CPIS-350 Syllabus

Catalog Description

CPIS-350   Systems Design Patterns
Credit: 3 (Theory: 3, Lab: 0, Practical: 1)
Prerequisite: CPIS-250
Classification: Elective

The objective of this course is to study the principles of large-scale software architecture. It introduces the patterns, frameworks, and techniques for developing system based on components.

Class Schedule

Lab/Tutorial 90 minutes 1 times/week

Meet 50 minutes 3 times/week or 80 minutes 2 times/week

Textbook

Len Bass, Paul Clements, Rick Kazman, , "Software Architecture in Practice", Addison-Wesley Professional; 2 edition (2003)

ISBN-13 9780321154958   **ISBN-10** 0321154959

Grade Distribution

Week	Assessment	Grade %

Topics Coverage Durations

Topics	Weeks
History and principles of software design patterns.	2
Diverse ways to use patterns.	2
The significance of software architecture.	1
Classical methods of software architecture: pipe, filter, data extraction, and object-oriented or event-based patterns.	1
Official models and the significance of software architecture.	2
Pattern design as re-usable architecture components, pattern life cycle; and examples of well-known frames: (Hot Draw).	1
Software development using re-usable frames and examples of the methods of components design.	2
Object Management Group (OMG) – Microsoft – Sun).	1
Developing multi-Tier software.	2

Last Articulated

Relationship to Student Outcomes

a	b	c	d	e	f	g	h	i	j
	x	x							x

Course Learning Outcomes (CLO)

By completion of the course the students should be able to

1. To understand the principles of the software patterns and apply basic patterns. ()
2. To understand the need for software architectures. ()
3. To know the classical models of software architecture and the need for a language to describe the architecture. ()
4. To be acquainted with the motives behind the creation and reuse of framework architectures. ()
5. To understand how to build and use components and how they can be used in software development. ()

Coordinator(s)