CSE 451 Introduction to Operating Systems

Credits
4.0 (3 hrs lecture, 1 hr section)

Lead Instructor
John Zahorjan

Textbook

- *Operating Systems: Principles and Practice*, Thomas E. Anderson and Michael Dahlin

Course Description
Principles of operating systems. Process management, memory management, auxiliary storage management, resource allocation. No credit to students who have completed CSE 410 or E E 474.

Prerequisites
CSE 351; CSE 332; CSE 333

CE Major Status
Selected Elective

Course Objectives
Give students a working knowledge of operating systems principles, design issues, algorithms and data structures. Build programming experience through a sequence of targeted OS projects.

ABET Outcomes
(1) an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
(2) an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, , and economic factors
(3) an ability to communicate effectively with a range of audiences
(4) an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
(5) an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

(6) an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions

Course Topics

- operating system structure, processes, threads, synchronization, scheduling, deadlock, virtual
- memory, secondary storage management, distributed systems, file systems, security