaging and Visual Design and their application in printed/screen-based communication.
- Fundamentals of written discourse and their application in communication.
- Ability to generate dynamic communication in the form of spoken and/or visual presentation.

Methodology

- Lectures, demonstrations and presentations.
- Literature Study
- Questionnaires/Write-Ups
- Research and Analysis
- Assignments.
- Design led problem solving.
- Design-Crit (Collective & Constructive Critique of a Design Process.)

Evaluation Criteria

- Application of concepts
- Understanding & clarity of concepts
- Levels of thinking & Reflection
- Overall output
- Research & analysis
- Jury

S.No.	Components	Weightage
1	Communication/Presentation	Nil
2	Skills	Nil
3	Process and management	Nil
4	Application of concepts	10%
5	Understanding & clarity of concepts	10%
6	Attitude towards learning	Nil
7	Levels of improvement	Nil
8	Levels of thinking & Reflection	10%
9	Overall output	20%
10	Innovation & creativity	Nil
11	Research & analysis	10%
12	Class participation	Nil
13	Teamwork	Nil
14	Observation and perception	Nil
15	Jury	40%
	Total	100%

Suggested Readings

- Dirksen, J. (2015). Design for How People Learn (Voices That Matter) (2nd Ed.). New Riders.
- Lupton, E. (2008). Indie Publishing: How to Design and Publish Your Own Book (1st Ed.). Princeton Architectural Press.

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JK LAKSHMIPAT UNIVERSITY

INSTITUTE OF DESIGN

Master of Design (Product Design)

Course Title: Design Research Methods

Course Code: ID2120

Credits: 3.0

Duration: 3 Weeks

Course Description & Content

This course develops an ability to think and communicate systematically and adequately in terms of critique, argumentation and deconstruction of ideas, thoughts, concepts, and narratives that is focused

Learning Outcomes

- Appreciate "What is Research?"
- An introduction to Philosophy of Research. (Kuhn, Popper, Lakatos, Feyerband)
- Appreciate some aspects of research-(a) Positivism vs Interpretivism (b) Qualitative vs Quantitative (c) Deductive, Inductive & Abductive Thinking.
- Appreciate the difference between Design-Research & Other research paradigms.
- Appreciate the three major themes of Design-Research: Research about Design, Research for Design & Research through Design.
- Development of the capability to use different Design-Research tools & processes.
- Detailed understanding of Qualitative Data Collection Methods, for example, Ethnographic method(s), Interviews et cetera.
- Detailed understanding of Qualitative Data Analysis Methods, for example, Affinity Diagramming, Protocol Analysis et cetera
- Detailed understanding of Quantitative Data Collection Methods, for example, Surveys, Questionnaires, Experiment Design et cetera.
- Detailed understanding of Quantitative Data Analysis Methods, for example, Descriptive Analysis, Inferential Analysis et cetera
- Hypothesis & Testing
- Reliability & Validity

Methodology

- Lectures, demonstrations and presentations.
- Literature Study
- Research and Analysis
- Questionnaires/Write-Ups
- Paper Writing & Presentation

Evaluation Criteria

- Attitude towards learning
- Research & analysis
- Teamwork
- Observation and perception
- Jury

S.No.	Components	Weightage
1	Communication/Presentation	Nil
2	Skills	Nil
3	Process and management	Nil
4	Application of concepts	Nil
5	Understanding & clarity of concepts	Nil
6	Attitude towards learning	10%
7	Levels of improvement	Nil
8	Levels of thinking & Reflection	Nil
9	Overall output	Nil
10	Innovation & creativity	Nil
11	Research & analysis	20%
12	Class participation	Nil
13	Teamwork	10%
14	Observation and perception	20%
15	Jury	**40%**
	Total	**100%**

Suggested Readings

- Creswell, J. W., & Creswell, D. J. (2018). Research Design: Qualitative, Quantitative, and Mixed Methods Approaches (5th ed.). SAGE Publications, Inc.
- Laurel, B., &Lunenfeld, P. (2003). Design Research: Methods and Perspectives (The MIT Press) (First Edition). The MIT Press.

