

Shri Vaishnav Institute of Architecture

B. Des in Product Design

SEMESTER V BDES PD 501 - DESIGN STUDIO - IV

					EACHII EME/V				EX	AMINATION S	СНЕМЕ		KKS
		_					SL		THEOR	Y	PRAC	CTICAL	MAF
Sr. No.	Course Code	Course Typology	Course Name	L	Т	S	CREDI	End Sem University Exam (50% or 40%)	Two Term Exam (20%)	Teachers Assessment* (20%or 30%)	End Sem University Exam (50%)	Teachers Assessment* (50%)	TOTAL
1	BDES PD 501	STUDIO	DESIGN STUDIO 4	0	0	8	8	0	0	0	200	200	400

 $\label{lem:Legends: L-Lecture; T-Tutorial/Teacher Guided Student Activity; P-Practical; C-Credit;$

Course Educational Objectives (CEOs):

Student will follow the process based product design. Ability to create innovative single component single feature solution. Exploration of the Industrial Product design like hardware's, electronics etc.

Course Outcomes (COs):

- **CO 1-** Learning on design process along with the understanding on form and its functionality.
- **CO 2-** Ability to create innovative feature solutions, by following the design processes.
- CO 3- Exploration of the Industrial Product having single feature as a solution

Syllabus

UNIT – I

DESIGN THINKING- Consolidation of fundamentals of form based design & lateral thinking will be emphasized. Considerable research will be involved to recognize the virtue of design processes. The objectives are to encourage students to extend their viewpoint beyond conventional solutions, to create a deep sense of details and materials.

24hrs

UNIT - II

DESIGN RESEARCH -Qualitative and qualitative research methodology, Questionnaire design, validation, repeatability testing, psychophysical scales.

24hrs

^{*}Teacher Assessment shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.



Shri Vaishnav Institute of Architecture

B. Des in Product Design

						EACHII EME/W				EXA	AMINATION S	СНЕМЕ		KS
								LS		THEOR	Y	PRAC	CTICAL	MAR
Sr	·. No.	Course Code	Course Typology	Course Name	L	Т	S	CREDI	End Sem University Exam (50% or 40%)	Two Term Exam (20%)	Teachers Assessment* (20%or 30%)	End Sem University Exam (50%)	Teachers Assessment* (50%)	TOTAL
	1	BDES PD 501	STUDIO	DESIGN STUDIO 4	0	0	8	8	0	0	0	200	200	400

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P - Practical; C - Credit;

UNIT - III

DESIGN PROCESS- Importance of Human factors in product design; Creative techniques and tools for Concept generation, concept evaluation; Product prototyping/ model making work flow, tools and techniques for model making and prototyping, introduction to prototype driven innovation.

24hrs

UNIT – IV

DESIGN TECHNOLOGY -Design technology related to product design. 24hrs

UNIT -V

Prototyping using design technology.

24hrs

Suggested Book References

- 1. Laurene Vaughan Practice based design research
- 2. Gail Greet Hannah Elements of Design
- 3. Dopress Books Product Sketchbook
- 4. S.Balaram Thinking Design
- 5. Don Norman- The design of Everyday things
- 6. Roozenburg, N. F., & Eekels, J. (1995). Product design: fundamentals and methods (Vol. 2). John Wiley & Sons Inc.
- 7. Lidwell, W., Holden, K., & Butler, J.(2010). Universal principles of design
- 8. Paul Zelanski and Mary Pat Fisher Design principles and Problems 2 Edition

Chairperson Board of Studies Shri Vaishnav Vidyapeeth Vishwavidyalaya,Indore Chairperson
Faculty of Studies
Shri Vaishnav Vidyapeeth
Vishwavidyalaya,Indore

Controller of Examination Shri Vaishnav Vidyapeeth Vishwavidyalaya,Indore Joint Registrar Shri Vaishnav Vidyapeeth Vishwavidyalaya,Indore

^{*}Teacher Assessment shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.



