JOY UNIVERSITY

Established vide Tamil Nadu State Pvt. Universities Act 2019

SCHOOL OF DESIGN

Outcome Based Curriculum Framework with CBCS

for

BACHELOR OF DESIGN

(Transportation and automobile Design)

(B.Des)

Students admitted from 2023-27 onwards

JOY UNIVERSITY
semper paratus

VISION

♣To create and nurture a multidisciplinary global university with highest academics, research and ethical standards in a creative and innovative environment.

MISSION

♣To be a premier University of choice for all stakeholders and contribute for academic demographic dividend. To inculcate quality, integrity, team work, compassion, ethics in new generation students for catering to various needs of society.

QUALITY OBJECTIVES

- To disseminate knowledge with skills through teaching, training, seminars, workshops, conferences and symposia in Engineering and Technology, Art and Design, Management and Commerce, Allied Health Sciences, Physical and Life Sciences, Arts, Humanities and Social Sciences, Law and Agricultural Sciences to enable students to meet the current needs and trends of industries, business and society.
- To provide technical and scientific solutions to real time problems posed by industries, business and society in all Schools of Joy University.
- To inculcate quality, integrity, team work, compassion, ethics in new generation students for catering to various needs of society.
- To promote the spirit of entrepreneurship in the young generation to help and create more career opportunities in the society by incubating a nurturing technology product idea backed by Technology Business Incubation.
- To identify and nurture leadership and innovate skills in students to become future leaders to enrich society.
- To develop collaborations and partnerships with International global and reputed Universities, research establishments, Government and NGO's, industries and businesses. To support both faculties and students for international exposure.

SCHOOL OF DESIGN

VISION:

To cultivate innovative minds and practitioners who will lead and inspire positive global transformation through design.

MISSION:

Foster a collaborative environment for Design Thinking and Design Doing aligned with the UN Sustainable Development Goals (SDGs).

Equip the next generation of designers with the essential knowledge, skills, and perspectives to develop creative and innovative solutions for complex problems.

Create opportunities for students to take the entrepreneurial route by engaging and encouraging them in collaborative ventures, competitions, and project pitches.

PROGRAMME EDUCATIONAL OBJECTIVES

PEO1: To equip students with comprehensive knowledge and skills in transportation and automobile design, enabling them to creatively and technically develop innovative vehicle concepts and transportation solutions

PEO2: To develop strong analytical and practical capabilities in planning, designing, and solving complex transportation and automotive engineering problems, emphasizing safety, efficiency, and sustainability.

PEO3: To foster research aptitude and the ability to apply experimental, computational, and data analysis methods for advancing knowledge and technology in transportation systems and automobile design.

PEO4: To inculcate professional ethics, effective communication, teamwork, and multidisciplinary collaboration skills necessary for leadership roles in the transportation and automobile design industries.

GRADUATE ATTRIBUTES

The Graduate Attributes of B.Des Transportation and Automobile Design are:

GA 1 Engineering Knowledge

GA 2 Problem Analysis

GA 3 Design/Development of Solutions

GA 4 Investigation

GA 5 Modern Tool Usage

GA6 Engineer and Society

GA 7 Environments and Sustainability

GA 8 Ethics

GA 9 Individual and Team Work

GA 10 Communication

GA 11 Project Management and Finance

GA 12 Lifelong Learning

PROGRAMME OUTCOMES

On completion of the **B.Des (Transportation and Automobile Design) Programme,** students should be able to:

PO1: Apply the fundamental principles of design to create innovative and functional transportation and automobile solutions.

PO2: Identify, analyze, and solve design problems in the transportation and automotive industry using modern tools and techniques.

PO3: Integrate form, function, and aesthetics into transportation designs that enhance user experience and performance.

PO4: Conduct user research, analyze market trends, and interpret data to address real-world transportation challenges.

PO5: Utilize modern software, tools, and technologies to conceptualize, develop, and present transportation designs.

PO6: Assess societal, cultural, and environmental factors to create sustainable and inclusive transportation solutions.

PO7: Understand the ethical implications and responsibilities associated with design practices in the automotive industry.

PO8: Function effectively in diverse and multidisciplinary teams to collaboratively achieve design goals and objectives.

PO9: Demonstrate effective communication skills, including presenting ideas and concepts through sketches, models, and digital media.

PO10: Apply project management and business skills to lead transportation design projects and meet client or organizational goals.

