FORM B: COURSE PLAN

| Course Code & Course Title: BAIT2073 Mobile Application Development | Programme(s): RSD1, RSD2, RSF2, RMM2, RST2, RIT2 |
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| Semester: [ ] May [ **🗸** ] October [ ] March  (please tick “**🗸**”) | Academic Year: 2018/2019 |
| Hours/Week: Lecture 2 , Tutorial 0 , Laboratory/Practical 2 | |

| **Week** |  | Topics | **Reference Material**  **(Books/Titles, Journals, Web articles, etc.)** | **Remarks\*** |
| --- | --- | --- | --- | --- |
| **Week 1** | Lecture | 1. Introduction to Mobile Application Development | Android Developer, 2018, *Application Fundamentals*, URL: <https://developer.android.com/guide/components/fundamentals> |  |
| Tutorial | - | - |  |
| Practical | 1. Introduction to Mobile Application Development   * Meet the IDE: Android Studio * Overview of Codelab * Android Studio and Hello World * Version control with Git and Android Studio | Android Developer, 2018, *Meet the IDE: Android Studio*, URL:  <https://developer.android.com/studio/intro/>  Android Developer, 2018, *Overview of Codelab*, URL:  <https://developer.android.com/courses/fundamentals-training/toc-v2>  Android Developer, 2018, *Android Studio and Hello World*, URL: <https://codelabs.developers.google.com/codelabs/android-training-hello-world/index.html?index=..%2F..%2Fandroid-training#0>  Chike Mgbemena, Version control with Git and Android Studio, 2018  <https://code.tutsplus.com/tutorials/working-with-git-in-android-studio--cms-30514> |  |
| **Week 2** | Lecture | 2. Mobile Applications Models | Android Developer, 2018, *Application Fundamentals*, URL: <https://developer.android.com/guide/components/fundamentals> |  |
| Tutorial | - | - |  |
| Practical | 2. Overview of Android Applications Models | Android Developer, 2018, *Activities and intents*, URL: <https://codelabs.developers.google.com/codelabs/android-training-create-an-activity/#0>  Android Developer, 2018, *Activity lifecycle and state*, URL:  <https://codelabs.developers.google.com/codelabs/android-training-activity-lifecycle-and-state/#0>  Android Developer, 2018, *Implicit Intent*  , URL:  <https://codelabs.developers.google.com/codelabs/android-training-activity-with-implicit-intent/index.html?index=..%2F..%2Fandroid-training#0>  Android Developer, 2018, *The debugger*  , URL: <https://codelabs.developers.google.com/codelabs/android-training-using-debugger/#0> |  |
| **Week 3** | Lecture | 3. User Interfaces: Part 1 – Layout, App Bar, Menu, Dialog and Picker | Android Developer, 2018, *Layout*, URL:  <https://developer.android.com/guide/topics/ui/declaring-layout>  Android Developer, 2018, *App Bar*, URL: <https://developer.android.com/training/appbar/>  Android Developer, 2018, *Dialog*, URL:  <https://developer.android.com/guide/topics/ui/dialogs>  Android Developer, 2018, *Picker*, URL:  <https://developer.android.com/guide/topics/ui/controls/pickers> |  |
| Tutorial | - | - |  |
| Practical | 3. User Interface: Part 1 – Layout, App Bar, Menu, Dialog and Picker | Android Developer, 2018, *Interactive UI,* URL:  <https://codelabs.developers.google.com/codelabs/android-training-layout-editor-part-a/index.html?index=..%2F..%2Fandroid-training#0>  Android Developer, 2018, *Menus and pickers,* URL:  <https://codelabs.developers.google.com/codelabs/android-training-menus-and-pickers/#0>  Android Developer, 2018, *User navigation,* URL:  <https://codelabs.developers.google.com/codelabs/android-training-provide-user-navigation/#0> |  |
| Week 4 | Lecture | 3. User Interfaces: Part 2 – Device compatibility | Android Developer, 2018, *Device compatibility overview,* URL: <https://developer.android.com/guide/practices/compatibility>  Android Developer, 2018, *Multiple APKs*, URL:  <https://developer.android.com/google/play/publishing/multiple-apks> |  |
| Tutorial | - | - |  |