JK LAKSHMIPAT UNIVERSITY

INSTITUTE OF DESIGN

Master of Design (Product Design)

Course Title: Culture, Craft and Design

Course Code: ID2141

Credits: 3.0

Duration: 3 Weeks

Course Description & Content

This course makes the students sensitive towards (a) the socio-cultural and (b) material contexts and relates it with (i) the philosophical landscape of India as well as (ii) the modern practice of design.

Learning Outcomes

- Sensitivity towards the social- cultural and material environment and understanding of the relevance of design in that context.
- Understand the socio-cultural structure of Indian society with a focus on craft.
- Ability to plan, conduct document field work with a focus on crafts.
- Ability to reflect on the observed contextual data from the perspective of (i) Classical Indian Philosophy: Charvaka-Lokayata, Shad-darshana (with focus on Advaita), Shaivism-Shaktism, Jainism & Buddhism, Bhakti Movement. (ii) Modern political thought: Gandhi, Ambedkar (iii) Ancient aesthetics: focus on Rasa & Auchitya (iv) Modern Art, Architecture and Design: Art (e.g. Tagore, Coomaraswamy), Craft (e.g. Pupul Jaykar), Architecture (Correa, Doshi), Design (e.g. MP Ranjan. Kumar Vyas), Cinema (e.g. Satyajit Ray)

Methodology

- Field visits/interaction with people, in particular craftspersons, in their contexts.
- Co-learning with craftsmen.
- Observational Sketching/Photography.
- Group discussions.
- Documentation.
- Lectures, demonstrations and presentations.

- Stoty-telling/Creative-Writing.
- Questionnaires/Write-Ups
- Assignments.

Evaluation Criteria

- Attitude towards learning
- Research & analysis
- Teamwork
- Observation and perception
- Jury

S.No.	Components	Weightage
1	Communication/Presentation	Nil
2	Skills	Nil
3	Process and management	Nil
4	Application of concepts	Nil
5	Understanding & clarity of concepts	Nil
6	Attitude towards learning	20%
7	Levels of improvement	Nil
8	Levels of thinking & Reflection	Nil
9	Overall output	Nil
10	Innovation & creativity	Nil
11	Research & analysis	10%
12	Class participation	Nil
13	Teamwork	10%
14	Observation and perception	20%
15	Jury	**40%**
	Total	**100%**

Suggested Readings

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JK LAKSHMIPAT UNIVERSITY

INSTITUTE OF DESIGN

Master of Design (Product Design)

Course Title: Student Seminar 01

Course Code: PD2140

Credits: 1.0

Duration: N/A (Mentors to be assigned for independent study)

Course Description & Content

This course helps students to conduct in-depth and systematic research on a topic and document and present it.

Learning Outcomes

- In depth understanding of a topic.
- Ability to document and present a topic.

Methodology

- Primary/Secondary Research
- Personal mentorship/guidance.
- Presentation

Evaluation Criteria

- Process and management
- Levels of thinking & Reflection
- Overall output
- Research & analysis

S.No.	Components	Weightage
1	Communication/Presentation	15%
2	Skills	Nil
3	Process and management	Nil
4	Application of concepts	Nil
5	Understanding & clarity of concepts	Nil
6	Attitude towards learning	Nil
7	Levels of improvement	Nil
8	Levels of thinking & Reflection	35%
9	Overall output	15%
10	Innovation & creativity	Nil
11	Research & analysis	35%
12	Class participation	Nil
13	Teamwork	Nil
14	Observation and perception	Nil
15	Jury	Nil
	Total	100%

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INSTITUTE OF DESIGN

Master of Design (Product Design)

Course Title: Systems Design Project

Course Code: PD2180

Credits: 9.0

Duration: 6 Weeks

Course Description & Content

This course helps students to design in response to a given context. It involves project based learning on innovations on the grass root level.

Learning Outcomes

- Ability to follow the full design lifecycle.
- Define the design problem after studying and researching the socio-cultural, economic and technological systems in which the human-problems are situated.
- Map the design solution with the problem definition.

Methodology

- User-Studies
- Research and Analysis
- Exploration using sketching.
- Experimenting with material (including digital code and data
- Design led problem solving.
- Design-Evaluation
- Documentation.
- Design-Crit (Collective & Constructive Critique of a Design Process.)

