ATTACHMENT 2 (g)

Course Report

Kingdom of Saudi Arabia

The National Commission for Academic Accreditation & Assessment

Course REPORT
(CR)

Distributed Systems & Parallel Processing
CIS458
MR. Issa Alsmadi

A separate Course Report (CR) should be submitted for every course and for each section or campus location where the course is taught, even if the course is taught by the same person. Each CR is to be completed by the course instructor at the end of each course and given to the program coordinator

A combined, comprehensive CR should be prepared by the course coordinator and the separate location reports are to be attached.

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Course Report

For guidance on the completion of this template refer to the NCAAA handbooks or the NCAAA Accreditation System help buttons.

Institution	Almajmaah University	Date of Course Report	23/3/1436

College/ Department College of Science / Department of Computer science and Information

A. Course Identification and General Information

1. Course title **Distributed Systems & Parallel Processing** Code # **(CIS458)** Section # **839**

2. Name of course instructor **MR. Issa Alsmadi** Location **Az Zulfi**

3. Year and semester to which this report applies. **First Semester – 2013/2014**

4. Number of students starting the course?	11	Students completing the course?	11

5. Course components (actual total contact hours and credits per semester):

	Lecture	Tutorial	Laboratory	Practical	Other:	Total
Contact Hours	30	30	-	-	-	60
Credit	30	15	-	-	-	45

B. Course Delivery

1. Coverage of Planned Program			
Topics Covered	Planned Contact Hours	Actual Contact Hours	Reason for Variations if there is a difference of more than 25% of the hours planned
1. **Introduction** The concept of parallel computers and programming, Extension of a single processor system into a shared memory multiprocessor, The message-passing multiprocessor (multicomputer), Static interconnection networks suitable for message-passing multicomputer.	8	8	--
2. **Message Passing Computing -MPI and PVM:** Process creation and basic message-passing techniques , Software tools for harnessing a network of workstations, Modeling communication , Communication latency and latency hiding,Time complexity of parallel algorithms.	12	12	--

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3.	**Performance Measures - Analysis of Parallel Programs:**	**4**	**4**	--
1.	**Embarrassingly Parallel Computations-Simple Data Partitioning:** an (ideal) embarrassingly parallel computation 'Embarrassingly parallel problems and analyses , Partitioning a two-dimensional data set, Work pool approach to achieve load balancing , Counter termination algorithm.	**8**	**8**	--
2.	**Divide-and-Conquer -** Pipelined Computations Partitioning and divide-and-conquer concepts as the basis for parallel computing techniques. Tree constructions.	**4**	**4**	--
3.	**Scheduling and Load Balancing - Synchronous Computations** :The concept of a barrier and its implementations (global barriers and local barriers), Data parallel computations, The concept of synchronous iteration, Examples of using global and local barriers.	**8**	**8**	
4.	**Shared Memory Programming - Sorting Algorithms** : Rank sort , Bubble sort, Odd-even transposition sort, Shear sort, Merge sort, Quicksort, including on a hypercube, Odd-even merge sort, Bitonic merge sort.	**8**	**8**	
5.	**Numerical Algorithms - Image Processing :** Different parallel implementations of matrix multiplication (direct, recursive, mesh), Solving a system of linear equations using Gaussian elimination, Basic low level preprocessing operations (thresholding, contrast stretching, histograms, smoothing, sharpening, noise reduction.	**8**	**8**	

2. Consequences of Non Coverage of Topics

For any topics where the topic was not taught or practically delivered, comment on how significant you believe the lack of coverage is for the course learning outcomes or for later courses in the program. Suggest possible compensating action.

Topics (if any) not Fully Covered	Effected Learning Outcomes	Possible Compensating Action
No topics	--	--

3.   **Course learning outcome assessment.**

	List course learning outcomes	List methods of assessment	Summary analysis of assessment results
1	Understand the fundamental aspects of parallel and distributed processing	Written Exam Homework assignments Class Activities	The average level is 2.1 for 15

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		Quizzes	students.
2	Be familiar with taxonomies of parallel systems	Homework assignments Class Activities Projects	
3	Be familiar with performance measures for parallel systems	Homework assignments Class Activities Projects	
4	Understand the theoretical limitations of parallel computing such as intractability	Homework assignments Class Activities Projects	
5	To explain the beneficial and challenging aspects of parallelism	Lectures. Lab demonstrations. Case studies. Individual presentations. Brainstorming.	
6	Write efficient parallel application programs	Lectures. Lab demonstrations. Case studies. Brainstorming.	
7	Apply the common sort algorithms techniques on data structures types using the mpi.	Lectures. Lab demonstrations. Case studies. Individual presentations..	
8	Present a short report in a written form and orally using appropriate scientific language.	Lectures. Lab demonstrations. Individual presentations. Brainstorming.	
9	Function effectively on teams to accomplish a common goal.	Class Activities Projects	
10	Communicate effectively with a range of audiences.	Class Activities Projects	

