

CSP 585: Object-Oriented Design Patterns

Texts

- Gamma, Helm, Ralph, and Vlissides, *Design Patterns: Elements of Reusable Object-Oriented Software*, Addison-Wesley.

Objectives

- This course introduces the principles of design patterns for Object-Oriented software systems.
- A catalog of design patterns is shown, to illustrate the roles of patterns in designing and contracting complex software systems.
- The catalog of design patterns also provides a pragmatic reference to a well-engineered set of existing patterns currently in use.
- Also discussed is the impact of post-object-oriented software development on design patterns.

Prerequisites

- CS 445.

Syllabus

• Introduction - A Case Study: Designing a Document Editor	2 hours
• Design Pattern Catalog	
◦ Creational Patterns (Abstract Factory, Builder, Factory Method, Prototype, Singleton). Discussion.	12 hours
◦ Structural Patterns (Adapter, Bridge, Composite, Decorator, Flyweight, Fade, Proxy). Discussion.	12 hours
◦ Behavioral Patterns (Chain of Responsibilities, Command, Interpreter, Mediator, Memento, Observer, State, Strategy, Template method, Visitor). Discussion.	12 hours
• Introduction to AOSD: AOSD and Design Patterns	5 hours
Total	43 hours

Edited March 2006. ([html](#), [css](#) checks)