

MINERVA

STATISTICAL CONSULTING



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WORKSHOP : **Introduction to C++ programming**

DATE : **19-11-2016 - 20-11-2016**

LOCATION : **London (Venue TBC)**

PRE REQUISITES : **None. It is however helpful to have some college level mathematics (such as linear algebra and statistics).**

OBJECTIVES : **To equip students with a basic working knowledge of C++ programming.**

INSTRUCTOR : **Mr Simon Ennis**

OUTLINE : **See below**

How to book : If you are interested in taking part in one of our workshops please feel free to contact us via phone or email to book a place or visit our training page.

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OVERVIEW : Introduction to C++ programming

This course is targeted at beginners and does not assume previous knowledge of the C++ programming software. The aim of the course is to prepare students for intermediate and advanced studies in C++ programming.

The course will be held in a computer room where each student will have access to a computer with a C++ compiler previously installed on the machine. This is to enable students to run the demonstrations on their own machines should they wish to do so.

The course will be delivered over 2 days with a total of 10 contact hours. Each session will be 1 hour long with breaks in between, please see page 2 for more information.

Day 1

Student will learn how to invoke the C++ compiler and write some basic C++ codes. At the end of day one the following topics will have been covered:

- C++ language overview, compiler environment, Basic code example and comments
- Data types, variable types and uses, variable scope
- Constants, Modifiers and storage classes, operators
- Loops and control statements, functions, numbers
- Arrays, Strings, Pointers, References.

Day 2

The second day of the course will build the student's knowledge of C++ by covering topics such as Polymorphism, templates and Memory handling. By the end of the second day the students should have an understanding of the following topics:

- Date and time, Input/Output, Data structures, classes and objects.
- Inheritance, Overloading and Polymorphism and abstraction
- Encapsulation, Interfaces, Files and streams, Exception handling
- Dynamic memory, Namespaces, templates
- Pre-processor, signal handling, multithreading.

Teaching material will be made available during the course.

Reference book: *Programming principles and practice using C++* by Bjarne Stroustrup 2nd edition (Addison-Wesley)

WORKSHOP : AGENDA

Please find below the agenda for the workshop.

Day 1. C++ : the compiler and built in types

- **9:00 - 9:45** : Arrival of participants and registration
- **10:00 - 11:00** : Session 1
- **11:00 - 11:15** : Coffee break*
- **11:15 - 12:30** : Session 2
- **12:30 - 14:00** : Lunch*
- **14:00 - 15:00** : Session 3
- **15:00 - 15:15** : Coffee break*
- **15:15 - 16:30** : Session 4
- **16:30 - 16:45** : Coffee break*
- **16:45 - 18:00** : Session 5

Day 2. C++ : object oriented concepts and use

- **10:00 - 11:00** : Session 6
- **11:00 - 11:15** : Coffee break*
- **11:15 - 12:30** : Session 7
- **12:30 - 14:00** : Lunch*
- **14:00 - 15:00** : Session 8
- **15:00 - 15:15** : Coffee break*
- **15:15 - 16:30** : Session 9
- **16:30 - 16:45** : Coffee break*
- **16:45 - 18:00** : Session 10

*Included in the course price. Vegetarian options available, please notify any additional dietary requirements in your application form.