



UMSL is a NSA/DHS National Center of Academic Excellence in Cyber Defense Education



College of Arts and Sciences

Department of Mathematics and Computer Science

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## Undergraduate Certificate in Mobile Apps and Ubiquitous Computing



The undergraduate Certificate in Mobile and Ubiquitous Computing is a six-course (18 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. All students must take four required courses and two electives.

A minimum of four courses must be taken in residence in the [Department of Mathematics and Computer Science at UMSL](#). Courses may be substituted with the permission of the program director.

In addition to university scholarships, the department awards about \$40k annually in mostly [merit-based scholarships](#).

<b>Required core courses</b>	<b>4</b>
<a href="#">CMP SCI 4020/5020</a>	Introduction to Android Apps: Android Fundamentals
<a href="#">CMP SCI 4220</a>	Introduction to iOS Programming and Apps
<a href="#">CMP SCI 4222/5222</a>	iOS Apps
<a href="#">CMP SCI 4792</a>	Mobile and Ubiquitous Computing
<b>Choose two of the electives</b>	<b>2</b>
<a href="#">CMP SCI 4010</a>	Advanced Web Development with Java
<a href="#">CMP SCI 4610</a>	Database Management Systems
<a href="#">CMP SCI 4750/5750</a>	Introduction to Cloud Computing
<b>Total courses (credit hours)</b>	<b>6(18)</b>

For more information visit [umsl.edu/cs](http://umsl.edu/cs).

For career information visit [umsl.edu/cs/careers](http://umsl.edu/cs/careers).

For electronic version of this document and more info visit <http://www.umsl.edu/cs/certificates>

**UMSL|NOW** : All courses available in the evening - some every semester some on rotation.