Course Specifications

Course Title:	Distributed Information Systems
Course Code:	465CIS-3
Program:	Information Systems
Department:	Information Systems
College:	College of Computer Science and Information Systems
Institution:	Najran University

Table of Contents

A. Course Identification

1. Credit hours: 3 (2,1,1)

2. Course type

a. University ☐   College ☐   Department √   Others ☐

b. Required √   Elective ☐

3. Level/year at which this course is offered: Level 7 / Year 4

4. Pre-requisites for this course (if any):

5. Co-requisites for this course (if any):

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	75	100%
2	Blended		
3	E-learning		
4	Correspondence		
5	Other		

7. Actual Learning Hours (based on academic semester)

No	Activity	Learning Hours
Contact Hours		
1	Lecture	30
2	Laboratory/Studio	30
3	Tutorial	15
4	Others (specify)	
	Total	**75**
Other Learning Hours*		
1	Study	20
2	Assignments	10
3	Library	15
4	Projects/Research Essays/Theses	
5	Others (specify)	
	Total	**45**

* The length of time that a learner takes to complete learning activities that lead to achievement of course learning outcomes, such as study time, homework assignments, projects, preparing presentations, library times

B. Course Objectives and Learning Outcomes

1. Course Description

Distributed Systems Fundamentals, Primitives for Distributed Systems, Models of Distributed Systems, Performance Evaluation and Common Problems (and Solutions) for Distributed Systems, Techniques and Algorithms, The Internet and Internet Applications as a Distributed Information System, The Internet Environment (TCP/IP), Existing Internet Applications, Client-Server Applications, Peer-to-Peer Applications, Coding Internet Applications Using TCP and UDP, Inter-process communication; Remote invocation; Distributed operating system; and Distributed file systems, Distributed Multimedia Systems, Distributed Transaction and Control, Security Issues in Distributed Systems, Distributed Computing Using Java

2. Course Main Objective

To provide students with essential concepts of distributed information systems

3. Course Learning Outcomes

	CLOs	Aligned PLOs
1	**Knowledge:**	
1.1	Define the basic concepts and terminologies of distributed information systems	K2
1.2	Explain various distributed information systems paradigms.	K2
2	**Skills :**	
2.1	Evaluate the performance and different issues of distributed information systems	S2
2.2	Analyze the algorithms of distributed information systems	S4
2.3	Apply the knowledge and methods of distributed information systems in programming using java.	K1, K3, S2, S4
3	**Competence:**	

C. Course Content

No	List of Topics	Contact Hours
1	Introduction to Distributed Systems	3
2	Distributed Systems architecture and models	3
3	Performance issues of distributed systems	3
4	Techniques and Algorithms 1	10
5	Techniques and Algorithms 2	3
6	Inter-process communication	3
7	Remote invocation	3
8	Distributed operating system	3
9	Distributed file system	3
10	Distributed Multimedia Systems,	3
11	Distributed Transaction and Control,	3
12	Security Issues in Distributed Systems,	3
13	Distributed Computing Using Java part 1	15

14	Distributed Computing Using Java part2	15
15	Review	2
Total		75

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	**Knowledge**		
1.1	Define the basic concepts and terminologies of distributed information systems	Lecture Presentation	- Class Quizzes. - Assignment. - Midterm exam - Final Exam
1.2	Explain various distributed information systems paradigms.	Lecture Presentation	- Class Quizzes. - Assignment. - Midterm exam - Final Exam
2.0	**Skills**		
2.1	Evaluate the performance and different issues of distributed information systems	Group discussion Lecture Presentation	- Class Quizzes. - Assignment. - Midterm exam - Final Exam
2.2	Analyze the algorithms of distributed information systems	Group discussion Lecture Presentation	- Class Quizzes. - Assignment. - Midterm exam - Final Exam
2.3	Apply the knowledge and methods of distributed information systems in programming using java.	Group discussion Lecture Lab	- Class Quizzes. - Assignment. - Midterm exam - Final Exam - Continuous Lab assessment - Lab exam
3.0	**Competence**		

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Quiz # 01	3th week	2%
2	Quiz # 02	6th week	3%
3	Assignments	9th week	5%
4	Mid Term Exam-I	7th week	15%
5	Mid Term Exam-II	10th week	15%
8	Final Lab Exam	15th week	10%

#	Assessment task*	Week Due	Percentage of Total Assessment Score
9	Final Exam	16th week	40%

*Assessment task (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice :

Weekly office hours =10

Weekly academic advising hours = 4

F. Learning Resources and Facilities

1. Learning Resources

Required Textbooks	George Coulouris, Jean Dollimore, Tim Kindberg and Gordon Blair, Distributed Systems Concepts and Design, fifth edition, Addison Wesley
Essential References Materials	1. Andrew S. Tanenbaum, Maarten van Steen, Distributed Systems: Principles and Paradigms, second edition, Prentice Hall. 2. Graba, Jan, An Introduction to Network Programming with Java, second edition, Springer
Electronic Materials	
Other Learning Materials	

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Lecture Rooms with 20 seats and a whiteboard or a smart board. Lab with 20 PCs and projector
Technology Resources (AV, data show, Smart Board, software, etc.)	Desktop/ Laptop computer Multimedia Projector
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	A File cabinet to keep Class Stuff, Markers, papers and students Files, and a printer to print program screenshots.

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Student's questioner once during semester about course learning outcomes.	Students	Questionnaire

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Extent of achievement of course learning outcomes, direct using CLO assessment sheet	Faculty	Exams, quiz, assignment
Effectiveness of teaching and assessment	Students	Survey
Quality of learning resources	Students	Survey

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)
Evaluators (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify)
Assessment Methods (Direct, Indirect)

H. Specification Approval Data

Council / Committee	Department Council
Reference No.	Session No. 10 (441-38-43300)
Date	17/02/2020