

Excel VBA Programming for Chemical Engineers

In one day, participants are introduced to the Visual Basic for Applications (VBA) programming language in conjunction with Microsoft Excel. The basics of VBA are introduced, including macros, user-defined functions, and add-ins. The course equips chemical engineers with the tools and skills to develop VBA applications that include Excel-VBA communication, streamlining spreadsheet-based calculations, developing user interfaces, and communicating to other software packages, such as process simulators and math software.

Course Outline

Day One

- Getting Started with VBA
 - Configuring Excel for VBA programming
 - The Visual Basic Editor (VBE) environment
 - Recording and editing macros
 - VBE debugging tools
- User-Defined Functions
 - Programming user-defined functions (UDFs)
 - Including programming structure in UDFs
 - Developing array functions and borrowing Excel functions
 - Packaging collections of functions in an Excel add-in

Delving into VBA Programming

- Communicating with Excel – object-oriented concepts
- Data types and scope
- VBA programming structures
- Modular organization of VBA programs

User Interfaces and VBA Applications

- Message boxes, input boxes and on-sheet buttons
- Programming event handlers
- UserForms
- Integration course concepts into an Excel VBA application
- Interfacing with outside programs