Evaluation Criteria

- Communication/Presentation
- Process and management
- Levels of thinking & Reflection

- Overall output
- Innovation & creativity
- Research & analysis
- Jury

S.No.	Components	Weightage
1	Communication/Presentation	10%
2	Skills	Nil
3	Process and management	10%
4	Application of concepts	Nil
5	Understanding & clarity of concepts	Nil
6	Attitude towards learning	Nil
7	Levels of improvement	Nil
8	Levels of thinking & Reflection	20%
9	Overall output	10%
10	Innovation & creativity	Nil
11	Research & analysis	10%
12	Class participation	Nil
13	Teamwork	Nil
14	Observation and perception	Nil
15	Jury	40%
	Total	100%

Suggested Readings

JKLU

JK LAKSHMIPAT UNIVERSITY

INSTITUTE OF DESIGN

Master of Design (Product Design)

Elements of Design

Course Code: CD2260

Credits: 3.0

Duration: 3 Weeks

Course Description & Content

It introduces the vocabulary of design in terms of elements, methods and principles. Students would do a series of exercised to develop sensitivity towards various design elements with a special focus on colour in design. In the process, they learn the skills needed to generate them in an elegant manner.

Learning Outcomes

- Exploration/application based understanding elements and principles of design and composition.
- Specific project based understanding of colour as a dynamic tool.
- Introduction to various elements of design like line, shape, form and texture etc.
- Special Topics: Gestalt Principles, Golden ratio etc.

Methodology

- User-Studies
- Research and Analysis
- Exploration using sketching.
- Experimenting with material (including digital code and data
- Design led problem solving.
- Design-Evaluation
- Documentation.
- Design-Crit (Collective & Constructive Critique of a Design Process.)

Evaluation Criteria

- Process and management
- Application of concepts
- Overall output
- Research & analysis
- Observation and perception
- Jury

S.No.	Components	Weightage
1	Communication/Presentation	Nil
2	Skills	Nil
3	Process and management	10%
4	Application of concepts	10%
5	Understanding & clarity of concepts	Nil
6	Attitude towards learning	Nil
7	Levels of improvement	Nil
8	Levels of thinking & Reflection	Nil
9	Overall output	20%
10	Innovation & creativity	Nil
11	Research & analysis	10%
12	Class participation	Nil
13	Teamwork	Nil
14	Observation and perception	10%
15	Jury	**40%**
	Total	**100%**

Suggested Readings

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JK LAKSHMIPAT UNIVERSITY

INSTITUTE OF DESIGN

Master of Design (Product Design)

Course Title: Form and Material Exploration

Course Code: PD2261

Credits: 3.0

Duration: 3 Weeks

Course Description & Content

Purpose of the course is to introduce the students to explore and understand the basic elements like line, shape, form and texture and to work on creating new forms through shaping material. In the process, the student also understands the grammar of materials.

Learning Outcomes

- Understanding of the 3-dimensional space and existence of various forms within it.
- Ability to form abstractions.
- Ability to conceptualise and develop forms and use as tools for ideation.
- Understand grammar of material: supple (clay), rigid (wood), lamellar (plastics, sheet metal), foldables (textile, leather), bendables (pipes, sections), modular (bricks) etc.
- Understand how the material-grammar is related to (a) the context of technology (b) context of usage and (c) various forms.

Methodology

- Lectures, demonstrations and presentations.
- Exploration using sketching.
- References to material standards and specifications.
- Experimenting with material.
- Assignments.
- Design-Crit (Collective & Constructive Critique of a Design Process.)

Evaluation Criteria

- Skills
- Levels of improvement
- Levels of thinking & Reflection
- Overall output
- Innovation & creativity
- Jury

S.No.	Components	Weightage
1	Communication/Presentation	Nil
2	Skills	10%
3	Process and management	Nil
4	Application of concepts	Nil
5	Understanding & clarity of concepts	Nil
6	Attitude towards learning	Nil
7	Levels of improvement	10%
8	Levels of thinking & Reflection	10%
9	Overall output	20%
10	Innovation & creativity	10%
11	Research & analysis	Nil
12	Class participation	Nil
13	Teamwork	Nil
14	Observation and perception	Nil
15	Jury	**40%**
	Total	**100%**

Suggested Readings

- Material Standards

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INSTITUTE OF DESIGN

Master of Design (Product Design)

Course Title: Computer-Aided Design

Course Code: PD2200

Credits: 3.0

Duration: 3 Weeks

Course Description & Content

The students learn computer-aided drawing software for drawing, modelling and rendering of forms with aim of industrial assembly and manufacturing.