Summarize any actions you recommend for improving teaching strategies as a result of evaluations in table 3 above.
- Individual presentations
- Brainstorming
- Small group discussion
- Whole group

4. Effectiveness of Planned Teaching Strategies for Intended Learning Outcomes set out in the Course Specification. (Refer to planned teaching strategies in Course Specification and description of Domains of Learning Outcomes in the National Qualifications Framework)

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List Teaching Methods set out in Course Specification	Were these Effective?		Difficulties Experienced (if any) in Using the Strategy and Suggested Action to Deal with Those Difficulties.
	No	Yes	
• Lectures • Homework • Conversation		√	
• Conversation among students. • Indirect questions. • Work group for some cases.		√	
• Making groups and distributed tasks. • Presentation skills. • Skill constructive Monetary and dialogue and discussion with others • The ability to clearly express an opinion, and accept the opinions of others		√	
• E-mail • Web sit		√	

Note: In order to analyze the assessment of student achievement for each course learning outcome, student performance results can be measured and assessed using a KPI, a rubric, or some grading system that aligns student work, exam scores, or other demonstration of successful learning.

C.   Results

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1. Distribution of Grades

Letter Grade	Number of Students	Student Percentage	Explanation of Distribution of Grades
A		%	
B		%	
C		%	
D		%	
F		%	
Denied Entry		%	
In Progress	11	%	
Incomplete		%	
Pass		%	
Fail		%	
Withdrawn		%	

2. Analyze special factors (if any) affecting the results

3. Variations from planned student assessment processes (if any) (see Course Specifications).

a. Variations (if any) from planned assessment schedule (see Course Specification)

Variation	Reason
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b. Variations (if any) from planned assessment processes in Domains of Learning (see Course Specification)

Variation	Reason
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4. Student Grade Achievement Verification (eg. cross-check of grade validity by independent evaluator).	
Method(s) of Verification	Conclusion
Interview students, including answers and model answer sheet and learning resources for decision	Good results

D. Resources and Facilities

1. Difficulties in access to resources or facilities (if any)	2. Consequences of any difficulties experienced for student learning in the course.
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E.   Administrative Issues

1. Organizational or administrative difficulties encountered (if any)	2. Consequences of any difficulties experienced for student learning in the course.
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F. Course Evaluation

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1 Student evaluation of the course (Attach survey results report)
a. List the most important recommendations for improvement and strengths
b. Response of instructor or course team to this evaluation
2. Other Evaluation (e.g. by head of department, peer observations, accreditation review, other stakeholders)
a. List the most important recommendations for improvement and strengths
b. Response of instructor or course team to this evaluation

G. Planning for Improvement

1. Progress on actions proposed for improving the course in previous course reports (if any).			
Actions recommended from the most recent course report(s)	Actions Taken	Results	Analysis
a. Insufficient background in computer science	- More examples are added - An extra exercises and solved problems are added.	Reasonable results	

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b. Some students attend late	- Explain the importance of attending a full lecture - Give less important information at the beginning of each lecture	Reasonable results	
c.			
d.			

2. List what actions have been taken to improve the course (based on previous CR, surveys, independent opinion, or course evaluation).

- The use of multimedia to enrich the students' information.

- Enable students to prepare and make presentations.

- Increase related scientific activities.

3. Action Plan for Improvement for Next Semester/Year				
Actions Recommended	Intended Action Points and Process	Start Date	Completion Date	Person Responsible
a. Bridge the gap between up-to-date information and reference text books	- Give students the formal and theoretical bases in distributed system - Give students more implementation exercises that cover their understanding of the course.	2015	2016	Course coordinator

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b. Overcome the problem of non-attendance of some students at the beginning of the lecture	- Explain the importance of attending a full lecture - Give less important information at the beginning of each lecture	2015	2016	Course coordinator
c.				
d.				
e.				

Name of Course Instructor: **Mr .Issa Alsmadi**

Signature: _____ **Date Report Completed:** 23/3/1436

Program Coordinator: _____

Signature: _____ **Date Received:** _____