School of Planning and Architecture: Vijayawada
(An institution of National Importance under the Ministry of Human Resource Development, Govt. of India)
S.No. 71/1, NH-5, Nidamanuru, Vijayawada – 521 104, Andhra Pradesh, India

Department of Architecture

Course: 10110402 Computer Applications (Simulation and Modelling)		**Class:** II Yr. IV Sem. B.Arch, 2017-18 A.Y
Instructors: Dr. Faiz Ahmed/Mr. Viswa Teja		**Internal Assessment:** 50
External Theory Ex Viva-Voce		**External Theory Exam:** 50 (Viva-Voce)
Contact Periods/ week: 03 Lecture Periods (Lab)		**Total Marks:** 100
Time Table:		**Credits:** 3
Attendance: Min 75%	**Min. Passing Marks:** 40% each in Internal & External Assessment, 50% 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:
Hands-on-Learning - AutoCAD, 3DS Max. Sketchup, InDesign

LECTURE PLAN

S. No.	Week	TOPIC OF CLASS LECTURE & DISCUSSION	CLASS ACTIVITIES & ASSIGNMENTS
1	Week 1	Introdcution to the course.	Orentation Class.
2	Week 2	Unit-I. Introduction to AutoCAD as 2D drafting tool Digital drawings tools, drawing lines and shapes, modifying lines and shapes, drawing with accuracy and speed.	Lecture/ Demonstration/ lab exercise
3	Week 3	Organizing plans, sections and elevations, drawing and printing to scale, text styles and sizes, hatches and dashed lines. Stencils and blocks, advanced editing tools, and dimensioning drawings.	Lecture/ Demonstration/ lab exercise
4	Week 4	Unit-II. 3D modelling using AutoCAD Introduction to 3D-modelling technique using AutoCAD. 3D basics: Axes, Planes and Faces. 3D Object Modification: Rotate, Mirror, Array and Scale.	Lecture/ Demonstration/ lab exercise
5	Week 5	3D Boolean operations: Union, Subtract, Intersect. 3D primitive objects: Box, Wedge, Cone, Sphere, Cylinder, Torus and Pyramids. Solid modeling: Revolve, Shell, Taper, Loft, Path extrusion and sweep.	Lecture/ Demonstration/ lab exercise
6	Week 6	Assessment I	
7	Week 7	Unit-III. Introduction to 3D Modelling and Rendering Building Modelling and basic rendering techniques, using 3DSMax or equivalent.	Workshop External
8	Week 8	Unit-III. Introduction to 3D Modelling and Rendering Building Modelling and basic rendering techniques, using 3DSMax or equivalent.	Lecture/ Demonstration/ lab exercise
9	Week 9	Unit-IV. Advanced 3D Modelling	Lecture/ Demonstration/ lab exercise
10	Week 10	Advanced modelling, V-Ray rendering engine, or equivalent.	Lecture/ Demonstration/ lab exercise
11	Week 11	Assessment II	
12	Week 12	Workshop	Workshop External
13	Week 13	Unit-V. Workshops A - Workshop on Sketch-up as modelling tool	Workshop

14	Week 14	B - Workshop on In-Design/Photoshop as presentation tool	Workshop
15	Week 15	Slot for making portfolio of exercises done	Discussion
16	Week 16	Assessment III	

Note: l input in the form of screening of documentary film 1. Home; 2. Before the Floods, 3. The Inconvenient Truth shall be ca

Tentative break-up of Internal Assessment Marks:

S.No.	CATEGORIES OF EVALUATION	MARKS
1	Assessment I - 2D Drafting Submission	15
2	Assessment II - 3D Modeling Submission	15
3	Assessment III - Draft Protfolio	20
	Total	50

References:

Bark, S. (2012). An Introduction to Adobe Photoshop. Ventus Publishing ApS, Sheffield.

Gindis, E. (2014). Up and Running with AutoCAD 2015: 2D & 3D Drawing and Modelling. Oxford : Elsevier.

Seidler, D. R. (2007). Digital Drawing for Designers: A Visual Guide to AutoCAD 2012. London : Fairchild Publications.

Smith, B. L. (2007). 3ds Max 2008 Architectural Visualization Beginner to Intermediate. Sarasota: 3DATS.

Tutorials: http://www.lynda.com/

Course Instructor: **Head of the Department:**