PO11: Stay updated with emerging trends, technologies, and materials in transportation and automobile design through lifelong learning.

PO12: Design solutions that prioritize safety, user comfort, and efficiency while adhering to industry standards and regulations.

PROGRAM SPECIFIC OUTCOMES

PSO1: Develop globally competitive transportation and automobile design concepts that cater to diverse user needs and preferences.

PSO2: Design and prototype innovative mobility solutions that address real-time challenges in the automotive industry.

PSO3: Apply advanced tools, software, and methodologies to create functional and aesthetically appealing vehicle designs.

PSO4: Foster creativity and critical thinking to design vehicles with a focus on sustainability and future mobility.

PSO5: Equip students with entrepreneurial and analytical skills to venture into the automotive design business or industry.

PSO6: Build expertise in user-centric design approaches, blending technical knowledge with creative problem-solving.

Summary of Credits

Semester	I	II	III	IV	V	VI	VII	VIII	Total
Credits	26	23	27	24	22	22	10	6	160
Contact Hrs./Week	32	29	37	29	26	26	10	6	195

SEMESTER WISE CREDIT STRUCTURE

Sl. No.	Category of Courses	1st Year		2nd Year		3rd Year		4th Year		Total
		Sem I	Sem II	Sem III	Sem IV	Sem V	Sem VI	Sem VII	Sem VIII	
1.	Departmental Core	17	11	11	13	15	15	-	-	82
2.	Practical Paper	7	7	10	6	4	4	2	-	40
3.	Elective Paper	-	-	-	-	3	3	-	-	6
4.	Internship Industrial visit	-	-	-	-	-	-	3	-	3
5.	Project	-	-	-	-	-	-	5	6	11
6.	-	-	-	-	-	-	-	-	-	--
7.	-	-	-	-	-	-	-	-	-	--
8.	Interdisciplinary Paper	-	-	4	4	-	-	-	-	16
9.	Ability Enhancement /Soft Skills/Value Added Course	2	5	-	-	-	-	-	-	7

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B. Des (Transportation and automobile Design)

Semester – I (Total Credits: 26)

SI. No	Course Code	Course Title	L	T	P	Contact Hrs / Wk	Credits
1.	23AEEN911	**Ability Enhancement Compulsory Course (AECC)** Effective communication	2	0	0	2	2
2.	23BDAD111	**Core Course** Global Design History	3	0	0	3	3
3.	23BDAD112	**Core Course** Elements Of Design-I	2	1	0	3	3
4.	23BDAD113	**Core Course** Design Drawing -I	1	1	3	5	5
5.	23BDAD114	**Core Course** Material Studies	3	0	0	3	3
6.	23BDAD115	**Core Course** Fundamentals Of Typography	1	2	0	3	3
7.	23BDAD211	**Practical** Computer Applications	0	0	4	4	2
8.	23BDAD212	**Practical** Design Thinking-I	0	0	4	4	2
9.	23BDAD213	**Practical** Design Process-I	0	0	4	4	2
10	23BDAD214	**Practical** Social Etiquette	0	0	1	1	1
		Total	**12**	**4**	**16**	**32**	**26**

Semester – II (Total Credits: 23)

SI.No	Course Code	Course Title	L	T	P	Contact Hrs / Wk	Credits
1.	23EVST921	**Ability Enhancement Compulsory Course (AECC)** Environmental Studies	2	0	0	2	2
2.	23BDAD121	**Core Course** Indian Design History	3	0	0	3	3
3.	23BDAD122	**Core Course** Element Of Design II	3	1	0	4	4
4.	23AEEN922	**Ability Enhancement Compulsory Course (AECC)** Interpersonal and cross cultural skills	1	1	1	3	3
5	23BDAD123	**Core Course** Material Processing	3	1	0	4	4
6	23BDAD221	**Practical** Design Thinking-II	0	0	4	4	2
7	23BDAD222	**Practical** Design Process-II	0	0	4	4	2
8	23BDAD223	**Practical** Design Drawing -II	0	0	4	4	2
9	23BDAD224	**Practical** Business Etiquette	0	0	1	1	1
		TOTAL	**12**	**3**	**13**	**29**	**23**

Semester – III

(Total Credits: 27)

