Kingdom of Saudi Arabia
Ministry Of Higher Education
Majmaah University
Deanship of Quality assurance
and Human Development

Course Specification

(Summary)

1431/1432

Course Specification

Institution majmaah university
College/Department College of Science in AL-Zulfi Department Computer Science& Information

A- Course Identification and General Information

1. Course title and code: Distributed Systems and Parallel Processing cis 458
2. Credit hours 3
4. Name of faculty member responsible for the course issa Mohammad alsmadi
5. Level/year at which this course is offered 10 level
6. Co-requisites for this course (if any) cis229
7. Location if not on main campus class room & computer lab

B- Objectives

1. Summary of the main learning outcomes for students enrolled in the course. Understanding the various design choices of a distributed system such as : The architectural models: varying from client/server to peer-to-peer, grid-computing and parallel architecture models. The communication models: varying from client-pull (RPC/RMI, Message Queuing, …) to server-push models (publish-subscribe, …). The synchronization techniques; synchronization based on clock, timestamp and token ring. The communication standards: RPC, RMI and Corba . Parallel Computing: Types, architectures and standards. Parallel Programming: MPI and OpenMP.
2. Briefly describe any plans for developing and improving the course that are being implemented. (eg increased use of IT or web based reference material, changes in content as a result of new research in the field) The department has recently adopted Java as programming language. So Java technologies such as JMS, JavaSpaces, Jini and JXTA may help to improve the quality of this course by explaining to students how dynamic distributed computing environments and systems may be implemented.

C- Course Description (Note: General description in the form to be used for the Bulletin or Handbook should be attached)

Topics to be Covered .1

Topics to be Covered		
Topic	No of Weeks	Contact hours
Introduction to distributed systems	2	6
Architectural models	2	6
Communication models	1	3
Synchronization	2	6
RPC: Remote Procedure Call	1	3
CORBA: Common Object Request Broker Architecture	2	6
RMI: Remote Method Invocation	1	3
Overview of Parallel Computing	2	6
Parallel Programming	1	3

2. Course components (total contact hours per semester):

Lecture: 42	Tutorial: 14	Laboratory	Practical/Field work/Internship no thing	Other :no thing

3. Additional private study/learning hours expected for students per week. (This should be an average :for the semester not a specific requirement in each week)

4. Schedule of Assessment Tasks for Students During the Semester

	Exam	**week**	**grade**
	Midterm exam	**6**	% 15
	Practical exam	**12**	% 15
	Home work+quiz	**Along the term**	% 10
	Final exam	**16**	% 60

D- E Learning Resources.

1. Required Text(s)
Distributed Systems: Concepts and Design by G. Coulouris, J. Dollimore and T. Kindberg
2. Essential References
• Distributed Systems: Principles and Paradigms by A. S. Tanenbaum and M. V. Steen • Distributed Computing: Concepts and Applications by M.L Liu
3- Recommended Books and Reference Material (Journals, Reports, etc) (Attach List) no thing
4-.Electronic Materials, Web Sites etc
5- Other learning material such as computer-based programs/CD, professional standards/regulations

E- Assessment
