COURSE OUTLINE

Course Number **IST 208**	**Course Title** **Android Application Development**	**Credits** **4**
Hours: **Lecture/Lab/Other** **3 lecture / 2 lab**	**Co- or Pre-requisite** **COS 102 or equivalent**	**Implementation** **Semester & Year** **Spring 2022**

Catalog description:

Teaches how to develop applications for Android devices using Java programming language along with the Android SDK. Students learn how to apply Java and object-oriented technology to mobile application development. Doing real projects within the Android Studio integrated development environment further advances practical programming knowledge and skills.

General Education Category:
Not GenEd

Course coordinator:

Meimei Gao, 609-570-3483, gaom@mccc.edu

Required texts & Other materials:
No Textbook is required.
Android developer web site: http://developer.andoid.com

Course Student Learning Outcomes (SLO):

Upon successful completion of this course the student will be able to:
1. Install, configure and use Android development environment. [Supports ILG # 4]
2. Design user interfaces and use event-driven programming technology. [Supports ILG # 4, 11; PLO #1, 2]
3. Develop software solutions using programming skills including user input, variables, control structures, classes/objects, methods, lists and databases. [Supports ILG # 4, 11; PLO #1, 2]
4. Build Android applications. [Supports ILG # 4, 11; PLO #1, 2]

Course-specific Institutional Learning Goals (ILG):

Institutional Learning Goal 4. Technology. Students will use computer systems or other appropriate forms of technology to achieve educational and personal goals.
Institutional Learning Goal 11. Critical Thinking: Students will use critical thinking skills understand, analyze, or apply information or solve problems.

Program Learning Outcomes for Mobile and Web Computing Certificate (PLO)

1. Analyze computer application requirements;
2. Design, write, test, and debug mobile and web applications.

Units of study in detail – Unit Student Learning Outcomes:

Unit I   Installation and Configuration of Android Development Environment [Supports Course SLO #1]
    Learning Objectives
    The student will be able to:
- Install and configure Android development environment.
- Use the components of the Android development environment.

Unit II   Introduction to Android [Supports Course SLO #2, 3, 4]
    Learning Objectives
    The student will be able to:
- Build a simple Android application.
- Run an Android application in the emulator.

Unit III   Android User Interface and Event Handling [Supports Course SLO #2, 3, 4]
    Learning Objectives
    The student will be able to:
- Develop a user interface using Android controls.
- Build dynamic UI
- Create an Android project that includes event handling.

Unit IV   User Input, Variables and Operations [Supports Course SLO #2, 3, 4]
    Learning Objectives
    The student will be able to:
- Configure the Android Manifest file.
- Create a user interface with user input.
- Declare and use variables; get the data from user input; use arithmetic operations and show results on a user interface.
- Write code with control structures.

Unit V   Lists and Arrays [Supports Course SLO #2, 3, 4]
    Learning Objectives
    The student will be able to…
- Define Lists/Arrays.
- Create Android projects using Lists/Arrays.

Unit VI   Intents [Supports Course SLO #2, 3, 4]
    Learning Objectives
    The student will be able to…
- Use Intents to work with other apps.
- Start another activity and receive a result from the activity.

Unit VII   Animation [Supports Course SLO #2, 3, 4]
    Learning Objectives
    The student will be able to…

- Create Android apps with animation.

<u>**Unit VIII**</u>   **Persistent Data** [Supports Course SLO #2, 3, 4]
    <u>***Learning Objectives***</u>
    The student will be able to…
- Create Android apps with persistent data.
- Save data and retrieve data.

<u>Evaluation of student learning:</u>

Specific methods for evaluating student progress through the course is up to the discretion of the instructor. Below is an example:

        Projects/Assignments = 50% of the grade
        Midterm = 20% of the grade
        Final Exam = 30% of the grade