School of Planning and Architecture: Vijayawada

(An institution of National Importance under the Ministry of Education, Govt. of India)
Survey No.4/4, ITI Road, Vijayawada-520008, Andhra Pradesh, India

Department of Architecture

Course: ARC4225- Computer Aided Design and Simulations (Elective II)

Instructors: Vijesh Kumar V

Contact Periods/ week: 01(L) + 03(T) periods.(50 min each)

Time Table: Tuesday (Period 5-7)

Attendance: Min 75%

Class: B.Arch. IV Yr VIII Sem A.Y. 2024-25

Internal Assessment: 50

External Theory Exam: 50

Total Marks: 100

Credits: 3

Min. Passing Marks: 40% each in Internal & External Assessment, 40% in Aggregate

Objective: Empowering students to use computers as 2D drafting and 3D modelling tool and to familiarize realistic rendering and architectural presentation techniques using computers.

Out Line of the Course:
2D Drafting, 2D modelling, 3D modelling, Advanced 2D and 3D Modelling, Rendering, Animation

LECTURE PLAN

WEEK	DATE	TOPIC OF CLASS LECTURE & DISCUSSION	TOPIC OF STUDIO WORK & ASSIGNMENTS / REMARKS
1	07-Jan-25	Introduction	Lecture, Exercises, Computer Lab
2	14-Jan-25	**Holiday**	**Makar Sankranti**
3	21-Jan-25	Introduction to Parametric Modelling using Grasshopper visual scripting - Basic Tools	Lecture, Exercises, Computer Lab
4	28-Jan-25	2D/3D Parametric Modelling using Grasshopper visual scripting - Data Management - Lists	Lecture, Exercises, Computer Lab
5	04-Feb-25	2D/3D Parametric Modelling using Grasshopper visual scripting - Data Management - Trees	Lecture, Exercises, Computer Lab
6	11-Feb-25	2D/3D Parametric Modelling using Grasshopper visual scripting - Surface Modelling	Lecture, Exercises, Computer Lab
7	18-Feb-25	2D/3D Parametric Modelling using Grasshopper visual scripting - Surface Modelling	Lecture, Exercises, Computer Lab, **Internal Marks 1**
8	25-Feb-25	**Mid-semester Review**	

		2D/3D Parametric Modelling	
9	04-Mar-25	using Grasshopper visual scripting - Breps Geometry	Lecture, Exercises, Computer Lab
10	11-Mar-25	Visualization and Animation Software	Lecture, Exercises, Computer Lab
11	18-Mar-25	Simulation Algorithms - Introduction	Lecture, Exercises, Computer Lab
12	25-Mar-25	Algorithms - View Analysis	Lecture, Exercises, Computer Lab
13	01-Apr-25	Algorithms - Water Flow Analysis	Lecture, Exercises, Computer Lab
14	08-Apr-25	BIM using Revit - Preparation of Schedules	Lecture, Exercises, Computer Lab
15	15-Apr-25	Review	**Internal Marks 3**

S. No.	Stages of Evaluation	Weightage
1	First stage: Assessment –1	15
2	Second stage: Mid-semester Examination	20
3	Third stage: Assessment –3	15
	Total	50

Reference Books:

1. Bark, S. (2012). An Introduction to Adobe Photoshop. Ventus Publishing ApS, Sheffield.
2. Gindis, E. (2014). Up and Running with AutoCAD 2015: 2D & 3D Drawing and Modelling. Oxford : Elsevier.
3. Seidler, D. R. (2007). Digital Drawing for Designers: A Visual Guide to AutoCAD 2012. London : Fairchild Publications.
4. Smith, B. L. (2007). 3ds Max 2008 Architectural Visualization Beginner to Intermediate. Sarasota : 3DATS.
5. Tutorials: http://www.lynda.com/

Course Instructors:

Asst. Prof. Vijesh Kumar V   **Head of Department/Coordinator:**