योजना तथा वास्तुकला विद्यालय, विजयवाड़ा
School of Planning and Architecture, Vijayawada
An Institute of National Importance, Ministry of Education, Govt. of India

Department of Architecture
Lecturer Plan - Odd Semester A.Y.2024-25

Course:	MDES113 – Basic Form Studies and Applied Ergonomics	**Class:**	M. Des. 1st Year I - Semester 2024-25
Instructors:	Ar. Samanth Kumar	**Internal Assessment:**	50
Contact Periods/ Week:	04 periods (2L+2T)	**End Exam: Theory**	50
Time Table:	Tuesday, 09.00 - 11:45 AM	**Total Marks:**	100
Attendance: Min 75 % and **Passing Marks**: 50% each in Internal & External Assessment, 50% in Aggregate		**Credits:**	04

Objectives: To equip students with a comprehensive understanding of form and its application in design, emphasising the principles of functionality, and user experience. Students will learn to analyse and create forms that are both visually appealing and ergonomically sound. This course integrates ergonomic principles to ensure designs are user-friendly and enhance comfort and efficiency. Through a combination of theoretical knowledge and practical projects, Students learn to apply ergonomic principles to optimise user experiences, considering physical and cognitive human factors.

Class No	Unit No	Topic / Content	Method	Assignment
1	Nil	Introduction about Subject		
2		Introduction to design principles like balance, proportion, rhythm, and harmony	Discussion	Nil
3	Unit 1	Exploring the use of lines, shapes, colours, and textures in design Analysing the impact of design elements on user experience	Lecture/Discussion/ Hands On Demonstration	in class Hands On experience
4		Understanding human body dimensions and proportions	Lecture	
5	Unit 2	Applying anthropometric principles to design products and spaces that cater to human needs Anthropometric data collection and analysis	Discussion Hands On Demonstration	Nil in class Hands On experience
6		Ergonomics Consideration	Lecture / Discussion	Nil

Unit 3

7		Ergonomics Generation and applying in design	Hands On Demonstration	in class Hands On experience
8	Nil	MID EXAM	Written / theory	MID EXAM for 30 Marks
9	Unit 4	Exploring ergonomic qualities like adjustability, accessibility, and usability	Lecture / Discussion	Nil
10		Case studies highlighting the importance of ergonomic design in various industries		
11		Evaluating and improving the ergonomic qualities of existing designs	Hands On Demonstration	in class Hands On experience
12	Unit 5	Introduction and testing of various and fundamental materials, tools, and equipment	Lecture/Discussion/ Hands On Demonstration	
13		prototypes construction techniques	Hands On Demonstration	
14				
15	Nil	Students Preparation		
16				

S.No	Stages of Internal Evaluation	Weightage
1	Pre Mid exam In Class Performance	10
2	Mid Exam	30
3	Post Mid exam In class Performance	10
	Total	**50**

Essential Reading:

● Wong Wucius. Principles of form and design. John Wiley & Sons Inc., 1993.
● Francis D.K. Ching, Architecture Form Space and Order, 3rd Edition, Wiley
● Mark S. Sanders, & Ernest J. McCormick, Human factors in Engineering & Design, McGraw-Hill, Inc
● Alvin R. Tilley, Henry Dreyfuss Associates: The Measure of Man and Woman: Human Factors in Design, Revised Edition
● Bridger, RS: Introduction to Ergonomics, 2nd Edition, Taylor & Francis, 2003.
● E. Grandjean, Fitting the task to the man, Taylor and Francis, 1963.
● W.E. Woodson, Human Factor Design Handbook, McGraw Hill, New York, 1981
● Ken Parsons, Human thermal environment, 2nd Edi., Taylor and Francis, 2003
● Debkumar Chakrabarti, Indian Anthropometric Dimensions (For Ergonomic Design Practice
● Journals, Papers, and reference materials as per topics & instructor

Course Instructors: Head of Department :

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(Ar Samanth Kumar) (Dr. Srinivas Daketi)