Learning Outcomes

- Knowledge of the basic 2D and 3D elements.
- Ability to manipulate and combine the elements.
- Ability to render form by manipulating lighting, material, colour and texture.

Methodology

- User-Studies
- Research and Analysis
- Exploration using sketching.
- Experimenting with material (including digital code and data
- Design led problem solving.
- Design-Evaluation
- Documentation.
- Design-Crit (Collective & Constructive Critique of a Design Process.)

Evaluation Criteria

- Skills
- Application of concepts
- Understanding & clarity of concepts
- Innovation & creativity
- Jury

S.No.	Components	Weightage
1	Communication/Presentation	Nil
2	Skills	20%
3	Process and management	Nil
4	Application of concepts	10%
5	Understanding & clarity of concepts	20%
6	Attitude towards learning	Nil
7	Levels of improvement	Nil
8	Levels of thinking & Reflection	Nil
9	Overall output	Nil
10	Innovation & creativity	10%
11	Research & analysis	Nil
12	Class participation	Nil
13	Teamwork	Nil
14	Observation and perception	Nil
15	Jury	40%
	Total	100%

Suggested Readings

- Zeid, I., CAD/CAM, McGraw Hill

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JK LAKSHMIPAT UNIVERSITY

INSTITUTE OF DESIGN

Master of Design (Product Design)

Course Title: Product Analysis and Prototyping

Course Code: PD2201

Credits: 3.0

Duration: 3 Weeks

Course Description & Content

The student learns to discover the product component and their assemblies to appreciate the (a) aesthetic, (b) material/manufacturing and (c) usage rationale. Further, student tests her understanding thus gained through a prototyping exercise.

Learning Outcomes

- Ability to appreciate product configuration from the perspective of aesthetic, material/manufacturing and usage aspects.
- Ability to detail out a product through drawing, modelling and prototyping.

Methodology

- Product disassembly and reassembly
- Observational sketching.
- Engineering Drawings
- CAD modelling and 3D printing.
- Experimenting with material (including digital code and data
- Design led problem solving.
- Design-Evaluation
- Documentation.
- Design-Crit (Collective & Constructive Critique of a Design Process.)

Evaluation Criteria

- Attitude towards learning
- Levels of thinking & Reflection
- Innovation & creativity
- Observation and perception
- Jury

S.No.	Components	Weightage
1	Communication/Presentation	Nil
2	Skills	Nil
3	Process and management	Nil
4	Application of concepts	Nil
5	Understanding & clarity of concepts	Nil
6	Attitude towards learning	10%
7	Levels of improvement	Nil
8	Levels of thinking & Reflection	20%
9	Overall output	Nil
10	Innovation & creativity	10%
11	Research & analysis	Nil
12	Class participation	Nil
13	Teamwork	Nil
14	Observation and perception	20%
15	Jury	40%
	Total	100%

Suggested Readings

JK LAKSHMIPAT UNIVERSITY

INSTITUTE OF DESIGN

Master of Design (Product Design)

Course Title: Student Seminar 02

Course Code: PD2240

Credits: 1.0

Duration: Duration: N/A (Mentors to be assigned for independent study)

Course Description & Content

This course helps students to conduct in-depth and systematic research on a topic and document and present it.

Learning Outcomes

- In depth understanding of a topic.
- Ability to document and present a topic.

Methodology

- Primary/Secondary Research
- Personal mentorship/guidance.
- Presentation

Evaluation Criteria

- Process and management
- Levels of thinking & Reflection
- Overall output
- Research & analysis

S.No.	Components	Weightage
1	Communication/Presentation	15%
2	Skills	Nil
3	Process and management	Nil
4	Application of concepts	Nil
5	Understanding & clarity of concepts	Nil
6	Attitude towards learning	Nil
7	Levels of improvement	Nil
8	Levels of thinking & Reflection	35%
9	Overall output	15%
10	Innovation & creativity	Nil
11	Research & analysis	35%
12	Class participation	Nil
13	Teamwork	Nil
14	Observation and perception	Nil
15	Jury	Nil
	Total	100%

JK LAKSHMIPAT UNIVERSITY

INSTITUTE OF DESIGN

Master of Design (Product Design)

Course Title: Product Design Project 01

Course Code: PD2280

Credits: 9.0

Duration: 6 Weeks

Course Description & Content

This course helps students to design in response to a given context. It involves project based learning on innovations on the grass root level.

