Design Principles

- separation of concerns
- abstraction
- information hiding
- reusability
- testability

Refactoring

Design paradigms

- Pre-paradigm (pure implementation)
- Procedural
- functional
- modular
- Object-oriented

Analysis

- use cases
- scenarios
- domain elements & attributes
- requirements
- EARS
- associations
- responsibilities

Analysis Tools

static analyzers

code coverage

CRC cards

UML Drawings

use case diagram

domain diagram

collaboration/communication diagram

GRASP Patterns

Architecture

Definition

defined by

connectors

components

topology

execution semantics

Common Styles

data flow, especial pipe and filter

call and return

event-based

data-centered

service-oriented

communicating processes

process control

Design Patterns

Creational Patterns (5)

Behaviorial Patterns (11)

Structural Patterns (7)

Development Teams

High Performance Teams

Average Teams

Business benefits

UML and other Diagrams

use case

domain (really, restricted class diagram)

collaboration diagram

class diagram

sequence diagram

component diagram

package diagram

deployment diagram

state diagram

architectural diagrams (not UML)

Effort Estimation

Function Points

Uncertainty factors