Line
Academy
Engineering Your Success Story

ADVANCE EXCEL TRAINING

ADVANCE EXCEL

INTRODUCTION

Advanced Excel

Advanced Excel refers to features and functions of Microsoft Excel tool which helps the user to perform complex and large calculations, data processing on the huge amount of data, performing data analysis, better representation of data, etc. Advance MS-Excel Training course is targeted for civil engineering students and related professionals for enhancing their analytical skills and strategic decision-making ability in civil engineering related problems like say RCC beam design, isolated foundation design or design of a channel. The course aims to make trainees familiar with advance MS-Excel features that are useful in performing complex engineering problems in his/her day to day student or professional life. In addition, the training also covers nearly 40% over VBA i.e. Visual Basic Application for Excel.

Advanced Excel Skills
- Advanced Formulas.
- Tables & Formatting.
- Conditional Formatting.
- Advanced Charting.
- Pivot tables & Pivot Reporting.
- VBA & Macros.
- Using Excel Productively.
- Data Tables, Simulations & Solver.

Visual Basic for Applications (VBA)

VBA stands for Visual Basic for Applications, an event-driven programming language from Microsoft. It's a programming language that enables to control just about everything in Excel. You'll learn how to create Macros that can be run from things like a button on a spreadsheet, the Excel Ribbon - in fact, lots of places. Learning Excel VBA will enable you to do a lot more with the software than you can via the normal spreadsheet view. Fortunately for non-programmers, VBA is very simple, and the interface that you use to edit it offers a lot of assistance. Many of the commands you'll use pop up suggestions and automatic completions, helping you get your script working quickly. This training will teach you the basics of VBA. Each of the sections contains related topics with simple and useful examples. It is now predominantly used with Microsoft Office applications such as MS Excel, MS-Word and MS-Access. Each of the sections contains related topics with simple and useful examples.

Advantages of VBA Macros in Excel

• If VBA is more difficult than recording a macro, why would you use it? The short answer is that you get a lot more power out of VBA macros.

• Instead of clicking around your spreadsheet and recording those clicks, you can access Excel's full range of functions and capabilities. You just need to know how to use them.

• And once you're more comfortable with VBA, you can do all the things you might do in a regular macro in a lot less time. The results will also be more predictable, as you're telling Excel exactly what to do. There's no ambiguity at all.

• Once you've created your VBA macro, it's easy to save and share it so anyone else can take advantage of it. This is especially useful when you're working with a lot of people who need to do the same things in Excel.

Objectives

The main objective of this training is to enable the trainees to use advanced features in Microsoft Excel. The objectives are highlighted as:

• To use the advanced features of Excel using Microsoft Office version 2010, 2013, 2016 and newer versions.

• To improve efficiency in day to day work.

• To use scenarios, goal seeks, pivot table for data analysis.

• To present the data in an effective way using sparklines, dynamic charts, pivot charts and dashboards.

• To simplify and streamline common tasks.

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BENEFITS OF ADVANCE EXCEL TRAINING AT LINE ACADEMY

- **Learn from Industry Experts:** Gain insights from highly experienced and certified instructors who bring real-world expertise to Advance Excel training.

- **State-of-the-Art Facilities:** Benefit from well-equipped labs designed to provide a hands-on, practical learning experience in Advance Excel.

- **Engaging Learning Environment:** Enjoy a friendly and interactive atmosphere that fosters collaboration and active participation.

- Career Advancement Opportunities: Access internship and job placement support, helping deserving students kickstart their careers in web development.

- **Financial Support for Students:** Take advantage of scholarships available for students who demonstrate need and meet eligibility criteria.

- **Continuous Skill Enhancement:** Participate in regular practice sessions designed to reinforce and test your understanding of Advance Excel.

- **Flexible Learning Options:** Opt for online training if you're unable to attend in person, ensuring accessibility and convenience.

- **Real-World Project Experience:** Work on projects under the supervision of instructors and industry experts, gaining practical experience and building your portfolio.