| Practical | 3: User Interface: Part 2 – Device compatibility | Android Developer, 2018, *Layout,* URL:  <https://codelabs.developers.google.com/codelabs/android-training-layout-editor-part-b/index.html?index=..%2F..%2Fandroid-training#0>  Android Developer, 2018, *Adaptive Layouts,* URL:  <https://codelabs.developers.google.com/codelabs/android-training-adaptive-layouts/index.html?index=..%2F..%2Fandroid-training#0>  Android Developer, 2018, *Alternative Resources,* URL:  <https://google-developer-training.github.io/android-developer-fundamentals-course-concepts-v2/unit-2-user-experience/lesson-5-delightful-user-experience/5-3-c-resources-for-adaptive-layouts/5-3-c-resources-for-adaptive-layouts.html> |  |
| **Week 5** | Lecture | 3. User Interfaces: Part 3 – UI and Navigation | Android Developer, 2018, *User Interface & Navigation,* URL:  <https://developer.android.com/guide/topics/ui/>  Android Developer, 2018, *Accessibility,* URL:  <https://material.io/design/usability/accessibility.html#>  Android Developer, 2018, *Themes and Styles,* URL:  <https://developer.android.com/guide/topics/ui/look-and-feel/themes> |  |
| Tutorial | - | - |  |
| Practical | 3. User Interfaces: Part 3 – UI and Navigation | Android Developer, 2018, *Input Controls*  *,* URL:  <https://codelabs.developers.google.com/codelabs/android-training-input-controls/#0>  Android Developer, 2018, *Menus and pickers*, URL:  <https://codelabs.developers.google.com/codelabs/android-training-menus-and-pickers/#0>  Android Developer, 2018, *User navigation*, URL:  <https://codelabs.developers.google.com/codelabs/android-training-provide-user-navigation/#0>  Android Developer, 2018, *Drawables, styles and themes,* URL:  <https://codelabs.developers.google.com/codelabs/android-training-drawables-styles-and-themes/#0> |  |
| **Week 6** | Lecture | 3. User Interfaces: Part 4 – Fragments | Android Developer, 2018, *Fragment*, URL:  <https://developer.android.com/guide/components/fragments> |  |
| Tutorial | - | - |  |
| Practical | 3. User Interfaces: Part 4 – Fragments | Android Developer, 2018, *Navigation*, URL:  <https://codelabs.developers.google.com/codelabs/android-navigation/#0> |  |
| **Week 7** | Lecture | 4. Resources and Data Storage: Part 1 – Saving Key Value Set and Data File | Android Developer, 2018, *App Data and Files*, URL:  <https://developer.android.com/guide/topics/data/> |  |
| Tutorial | - | - |  |
| Practical | 4. Resources and Data Storage: Part 1 – Saving Key Value Set and Data File | Android Developer, 2018, *Shared Preference*, URL: <https://codelabs.developers.google.com/codelabs/android-training-shared-preferences/index.html?index=..%2F..%2Fandroid-training#0>  Android Developer, 2018, *Apps Settings*, URL:  <https://codelabs.developers.google.com/codelabs/android-training-adding-settings-to-app/index.html?index=..%2F..%2Fandroid-training#0> |  |
| Week 8 | Lecture | 4. Resources and Data Storage: Part 2 - Save data in a local database using Room | Android Developer, 2018, *Save data in a local database using Room*, URL:  <https://developer.android.com/training/data-storage/room/> |  |
| Tutorial | - | - |  |
| Practical | 4. Resources and Data Storage: Part 2 - Save data in a local database using Room | Android Developer, 2018, *Room, LiveData, and ViewModel*, URL:  <https://codelabs.developers.google.com/codelabs/android-training-livedata-viewmodel/#0>  Android Developer, 2018, *Deleting data from a Room database*, URL:  <https://codelabs.developers.google.com/codelabs/android-training-room-delete-data/#0> |  |
| **Week 9** | Lecture | 4. Resources and Data Storage: Part 3 – Network Operation and Cloud DB | Android Developer, 2018, *Network Operation*, URL:  <https://developer.android.com/training/basics/network-ops/>  Android Developer, 2018, *Volley*, URL:  <https://developer.android.com/training/volley/> |  |
| Tutorial | - | - |  |
