Teaching App Development with Swift
Level 2: Single View Apps and MVC

Project and Lesson Overview
Level 2: Single View Apps and MVC

Level 2 introduces iOS development with three applications: a clock, a stopwatch and a unit converter. Teach students about Model-View-Controller, and practice applying Swift fundamentals such as classes, properties, functions, collection types, and optionals.

Clock (Six Lessons)
Display the current time on the screen as a vehicle for exploring controller life cycle methods. Learning outcomes include:
• Applying Xcode, Interface Builder, views, models and controllers
• Assembling UILabel components
• Defining controller outlets and the significance of IBOutlet
• Implementing Swift classes, properties and methods
• Identifying String objects, string formatting and the NSDate API
• Describing NSNotificationCenter and NSTimer
• Inferring application and controller life cycle events

Stopwatch (Seven Lessons)
Create a stopwatch that displays the elapsed time. Learning outcomes include:
• Practicing applying Xcode, Interface Builder, and MVC
• Identifying UILabels, UIButtons, IBOutlets and IBActions
• Relating Model-View-Controller to project components
• Implementing Swift classes, properties and methods
• Applying String, string formatting, NSDate and NSTimeInterval
• Applying NSTimer, discovering Run Loops, assimilating lifecycle events
• Recognizing and assessing user accessibility
UnitConverter (Eleven Lessons)

Display the the temperature in Fahrenheit while selecting a temperature in Celsius. Learning outcomes include:

• Practicing applying Xcode, Interface Builder, and MVC
• Applying UILabel and UIPickerView components, IBOutlets and IBActions
• Implementing Swift classes, properties and methods
• Demonstrating Arrays, ranges and the map function
• Applying Model-View-Controller, and discovering view models
• Describing protocols and delegates
• Using NSUserDefaults and property list files for persistence