



Building Energy Performance Analysis Course using IES<VE>

Course Curriculum (Duration: 3 Days)

Chapter 1: Introduction to IES<VE>

- Introduction
- Building Simulation & Energy Modeling
- Virtual Environment Interface
- Energy Modelling Workflow

Chapter 2: Building Geometry Modeling For Analysis

- Create Central 3D Analysis Model Geometry
- Use of CAD Drawings Import For Model Creation
- Import Geometry From Sketchup and Revit Using IES Plugins
- Setup Weather Files And Site Orientation

Chapter 3: Solar Analysis

- Perform Solar Shading Calculations
- Optimise Shading
- Shadow Image Generation
- Analyse Right To Light
- Solar Energy and Exposure Analysis

Chapter 4: Lighting Design/Analysis

- Daylight Assessment
- Define Surface Properties
- Placement of Lighting Fixtures
- Combined Lighting Assessment
- Glare Analysis
- Dynamic Daylight Simulation
- Useful Daylight Illuminance Analysis
- Use of Dimming Sensors
- Calculation of 'Vertical Sky Component'

Chapter 5: Natural Ventilation Analysis

- Define Opening Type
- Operation of Windows
- Window Assignment
- Dynamic Thermal Simulation For Natural ventilation
- Result Analysis

Chapter 6: Dynamic Thermal Simulation

- Model Organization
- Checking Geometry
- Context of Basic Training Analysis (Energy/Carbon/Comfort)
- Create & Assign Constructions
- Define Profiles For Building Operations And Internal Gains
- Daily, Weekly and Yearly Profiles
- Set Building Thermal & Construction Templates
- Assigning Thermal / Construction Templates
- Making Zone Level Input Data Edits Using 'Query' And 'Group Edit Attributes'
- Tabular Room Data For Tabular Room Edits
- Dynamic Thermal Simulation Settings
- Result Analysis

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