

## CS 496 – Mobile and Cloud Software Development

**Catalog Description:** Introduction to the concepts and techniques for developing mobile and cloud applications.

**Credits:** 4

**Prerequisites:** CS311

**Courses that require this as a prerequisite:** None

**Structure:** Three 50-minute lectures per week

**Instructors:** Christopher Scaffidi

### **Course Content:**

- Development tools
- Servlet pages for the cloud
- Efficient data storage models
- Transactions and asynchronous operations
- Analysis and benchmarking of computational resources
- User interfaces with mobile emulators and devices
- Performance, reliability, and security
- Specialized application programming interfaces

### **Measurable Student Learning Outcomes:**

At the completion of the course, students will be able to...

1. **Install** and **configure** tools for cloud and mobile development (ABET Outcome: B, C, I)
2. **Create** basic cloud and mobile applications that include:
  - Efficient storage of replicated data
  - Reliable synchronization of offline data
  - Presentation of mobile-optimized user interfaces
  - Effective use of relevant application programming interfaces(ABET Outcome: B, C, I, K)

**Learning Resources:**

One of the following:

- Roche, K., "Beginning Java Google App Engine", ISBN 143022553X
- van Vliet, J. and Paganelli, F., "Programming Amazon EC2", ISBN 1449393683
- Mackenzie, N., "Microsoft Windows Azure Development Cookbook", ISBN 1849682224

And one of the following:

- Stark, J., "Building Android Apps with HTML, CSS, and JavaScript", ISBN 1449383262
- Wright, N., "Building iPhone Applications with Titanium", ISBN 047066083X
- Mednieks, Z. et al., "Programming Android", ISBN 1449389694

**Students with Disabilities:**

Accommodations are collaborative efforts between students, faculty and Disability Access Services (DAS). Students with accommodations approved through DAS are responsible for contacting the faculty member in charge of the course prior to or during the first week of the term to discuss accommodations. Students who believe they are eligible for accommodations but who have not yet obtained approval through DAS should contact DAS immediately at 737-4098.

**Link to Statement of Expectations for Student Conduct:**

<http://oregonstate.edu/admin/stucon/achon.htm>