**SYLLABUS**

**IT6611 MOBILE APPLICATION DEVELOPMENT LABORATORY L T P C 0 0 3 2**

**OBJECTIVES:**

The student should be made to:

* Know the components and structure of mobile application development frameworks for Android and windows OS based mobiles.
* Understand how to work with various mobile application development frameworks.
* Learn the basic and important design concepts and issues of development of mobile applications.
* Understand the capabilities and limitations of mobile devices.

**LIST OF EXPERIMENTS:**

1. Develop an application that uses GUI components, Font and Colors.
2. Develop an application that uses Layout Managers and event listeners.
3. Develop a native calculator application.
4. Write an application that draws basic graphical primitives on the screen.
5. Develop an application that makes use of database.
6. Develop an application that makes use of RSS Feed.
7. Implement an application that implements Multi threading
8. Develop a native application that uses GPS location information.
9. Implement an application that writes data to the SD card.
10. Implement an application that creates an alert upon receiving a message.
11. Write a mobile application that creates alarm clock

**TOTAL: 45 PERIODS**

**COURSE OUTCOMES:**

At the end of the course, the student should be able to

C316.1: Implementing GUI Components.

C316.2: Utilizing database features of mobile OS.

C316.3: Performing I/O operations in external storage.

C316.4: Utilizing on-board services of mobile OS through API’s

C316.5: Utilizing multithreading of mobile OS.

**LIST OF EQUIPMENT FOR A BATCH OF 30 STUDENTS:**

Standalone desktops with Windows or Android or iOS or Equivalent Mobile Application Development

Tools with appropriate emulators and debuggers – 30 Nos.

**MAPPING WITH CO AND PO OF THE COURSE**

**PROGRAM OUTCOMES (POs)** *(Defined by Anna University)*

**ENGINEERING GRADUATES WILL BE ABLE TO:**

**PO 1 Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

**PO 2 Problem analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

**PO 3 Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

**PO 4 Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

**PO 5 Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

**PO 6 The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

**PO 7 Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

**PO 8 Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

**PO 9 Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

**PO 10 Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

**PO 11 Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one‘s own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

**PO 12 Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

**PROGRAM SPECIFIC OBJECTIVES (PSOs)** *(Defined by Anna University)*

**PSO 1:** To create, select, and apply appropriate techniques, resources, modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.

**PSO 2:** To manage complex IT projects with consideration of the human, financial, ethical and environmental factors and an understanding of risk management processes, and operational and policy implications.

**CO/PO/PSO MAPPING OF THE COURSE**

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| CO/PO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 |
| C316.1 | 2 | - | 3 | - | 3 | - | - | - | - | - | - | - | - | - |
| C316.2 | - | - | - | - | 3 | - | - | - | - | - | - | - | - | - |
| C316.3 | - | - | - | - | 3 | - | - | - | - | - | - | - | - | - |
| C316.4 | - | - | 3 | - | 2 | - | - | - | - | - | - | - | - | - |
| C316.5 | - | - | - | - | 3 | - | - | - | - | - | - | - | - | - |

1: Low 2: Moderate 3: Substantial ‘-‘ : No Relevance

**Faculty in charge HOD**