Learning Outcomes

- Recognize and apply the innovation process arc from beginning to end, with an emphasis on problem definition through ideation and experimentation
- Situate your work in a systemic context and see new possibilities for integrative solutions
- Familiarity with a range of perspectives on social innovation including philanthropic, civil society, public sector and social service innovation, corporate social innovation, social finance and social entrepreneurship
- Ability to apply social innovation approaches and tools, including systems thinking, design thinking, research methodology and collaborative processes.

Methodology:

- User-Studies
- Research and Analysis
- Exploration using sketching.
- Experimenting with material (including digital code and data
- Design led problem solving.
- Design-Evaluation
- Documentation.
- Design-Crit (Collective & Constructive Critique of a Design Process.)

Evaluation Criteria

- Communication/Presentation
- Process and management
- Levels of thinking & Reflection
- Overall output
- Innovation & creativity
- Research & analysis
- Jury

S.No.	Components	Weightage
1	Communication/Presentation	10%
2	Skills	Nil
3	Process and management	10%
4	Application of concepts	Nil
5	Understanding & clarity of concepts	Nil
6	Attitude towards learning	Nil
7	Levels of improvement	Nil
8	Levels of thinking & Reflection	20%
9	Overall output	10%
10	Innovation & creativity	Nil
11	Research & analysis	10%
12	Class participation	Nil
13	Teamwork	Nil
14	Observation and perception	Nil
15	Jury	40%
	Total	100%

Suggested Readings

JK LAKSHMIPAT UNIVERSITY

INSTITUTE OF DESIGN

Master of Design (Product Design)

Course Title: Product User Interface

Course Code: PD2320

Credits: 3.0

Duration: 3 Weeks

Course Description & Content

This course will help bridge the understandings of physicality of form and user interaction and hence, deliver a holistic understanding of an object and its behaviour with users.

Learning Outcomes

- Principles of Product Interface Design.
- Understanding the user's need and context with respect to Product Interface Design.
- Evaluating and testing designs using the principles learnt.

Methodology:

- User-Studies
- Research and Analysis
- Exploration using sketching.
- Experimenting with material (including digital code and data
- Design led problem solving.
- Design-Evaluation
- Documentation.
- Design-Crit (Collective & Constructive Critique of a Design Process.)

Evaluation Criteria

- Application of concepts
- Overall output
- Levels of thinking & Reflection
- Research & analysis
- Observation and perception
- Jury

S.No.	Components	Weightage
1	Communication/Presentation	Nil
2	Skills	Nil
3	Process and management	Nil
4	Application of concepts	10%
5	Understanding & clarity of concepts	Nil
6	Attitude towards learning	Nil
7	Levels of improvement	Nil
8	Levels of thinking & Reflection	10%
9	Overall output	20%
10	Innovation & creativity	Nil
11	Research & analysis	10%
12	Class participation	Nil
13	Teamwork	Nil
14	Observation and perception	10%
15	Jury	40%
	Total	100%

Suggested Readings

- Woodson, W. E., Tillman, B., & Tillman, P. (1992). Human factors design handbook: information and guidelines for the design of systems, facilities, equipment, and products for human use.

JK LAKSHMIPAT UNIVERSITY

INSTITUTE OF DESIGN

Master of Design (Product Design)

Course Title: Design for Manufacturing

Course Code: PD2300

Credits: 2.0

Duration: 2 Weeks

Course Description & Content

This course introduces various materials and processes needed for industrial production and guides students understand their appropriateness for a given design.

Learning Outcomes

- Knowledge of materials and processes.
- Understand strengths and limitations of various materials and processes.
- Evaluating and testing designs using the principles learnt.
- Ability to consult material/process standards and specifications.
- Ability to decide upon the appropriateness of a material/process for a given design solution.

Methodology:

- Lectures
- Assignments
- Industrial Visits
- Design led problem solving.

