

# Information System Design (IT60105)

Autumn Semester, Session 2007-2008

## Course Plan

### 1. Course Contents

#### Part-I

- A. Introduction  
Basic elements of Information System Design
- B. Project planning  
Project documentation  
ISPP, SRS, SDD etc.
- C. Analysis  
Cost estimation, time estimation, resource analysis,  
risk analysis etc.

#### Part-II

- A. Function-oriented design approaches  
Structured analysis and design  
ERD, DFD, Decision diagram, Structure chart etc.
- B. Object-oriented design  
Function-oriented design vs. Object-oriented  
design

#### Part-III

- A. Object-oriented design using UML  
UML Diagrams
- B. Object-oriented design using Pattern

#### Part-IV

- A. Software reliability, quality assurance,  
Verification and validation  
Procedural testing strategies
  - Unit testing
  - Integration testing
  - System testing
- B. Object-oriented testing strategies
  - Procedural testing vs. Object-oriented testing
  - Testing OOS from design model

#### Part-V

- A. Case studies  
IT-enabled information system design  
Web-enabled information system design  
Real time systems
- B. Distributed software system design  
DCOM, RMI, CORBA

### 2. References

All lecture slides and notes

<http://www.facweb.iitkgp.ernet.in/~dsamanta>

**Software Engineering – A Practitioner Approach**  
(6E)

Roger S. Pressmann (Mc Graw Hill International)

**Software Engineering (7E)**

Sommerville (Pearson Education )

**Object-Oriented Analysis & Design with Applications (2E)**

Grady Booch (Pearson Education)

**UML Distilled (2E)**

Martin Fowler (Pearson Education)

**The Unified Modeling Language User Guide**

Grady Booch, James Rumbaugh and Ivar Jacobson  
(Pearson Education)

**Applying UML and Patterns (2E)**

Craig Larman (Pearson Education)

**Distributed Systems: Concepts and Design (3E)**

George Coulouris, Jean Dollimore and Tim Kindberg  
(Pearson Education )

**Client/Server Programming with Java and CORBA (2E)**

Robert Orfali and Dan Harkey (SPD/O'Reilly)

### 3. Evaluation Plan

Assignment 1	05%
Mid-semester Test	30%
Assignment 2	05%
Assignment 3	10%
End-Semester Test	50%

### 4. Important Dates

Assignment 1	10.08.2007
Assignment 2	07.09.2007
Mid-Autumn Test	16.09.2007
Assignment 3	05.10.2007
Assignment 4	09.11.2007
End-Autumn Test	21.11.2007

### 5. Lecture schedule

Slot of the Course: **E**

Wednesday:	11:30AM-12:25PM
Thursday:	10:30AM-11:25AM
Friday:	08:30AM-10:25AM

### 6. Consultancy Hours

Friday:	16:30AM-17:25AM
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**NB: Schedule as mentioned are tentative and may be changed with proper notification**

All assignments are subject to hard deadlines.

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