

Course #:	I320															
Course Title:	Distributed Systems and Collaborative Computing															
Course Type:	Upper level elective															
Prerequisites:	INFO-I 308															
Credits:	3															
Text Book:	M. L. Liu, <i>Distributed Computing: Principles and Applications</i> , Pearson Addison-Wesley, 2004															
References:	<ul style="list-style-type: none"> • G. Coulouris et al., <i>Distributed Systems: Concepts and Design</i>, fourth edition, by Pearson Addison-Wesley, 2005 • Walter Savitch, <i>Absolute Java</i>, Second edition, Pearson Addison-Wesley, 2006 															
Current Catalog Description:	An introductory treatment of the distributed systems and programming. Topics range from the distributed and object models of computation to advanced concepts, such as remote method invocations, object brokers, object services, open systems, and future trends for distributed information systems.															
Course Goals	<p>The student who completes this course:</p> <ul style="list-style-type: none"> • Will be able to write Java programs involving exception handling, multithreading, networking, and GUI. • Will be able to write programs that use simple network communications primitives. • Will be able to implement distributed applications using one or more higher level network programming paradigms, • Will understand the relationship between basic network protocols, network programming primitives and higher level distributed programming paradigms. 															
Major Topics Covered in the Course	<ul style="list-style-type: none"> • Object-oriented programming with Java • Basic principles of networking and protocols • Basic principles of distributed systems and computing • Inter-process communications • Distributed computing paradigms • Programming using socket API • Client-server paradigm • Distributed objects/Remote Method Invocation (RMI) • 9. Advanced RMI 															
Laboratory projects (specify number of weeks on each)	<ul style="list-style-type: none"> • No closed labs 															
Estimate Curriculum Category Content (Semester hours)	<table border="1"> <thead> <tr> <th>Area</th> <th>Core</th> <th>Advanced</th> </tr> </thead> <tbody> <tr> <td>Algorithms</td> <td></td> <td>0.5</td> </tr> <tr> <td>Software Design</td> <td></td> <td>0.5</td> </tr> <tr> <td>Comp. Arch.</td> <td></td> <td></td> </tr> <tr> <td>Data Structures</td> <td>0.5</td> <td></td> </tr> </tbody> </table>	Area	Core	Advanced	Algorithms		0.5	Software Design		0.5	Comp. Arch.			Data Structures	0.5	
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Algorithms		0.5														
Software Design		0.5														
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	Prog. Languages	0.5	
Oral and Written Communications	Not a course objective.		
Social and Ethical Issues	Not a course objective.		
Theoretical Content	Theory of networking and distributed computing.		
Problem Analysis	Approximately seven programming assignments and one project are assigned. Students must analyze the requirements, and design the solutions.		
Solution Design	Approximately seven programming assignments and one project are assigned. Each programming assignment usually needs to be finished in one or two weeks. About five weeks are given for the project.		
Prepared By	Zhang		