Evaluation Criteria

- Application of concepts
- Overall output
- Levels of thinking & Reflection
- Research & analysis
- Observation and perception
- Jury

S.No.	Components	Weightage
1	Communication/Presentation	Nil
2	Skills	Nil
3	Process and management	Nil
4	Application of concepts	10%
5	Understanding & clarity of concepts	Nil
6	Attitude towards learning	Nil
7	Levels of improvement	Nil
8	Levels of thinking & Reflection	10%
9	Overall output	20%
10	Innovation & creativity	Nil
11	Research & analysis	10%
12	Class participation	Nil
13	Teamwork	Nil
14	Observation and perception	10%
15	Jury	40%
	Total	100%

Suggested Readings

- Woodson, W. E., Tillman, B., & Tillman, P. (1992). Human factors design handbook: information and guidelines for the design of systems, facilities, equipment, and products for human use.

JKLU

JK LAKSHMIPAT UNIVERSITY

INSTITUTE OF DESIGN

Master of Design (Product Design)

Course Title: Ergonomics for Product Design

Course Code: PD2321

Credits: 3.0

Duration: 3 weeks

Course Description & Content

This course introduces students the relationship of human physical attributes such as (dimensions and strength) and their relation to the design of objects, tasks and environment aimed at (a) safety (b) error-prevention and (c) comfort.

Learning Outcomes

- Knowledge of ranges of human attributes-dimensions, strength, functioning temperature etc.
- Understanding of human comfort, error-prevention and safety.
- Understand tasks and cognitive processes involved.
- Design and evaluation of artefacts/tasks/environments with respect to ranges of human attributes.

Methodology:

- Lectures
- Assignments
- Industrial Visits
- Design led problem solving.

Evaluation Criteria

- Application of concepts
- Overall output
- Levels of thinking & Reflection
- Research & analysis
- Observation and perception
- Jury

S.No.	Components	Weightage
1	Communication/Presentation	Nil
2	Skills	Nil
3	Process and management	Nil
4	Application of concepts	10%
5	Understanding & clarity of concepts	Nil
6	Attitude towards learning	Nil
7	Levels of improvement	Nil
8	Levels of thinking & Reflection	10%
9	Overall output	20%
10	Innovation & creativity	Nil
11	Research & analysis	10%
12	Class participation	Nil
13	Teamwork	Nil
14	Observation and perception	10%
15	Jury	40%
	Total	100%

Suggested Readings

- Woodson, W. E., Tillman, B., & Tillman, P. (1992). Human factors design handbook: information and guidelines for the design of systems, facilities, equipment, and products for human use.

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JK LAKSHMIPAT UNIVERSITY

INSTITUTE OF DESIGN

Master of Design (Product Design)

Course Title: Universal Design

Course Code: PD2322

Credits: 2.0

Duration: 2 Weeks

Course Description & Content

This course teaches students to design products, environments and services in such a way that they do not pose barriers on the basis of disability, age, literacy-levels or gender.

Learning Outcomes

- Understand different types of disabilities occurring due to not only physical conditions but also social and cultural.
- Appreciating temporary forms of disabilities and relating them with long-term disabilities.
- Develop sensitivity for the purpose of designing for people who are different in terms of body and socio-cultural aspects.
- Ability to do user studies and product evaluation with empathy, sensitivity and compassion.

Methodology:

- Lectures
- Assignments
- Industrial Visits
- Design led problem solving.

Evaluation Criteria

- Application of concepts
- Overall output
- Levels of thinking & Reflection
- Research & analysis
- Observation and perception
- Jury

S.No.	Components	Weightage
1	Communication/Presentation	Nil
2	Skills	Nil
3	Process and management	Nil
4	Application of concepts	10%
5	Understanding & clarity of concepts	Nil
6	Attitude towards learning	Nil
7	Levels of improvement	Nil
8	Levels of thinking & Reflection	10%
9	Overall output	20%
10	Innovation & creativity	Nil
11	Research & analysis	10%
12	Class participation	Nil
13	Teamwork	Nil
14	Observation and perception	10%
15	Jury	40%
	Total	100%

Suggested Readings

- Woodson, W. E., Tillman, B., & Tillman, P. (1992). Human factors design handbook: information and guidelines for the design of systems, facilities, equipment, and products for human use.

