

**PSE207 COMPONENT BASED DEVELOPMENT**

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**Course Objectives:** It is to gain the knowledge of current component models in terms of their design, management and related issues. The students will be able to assess that how these models measure up to the goals of CBD

**Component Definition:** Definition of Software Component and its Elements. Component Models and Component Services: Concepts and Principles, COTS Myths and Other Lessons Learned in Component-Based Software Development, Roles for Component-Based Development, Common High Risk Mistakes in Component-Based Software Engineering, CBSE Success Factors: Integrating Architecture, Process, and Organization.

**Software Engineering Practices:** The Practice of Software Engineering, From Subroutines to Subsystems: Component-Based Software Development.

**The Design of Software Component Infrastructures:** Software Components and the UML, Component Infrastructures: Placing Software Components in Context, Business Components, Components and Connectors: Catalysis Techniques for Defining Component Infrastructures, An Open Process for Component-Based Development, Designing Models of Modularity and Integration.

**The Management Of Component-Based Software Systems:** Measurement and Metrics for Software Components, The Practical Reuse of Software Components, Selecting the Right COTS Software: Why Requirements are Important, Software Component Project Management Processes, The Trouble with Testing Software Components, configuration Management and Component Libraries, The Evolution, Maintenance and Management of Component-Based Systems.

**Component Technologies:** Overview of the CORBA Component Model, Transactional COM+: Designing Scalable Applications, The Enterprise JavaBeans Component Model, Choosing Between COM+, EJB, and CCM, Software Agents as Next Generation Software Components.

**Legal and Regulatory:** CBSE as a Unique Engineering Discipline, The Future of Software Components: Standards and Certification, Commercial Law Applicable to Component-Based Software, The Effects of UCITA on Software Component Development and Marketing, Future of CBSE.

**Laboratory Work:** Practice, Implementation and working of Component Based Development tools and technologies

**Recommended Books**

1. Component-Based Development: Principles and Planning for Business Systems, Addison Wilsey, 2010
2. Essential COM, Don Box, Dorling Kingsley, 2006.