SI.No	Course Code	Course Title	L	T	P	Contact Hrs / Wk	Credits
1.	23BDAD831	**Inter Disciplinary Course** Mathematics For Design	3	1	0	4	4
2.	23BDAD131	**Core Course** Manufacturing Processes	3	1	0	4	4
3.	23BDAD132	**Core Course** Automobile Technology	3	0	0	3	3
4.	23BDAD133	**Core Course** Engineering Mechanics	3	1	0	4	4
5.	23BDAD931	**Ability Enhancement Compulsory Course (AECC)** Professional Ethics	2	0	0	2	2
6.	23BDAD231	Skill Workshop/Foreign Languages	0	0	4	4	2
7.	23BDAD232	**Practical** Automobile Illustration-I	0	0	4	4	2
8.	23BDAD233	**Practical** Mobility Product Design-I	0	0	4	4	2
9.	23BDAD234	**Practical** Digital Sculpting	0	0	4	4	2
10.	23BDAD235	**Practical** Workshop Practice-I	0	0	4	4	2
		TOTAL	**14**	**3**	**20**	**37**	**27**

Semester – IV

(Total Credits: 24)

SI.No	Course Code	Course Title	L	T	P	Contact Hrs / Wk	Credits
1.	23BDAD141	**Core Course** Applied Ergonomics	3	0	0	3	3
2.	23BDAD142	**Core Course** Automobile Design	3	0	0	3	3
3.	23BDAD143	**Core Course** Design For Electric Vehicles	3	1	0	4	4
4.	23BDAD144	**Core Course** Rapid Prototyping	3	0	0	3	3
5.	23BDAD841	**Inter Disciplinary Course** Fundamentals Of Management	3	1	0	4	4
6.	23BDAD241	**Practical** Mobility Product Design-II	0	0	4	4	2
7.	23BDAD242	**Practical** Workshop Practice-II	0	0	4	4	2
8.	23BDAD243	**Practical** Automobile Illustration-II	0	0	4	4	2
		TOTAL	**15**	**2**	**12**	**29**	**24**

Semester – V

(Total Credits: 22)

SI.No	Course Code	Course Title	L	T	P	Contact Hrs / Wk	Credits
1.	23BDAD151	**Core Course** Fundamentals Of Finite Element Analysis	3	1	0	4	4
2.	23BDAD152	**Core Course** Advanced Materials	3	1	0	4	4
3.	23BDAD153	**Core Course** Electronics For Automobiles	3	1	0	4	4
4.	23BDAD351/ 23BDAD352	**Elective Course** Design Of Material Handling Equipment/ Designing For Automotive Safety	2	1	0	3	3
5.	23BDAD154	**Core Course** Design Of Special Purpose Heavy Duty Vehicles	2	1	0	3	3
6	23BDAD251	**Practical** Mobility Product Design III	0	0	4	4	2
7.	23BDAD252	**Practical** Automotive Illustration -III	0	0	4	4	2
		TOTAL	**14**	**5**	**8**	**26**	**22**

Semester – VI

(Total Credits: 22)

SI.No	Course Code	Course Title	L	T	P	Contact Hrs / Wk	Credits
1.	23BDAD161	**Core Course** Estimation and Costing	3	1	0	4	4
2.	23BDAD162	**Core Course** Non Traditional Machining	3	1	0	4	4
3.	23BDAD361/ 23BDAD362	**Elective Course** Foundry Technology/ Forming Technology	2	1	0	3	3
4.	23BDAD163	**Core Course** Designing for 3D Printing	2	1	0	3	3
5.	23BDAD164	**Core Course** Automobile Upholstery Design	3	1	0	4	4
6.	23BDAD261	**Practical** UI/UX Design Laboratory	0	0	4	4	2
7.	23BDAD262	**Practical** Mobility Product Design IV	0	0	4	4	2
		TOTAL	**13**	**5**	**8**	**26**	**22**

Semester – VII (Total Credits: 10)

SI.No	Course Code	Course Title	L	T	P	Contact Hrs / Wk	Credits
1.	23BDAD471	Industry Internship	0	1	2	3	3
2.	23BDAD571	Design Project: Phase I	0	2	3	5	5
3.	23BDAD271	Portfolio Design	0	0	2	2	2
		TOTAL					**10**

Semester – VIII (Total Credits: 6)

SI.No	Course Code	Course Title	L	T	P	Contact Hrs / Wk	Credits
1.	23BDAD581	Design Project: Phase II	0	3	3	6	6
		TOTAL					**6**