This intensive course is packed with new ideas, concepts and lots of applied exercises to help you get more out of Excel. You will realise how powerful Excel is if used in the correct manner.

You can APPLY these skills immediately to your own business and work routine. You will leave the workshop with workable Excel models that you can use immediately or modify to suite your own environment.

**TRAINING METHODOLOGY**

The programme is highly interactive and it will encourage participation through exercises and case studies, which the delegates will solve individually using Microsoft Excel on a PC. These activities are designed to allow attendees to practise and to consolidate the concepts discussed.

The program will focus on the practical realities of the financial markets, rather than taking an excessively mathematical or academic approach.
Excel training and modelling skills are often seen as an add-on benefit. This fact together with the simplicity and power of Excel constitute a weakness - model risk.

This intensive program will help improve your quality of analysis. The techniques we explore are essential for anybody needing to develop and actually use models in the financial markets such that model risk can be minimised. Excel is a sophisticated tool if used properly, and its importance in financial modelling, means that it should be a core skill for all market participants to produce clear maintainable applications and be proficient in spreadsheet design.

OBJECTIVES OF THE WORKSHOP

The widespread use of Microsoft Office means that most people have Microsoft Excel as part of their desktop. Yet, it seems very few people receive specific training in modelling procedures and the use of Excel’s advanced functionality. The workshop’s primary focus is the use of Excel to enhance your analysis and modelling skills. All of this will be achieved through examples taken from the financial markets; however, there are many characteristics of model building that are common irrespective of the end-use. You will learn how to design and structure models that are faster and more robust. Many tips, tricks and shortcuts will be touched upon.

OUTCOMES OF THE WORKSHOP

• Upon completion of the workshop, you will be able to:
  • Understand the sophistication and power locked up in Excel
  • Design robust maintainable spreadsheet models in a wide range of market oriented practical scenarios
  • Use Excel’s time and date, graphics, financial and statistical libraries
  • Use goalseek and create decision making routines
  • Understand the financial markets through market oriented and real life examples
  • Price options and swaps, use a yield curve to price coupon bonds
  • Understand the concept of arbitrage
  • Use the VBA editor to write and record your own functions and macros in Visual Basic
  • Program your own VBA routines (subs and functions)
  • Understand looping, decision structures and ranges
  • Create your own custom made Excel add-in files (XLAs)

WHY THIS WORKSHOP

Instruments traded in the financial markets are getting more and more complex. This leads to more complex OTC derivative structures that are harder to analyse and risk managed. These instruments cannot be traded or managed without the relevant systems and numerical techniques.

Due to the power, but still ease of use, of Excel, its use in the financial markets is widespread. It is used in the front office by traders, quants, and risk managers. It is used in the back office by position managers, quantitative analysts and business analysts. It is used in the investment community by portfolio and asset managers and market analysts. Corporate treasurers use it to manage their exposures and trading activities.

Excel is currently the de facto tool for numerical analysis in the financial markets. Even so, advanced

Dr Antonie Kotzé
Antonie has more than 20 years’ experience as a quantitative analyst in the South African financial markets. He is a renowned expert in financial mathematics, modelling, training and creating advanced and sophisticated Excel systems. He holds a Ph.D. in Theoretical/Mathematical Physics from the University of the Witwatersrand and was on the faculty of the Rand Afrikaans University.

His field of interest was Quantum Chaos Theory. Antonie’s experience spans the capital, interest rate, foreign exchange and equity markets. He has hands-on knowledge of statistical analysis, option trading and risk management systems, basket and relative arbitrage, futures curves, equity linked and interest rate derivative structures and the modeling of complex Corporate Finance transactions.

Antonie developed highly sophisticated Excel systems used by traders, risk managers and corporate financiers. In his career he worked closely with institutional clients to devise investment, hedging and gearing strategies utilising complex optionality. He recently incorporated Financial Chaos Theory.
COURSE LEVEL AND PREREQUISITES

- The course is aimed at an intermediate to advanced level.
- Delegates should be familiar with the basics of Excel.
- A basic knowledge of the financial markets and instruments like bonds, swaps and options is a prerequisite.
- Delegates should have a basic background in mathematics in order to participate in the practical exercises and calculations.
- Experience in programming is not a prerequisite.

WHO SHOULD ATTEND?

- Quantitative Financial Analysts
- Research analysts
- CFO’s
- Financial Controllers
- Accountants
- Credit Managers
- Treasury Managers
- Economists
- Risk Managers and risk controllers
- ALM managers
- Traders and dealers (buy-side and sell-side)
- Derivative structurers
- Financial product sales personnel
- Front office quants
- Back office quants
- Middle Office staff
- Corporate & institutional treasury sales staff
- Commercial relationship managers
- Mergers, Acquisitions and Buyout specialists
- Corporate finance staff
- Fund and asset managers
- Investment bankers

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DAY ONE
GETTING USED TO EXCEL’S POWER

INTRODUCTION TO EXCEL AND ISSUES TO THINK ABOUT

Introducing Excel and Spreadsheet Logic

- Overview of workshop
- Which version of Excel should you use?
- Why Excel is great for developers
- Excel in a nutshell – pre-basics
- Excel’s add-in libraries
- Key features of a good model
  - Consistency, simplicity, transparency, flexibility
- Key features of a good spreadsheet application
- Model design and structure
- Objectives, testing and documentation
- Good and bad model structure
- Excel’s alphabetic recalculation method

Excel Basics

- Using help
- Move within and between worksheets
- The toolbars
- Copy and paste options and tricks
- The status bar
- Formatting cells and ranges
- Auditing Spreadsheets
- Chart basics

ADVANCED FEATURES OF EXCEL

Advanced Graphics and Excel Lists

Advanced Graphics
- Dynamic charts
- Two graphs in one
- 3D graphs
- Fitting a function to data points from a yield curve

Excel Lists
- Selecting a subset of data
- Sorting lists
- Subtotals and using outline
- Creating summary tables from lists
- Form: data entry & browse
- Consolidate data
- List design

Getting Data into Excel And Excel’s Date Functions

- Excel’s date and time functions
- Converting data to Excel’s date format (date, datevalue, value)
- Custom useful date functions (edate, eomonth, day, month, year, weekday)
- Exporting data
- Importing data
  - Text files
  - Converting to different formats (value, datevalue, text)
- Cleaning data (left, right, mid, clean, concatenate

REGISTER NOW!