ABOUT THE TRAINER

Devendra Man Palikhe
Trainer
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He holds a ME in Structural Engineering from Kathmandu University and bachelor's degree from Pokhara University. He has worked as a consultant engineer (2018-Current). He is adept at using Advanced Excel and VBA, C, C++, Html, PHP and MYSQL, JAVA, MATLAB, Python, Revit, AutoCAD, Sketchup, 3DMax, SAP2000, ETABS, STAAD, SW-DTM, MIDAS, OPENSEES, ABAQUS, ANSYS, etc. and is passionate about Structural Dynamics and VBA Programming in Structural Analysis and Design. He is currently working in some international steel and RCC projects where advanced excel and VBA is used extensively from complex calculations to data sorting, searching, selection and many more.

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COURSE OUTLINE

A. Advanced Excel (Tools)

a. What is Excel?
b. Excel Workbook interface
c. Shortcut Keys for Cell
d. Selecting Ranges
e. Data types
f. Data Formatting
g. Error Message
h. Advanced Excel Formula
  i. If Function
  ii. Formula Concepts
  iii. Creating Formulas
  iv. Copying Formula
i. Excel Built-in Functions
j. Function Wizard
k. Some Operators on Cells (Range, Union, Intersection)
l. Relative and Absolute Addressing
m. A1 vs. R1C1 Notation
n. Name Manager
o. Referring other Sheets and Workbooks
p. Fill handle and Series
q. Using Fill Series Command
r. Conditional Formatting
s. Sorting and Filtering

t. Lookup Table
   i. VLOOKUP
   ii. HLOOKUP
u. INDEX Function
v. MATCH Function
w. INDEXMATCH Function
x. Relational Operators
y. Logical Operators
z. SUMIF, SUMIFS
aa. COUNT, COUNTIF, COUNTIFS
bb. MIN, MAX, SMALL, LARGE
cc. SMALL, LARGE ARRAY
dd. SUBTOTAL
ee. PIVOT TABLE
ff. Working with Text
gg. Offset Function
   i. Dynamic Sum formula
   ii. SUM and MAX with OFFSET and MATCH
hh. RAND and RANDBETWEEN
ii. SUMPRODUCT vs. SUMIFS
jj. Drop Down Lists
kk. Rounding Functions
ll. CHART
mm. PICTURE
nn. SHAPES
oo. Form Controls
pp. Macros

B. Advanced Excel (Problems)

a. Plot Function

b. Slope and Intercept

c. Lines Draw from XY Co-ordinate

d. Building Draw

e. Truss Structure

f. Data Analysis Functions

g. Linear Regression (Soil Shear Strength- Direct Shear Test)

h. Logarithmic Regression (Liquid Limit Test)

i. Log log Regression

j. Interpolation

k. Gauss-Seidel

l. Statistical Data (Histogram and Cumulative Distribution)

m. Survey Tachometry Data

n. Array Formula

o. Array in Excel (Matrix Operations)

p. Solver (Nonlinear Programming with Excel)

q. Channel Problem

r. Concrete Mix Design

s. Stair Case Design

C. VBA Programming (Tools)
a. Introduction to VBA
b. Why VBA?
c. Add Developer's Tab
d. Enabling VBA Macros
e. The VBA Integrated Development Environment (IDE)
f. Getting IDE
g. VBA Help
h. Variables, Data Types and Constants
i. MsgBox
j. String Functions
k. Sub Procedures
l. ByVal vs. ByRef
m. Fu8nction Procedures
n. Excel Application Functions in VBA
o. Event Procedures
p. Relational and Logical Operators with VBA
q. Conditionals and Branching
  i. If/Then/Else
  ii. Select Case
  iii. Do Loops
  iv. For Loops
r. Ascii value
s. Input Box () function
t. Arrays
u. Formula in Excel Sheet Cells
v. The User from Toolbar

w. Basic Excel Objects
  i. Application Object
  ii. Workbook Object
  iii. The Workbook and Window Objects
  iv. The Worksheet Object
  v. The Range Object
x. The With/End with Structure
y. VBA User Forms
z. User Form Property
aa. Toolbox Controls
bb. Dialog Box
cc. Command Bars and Buttons
dd. Properties of Ranges
ee. The Set Keyword
ff. The Intersect Function
gg. The Union Function
hh. Charts and Graphs
  i. Charts
  ii. Chart Types
ii. API Calls
jj. Class Modules

D. VBA Macro Programming (Problems)

a. Marks Grade
b. Mini Hydro-Survey-and-Design-Tools-2013

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