CIS-5027 Computer Systems Fundamentals

Catalog Description
Fundamentals concepts of IT Systems: operating systems, networking, distributed systems, platform technologies, web services and human-computer interaction. Covers design principles, algorithms and implementation techniques. (3 credits)

Prerequisites
SCIS Graduate Standing

Type
Required for MSIT

Course Objectives
This course provides a thorough understanding of fundamentals of computer-based information systems and how they are used in modern enterprise systems. It introduces the fundamentals of operating systems, networking systems, distributed systems, and web services. It explores the hardware, software, and network components of typical information systems and provides some in depth description of their design principles, algorithms and implementation techniques.

Topics
Introduction of Computer Systems
System Models
Operating system support
Optimizing Program Performance
The Memory Hierarchy
Linking
Exceptional Control Flow
Virtual Memory
Mobile and Ubiquitous Computing
Web Services

Textbook
George Coulouris, Jean Dollimore, and Time Kindberg, *Distributed Systems: Concepts and Design, Fourth Edition,* (Pearson Addision Wesley, 2005).

Randal E. Bryant and David R. O'Hallaron, *Computer Systems: A Programmer's Perspective, 2nd Edition,* (Pearson Addision Wesley, 2010).

Last Update
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