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DAY TWO
EXCEL POWERHOUSE

Excel’s Financial Library and Goal seek
• Pricing coupon bearing bonds (price, yield, npv, xnpv, irr, xirr)
• The yield to maturity (goal seek)
• The zero-coupon yield curve
• Bond pricing using a yield curve
• Bond stripping
• Pricing South African government bonds

Useful Functions and Scenario Analysis
• Array formulas
• Converting text to formulas
• Growth functions
• Optimal solutions with Solver
  • An optimal bond portfolio
  • Scenario analysis
  • Bond sensitivities and hedging (Rand per point)

Range Names, Decision Making and Drop Downs
• Excel’s reference and lookup functions (address, find, match)
• Linking data
• Named ranges
• Decision making (if, sumif)
  • Custom made indices - The New Rand Index (sumproduct, round, int)
• Professional spreadsheets
  • Drop downs
  • List boxes
  • Looking up bond data

PROGRAMMING USING VISUAL BASIC FOR APPLICATIONS

Introduction to VBA
• The basics of VBA
• Understanding macros
• Recording a macro
• The Visual Basic editor
• The Macro Recorder
• Running a recorded macro
• Debugging a VBA routine

DAY THREE
THE SOPHISTICATED EXCEL INCORPORATING VBA

Excel’s Object Model and Programming Fundamentals
• About objects and collections
• Properties and methods
• Working with Excel objects
• The object browser
• VBA language elements
• Variables
  • data types
  • constants
  • arrays
• Difference between a “function” and a “sub”
• Ten VBA Tips

VBA Sub Procedures
• About procedures
• Executing sub procedures
• Reading data from cells and writing the answers back to cells in subs
• Passing arguments to sub procedures
• Simple controls
  • reading information from cells
  • ranges
• Writing formulas to cells – automation with dropdowns
• Automating Goal Seek

Custom Made Functions and Add-Ins
• About User Defined Functions
• Creating a custom made function
  • Decision making structures
  • Looping
  • Calling other function procedures
• Pricing a bond using the YTM and yield curve
• Creating an Excel add-in (XLA file)
• A library of useful Visual basic for Applications (VBA) macros as standalone add-ins

Numerical Analysis in Excel and VBA
• Perform regression analysis using VBA
• VBA functions for linear interpolation
• Find optimum solutions and linear programming in VBA

Please bring a laptop computer to the workshop or contact us on how we can assist.

REGISTER NOW!
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REGISTRATION FORM
Excel and VBA Modelling for Financial Markets
(MC 192)
23 - 25 June 2014
Protea Hotel, Balalaika, Sandton, JHB
Sales Code: MC WB

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Kindly note that payment is required no later than 14 days from invoice date. In the event of nonpayment, Masterclass Events reserves the right to cancel the booking and the full amount under disagreement will be due and payable.

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Account Number: 032 510 896

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Cancellation And Transfer Policy:
Delegates unable to attend the event may send a substitute delegate in their place. Please send written details of substitution. Written cancellations must be received more than 10 working days prior to the date of the event and will be liable for 50% of the event fee. Failure to cancel, or cancellations received 10 working days or less prior to the event date, will result in liability for the full event fee. Masterclass Events reserves the right to alter the program and speaker details without notice.

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Contact Tel No: ........................................................
Signature: .................................................................
Email: .................................................................

COMPANY DETAILS
Company Name: .................................................................
VAT Number: ................................................................
Postal Address: .................................................................
................................................................. Code: .................................................................
Physical Address: .................................................................
.................................................................
Invoice for attention of: .................................................................
Email: ................................................................
Tel No: ................................................................

DELEGATE DETAILS
Delegate One:
Full Name: .................................................................
Designation: ................................................................
Tel No: .................................................................Cell No : .................................................................
Email: ................................................................
☐ Kosher ☐ Halaal ☐ Vegetarian ☐ Vegan
☐ None ☐ Other (please specify) .................................................................

Delegate Two:
Full Name: .................................................................
Designation: ................................................................
Tel No: .................................................................Cell No : .................................................................
Email: ................................................................
☐ Kosher ☐ Halaal ☐ Vegetarian ☐ Vegan
☐ None ☐ Other (please specify) .................................................................

Delegate Three:
Full Name: .................................................................
Designation: ................................................................
Tel No: .................................................................Cell No : .................................................................
Email: ................................................................
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☐ None ☐ Other (please specify) .................................................................

Delegate Four:
Full Name: .................................................................
Designation: ................................................................
Tel No: .................................................................Cell No : .................................................................
Email: ................................................................
☐ Kosher ☐ Halaal ☐ Vegetarian ☐ Vegan
☐ None ☐ Other (please specify) .................................................................

Delegate Five:
Full Name: .................................................................
Designation: ................................................................
Tel No: .................................................................Cell No : .................................................................
Email: ................................................................
☐ Kosher ☐ Halaal ☐ Vegetarian ☐ Vegan
☐ None ☐ Other (please specify) .................................................................

Kosher Halaal Vegetarian Vegan
None Other (please specify)