

School of Computer Science & Information Technology, DAVV, Indore
CS-4407: Information System Design

M.Tech I Semester

Faculty Name: Dr. Ugrasen Suman

Course Contents

Unit-I

No. of Hrs: 8

Introduction, Challenges in ISD, Elements of ISD, Software processes, Software configuration management, Project planning, Software measurements, Risk analysis, Roles and responsibilities in IS Design, Case Study.

Unit-II

No. of Hrs: 8

Information system design models, A comparative study of Information System design models (SDLC, Prototyping, Spiral, Iterative, Time-boxing, RAD model, CBD approach, Agile development and RUP process). Requirement engineering process: Requirement analysis, requirement specification, requirement validation and requirement management.

Unit-III

No. of Hrs: 8

Design methodologies: Structured and Object-oriented approach, Refactoring, Software Architecture: Why software architecture is important, architectural styles, architectural designs, evaluating software architectures, and documenting software architectures.

Unit-IV

No. of Hrs: 8

Implementation: Traditional vs. TDD, Fundamentals of information system testing, Testing strategies, Levels of testing, Software change, Evolution, Software maintenance, Maintenance process models, and Reengineering process.

Unit-V

No. of Hrs: 8

Case studies/ projects based on Service Oriented Architectures (SOA), Client Server Architectures, Aspect Oriented design, Usability engineering, Model Driven Architectures (MDA), Software reuse.

Text Books:

1. *Introduction to Information System*, **O'Brain**, Printice Hall, 1997.
2. *Fundamentals of Software Engineering*- **Rajib Mall**, Pearson Education. Third Edition 2012.
3. *Software Engineering: Concepts & Practices*- **Ugrasen Suman**, Cengage Learning Publications, 2013.

Assignments:

1. Students have to select a project to trace the activities of information system design.
2. Chapter wise selected exercises will assigned from Text Book 2 and 3.