BSE3105 Software Evolution (4CU)

Course Objectives; In this course, students will learn: (i) How selected software systems can be analyzed to understand properties of their evolution; and (ii) interpret their implication.

Course Content; Topics include: Separate compilation; design issues; verification and validation; integrating components; documentation ,Issues in object-oriented programming; parallelism; event centered programming; common design patterns; software use, The Laws of Software Evolution Client server computing: Software support needed for client and server implementation; varieties of server structures; Reverse engineering and reverse engineering tools, recognizing software architecture and design patterns in existing software systems Software transformation, migration, and reengineering, recovering software components for reuse

References

•Software Evolution: A Software Maintenance Challenge, by Lowell Jay Arthur, John Wiley & Sons,1988,ASIN:0471628719.

•Modernizing Legacy Systems: Software Technologies, Engineering Processes, and Business Practices by Robert C. Seacord, Daniel Plakosh, and Grace A. Lewis, Addison-Wesley Pub Co;1stedition,2003,ISBN:0321118847.

•Practical Software Maintenance: Best Practices for Managing Your Software Investment by

Thomas M. Pigoski, John Wiley&Sons, 1stedition, 1996, ISBN: 0471170011.

•Designing Maintainable Software, by DennisD.Smith, Springer-Verlag, 1999, ISBN0387987835.

•Software Metrics: Establishing a Company-wide Program, by Robert B. Grady PrenticeHall;

1stedition, 1987, ISBN0138218447.

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