This course builds on the knowledge gained in CS 306, to prepare students to do advanced development on Linux platforms. The topics studied are critical for achieving high performance in large-scale, high-load networked software systems. These topics include development techniques such as profiling, concurrent programming, network programming for high-load servers, advanced I/O alternatives, and advanced IPC. The course will involve the study of code from Open Source projects like Apache and Nginx. The focus will be on the C language, but other languages will also be considered. Students will complete a significant software project.

**Prerequisite:** permission of instructor (generally A/B in CS 306/491)