GAUSS
Expanding Probabilities.

GAUSS PROGRAMMING AND ITS APPLICATIONS TO FINANCE & ECONOMICS

3-Day Professional Development Workshop

East Asia Training & Consultancy Pte Ltd invites you to attend a three-day professional development workshop, with a focus of understanding the economic and financial procedures underlying various models by developing computer programs using the GAUSS software. GAUSS is the well- known Mathematical and Statistical Program developed by Aptech System (USA).

Course Programme

This is a 3-day intensive course on modeling economic and financial variables that use the econometric software GAUSS. The aim of the course is to provide an introduction to the GAUSS package, which is a highly flexible and powerful programming language for statistical computation.

The course begins with a session on the basics of GAUSS programming, followed by sessions on how it can be used to analyse real world problems in economics and finance.

A typical session includes a brief review of the subject matter to be covered, followed by a case study using real world data. Case studies include real life finance and economics applications on Regression models, Maximum likelihood estimation, Autoregressive models, Testing for non stationary models, Simulations, bootstrapping, Cross section and Panel data. Participants will also create and simulate their own datasets. Participants are welcomed to bring your own data-sets.

The workshop will use the latest GAUSS software. Although the workshop emphases the theory underlying the each topic, there is also emphasis given to understanding and interpreting the results of estimated models. The approach is "hands on" with the instructor discussing relevant concepts and then illustrating in GAUSS with participants replicating each step at their own PCs. The workshop will take place in a computer-linked environment.

Course Objectives

The objective of the course is to provide participants with:

• Basic understanding of Gauss programming

• Ability to write simple program in Gauss

• Basic knowledge of graphics and of importing and
  exporting data in Gauss.

• Ability to use GAUSS Applications

• Exposure to certain statistical/financial/economics models
  and to build gauss programs for some of these models.

Who Should Attend

The course is aimed at Econometricians, Financial Analysts, Economic Researchers, Model Builders, Financial Modelers, Arbitrage Traders, Quantitative Investment Analysts, Portfolio Strategists, Interest Rate & Currency Analysts, Treasury Strategists, University Instructors, Statisticians, and Policy Planners & Researchers or professionals in the business, finance, and government sectors, who are engaged in quantitative and financial analyses.

Prerequisite for this course

Knowledge in basic matrix algebra will be helpful.

Fees & Registration

The fee for this 3-day comprehensive GAUSS workshop includes course materials, lectures, lunches and the opportunity to network with Gauss users across the different industries in the Asia Pacific region.

This is a "hands-on" workshop. Participants are required to bring their own laptops.

The number of participants is restricted. Please register early to guarantee your place. Please complete the official registration form and email it to us at GAUSS@eastasiatc.com.sg to reserve your place.

Financial Assistance

Participants may be eligible for MAS Financial Sector Development Fund (FSDF) support on a case by case basis. Interested applicants should submit their applications to the FSDF Secretariat directly. For enquiries, please contact the FSDF secretariat at 65- 6229 9396 or via email at fsdf@mas.gov.sg.

Course Outline
(subject to minor changes)

On each day, the course is divided into both theory and computer classes whereby the computer classes allow the participants of the workshop to work through a number of questions with a range of data sets. A full set of lecture notes and exercises are available as well as GAUSS command and data files.

DAY 1

➢ General overview of Gauss-an introduction

➢ Familiarize participants with:

       Data types, reading data

       Vectors and Matrices, arrays

       Operators – matrix, relational, logical and other

       Conditional statements and Loops

       Procedures, functions, keywords

DAY 2

➢ Graphics- Time series plots, density plots, Histograms

➢ Importing and exporting data – ASCII and XLS formats

➢ Writing programs for simple problems to have good practice on what you have learned

➢ Link some of the procedures and programs to build a full program.

DAY 3

➢ Applications on:

Regression models

Maximum likelihood estimation

Autoregressive models

Testing for non stationary models

Simulations, bootstrapping

Cross section and Panel data

➢ Discussion on other module applications

➢ Optimization

➢ Constraint maximum likelihood

➢ Short project: Writing a complete program for a suggested topic.