Shri Vaishnav Institute of Architecture

B. Des in Product Design

BDES PD 502 - NATURE OF MATERIALS AND PROCESSES – II

				TE SCHE	ACHI EME/V				EXA	AMINATION	SCHEME		RKS
							\mathbf{SL}		ГНЕО			CTICAL	MA
Sr. No	Course Code	Course Typology	Course Name	L	Т	S	CREDI	End Sem University Exam (50% or 40%)	Two Term Exam (20%)	`	End Sem University Exam (50%)	Teachers Assessment* (50%)	TOTAL
2	BDES PD 502	THEORY+STUDIO	NATURE OF MATERIALS AND PROCESSES-III	2	1	1	4	50	20	30	0	100	200

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P - Practical; C - Credit;

Course Educational Objectives (CEOs):

Material and processes in design, unconventional manufacturing. Ability to design products which are seemingly impossible to manufacture using conventional processes

Course Outcomes (COs):

- **CO 1-** Learning on Materials and unconventional manufacturing processes along with machinery involved in it.
- **CO 2-** Learning on manufacturing techniques of various materials and hands on experience on them.
- **CO 3-** Understand the advanced knowledge about manufacturing process and industrial processes from a design perspective.

Syllabus

UNIT - I

Material Deposition Processes Laser Deposition, Micro-Plasma Powder Deposition, Chemical vapor Deposition, Micro Welding, Powder Casting .Metal 3D Printing, Powder Deposition 3D printing; 12HRS

UNIT – II

Subtractive Processes Electrochemical machining, Electro-Discharge machining, Ultrasonic Machining, Laser Beam Machining, Water jet machining, Abrasive Jet Machining, Plasma Arc machining

12HRS

^{*}Teacher Assessment shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.



Shri Vaishnav Institute of Architecture

B. Des in Product Design

					ACHI EME/V	NG VEEK			EXA	MINATION	SCHEME		RKS
							L		ГНЕО			CTICAL	MA
Sr. No.	Course Code	Course Typology	Course Name	L	Т	s	CRED	End Sem University Exam (50% or 40%)	Two Term Exam (20%)	Teachers Assessment* (20%or 30%)	End Sem University Exam (50%)	Teachers Assessment* (50%)	TOTAL
2	BDES PD 502	THEORY+STUDIO	NATURE OF MATERIALS AND PROCESSES-III	2	1	1	4	50	20	30	0	100	200

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P - Practical; C - Credit;

UNIT – III

Cutting and Removal Water Jet Cutting, Plasma Cutting, Laser Cutting, Electro-Discharge Wire Cutting; Abrasive Jet Cutting, Additive Extrusion Processes Extruded Filament 3D printing, Clay 3D printing, Stereo lithography **12HRS**

UNIT-IV

Special Purpose Manufacturing processes Rot molding, Layer Compression, Sheet contouring, Friction Welding

12HRS

UNIT - V

Surface Treatment Processes Laser Etching, Acid/Base Etching, Electro Chemical Etching, Sand Blast Etching, Ultraviolet Etching, Photochemical Machining Electro Chemical Polishing

12HRS

Suggested Book References

- 1. Vijay K. Jain, Advanced Machining Processes. Allied Publishers, New Delhi, 2007
- 2. P. C. Pandey and H.S. Shan, Modern Machining Processes, Tata McGraw-Hill, New Delhi, 2007
- 3. G.F. Benedict, Nontraditional Manufacturing Processes, Marcel Dekker Inc., New York, 1987
- 4. McGeough, Advanced Methods of Machining, Chapman and Hall, London, 1998
- 5. Paul De Garmo, J.T. Black, and Ronald A. Kohser, Material and Processes in Manufacturing, Prentice Hall India, 2001

^{*}Teacher Assessment shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.



Shri Vaishnav Institute of Architecture

B. Des in Product Design

BDES PD 503 - DIGITAL STUDIO - IV

					TE SCHE	ACHI ME/V				EXA	AMINATION	SCHEME		KS
								SI	,	ГНЕО	RY	PRAC	CTICAL	TAR
Sr	. No.	Course Code	Course Typology	Course Name	L	Т	S	CREDI	Hyam	Two Term Exam (20%)	(End Sem University Exam (50%)		TOTAL
	3	BDES PD 503	STUDIO	DIGITAL STUDIO - IV 3D MODELLING	0	0	3	3	0	0	0	75	75	150

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P - Practical; C - Credit;

Course Educational Objectives (CEOs):

CEO 1- Introduction to the 3 dimensional transformations of design and rendering software of the product design.

