

# Mobile Apps and Ubiquitous Computing, Undergraduate Certificate

The undergraduate certificate in Mobile Apps and Ubiquitous Computing is a ~~six-course~~ ~~five-course~~ (18 15 credit hours) program. It is designed to provide training in technologies and framework for mobile apps and computing. A minimum GPA of 2.5 is required for admission.

## Required Courses:

CMP SCI 4020	Introduction to Android Apps: Android Fundamentals	3
CMP SCI 4220	Introduction to iOS Programming and Apps	3
CMP SCI 4222	iOS Apps	3
CMP SCI 4792	Mobile and Ubiquitous Computing	3

## Elective

Choose ~~two~~ ~~one~~ of the following courses: 3

CMP SCI 4010	Advanced Web Development with Java
CMP SCI 4610	Database Management Systems
CMP SCI 4750	Introduction to Cloud Computing

**Total Hours** 15

A minimum of ~~four~~ ~~three~~ courses must be taken ~~in residence in the Department of Mathematics and Computer Science at~~ from UMSL. Courses may be substituted with the permission of the ~~department~~ ~~certificate~~ ~~coordinator~~. For more information, students can contact the department chair or email [info@arch.umsl.edu](mailto:info@arch.umsl.edu).

Rationale

Reducing hours to 15 as needed. Renaming to align with the graduate certificate