

# Mid-Term Study Guide

Android / Mobile Development

John P. Baugh, Ph.D.

You may use an **8.5 x 11 inch** cheat sheet, both sides (typed or handwritten) to help you during the exam. No other notes allowed.

The exam is a combination of multiple choice and true/false questions. There are a total of 26 questions, ranging in point value from 2 points up to 5 points each.

The following are the potential topics on the exam.

1. Basic Android OS concepts
  - a. What does the Android architectural stack look like?
  - b. What kernel does it use?
  - c. What libraries are available?
2. What bytecode format are Android applications in?
3. What is an activity?
4. What is a fragment?
5. What is an intent?
6. What is a broadcast receiver?
7. What IDE and companies are most involved with the tool sand languages for Android development?
  - a. What is IntelliJ IDE? What is Android Studio?
  - b. What is JetBrains?
  - c. What is Oracle?
8. How do you declare variables and constants in Kotlin?
9. How do you make nullable variables in Kotlin?
10. How do you safely access methods or properties of nullable variables (ensuring you don't get a null pointer exception)

11. Know about control statements in Kotlin
  - a. Selection control (if, if-else, when)
  - b. Repetition control (while, do-while, for)
12. Basic object-oriented syntax in Kotlin
  - a. How do you create an instance of a class?
  - b. What are primary and secondary constructors?
  - c. What are custom accessors?
13. Know about the priorities of process states in Android
14. Know dynamic vs persistent state
15. Know what views, layouts, and widgets are and how they are related
16. Know what constraints are
  - a. What is bias?
  - b. What are guidelines?
  - c. What are margins?
  - d. What are chains?
  - e. What are opposing constraints?
17. How do you register event handlers?
  - a. In XML or Kotlin?