

<b>Course Number</b>	<b>CS 221</b>	<b>Course Title</b>	<b>Introduction to Internet and Mobile Computing</b>			
<b>Semester Hours</b>	<b>4</b>	<b>Course Coordinator</b> SP19	<b>John Woods</b>			
<b>Catalog Description</b> 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.					
<b>Textbooks</b>						
None, all instructional material is available online.						
<b>References</b>						
<b>Course Learning Outcomes</b>						
<ul style="list-style-type: none"> <li>• Providing students with an introduction to Linux as a major server-side operating system in web programming.</li> <li>• Introducing students to mobile device application development.</li> <li>• 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.</li> </ul>						
<b>Assessment of the Contribution to Student Outcomes</b>						
<b>Outcome →</b>	1	2	3	4	5	6
<b>Assessed →</b>	X	X				
<b>Prerequisites by Topic</b>						
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