

NorthWest Arkansas Community College  
Business & Computer Information Systems Division  
**Computer Information Department Course Outline**

## **PROG 2613 Advanced Android App Development (Spring)**

### ***Catalog Description***

The student will extend their knowledge and skills in the development of complex apps for devices equipped with the Android operating system. Specific areas of emphasis will include the design and development of complex user interfaces, use of web services, use of interactive multimedia, interaction with device sensors, and testing apps with both the Android emulator and with Android hardware. The student will gain additional hands-on experience with the Android development tools, interaction with the user, presentation of multimedia content, interaction with web services, and use of the device's sensors. (Outside lab time will be required.)

### ***Prerequisites***

CISM 1433    SQL Concepts  
PROG 1403    Java Programming I  
PROG 2603    Android App Development

### ***Credit hours/Contact hours/Load hours***

3/3/3

### ***Target Audience/Transferability***

This course is for students seeking advanced training and experience in developing apps for mobile devices that use the Android operating system, and is applicable to students seeking self-improvement or an AAS Degree in Computer Information.

### ***Student Learning Outcomes***

The students completing this course will:

- Be able to design and develop complex native Android apps
- Be able to design and build complex Android web apps and hybrid apps
- Be able to build engaging user interfaces
- Be able to display interactive multimedia content
- Be able to build and use simple databases with SQLite
- Be able to utilize web services
- Be able to use data from a mobile device's sensors
- Be able to test apps with the Android SDK's emulator and on a variety of Android devices
- Be able to develop effective technical documentation

### ***Topics***

- Advanced Android graphical user interface controls
- Interactive Multimedia techniques
- Interacting with websites and web services
- Accessing and using sensors, including GPS, accelerometer, and gyroscope
- Testing Android apps with the ADK emulator and Android hardware
- Use of available debugging tools and techniques
- Programming ethics and data privacy
- Publication options for Android apps

## ***Forms of Assessment***

Chapter quizzes or programs

Programming projects

Formal writing project

Rev. 7/2019