

BUILDING INFORMATION MODELING LABORATORY

V Semester: CE								
Course Code	Category	Hours / Week			Credits	Maximum Marks		
ACE111	Core	L	T	P	C	CIA	SEE	Total
		-	-	3	1	30	70	100
Contact Classes: Nil	Tutorial Classes: Nil	Practical Classes: Nil			Total Classes: 36			
<p>COURSE OBJECTIVES: The course should enable the students to:</p> <ol style="list-style-type: none"> I. Provide familiarity with current BIM technologies. II. Understand the shift from 2D representation to 3D simulation. III. Synthesize, link and maintain continuity of existing and designed BIM information and other vital information into the model. IV. Explore new project delivery systems and technologies for integrated practice. <p>COURSE LEARNING OUTCOMES (CLOs): At the end of the course, the student will have the ability to:</p> <ol style="list-style-type: none"> 1. Understand the basics of BIM and Autodesk Revit. 2. Learn about various drawing and editing tools available in Revit architecture. 3. Draw the setting up levels and grids in building using Revit software. 4. Draw a different types of modeling walls in building using Revit software. 5. Draw the doors and windows in building using Revit software. 6. Draw curtain walls in building using Revit software. 7. Work with different types of view in a building using Revit software. 8. To draw the adding components, modifying components & working with elements in building using Revit software. 9. Draw the modeling floors in a building using Revit software. 10. Model ceilings and roofs using Revit software. 11. Model stairs and railing using Revit software. 								
Week-1	INTRODUCTION TO BIM & AUTODESK REVIT							
About Autodesk and Autocad, workflow and BIM, Revit terms, overview of the interface, starting projects, viewing commands.								
Week-2	BASIC DRAWING AND EDITING TOOLS							
Using general drawing tools, editing elements, working with modify tools.								
Week-3	SETTING UP LEVELS AND GRIDS							
Setting up levels and grids, creating structural grids, adding columns, linking and importing CAD files.								
Week-4	MODELING WALLS							
Modelling walls, modifying walls, model exterior shell, add interior walls.								

Week-5	WORKING WITH DOORS AND WINDOWS
Inserting doors and windows, loading door and window types from library, creating additional door and window sizes.	
Week-6	WORKING WITH CURTAIN WALLS
Creating curtain walls, adding curtain grids, working with curtain wall panels, attaching mullions to curtain grids.	
Week-7	WORKING WITH VIEWS
Setting the view display, duplicating views, adding callout views, elevations and sections.	
Week-8	ADDING COMPONENTS
Adding component, modifying component, working with elements.	
Week-9	MODELING FLOORS
Modeling& modifying floors, joining geometry, creating shaft openings, creating sloped floors	
Week-10	MODELING CEILINGS & ROOFS
Modeling ceilings, adding ceiling fixtures, creating ceiling soffits, modelling roofs	
Week-11	MODELING STAIRS AND RAILING
Creating component stairs, modifying component stairs, working with railings, sketching custom stairs, creating ramps.	
Week-12	REVISION
Revision	
Reference Books:	
1. Chuck Eastman, Paul Teicholz, Rafael Sacks, Kathleen Liston —BIM HANDBOOKI, Wiley, 2 nd Edition, 2011	
E-Text Books:	
1. http://auvsp.edu.in/datastore/auwebsite/documents/libraryebookspdf/building-information-modeling.pdf	