



**VISHWAKARMA  
UNIVERSITY**

*Maximising Human Potential*

University Grants Commission (UGC) Approved State Private University



**INTEGRATED  
ENVIRONMENTAL  
SOLUTIONS**



# **BUILDING PERFORMANCE ANALYSIS USING IES VE**

Organised By  
**Energy and Sustainability Center of Excellence**



*Trainer:*

**Aniket Chaudhari**  
(from IES)

*Coordinator:*

**Maya Kurulekar**



**16th & 17th September 2022**

**09.00 AM - 5.00 PM Daily**



Scan for Registration

## ABOUT THE PROGRAMME

The two-day training program is ideal for VU training, where we might have mixed participants with some prior experience or no exposure to VE. This two-day program with hands-on experience will be a good start for everyone to gain confidence in working directly in VE by creating energy models, running some simulations, and analyzing results. Half an hour demo on introduction to Loads and HVAC would be covered.



## ABOUT THE TRAINER

### **Aniket Chaudhari**

Aniket Chaudhary has more than 14 years of solid experience in architecture and high-performance building design. He is the Founder and Managing Partner of Reinvent Design Technologies LLP, spearheading innovative reformations in the design industry. He has considerable and diversified international exposure to challenging consultancy projects, having worked on several European smart city plans, large-scale retrofitting, and master planning projects using the IES VE.

## FEES

1. Rs. 7500+18% GST for two days for industry/external faculty.
2. Rs. 5000+18% GST for two days for external students.

## TERMS & CONDITIONS:

Students will need to share their official college ID to book a seat at student rates.



## OUTLINE

### DAY 1

#### Part 1:

##### Basic introduction to building energy modeling & simulation

- + Participants will get a clear idea about what is building energy modeling and its purpose in our industry.
- + Simulation and tools are used for the same.

#### Part 2:

##### VE software Interface and introduction to different modules in software

- + A brief introduction to the software interface, tools for creating and editing geometry with some essential shortcuts for fast modeling.
- + A quick introduction to all the different types of modules available within the software for different types of analysis.
- + Analyzed for any specific time throughout the year. FlucsDL, we can use this systematic point-by-point daylight analysis tool to determine daylight levels in any particular room or group of rooms.
- + 3.5 hours hands-on session for topics covered on Day 1

#### Part 3:

##### ModelIT, SunCast, Solar exposure & FlucsDL

- + ModelIT tool, in this module, we can see different techniques used to model 3D thermal geometry of the building
- + SunCast, in this module, we can calculate the position of the sun in the sky, track solar penetration throughout the building interior & calculate shadows of different design elements such as vertical & horizontal fins, pergolas, adjacent buildings etc.
- + Solar exposure study for our building geometry can be modeled. A quick introduction to all the different types of modules available within the software for different types of analysis. Analyzed for any specific time throughout the year
- + FlucsDL, in order to determine daylight levels in any specific room or group of rooms, we can use this systematic point-by-point daylight analysis tool.

### DAY 2

#### Part 4:

##### LightPro, FlucsPro, RadianceIES & MacroFlo

- + LightPro, in this module, we will see how to select luminaires from the existing software database and place them in any chosen room in our 3D building geometry.
- + FlucsPro, using this module, we can estimate the number of luminaires required in a particular room by performing lighting design calculations.
- + RadianceIES is a detailed 3D simulation tool designed to predict daylight and the appearance of internal spaces before construction.
- + MacroFlo, using this, we can perform natural ventilation study and simulate airflow driven by wind pressure and buoyancy forces using a fast multi-zone thermo-fluid solver.

#### Part 5:

##### ApacheSim & ApacheHVAC

- + ApacheSim, in this module, we can create and assign all thermal properties to the building for different elements such as constructions, thermal templates, internal gains, profiles, etc.
- + Introduction to ApacheHVAC, this is the module used for detailed HVAC system creation and analysis. We can see the introduction to the user interface of this module, waterside and airside components settings, and typical HVAC system setup.
- + 3.5 hours hands-on session for topics covered on Day 2.

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