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JK LAKSHMIPAT UNIVERSITY

INSTITUTE OF DESIGN

Master of Design (Product Design)

Course Title: Design Explorations with IoT and Electronics Platforms

Course Code: XD2360

Credits: 2.0

Duration: 2 Weeks

Course Description & Content

This course will be dealing with the basics of electronics and programming that will give learners the necessary triggers to start creating substantial devices capable of detecting signals in different forms and controlling devices to act in accordance. This module will also provide basic concepts related to the Internet of Things.

Learning Outcomes

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- Understanding of electronics platforms in terms of their features, capabilities and associated stimuli receptors.
- Understanding of the concept of IoT
- Exploration supported understanding of various components of electronics platforms and its associated virtual programming
- Advanced understanding of digital prototyping techniques and strategies for dynamic products.
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- Exploration supported understanding of various types of IoT devices and touch points
- Understanding of the concepts of network, basic systems design digital autonomous interactions etc.

- Understanding of various network and connection types and how they affect functionality of the IoT environment.

Methodology:

- Lectures
- Assignments
- Industrial Visits
- Design led problem solving.

Evaluation Criteria

- Application of concepts
- Overall output
- Levels of thinking & Reflection
- Research & analysis
- Observation and perception
- Jury

S.No.	Components	Weightage
1	Communication/Presentation	Nil
2	Skills	Nil
3	Process and management	Nil
4	Application of concepts	10%
5	Understanding & clarity of concepts	Nil
6	Attitude towards learning	Nil
7	Levels of improvement	Nil
8	Levels of thinking & Reflection	10%
9	Overall output	20%
10	Innovation & creativity	Nil
11	Research & analysis	10%
12	Class participation	Nil
13	Teamwork	Nil
14	Observation and perception	10%
15	Jury	40%
	Total	100%

Suggested Readings

- SPEED no limits in the digital era by Aleksander Poniewierski
- Digital Transformation: Survive and Thrive in an Era of Mass Extinction by Thomas M. Siebel and Audible Studios
- Arduino : The Complete Beginner's Guide - Step By Step Instructions (The Black Book) by Byron Francis
- Make: Getting Started With Arduino - The Open Source Electronics Prototyping Platform by Massimo Banzi and Michael Shiloh
- Make: Electronics: Learning Through Discovery by Charles Platt

JK LAKSHMIPAT UNIVERSITY

INSTITUTE OF DESIGN

Master of Design (Product Design)

Course Title: Student Seminar 03

Course Code: PD2340

Credits: 1.0

Duration: N/A (Mentors to be assigned for independent study)

Course Description & Content

This course helps students to conduct in-depth and systematic research on a topic and document and present it.

Learning Outcomes

- In depth understanding of a topic.
- Ability to document and present a topic.

Methodology

- Primary/Secondary Research
- Personal mentorship/guidance.
- Presentation

Evaluation Criteria

- Process and management
- Levels of thinking & Reflection
- Overall output
- Research & analysis

S.No.	Components	Weightage
1	Communication/Presentation	10%
2	Skills	Nil
3	Process and management	Nil
4	Application of concepts	Nil
5	Understanding & clarity of concepts	Nil
6	Attitude towards learning	Nil
7	Levels of improvement	Nil
8	Levels of thinking & Reflection	20%
9	Overall output	10%
10	Innovation & creativity	Nil
11	Research & analysis	20%
12	Class participation	Nil
13	Teamwork	Nil
14	Observation and perception	Nil
15	Jury	Nil
	Total	100%

Suggested Readings

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JK LAKSHMIPAT UNIVERSITY

INSTITUTE OF DESIGN

Master of Design (Product Design)

Course Title: Product Design Project 02

Course Code: PD2380

Credits: 9.0

Duration: 6 Weeks

Course Description & Content

This course helps students to design in response to a given context. It involves project based learning on innovations on the grass root level.

Learning Outcomes

- Ability to follow the full design lifecycle.
- Define the design problem after studying and researching the socio-cultural, economic and technological systems in which the human-problems are situated.
- Map the design solution with the problem definition.

Methodology

- User-Studies
- Research and Analysis
- Exploration using sketching.
- Experimenting with material (including digital code and data
- Design led problem solving.
- Design-Evaluation
- Documentation.
- Design-Crit (Collective & Constructive Critique of a Design Process.)

