GogoTraining™
Leader in IT & Management Training

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Objective-C Programming
Training Course Outline

Course Description:
Do you want to learn Objective-C programming? Interested in training to become an iPhone programmer? The Objective-C Programming training course teaches you the foundations of the Objective-C programming language. This Objective-C class covers the Xcode development environment and Cocoa programming framework. You will use Cocoa to create applications in the same way that Mac OS X itself is created. Much of Cocoa is implemented in Objective-C, a superset of C, so you will be able to draw upon your existing C or C++ background.

Included in the training options for this Objective-C training course is a self-paced video course, an option available with all GogoTraining courses.

Course Objectives:
As a result of taking this Objective-C training class, you will be able to:

- Design, create and develop Cocoa applications in Objective-C for the Macintosh using the Model-View-Controller (MVC) architecture
- Effectively use autoreleasing Macintosh memory
- Develop and implement Objective-C classes that use accessors and mutators
- Use class categories, introspection and protocols
- Use control outlets and bindings
- Implement and control event responder chains

Course Prerequisites:
You should have one year of ANSI C programming background, including a basic knowledge of pointers, functions and arrays.

Modular Outline:
Module 00: Introduction to Programming for Non-Programmers - Course Introduction

Module 01: Setting Up

- Downloading Xcode
- Installing Xcode
- Creating a First Application
- Exercise: Creating First Application

Module 02: Setting Up Demo

- Demo: Tour of Xcode (shows how to create first app)

Module 03: Basics of C

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- Coding Statements and Syntax
- Code Formatting
- Variables
- Operators
- Functions
- Scope
- Conditionals
- Creating a First Program
- Demo: Compiling and Running a First Program
- Demo: Basics of C

Module 04: Memory and Pointers - Part 1

- Arrays
- Loops
- Text Strings
- Multidimensional Arrays
- Pointers
- Dynamic Memory
- Strings and Dynamic Memory

Module 05: Memory and Pointers - Part 2

- Arrays of Strings
- Data Structures (structs)
- Header Files
- Demo: Working with an Address Book 10
- Demo: Compiling and Running the Header File Test
- Exercise: Working with Structures

Module 06: Thinking in Objects

- Structures and Classes
- Accessors
- Inheritance
- Composition
- Lifetime of Objects
- Built-in Classes
- Exercise: Thinking in Objects
- Demo: Creating and Working with Objects

Module 07: Basics of Objective-C

- Working with NSStrings
- Working with Methods
- Working with Accessors
- Creating Objects
- Basic Memory Management
- Implementing a Class
- Declaring Classes

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- Exercise: Building Basic Objective-C Classes

Module 08: Basics of Objective C Demo

- Demo: Creating and Working with the PhotoInfo Class

Module 09: More Objective-C Part 1

- Memory Management
- Class Name Prefixes
- Class Properties
- Objective-C on 64-Bit Systems
- Class Categories

Module 10: More Objective-C Part 2

- Class Protocols
- Dynamic Messaging
- Class Exceptions
- Class Introspection
- Exercise: Advanced Objective-C Concepts
- Demo: Working with the DataCollector Class, Arrays, Workspaces

Module 11: Core Foundation Value Classes

- Mutability in Core Foundation Value Classes
- NSString
- NSNumber
- NSData
- NSArray
- NSDictionary
- NSDate
- NSSet
- NSValue
- Exercise: Using Foundation Classes to Perform Localization
- Demo: Working with Core Foundation Value Classes

Module 12: Basic Controls - Part 1

- Basic Controls - Overview
- Windows and Views
- Targets and Actions
- Responder Chains
- Demo: Creating Different Button Styles
- Demo: Target and Actions

Module 13: Basic Controls - Part 2

- More Targets and Actions
- Outlets
- Data Sources
- Bindings

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- Exercise: Working with Basic Controls
- Demo: Binding a Data Source

Module 14: Designing Applications Using MVC - Part 1

- What is the Model-View-Controller (MVC) Architecture?
- Controller
  - Methods
  - Core Data Classes
- Creating Project Files
- Creating the Gallery and Entities
  - Add Attributes and Relationships
  - Frameworks

Module 15: Designing Applications Using MVC - Part 2

- Creating Project Files
  - Controllers
- Creating the User Interface
- Running the Application
- Preparing for Release
- Exercise: Designing Applications Using the Model -View Controller Approach
- Demo: Preparing Application for Release

Module 16: Custom Views and Drawing Part 1

- View and Drawing Frameworks
- Basic Geometry
  - Creating shapes
  - Converting Geometry Structures to Strings
- Demo: Converting Geometry Structures to Strings

Module 17: Custom Views and Drawing Part 2

- Basic Geometry
  - Converting Strings to Geometry Structures
  - Cocoa Coordinate System
  - Derived Rects
  - NSRect Comparison and Spatial Functions
- Demo: Basic Geometry - Working with Rectangles

Module 18: Custom Views and Drawing Part 3

- Basic Drawing
- Bezier Paths
- Images
- Shadows
- Gradients
- Refactoring View Code
- Demo: Basic Drawing
- Demo: Bezier Paths and Images

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Module 19: Custom Views and Drawing Part 4

- Text
- Mouse Events
- Keyboard Events
- Exercise: Working with Custom Views and Drawing
- Demo: Handling Images and Shadows