Course Outcomes (COs):

CO1- Learning of Advance 3D surfacing software- 3Ds Max and Grasshopper; surfacing features and Rendering.

CO2- To enable the student to understand the applications of the software and graphic system.

CO3- Learning 3D surfacing software with various rendering techniques

Syllabus

UNIT - I

Introduction to 3Ds Max and its interface. Learn about its tools and Techniques

9HRS

UNIT - II

Create basic 3D model by using basic tools of the software

9HRS

UNIT – III

Rendering in interface of 3Ds Max

9HRS

UNIT - IV

Introduction to Grasshopper and its interface. Learn about its tools and Techniques

9HRS

^{*}Teacher Assessment shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.



Shri Vaishnav Institute of Architecture

B. Des in Product Design

					TE. SCHE	ACHI ME/V				EXA	AMINATION	SCHEME		KS
								SI	7	ГНЕОІ	RY	PRAG	CTICAL	AAR
•	Sr. No.	Course Code	Course Typology	Course Name	L	T	S	CREDI	(50% or	Two Term Exam (20%)	Teachers Assessment* (20%or 30%)	End Sem University Exam (50%)	Lagehore	TOTAL
	3	BDES PD 503	STUDIO	DIGITAL STUDIO - IV 3D MODELLING	0	0	3	3	0	0	0	75	75	150

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P - Practical; C - Credit;

UNIT - V

Start creating models on Grasshopper with the different types of rendering 9HRS

Suggested Book References

- 1. 1. Shunryū Suzuki, Zen Mind, Beginners Mind.
- 2. 2.Jef Raskin, The Humane Interface
- 3. Robert H. McKim, Experiences in Visual Thinking

^{*}Teacher Assessment shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.



Shri Vaishnav Institute of Architecture

B. Des in Product Design

BDES PD 504 - PRODUCT BRANDING AND IDENTITY

	DDDDI												
					EACHII EME/W				EX	KAMINATION S	SCHEME		RKS
							TS		THEOR	Y	PRAC	CTICAL	MA
Sr. No.	Course Code	Course Typology	Course Name	L	Т	S	CREDI	End Sem University Exam (50% or 40%)	Two Term Exam (20%)	Teachers Assessment* (20%or 30%)	End Sem University Exam (50%)	Teachers Assessment* (50%)	TOTAL
4	BDES PD 504	THEORY	PRODUCT BRANDING AND IDENTITY	1	1	0	2	50	20	30	0	0	100

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P - Practical; C - Credit;

Course Educational Objectives (CEOs):

CEO 1- Introduction to brand identity, brand value. About product identity and its importance many more aspects of branding and its elements

Course Outcomes (COs):

CO1- In this student will learn about the product branding and identity to set up in market.

CO2- Understanding of why organizations invest in maintaining their identity.

CO3- Knowledge of Branding and Identity and how they implies in design process

Syllabus

UNIT – I

What is brand identity, importance of it? Product identity

9HRS

UNIT - II

How to design brand identity and features of it

9HRS

UNIT - III

Aesthetic Experience Modes of Aesthetic Experience; Basics of Aesthetic values; Aesthetics of Thinking and Creativity; Taste and Aesthetes; Aesthetics of Symbols;

9HRS

Chairperson	Chairperson	Controller of Examination	Joint Registrar
Board of Studies	Faculty of Studies	Shri Vaishnav Vidyapeeth	Shri Vaishnav Vidyapeeth
Shri Vaishnav Vidyapeeth	Shri Vaishnav Vidyapeeth	Vishwavidyalaya,Indore	Vishwavidyalaya,Indore
Vishwavidyalaya,Indore	Vishwavidyalaya,Indore		

^{*}Teacher Assessment shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.



