

# Flash CS3 ActionScript 3

## 3 day course

### Course Description

Flash CS3 ActionScript 3 offers significant leaps over its predecessor, ActionScript 2. With the new version of ActionScript, developers will find a faster runtime environment, better debugging, a consistent method for handling events, and an improved framework of classes for development.

In this course we will explore best practices when developing rich Flash applications, review important concepts such as syntax, object oriented programming, animating with ActionScript, and controlling objects using the keyboard.

We will also take a detailed look at several classes in the ActionScript 3 class library. Each of these classes will allow us to quickly add rich and robust functionality to our Flash applications. Once you complete the class you'll have a strong understanding of ActionScript 3 and develop a Flash version of the popular game Asteroids.

### Who should attend?

Anyone looking to move from basic ActionScript 2 coding to basic/intermediate ActionScript 3 coding. Those with no ActionScript experience but a good programming background in another language (such as Javascript, Java or C++) looking to learn ActionScript 3.

### What will I learn?

How to create variables, manipulate symbols and organize your code using Object Oriented paradigms. Manipulate the Flash Document Object Model. Write event handlers that react to keyboard and mouse movement. Enhance your applications through the use of ActionScript class libraries. Read and parse XML. Programmatically animate objects on screen using a physics model.

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## Course Content:

### Introducing the Course

- Unit Objectives and Topics
- About the Course
- About the Author
- Installation Instructions
- Course Overview and Objectives
- Prerequisites
- Course Format
- Why Flash
- Walkthrough 1-1: Reviewing the Finished Application

### ActionScript 3 Fundamentals

- Unit Objectives and Topics
- Getting Started with Coding
- ActionScript Basics
- Walkthrough 2-1: Declaring and Using Variables
- Operators and Expressions
- Walkthrough 2-2: Converting Data Types and Operators
- Using Functions
- Walkthrough 2-3: Using Functions and Methods
- Unit Summary
- Unit Review
- Lab 2: Instantiating Variables

### Manipulating Symbols with ActionScript

- Unit Objectives and Topics
- Introducing Symbols
- Walkthrough 3-1: Using a MovieClip and Button's Properties
- Working with MovieClip Methods
- Walkthrough 3-2: Using Methods within a MovieClip
- Working with TextFields
- Walkthrough 3-3: Using TextField Properties
- Dynamically Adding Symbols to the Stage

- Walkthrough 3-4: Adding Symbols to the Stage at Run-Time
- Loading Content Dynamically Into a MovieClip
- Walkthrough 3-5: Loading External Images
- Lab 3: Making a Space Rock
- Unit Summary
- Unit Review

### **Object Oriented Programming**

- Unit Objectives and Topics
- Introducing Object Oriented Programming
- Walkthrough 4-1: Creating a Custom Class
- Declaring Class Properties
- Walkthrough 4-2: Adding Properties to a Class
- Declaring Methods
- Walkthrough 4-3: Adding Methods to a Class
- Creating Visual Classes Through Inheritance
- Walkthrough 4-4: Creating a Visual Class
- Making the Stage a Class
- Walkthrough 4-5: Making the Stage a Class and Dynamically Adding Instances
- Lab 4: Create an Asteroid and Collectable Class
- Unit Summary
- Unit Review

### **ActionScript 3 Events**

- Unit Objectives and Topics
- ActionScript Events
- Walkthrough 5-1: Handling Events
- ActionScript Event Types
- Walkthrough 5-2: Using the MouseEvent
- Walkthrough 5-3: Using the Keyboard and Enter Frame Events
- Dispatching A Custom Event
- Walkthrough 5-4: Dispatching A Custom Crash Event
- Working with Timers
- Lab 5: Display the TimerEvent and the EnterFrame Event
- Unit Summary
- Unit Review

### **Loops and Conditional Logic**

- Unit Objectives and Topics
- Types of Conditional Statements
- Walkthrough 6-1: Controlling the SpaceShip
- Determine When Objects Overlap or Hit
- Walkthrough 6-2: Determine when the SpaceShip Crashes
- Types of Loops
- Walkthrough 6-3: Adding Asteroids to the Screen
- Unit Summary
- Unit Review
- Lab 6: Keeping Your Asteroids and Collectables on the Stage and collecting items

### **Exploring the ActionScript Class Library**

- Unit Objectives and Topics
- The ActionScript Class Library
- The ActionScript Class Library
- Using the Sound Class
- Walkthrough 7-1: Adding Sound Effects to the SpaceShip
- Programmatically Formatting Text
- Walkthrough 7-2: Formatting the Player Score TextField
- Getting a Date with ActionScript
- Walkthrough 7-3: Determine your Current Age
- Arrays
- Static Methods and Properties
- Walkthrough 7-4: Use Cos and Sin to maneuver the Space Ship and Create Random Asteroids
- Unit Summary
- Unit Review
- Lab 7: Adding Sound and Random Speed and Locations to the Collectable Class

**XML with E4X**

- Unit Objectives and Topics
- What is XML
- Walkthrough 8-1: Creating a High Score List
- Using the E4X Operators
- Demonstration 8-1: Using E4X Operators
- Accessing External XML Documents
- Walkthrough 8-2: Loading External XML Files and Filtering Books
- Unit Summary
- Unit Review
- Lab 8-1: Displaying High Scores with e4x

**Animating with ActionScript**

- Unit Objectives and Topics
  - Using the Enter Frame Event
  - Walkthrough 9-1: Copy and Paste Tweens
  - Using the Tween Class
  - Walkthrough 9-2: Tweening the Warp Animation
  - Unit Summary
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