# Course Information

<table>
<thead>
<tr>
<th>Course Number</th>
<th>CS 221</th>
<th>Course Title</th>
<th>Introduction to Internet and Mobile Computing</th>
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<tbody>
<tr>
<td>Semester Hours</td>
<td>4</td>
<td>Course Coordinator</td>
<td>John Woods</td>
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## Catalog Description

FA21

As a preparation course for students to prepare for higher level core curricula, this course provides a comprehensive introduction to a broad range of fundamental computer system concepts and principles. Coverage includes operating system concepts; fundamentals of network, internet, and world-wide-web; C programming; core Linux/Unix systems concepts and tools; and a little taste of Android App development.

### 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

<table>
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<tr>
<th>Outcome</th>
<th>1</th>
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<tr>
<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