**Digital Media and IT**

**DMIT2504 Intro to Android Programming**

**Fall 2019 Term Detail Planning Calendar**

**Instructor: Robbin Law email:** [**robbinl@nait.ca**](mailto:robbinl@nait.ca)

|  |  |  |  |
| --- | --- | --- | --- |
| **Week** | **Day 1** | **Day 2** | **Day 3** |
| **1**  **Sep 02-06** | **Intro to Course**   * Outline and Calendar * Assessments * Project Intro   **Intro to Android Development**   * Native Dev vs Cross Platform Dev * Java vs Kotlin * React Native/JavaScript vs Xamarin/C# vs Flutter/Dart * developer.android.com * Android Platform versions * Flutter.dev & Dart.dev | **Setup of Development Environment**   * Git & GitHub * Flutter and Dart SDK Download * set environment path to SDK’s * Android Studio & SDK Download * setx ANDROID\_SDK\_HOME C:\AndroidSDKHome * Android Studio VM Emulator * VS Code flutter/dart plugins * Test app Creation * Virtual Device Deployment | **Setup of Development Environment**   * Setup Development Environment again but in new classroom |
| **2**  **Sep 09-13** | **Setup of Development Environment**   * Setup Development Environment again but in new classroom | **First App & App Anatomy (02)**   * Widget Tree * main() and runApp() functions * MaterialApp Widget * Text Widget * Centre Widget * Scaffold Widget * appbar and body properties * Image and NetworkImage * Intentions | **Stateless Widget (02 & 03)**   * Stateless Widget * Widget build() method * Hot Reload and Restart * Project Assets * Creation of Images Directory * Pubspec.yaml * AssetImage Widget * App Launcher Icons |
| **3**  **Sep 16-20** | **UI Layout Widgets (03)**   * Container Widget * margin and padding properties * Edge Insets   **Lab1: UI Layout** | **UI Layout Widgets (03)**   * Column & Row Widgets * Expanded Widget * flex property   **Lab1: UI Layout** | **UI Layout Widgets (03)**   * CircleAvatar Widget * Custom Fonts * Icons * style property for Text * Padding widget   **Lab1: UI Layout** |
| **4**  **Sep 23-27** | **Stateful Widget (04)**   * Button Widgets * onclick property * Stateful vs Stateless Widget * setState method   **Lab1 Due In-Class 10%** | **Flutter Packages (05)**   * Downloading packages * Using packages * import | **Dart Methods (05)**   * Dart Methods * Positional vs Named Parameters * return |
| **5**  **Sep 30-04** | **Dart OOP (06)**   * Dart Classes and Objects * Abstraction * Encapsulation   **Lab2: StatefulWidget** | **Dart OOP (06)**   * Inheritance * Polymorphism   **Lab2: StatefulWidget** | **Custom Widgets (07)**  **Lab2: StatefulWidget** |
| **6**  **Oct 07-11** | **Custom Widgets (07)**  **Lab2 Due In-Class 10%** | **Location Discovery with GPS (08)** | **Internet Live Data (08)** |
| **7**  **Oct 14-18** | **Internet Live Data (08)**  **Lab3: Custom Widgets** | **Asynchronous Programming (08)**  **Lab3: Custom Widgets** | **Open House No Classes Friday**  **Lab3: Custom Widgets** |
| **8**  **Oct 21-25** | **Asynchronous Programming (08)**  **Lab3 Due In-Class 10%** | **Animation (10)** | **Animation (10)** |

|  |  |  |  |
| --- | --- | --- | --- |
| **9**  **Oct 28-01** | **Persistence: Firebase/Streams (10)**   * Authentication   **Lab4: Internet Data** | **Persistence: Firebase/Streams (10)**   * Authentication   **Lab4: Internet Data** | **Persistence: Firebase/Streams (10)**   * Authentication   **Lab4: Internet Data** |
| **10**  **Nov 04-08** | **State Management**  **Lab4 Due In-Class 10%** | **State Management** | **State Management**  **Review for Quiz** |
| **11**  **Nov 11-15** | **Quiz Paper/Moodle 50 min 10%** |  |  |
| **12**  **Nov 18-22** | **Project Plan** | **Project Plan** | **Project Plan** Project Plan DueSunday 11:00 PM 10% |
| **13**  **Nov 25-29** | **Project Implementation** | **Project Implementation** | **Project Implementation** |
| **14**  **Dec 02-06** | **Project Implementation** | **Project Implementation** | **Project Implementation**  **Project Implementation Due**  **Sunday 11:00 PM 30%** |
| **15**  **Dec 09-13** | **Project Presentations 10%** | **Project Presentations 10%** | **Project Presentations 10%** |

**One Quiz 10%**

**Four Labs 10% Each for a Total of 40%**

**Project Plan 10%**

**Project Implementation 30%**

**Project Presentation 10%**

**Note that the Project is worth 50% of your mark. You are to work in pairs (or maybe 3 if approved), to accomplish all aspects of the project. This project is not a capstone project, but the expectation is for each group to produce a fully functional app, using modern mobile development concepts, like persistence (databases), cloud services, animations, etc.**