<table>
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<tr>
<th>Dept Number</th>
<th>CS 221</th>
<th>Course Title</th>
<th>Introduction to Internet and Mobile Computing</th>
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<tr>
<td>Semester Hours</td>
<td>4</td>
<td>Course Coordinator</td>
<td>Shahriar Nick Rahimi</td>
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**Catalog Description**

Introduction to components, architecture and infrastructure of systems and services to support internet computing and mobile platforms. Linux/Unix systems and server-side infrastructure: tools, commands and scripting. Client-side interfaces and application development (Android and web), IDEs, debugging, utilizing resources and services. This course will have a strong hands-on component.

**Textbooks**

None, all instructional material is available online.

**References**

**Course Learning Outcomes**

- Providing students with an introduction to Linux as a major server-side operating system in web programming.
- Introducing students to mobile device application development.
- Improving students’ familiarity with the practical elements of software development, which should improve their programming skills for all higher level courses as well as their future careers.

**Assessment of the Contribution to Student Outcomes**

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<th>Outcome</th>
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<td>Assessed</td>
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**Prerequisites by Topic**

CS 202 with grade of C or better.
## Major Topics Covered in the Course

1. **Introduction to internet computing (6 lectures)**
   - Client-server architecture (thin client, servers, services, database connectivity, cloud computing etc.)
   - Infrastructure/operating systems (rationale for Linux/Unix and systems programming)

2. **Introduction to the Linux/Unix environment (14 lectures)**
   - Software installation and management
   - Linux command line and frequently used commands
   - Basic shell scripting
   - Editors: Emacs, Vi, etc.
   - The GNU Toolchain: GCC, GDB, Make, etc.

3. **Android Client-Side Application Development (10 lectures)**
   - Android platform architecture and Software Development Kit (SDK)
   - Using GUIs and custom views
   - Integrating content provider connections,
   - Understand bound and unbound services,
   - Notification alarms and managing Internet resources.

4. **Android Web Development (10 lectures)**
   - Targeting Screens from Web Apps
   - Building Web Apps in WebView
   - Debugging Web Apps
   - JQuery Mobile
   - Best Practices for Web Apps

Latest Revision: Summer 2015