Shri Vaishnav Institute of Architecture

				B .	Des i	n Pı	rodi	<u>ıct Desi</u>	σn				
					EACHII EME/W				EX	EAMINATION S	SCHEME		RKS
							ĽS		THEOR	Y	PRAC	CTICAL	MA
Sr. No.	Course Code	Course Typology	Course Name	L	Т	S	CREDIT	End Sem University Exam (50% or 40%)	Two Term Exam (20%)	Teachers Assessment* (20%or 30%)	End Sem University Exam (50%)	Teachers Assessment* (50%)	TOTAL
4	BDES PD 504	THEORY	PRODUCT BRANDING AND IDENTITY	1	1	0	2	50	20	30	0	0	100

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P - Practical; C - Credit;

UNIT - IV

Branding and Identity History of branding; structure of a Brand; Brand language; Logos; Copywriting; Typeface; Brand Placement; Brand Guidelines; Structure of Identity; Visual Abstraction; Metaphors; Communication; Representativeness; Evolution; 9HRS

UNIT - V

Case Study 9HRS

Suggested Book references-

- 1. Paul M., Visual Communication: Images with Messages, 2006
- 2. Ralf E. Wileman, Visual Communication
- 3. David Sless, Learning & Visual Communication
- 4. Friedrich O. Huck and Carl L. Fales, The Digital Evolution: Visual Communication in the electronic age
- 5. Zia-Ur-Rehman, Visual Communication an Information Theory Approach
- 6. Margaret Mark, Carol Pearson, the Hero and the Outlaw: Building Extraordinary Brands through the Power of Archetypes, McGraw Hill, 2001

^{*}Teacher Assessment shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.



Shri Vaishnav Institute of Architecture

B. Des in Product Design

BDES PD 505 - DESIGN MANAGEMENT-2

					EACHI EME/V	NG VEEK			EX	AMINATION	SCHEME		KS
							LS		THEO	RY	PRAC	CTICAL	AAR
Sr. No.	Course Code	Course Typology	Course Name	L	Т	S	CREDI	End Sem University Exam (50% or 40%)	TXX/O	Teachers Assessment* (20%or 30%)	End Sem University Exam (50%)	Teachers Assessment* (50%)	TOTAL
5	BDES PD 505	THEORY	DESIGN MANAGEMENT 2- IPR	1	1	0	2	50	20	30	0	0	100

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P - Practical; C - Credit;

Course Educational Objectives (CEOs):

CEO 1- Insight into the context that businesses and organizations operate in, how they view and use design, and their relationship with designers. Examine the roles of design and innovation in achieving organizational objectives.

Course Outcomes (COs):

CO 1-Skills, knowledge and learning style evaluation, personal goal setting and professional development planning.

CO 2-To bring together the languages of design and business, it considers organizational objectives, how design and innovation deliver value and return on investment is evaluated.

CO 3-Understanding Intellectual Property Rights and its types

Syllabus

UNIT – I

Basics of Intellectual Property, Product differentiation and identity

6HRS

UNIT - II

Patent laws, Structure of a Patent Application

6HRS

^{*}Teacher Assessment shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.



Shri Vaishnav Institute of Architecture

B. Des in Product Design

						EACHI EME/V				EX	AMINATION	SCHEME		KS
								LS	1	THEO	RY	PRAC	CTICAL	IAR
Si	r. No.	Course Code	Course Typology	Course Name	L	Т	S	CREDI	End Sem University Exam (50% or 40%)	Two Term Exam (20%)	Teachers Assessment* (20%or 30%)	End Sem University Exam (50%)	Teachers Assessment* (50%)	TOTAL
	5	BDES PD 505	THEORY	DESIGN MANAGEMENT 2- IPR	1	1	0	2	50	20	30	0	0	100

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P - Practical; C - Credit;

UNIT - III

Copyright—Is it right to copy, Design Rights

6HRS

UNIT - IV

Trademarks and India Design Act

6HRS

UNIT - V

Global and local frameworks of securing Intellectual Property Rights; indigenous intellectual property. IP for Business—A profit making asset class: Indian laws and International laws and their enforcement mechanism

6HRS

Suggested Book References-

- 1. Best, K. (2006). Design management: managing design strategy, process and implementation. AVA publishing Cooper, R., Junginger, S., & Lockwood, T. (Eds.). (2013).
- 2. The handbook of design management. A&C Black Martin, R. L. (2009). The design of business: Why design thinking is the next competitive advantage. Harvard Business Press.

