



## Certificate in Apple iOS App Development

### Module M108: iOS Mobile Hardware Architecture

#### Module Description

At the end of the module the participant will gain the following competencies:

- Understand the operation of Mobile SoCs, Motion Processors, RAM and SSD
- Understand the operation of Mobile Sensors, Wireless and Location Services
- Understand the operation of Mobile Audio, Video and I/O Components

It is recommended that you complete the Overview of the Apple iOS App Dev Module - before attempting this Module.

Click on this iTunes U Link to complete the Overview Module before completing this module  
<https://itunes.apple.com/ae/course/id982171866>

#### Duration:

- 3 weeks – blended/flipped classroom mode using iTunes U
- iTunes U Link - <https://itunes.apple.com/ae/course/id982170803>

#### Eligibility and Pre-Requisites

- Anyone around the world but only HCT full time staff qualify for the certificate if they complete all the assessment tasks.
- Highly IT literate

## **Course Outline**

### **1. Displays**

- 1.1. Multi-Touch
- 1.2. Screen Size
- 1.3. Resolution
- 1.4. Pixels Per Inch
- 1.5. Aspect Ratio
- 1.6. Retina Display
- 1.7. Pixel Ratio
- 1.8. Programming considerations

### **2. A8 Processor**

- 2.1. A8 Functions
- 2.2. A8 Features
- 2.3. Programming considerations

### **3. M8 Motion Co-processor**

- 3.1. M8 functions and features
- 3.2. Programming considerations

### **4. Memory Devices**

- 4.1. RAM
- 4.2. SSD
- 4.3. Programming considerations

### **5. Sensors**

- 5.1. Accelerometers and Gyroscopes
- 5.2. Proximity Sensor and Ambient light Sensor
- 5.3. Touch ID and Barometer



## **6. Wireless Communication**

- 6.1. Introduction to Wireless and Device addressing
- 6.2. Near Field Communication
- 6.3. Bluetooth
- 6.4. Wifi
- 6.5. Cellular

## **7. Location Services**

- 7.1. Introduction to Location Services
- 7.2. GPS
- 7.3. Cellular, Wifi, Digital Compass
- 7.4. iBeacons

## **8. Audio and Video Devices**

- 8.1. iSight Camera
- 8.2. Face-Time Camera
- 8.3. Audio Playback
- 8.4. Video Playback
- 8.5. Airplay

## **9. Other Technologies**

- 9.1. Batteries
- 9.2. Voice Assistant - Siri
- 9.3. Connectors and Cables
- 9.4. Sim Cards



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## **Assessment**

Written Research Assignment - 25% of final grade