| Practical | 4. Resources and Data Storage: Part 3 – Network Operation and Cloud DB | Android Developer, 2018, *AsyncTask*, URL:  <https://codelabs.developers.google.com/codelabs/android-training-create-asynctask/#0>  Android Developer, 2018, *Volley*, URL:  <https://drive.google.com/open?id=1dj0VgKy_7uMqC49PMD2U6rUwvocxx8bU>  Android Developer, 2018, *Firebase*, URL:  <https://codelabs.developers.google.com/codelabs/firebase-android/#0> |  |
| **Week 10** | Lecture | 5. Location-based Services | Android Developer, 2018, *Location*, URL:  <https://developer.android.com/training/location/> |  |
| Tutorial | - | - |  |
| Practical |  | Android Developer, 2018, *Location*, URL:  <https://google-developer-training.github.io/android-developer-advanced-course-practicals/unit-4-add-geo-features-to-your-apps/lesson-7-location/7-1-p-use-the-device-location/7-1-p-use-the-device-location.html>  Android Developer, 2018, *Using the Places API*, URL:  <https://google-developer-training.github.io/android-developer-advanced-course-practicals/unit-4-add-geo-features-to-your-apps/lesson-8-places/8-1-p-places-api/8-1-p-places-api.html>  Android Developer, 2018, *Google Map*, URL:  <https://google-developer-training.github.io/android-developer-advanced-course-practicals/unit-4-add-geo-features-to-your-apps/lesson-9-mapping/9-1-p-add-a-google-map-to-your-app/9-1-p-add-a-google-map-to-your-app.html> |  |
| **Week 11** | Lecture | 6. Specialised Instrument and Devices: Part 1 – Camera and Media Player | Android Developer, 2018, *Camera*, URL:<https://developer.android.com/training/camera/> |  |
| Tutorial | - | - |  |
| Practical | 6. Specialised Instrument and Devices: Part 1 – Camera and Media Player | Android Developer, 2018, *Camera*, URL:  <https://developer.android.com/training/camera/photobasics>  Android Developer, 2018, *QR Code*, URL:  <https://codelabs.developers.google.com/codelabs/mlkit-barcode-android/index.html?index=..%2F..%2Findex#0>  Android Developer, 2018, *Play Video*, URL:  <https://google-developer-training.github.io/android-developer-advanced-course-practicals/unit-5-advanced-graphics-and-views/lesson-13-media/13-1-p-playing-video-with-videoview/13-1-p-playing-video-with-videoview.html> |  |
| Week 12 | Lecture | 6. Specialised Instrument and Devices: Part 2 - Sensors | Android Developer, 2018, *Sensors Overview*, URL:  <https://developer.android.com/guide/topics/sensors/sensors_overview> |  |
| Tutorial | - | - |  |
| Practical | 6. Specialised Instrument and Devices: Part 2 - Sensors | Android Developer, 2018, *Sensors Overview*, URL:  <https://google-developer-training.github.io/android-developer-advanced-course-practicals/unit-1-expand-the-user-experience/lesson-3-sensors/3-1-p-working-with-sensor-data/3-1-p-working-with-sensor-data.html> |  |
| **Week 13** | Lecture | 7. Mobile Application Packaging and Publication : Part 1 -Launch Checklist | Android Developer, 2018, *Launch Checklist*, URL:  <https://developer.android.com/distribute/best-practices/launch/launch-checklist> |  |
| Tutorial | - | - |  |
| Practical | Assignment Presentation | - |  |
| **Week 14** | Lecture | 7. Mobile Application Packaging and Publication: Part 2 –Earn and Monetization Options | Android Developer, 2018, *Earn and Monetization Options*, URL:  <https://developer.android.com/distribute/best-practices/earn/> |  |
| Tutorial | - | - |  |
| Practical | Assignment Presentation | - |  |

*\* Any changes made in the course plan must be recorded.*

Prepared by Course Coordinator: Approved by Course Leader/ Programme Leader/ Associate Dean:

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(Signature) (Signature)

Name: See Kwee Teck Name:

Date: 02-10-2018 Date:

Notes:

1) Upon the approval by the Course Leader/ Programme Leader/Associate Dean, Form B must be uploaded onto respective online classroom and distributed to the lecturers at Branch level.

2) Lecturers are advised to take into account the public holidays when planning the course plan.