^{*}Teacher Assessment shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.



Shri Vaishnav Institute of Architecture

B. Des in Product Design

BDES PD 506 - ELECTIVE - III

				TEAC:	HING ME/WEI	EK		EXAMINAT	TION SCH	IEME			
								THEORY			PRACTICA	A L	RKS
Sr. No.	Course Code	Course Typology	Course Name	L	Т	S		University Exam	Term Exam	Teachers Assessment*	End Sem University Exam (50%)	Teachers Assessment* (50%)	TOTAL MAI
6	BDES PD 506	LAB	ELECTIVE - III	0	0	2	2	0	0	0	50	50	100

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P - Practical; C - Credit;

Course Educational Objectives (CEOs):

CEO 1- The students have to choose one elective in this semester to detail out. A separate report to be submitted for the elective.

Course Outcomes (COs):

- **CO 1-** At the end of the course, students will be able to overall nurturing of the student with issues in practice and field outside
- **CO 2-** Understand better grooming than just books and theories.
- CO 3- Analyze and research on the selected topics
 - 1. Frugal Innovation
 - 2. Mobility and Vehicle Design

^{*}Teacher Assessment shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.



Shri Vaishnav Institute of Architecture

B. Des in Product Design

BDES PD 507 - CREATIVE NARRATION

Sr. No.			Course Name	TEACHING SCHEME/WEEK				EXAMINATION SCHEME					
						s	CREDITS	THEORY			PRACTICAL		MAF
	Course Code	Course Typology		L	Т			End Sem University Exam (50% or 40%)	Two Term Exam (20%)	Teachers Assessment* (20%or 30%)	End Sem University Exam (50%)	Teachers Assessment* (50%)	TOTAL
7	BDES PD 507	LAB	CREATIVE WRITING (ENGLISH)	0	0	3	3	0	0	0	75	75	150

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P - Practical; C - Credit;

Course Educational Objectives (CEOs):

CEO 1-Students will learn creative writing for their design.

Course Outcomes (COs):

CO 1- Understanding on Story making, narration of concept. Incorporating them in a design processes

CO 2- Ability to comprehend and draft user stories.

CO 3- Ability to document user experience in a retainable form.

Syllabus

UNIT - I

Story -Story, narrative and meaning making, metaphors Objective -Premise and problem statement, Context

6HRS

UNIT - II

Protagonist

Characters and personas, examples of Don Quixote, Karna

6HRS

UNIT – III

Chain of Events. Plot and Scenarios

6HRS

^{*}Teacher Assessment shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

Shri Vaishnav Institute of Architecture

deal H Collaboration Street V all Street							ι							
Sr. No.			Course Name	TEACHING SCHEME/WEEK Troduct Des			EXAMINATION SCHEME							
				111	ouu	Ct D	EDITS	THEORY			PRACTICAL		MAR	
	Course Code	Course Typology		L	Т	S		End Sem University Exam (50% or 40%)	Two Term Exam (20%)	(20%or	End Sem University Exam (50%)	Teachers Assessment* (50%)	TOTAL	
	7	BDES PD 507	LAB	CREATIVE WRITING (ENGLISH)	0	0	3	3	0	0	0	75	75	150

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P - Practical; C - Credit;

UNIT – IV

Dynamics

Relationship between problems, need and conflict, rationalization of need, rationalization of conflict

6HRS

UNIT - V

Closure

Conflict, Action and Resolution

REFERENCES:

- 1. Mike Korolenko and Bruce Wolcott, Storytelling and Design: Media Literacy for the Digital Age, Pearson Learning Solutions, 2005
- 2. Marie-Laure Ryan (editor), Narrative across Media: The Languages of Storytelling, University of Nebraska Press, 2004
- 3. Kristin M. Langellier and Eric E. Peterson, Storytelling In Daily Life: Performing Narrative, Temple University Press, 2004

^{*}Teacher Assessment shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.