

College of Software Engineering

Undergraduate Course Syllabus

Course ID	311010020	Course Name	Distributed Systems				
Course Attribute	<input checked="" type="checkbox"/> Compulsory <input type="checkbox"/> Selective	Course Language	<input checked="" type="checkbox"/> English <input type="checkbox"/> Chinese	Credit Hour	2	Period	32
Semester	<input type="checkbox"/> First Fall <input type="checkbox"/> Third Fall	<input type="checkbox"/> First Spring <input checked="" type="checkbox"/> Third Spring	<input type="checkbox"/> Second Fall <input type="checkbox"/> Fourth Fall	<input type="checkbox"/> Second Spring <input type="checkbox"/> Fourth Spring			
Instructors	Dr. Jinsong Ouyang						
Description	Distributed system architectures, distributed object model, component-based design, time and global states, coordination and agreement, distributed transactions and concurrency control, replication, security, distributed multimedia systems, message passing and distributed shared memory, Web services and Service-Oriented Architecture (SOA), Grid and Utility computing. Emphasis on scalability, manageability, security, and dependability of distributed and systems.						
Prerequisites	Data Structure and Algorithm Analysis; Operating Systems; Computer Networks; Database Management Systems						
Textbook	G. Coulouris, et al, <i>Distributed Systems: Concepts and Design 4 Ed.</i> , 2005, Addison-Wesley.						
Resource	1. G. Coulouris, et al, <i>Lecture Notes for Distributed Systems: Concepts and Design.</i> 2. JavaEE Tutorial						
Grading	Attendance rate (20%) and final exam (80%)						
Topics	1. Introduction, Architectural Models and Design Goals. Motivation. Types. Definition; Transparency. 2. Interprocess Communication; Distributed Objects and Remote Invocation; JavaEE architectures; Web services; SOA. 3. Security. Security techniques; Cryptographic algorithms; Digital signatures; Digital Certificates; Protocol Design. 4. Time and Global States. 5. Coordination and Agreement. 6. Transaction and Concurrency Control; Distributed Transactions. 7. Replication architecture and protocols.						
Tools & Environment	JavaEE Application Server, and NetBeans IDE						
Projects	N/A						

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Signature of leader: _____

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