Evaluation Criteria

- Communication/Presentation
- Process and management
- Levels of thinking & Reflection
- Overall output
- Innovation & creativity
- Research & analysis
- Jury

S.No.	Components	Weightage
1	Communication/Presentation	10%
2	Skills	Nil
3	Process and management	10%
4	Application of concepts	Nil
5	Understanding & clarity of concepts	Nil
6	Attitude towards learning	Nil
7	Levels of improvement	Nil
8	Levels of thinking & Reflection	20%
9	Overall output	10%
10	Innovation & creativity	Nil
11	Research & analysis	10%
12	Class participation	Nil
13	Teamwork	Nil
14	Observation and perception	Nil
15	Jury	40%
	Total	100%

Suggested Readings

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JK LAKSHMIPAT UNIVERSITY

INSTITUTE OF DESIGN

Master of Design (Product Design)

Course Title: Entrepreneurship for Designers

Course Code: PD2105

Credits: 3.0

Duration: 3 Weeks

Course Description & Content

The course teaches to build an independent design-led business model. Students will learn to understand, plan and execute an innovative idea and support it with design thinking, strategy and resource development approaches. In the process, the students will learn the real-world practice of design.

Learning Outcomes

- Ability to conceptualize entrepreneurship as a model of innovation to be practiced in reality, within a specific market/opportunity area.
- Gaining a strategic and systemic perspective of design
- Understanding how Design is practiced in real worls
- Ability to work with stakeholders from various backgrounds

Methodology:

- Case Studies
- User-Studies
- Research and Analysis
- Design led problem solving.
- Design-Evaluation
- Documentation
- Design-Crit (Collective & Constructive Critique of a Design Process.)

Evaluation Criteria

- Communication/Presentation
- Process and management
- Levels of thinking & Reflection
- Research & analysis
- Teamwork
- Observation and perception
- Jury

S.No.	Components	Weightage
1	Communication/Presentation	10%
2	Skills	Nil
3	Process and management	10%
4	Application of concepts	Nil
5	Understanding & clarity of concepts	Nil
6	Attitude towards learning	Nil
7	Levels of improvement	Nil
8	Levels of thinking & Reflection	20%
9	Overall output	Nil
10	Innovation & creativity	Nil
11	Research & analysis	15%
12	Class participation	Nil
13	Teamwork	5%
14	Observation and perception	Nil
15	Jury	40%
	Total	100%

Suggested Readings

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JK LAKSHMIPAT UNIVERSITY

INSTITUTE OF DESIGN

Master of Design (Product Design)

Course Title: Product Design Graduation Project

Course Code: PD2105

Credits: 21.0

Duration: 14 Weeks

Course Description & Content

Graduation project is the final project, where a student is expected to work closely with an external organisation in conjunction with the Institute of Design, JK Lakshmipat University.

The focus of the graduation project is to draw from their learning at the institute and demonstrate the ability to contribute and collaborate in a professional manner with various stakeholders such as experts in the industry, with project partners and prospective users of the intended product. The students will justify the design decisions taken during the tenure of the project with regards to the design process; argue for relevant facts, social context and a user focus.

On successful completion of the project, students are expected to document the project and make presentations on the process and journey at the university and appear before a jury panel to discuss experiences and learnings.

Learning Outcomes

- Ability to employ the learning at the institute to independently design, execute and document a design project of fair size and complexity.
- Ability to manage process and schedule of a project.
- Ability to closely work and communicate with various stakeholders.
- Ability to balance the trade-offs between various requirements such as those of requirements, expectations, specifications, quality, time and effort.

Methodology

- Mentorship
- Project Planning
- Research
- Design-Crit (Collective & Constructive Critique of a Design Process.)

Evaluation Criteria

- Process and management
- Application of concepts
- Overall output
- Research & analysis
- Observation and perception
- Jury

S.No.	Components	Weightage
1	Communication/Presentation	Nil
2	Skills	Nil
3	Process and management	10%
4	Application of concepts	10%
5	Understanding & clarity of concepts	Nil
6	Attitude towards learning	Nil
7	Levels of improvement	Nil
8	Levels of thinking & Reflection	Nil
9	Overall output	20%
10	Innovation & creativity	Nil
11	Research & analysis	10%
12	Class participation	Nil
13	Teamwork	Nil
14	Observation and perception	10%
15	Jury	40%
	Total	100%

Suggested Readings