COURSE OUTLINE : CS/IS 132
D Credit – Degree Applicable
COURSE ID 010249
Cyclical Review: September 2020

COURSE DISCIPLINE : CS/IS

COURSE NUMBER : 132

COURSE TITLE (FULL) : Mobile Application Development – Android

COURSE TITLE (SHORT) : Mobile Application Dev-Android

CATALOG DESCRIPTION

CS/IS 132 provides an introduction to the art and practice of mobile application development for the Android operating system. Students use the software development kit (SDK) to create programs including: how to craft Graphical User Interfaces (GUIs); creating location-based applications; and accessing web services.

Total Lecture Units: 3.00

Total Laboratory Units: 0.00

Total Course Units: 3.00

Total Lecture Hours: 54.00

Total Laboratory Hours: 0.00

Total Laboratory Hours To Be Arranged: 0.00

Total Contact Hours: 54.00

Total Out-of-Class Hours: 108.00

Prerequisite: CS/IS 112 or equivalent.

ENTRY STANDARDS

	Subject	Number	Title	Description	Include
1	CS/IS	112	Introduction To Programming Using Java	Examine problems, apply logic, and provide solutions/algorithms for the problems;	Yes
2	CS/IS	112	Introduction To Programming Using Java	show the solution/algorithm using flowcharts or pseudocode;	No
3	CS/IS	112	Introduction To Programming Using Java	utilize a compiler to write, debug, and test Java programs;	No
4				analyze problems and give logical solutions to them using flowcharts or pseudocode;	No
5				code, debug, and test programs;	No
6				demonstrate understanding of using a computer for programming.	No

EXIT STANDARDS

1 Utilize the mobile development environment;
2 create Graphical User Interfaces (GUIs) using controls, layout managers, adaptors, menus and dialogues;
3 utilize the distinctive capabilities of mobile environment, including location tracking, maps and Internet access.

STUDENT LEARNING OUTCOMES

1 create, design and debug mobile applications;
2 implement mobile applications incorporating activities, services, content providers and broadcast receivers;
3 use Model–view–controller (MVC) model to create layout managers, adapters, menus and dialogues.

COURSE CONTENT WITH INSTRUCTIONAL HOURS

	Description	Lecture	Lab	Total Hours
1	Overview of Android • Mobile Operating Systems (OS) Composition • Software Development Kit (SDK) and Mobile OS Developer Tools • Fundamental Components • View • Activity • Intent • Content Provider • Service • Structure of a Mobile Application • Application lifecycle • Debugging	10	0	10
2	Resources • String • Layout • Resource-reference syntax • Compiled and non-compiled • Arbitrary Extensible Markup Language (XML) resource files • Raw resources • Assets • Resources directory structure	10	0	10
3	Content providers • Built-in • Architecture • Implementing	3	0	3
4	Intents • Available intents • Intents and data URI (Uniform Resource Locator) • Generic actions • Using components to directly invoke an activity	4	0	4
5	Building UIs (User Interfaces) • UI development • Controls (txt, button, grid, date and time) • Layout Managers (linear, table, relative, absolute and frame) • Adapters (simple cursor and array) • Menus (expanded and loading) • Dialogues (alert, prompt and managed)	15	0	15
6	Security • Overview of security concepts • Signing applications for deployment • Performing runtime security checks	4	0	4

7	Location-Based Services • Mapping package (map view and map activity) • Location package	4	0	4
8	Databases and Content Providers (2 hours) • SQLLite • SQLLiteOpenHelper • Opening • Querying • Extracting • Content providers • Creating • Using • Native Android content providers	4	0	4
				54

OUT OF CLASS ASSIGNMENTS

1 individual and/or group project (e.g. develop and deploy mobile applications such as a mashup of maps and XML).

METHODS OF EVALUATION

1 midterm examinations and quizzes;
2 performance-based assessment of student-written applications;
3 instructor evaluation of student portfolio work;
4 final examination.

METHODS OF INSTRUCTION

- [x] Lecture
- [ ] Laboratory
- [ ] Studio
- [ ] Discussion
- [x] Multimedia
- [ ] Tutorial
- [ ] Independent Study
- [ ] Collaboratory Learning
- [x] Demonstration
- [ ] Field Activities (Trips)
- [ ] Guest Speakers

☐ Presentations

TEXTBOOKS

Title	Type	Publisher	Edition	Medium	Author	IBSN	Date
Murach's Android Programming	Required	Mike Murach & Associates		Print	Murach, Joel	978-1890774936	2015