

Object Oriented Concepts

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Overview

Analysts, Developers, and software Architects require a solid understanding of object oriented principals to analyse and design effective object oriented solutions. The OO (Object-Oriented) approach, however, is radically different than traditional design, an Object Oriented system is one that is:

- Real-world in its purpose - every part has a purpose that is straightforward to explain, even to a non technical audience
- Modular - easy to buy, build & replace parts, even with different technologies and languages
- Reusable - each building block can be reused by other systems
- Loosely coupled - the modules can work within heterogeneous environments
- Readily scalable to cope with increased demand
- Incremental in its delivery - the system can be bought or built and improved upon in repeated development efforts

The concepts used in Object-Oriented design are equally applicable in capturing and defining Business processes. Whether your emphasis is on Business Analysis or System Analysis and Development, OO concepts are essential to understand in order to exploit the Unified Modelling Language for defining and communicating all aspects of Business processes, data flow, and software driven systems.

This 1-day course begins by laying down a solid foundation of the underlying concepts of object oriented thinking. Core concepts such as properties, methods, inheritance, polymorphism, overriding and overloading of methods, and encapsulation are explained in detail. After laying out the concepts, the course continues to cover design principles associated with designing classes and objects. Finally the business case for OO Design and Development is examined, and UML is introduced.

Learning Method

Instructor led

The course is presented in lecture/tutorial style using a combination of lectures and practical exercises.

Who will benefit from this course?

The course is suitable for:

- Business Analysts
- Project Managers
- System Architects
- Developers
- Quality Assurance personnel who require knowledge of Object-Oriented techniques

Duration: 1 day**Scheduled In:
MELBOURNE****On Demand In:
SYDNEY
BRISBANE
CANBERRA**

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Pre-Requisites for this course

There are no pre-requisites for this course although basic familiarity with Business Processes, Data Modelling and general computing systems would be useful.

What you can expect to gain from this course?

After completing this course, you will:

- Have an understanding of OO Design
- Know the benefits of OO Design
- Know what an object and class is
- Have knowledge of data encapsulation, inheritance, and polymorphism
- Have an appreciation of UML and its relationship to OO Design
- Have an understanding of the implications of utilising OO Programming in one's environment

Course Content

- OOP vs. Structured Programming History of OOD
- What is OO Design?
- What is an Object?
- Why take an Object-Based View?
- What is a Class?
- Methods Overloading
- Private Implementation
- One Object Can Have More than One Type
- Data Encapsulation
- Inheritance Hierarchies
- Class Hierarchies
- Reuse through Inheritance
- Aggregation Hierarchies
- Adding Data and/or Behaviour Through Inheritance
- Polymorphism - The Object Chooses the Method
- Base Classes Method Overriding OO Building Blocks – Objects, Methods, Properties/ Data
- Members
- Core OO Concepts – Encapsulation, Inheritance, Polymorphism
- Object Compositions - Has-a, Is-a, USES, OO Design and UML class diagrams, sequence diagrams, etc. How they are created, why they are useful
- Good design principles

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Related Courses

UML for Business Analysts
Java Programming
Advanced Java Programming
Introduction to Application Development using MS Visual Studio 2005 in C# and VB
Top Down Software Design
Optimal Java Design and Development Practices