



**USB**  
Executive Development Ltd  
University of Stellenbosch Business School

## A decade of excellence in business learning



# | Programme in Business Forecasting

## OVERVIEW

### INTRODUCTION

Business Forecasting provides a guide to long-term strategic planning and helps to inform decisions about scheduling of production, personnel and distribution. These are common statistical tasks in business that are often done poorly and frequently confused with planning and setting goals. The Programme in Business Forecasting of USB Executive Development (USB-ED) introduces participants to forecasting techniques and provides a practical understanding of the main forecasting tools used by economists, and business, marketing and financial analysts.

### WHAT SETS THIS INTERVENTION APART?

This unique programme is designed to provide a balanced mix of theory and practice with the aim of equipping students to become operational forecasters, capable of designing, implementing and evaluating their own forecasting projects. The theories discussed will be cemented by hands-on sessions in the computer laboratory using industry-standard forecasting software packages.

The programme, presented by Prof Eon Smit, is a speciality in the field and is the only known course of its kind in South Africa. It has been presented with success in various companies, including Marcus Evans and Eskom.

## WHO

### WHO SHOULD ATTEND?

Business Forecasting is a competence that is needed within every company, and especially in areas such as Production, Strategy, Finance, Marketing, Logistics and Retail. The programme is furthermore aimed at middle to senior managers that work with budgets; in a strategic function; or in marketing. Participants are encouraged to bring a list of their own forecasting problems.

### ADMISSION REQUIREMENTS

It is assumed that participants comply with the following requirements: English language competence at NQF level 4; and sufficient ability to read and comprehend learning material, write assignments and follow/participate in discussions on management issues. It is not a requirement to have maths/stats knowledge.

### FACULTY PROFILE

Prof Eon Smit. His areas of expertise include: Business Forecasting, Derivative Instruments and Decision Analysis.

## WHAT

### PREPARATION: COMPUTER SOFTWARE

The main computer forecasting package used in this programme is STATISTICA in addition to the most popular spreadsheet programme found on all computers: EXCEL. Participants are required to bring their own laptops to the programme. STATISTICA will be provided beforehand and must be loaded before the programme commences.

Some organisations use other forecasting software, such as EViews. The various forecasting software available will however not be discussed during lecture sessions. It will be up to students to identify which software is used by their organisations and to familiarise themselves with how it works.

### PREPARATION BEFORE LECTURES

- Participants should familiarise themselves with basic statistical concepts before the programme starts.
- Knowledge of EXCEL is essential since the data that will be used in computer sessions will be stored in this spreadsheet programme. Most other data manipulation tasks will also be done in EXCEL. Participants should also familiarise themselves with STATISTICA, since it is the main computer package that will be used.
- Participants are expected to go through the prescribed reading material in preparation for the lecture sessions and to attempt one or two problems at the end of each chapter. The idea is to encourage them to have an understanding of the basic forecasting concepts before classes begin. This will help speed up content coverage in class and thus leave more time for hands-on computer tasks.

## TOPICS

### INTRODUCTION

Basic forecasting concepts, data patterns, autocorrelation analysis, forecast evaluation measures – judgemental forecasting, managing the process.

### SMOOTHING AND TECHNIQUES

Moving averages, exponential smoothing, Brown's Method, Holt's method, Winter's method.

### TIME SERIES DECOMPOSITION

Trend, cycle and seasonality.

### REGRESSION MODELS

Simple linear regression, multiple regression, stepwise regression, forecasting seasonal data using regression analysis, econometric forecasting.

### TIME SERIES REGRESSION

Violation of OLS assumptions: Multicollinearity, autocorrelation, and heteroscedasticity

### BOX-JENKINS ARIMA MODELS

Model identification, model estimation, diagnostic testing, forecasting with the model.



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### BENEFITS

#### HOW WILL YOU BENEFIT?

This programme intends to introduce students to econometric model-building and forecasting techniques and help them understand how forecasting can be applied in managerial decision-making.

Upon successful completion of the programme, participants should be able to:

- appraise the major forecasting methods in use today
- implement these methods using widely available software packages
- understand the nature of the forecasting environment
- select and use an appropriate forecasting technique based on the circumstances
- monitor the effectiveness and performance of the chosen forecasting system
- understand the principles and limitations of popular quantitative forecasting methods
- understand the limitations of expert opinion and the use of structured judgemental methods
- manage the interaction of judgement and quantitative forecasting methods
- use forecasting as a tool to deal with future uncertainty of the business environment
- use forecasting to aid business decision-making

#### ASSESSMENT

The programme assessment will comprise group work and an individual forecasting project (computer-based). On successful completion of the optional assignment, participants will receive a certificate from the University of Stellenbosch. Successful participants will also be credited for 1 of the 3 electives of the MBA at USB.

#### NQF ALIGNMENT

This programme is presented on the complexity level of an NQF 8.

### WHEN & WHERE

CAPE TOWN

- 23 - 27 May 2011

### FEES

FEES

R15 900

Fees include programme fees, programme material, lunch and refreshments, and are payable before the commencement of the programme.

#### CANCELLATION POLICY

It is of utmost importance that USB-ED be formally notified of cancellation 14 days prior to the commencement date of the programme.

A cancellation fee of 10% will be payable for cancelling fewer than 14 days prior to the commencement of the programme.

*Please note that programme fees and dates are subject to change.*

### ENQUIRIES

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WE HAVE OFFICES IN CAPE TOWN AND JOHANNESBURG