

COURSE DESCRIPTION

Department and Course Number: CSCI 524

Course Title: Distributed Operating System Design

Current Catalog Description : Analysis of operating system design principles for multiple computers. A distributed operating system model is presented and compared to selected network and distributed operating system examples.

Total Credits: 3 hours

Coordinator: P. Tobin Maginnis, Associate Professor of Computer and Information Science

Textbook: Tanenbaum, A., *Distributed Operating Systems*, Prentice-Hall, 1995.

Other required materials: Study guides and miscellaneous class handouts.

References: <http://pix.cs.olemiss.edu/csci524/>

Course Goals: To provide the junior, senior, and graduate student an in-depth analysis of distributed operating system design including a model presentation, principles, design tradeoffs and implementations details.

Prerequisites by Topic:

1. Programming expertise in a high-level language such as Java, C, or Pascal (CSCI 211).
2. Knowledge of basic operating system principles (CSCI 423).

Major Topics Covered in the Course:

1. Introduction to distributed systems (5 hours)
2. Communication models in distributed systems (6 hours)
3. Synchronization issues (6hours)
4. Processes versus Processors (6 hours)
5. Logical versus literal file systems (6 hours)
6. Distributed shared memory (5 hours)
7. Example systems (6 hours)
8. Three tests (5 hours)

Operating Systems and Languages: Unix, Linux, Windows, C, Java

Laboratory projects (semester long programming project): Design and implement an example distributed problem.

Estimate of ABET/CAC Category Content:

	CORE	ADVANCED		CORE	ADVANCED
Data Structures	_____	_____ 1 _____	Computer Organization and Architecture	_____	_____ 1 _____
Algorithms	_____	_____ 1 _____	Concepts of Programming Languages	_____	_____
Software Design	_____	_____		_____	_____

Oral and Written Communications:

Not a significant focus of this course.

Social and Ethical Issues:

Not a significant focus of this course.

Theoretical Content (Foundations):

Not a significant focus of this course.

Problem Analysis:

Not a significant focus of this course.

Solution Design:

Not a significant focus of this course.