CSC 436 Mobile Application Development

1. CSC 436 Mobile Application Development

2. **credit units 4** contact hours 6

3. **Course Coordinator:** John Bellardo

4. **Textbook (or other required material):** None

5. a. **Course Description:** Inception, development, testing, and deployment of mobile applications. Introduction to tools, libraries, and frameworks for one or more mobile platforms and devices. Emphasis on software engineering best practices for developing entrepreneurial or humanitarian mobile-centric applications. 3 lectures, 1 laboratory.

   b. **Prerequisite:** CSC/CPE 357

   c. **Required/Elective/Selective Elective for CPE, CSC, EE, SE**

      | Required | CSC | CPE | SE |
      |----------|-----|-----|----|
      | Elective | X   | X   | X  |
      | Selective Elective |     |     |    |

6. a. **Course Learning Objectives**
   The student will be able to:
   - Articulate breadth of knowledge for developing applications with a particular mobile development platform.
   - Articulate a depth of knowledge in select areas of a particular mobile development platform.
   - Produce and maintain a high-quality mobile software product.
   - Explain the key elements necessary for developing a successful mobile application.
   - Apply knowledge of a particular mobile development platform in the creation of a novel mobile app.
   - Analyze, evaluate and test mobile applications in terms of features, quality, and utility.
   - Follow a software development process.
   - Apply software engineering best practices in the development of a mobile application.
   - Communicate effectively about a mobile app design.

   b. **Level at which Student Outcomes are addressed**
   ("B" = Basic level, "I" = Intermediate level, "A" = Advanced level)

      | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
      |---|---|---|---|---|---|---|
      | A | A | B |   |   |   | N/A |
      | A | A | B |   |   | A | A |

7. **Major Topics Covered:** (number of lecture hours per)
• Technology Overview (1 lec)
• Critical Analysis of Apps and App Ideas (1-2)
• Tool Introduction (1)
• Application Lifecycle (1)
• View Hierarchy, Layouts, and Lifecycle (1)
• Basic UI Elements: Buttons, Lists, Tables, Tabs, etc (3)
• Local Data Storage and Retrieval (1-3)
• Remote Data Storage and Retrieval (1)
• Threading, Alarms, Background Services, and Notifications (1)
• Gestures and Events (1)
• Hardware Interfaces (e.g. Accelerometers) (1)
• Maps and location (1)
• User Interface/Software/Design Reviews (1-3)
• Performance profiling (1)
• Testing (1)
• Deployment (1)