

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

Republic of Iraq

The Ministry Of Higher Education
& Scientific Research



University: University of Baghdad
College: College of Science for Women
Department: Computer Deptt.
Stage: Fourth Stage/ First Semester
Lecturer name: Noor A. Ibraheem
Qualification: PhD in Computer
Science
Place of work: College of Science for
women/ Computer Dept.

Syllabus Form

Instructor Name	Noor Adnan Ibraheem				
E-mail	naibraheem@gmail.com				
Course Title	Data Compression				
Course Coordinator	111CS401				
Course Objectives	This article enables the student for get knowledge about various kinds of algorithms meant to compress the data as well as the decompression, the degree of complexity of each is presented as well as their performance and what kind of data is suitable for is explained, vb.net is applied as the programming language.				
Course Description	<ol style="list-style-type: none">1- Get knowledge of the existing algorithms for data compression that are lossy techniques2- Get knowledge of the existing algorithms for data compression that are lossless techniques3- Understand how the algorithm works4- Understanding data variety and how to choose specific algorithm accordingly5- .net environment understanding6- How to solve problem using vb .net				
Textbook	<ol style="list-style-type: none">1- Introduction to Data Compression, by Guy E. Blelloch, Carnegie Mellon University, 2013.2- Data Compression Objectives, University of New Orleans, Department of Computer Science, 2008.3- The Data Compression Book (Second Edition), by Mark Nelson and JeanloupGailly, Cambridge, 2004.4-Data Compression;The Complete Reference(fourth edition), by David Salomon, published by Springer, 2007.5- Fundamental Data Compression, by Ida MengyiPu, Published by ELSEVIER, 2006.6- Variable-Length Codes for Data Compression, by David Salomon, Published by Springer, 2007.7- The Complete Reference Visual Basic.Net, by Jeffrey R. Shapiro, McGraw–Hill Companies, USA, 2002.				
References					
Course Assessments	Term Tests (25%)	Laboratory (10%)	Quizzes (5%)	Project -	Final Exam (60%)
General Notes					



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Course Weekly Outline

Week	Date	Topes Covered	Lab. Experiment Assignments	Notes
1	27-9-2015	Definition, modeling, objective of data compression	First example: Introduction	
2	4-10-2015	General classification of compression methods, and important terms to know	application example	
3	11-10-2015	Metric parameters, entropy calculation and understanding	application example	
4	18-10-2015	Run Length Encoding,	application example	
5	25-10-2015	Hardware Data Compression	application example	
6	1-11-2015	Move to Front	application example	
7	8-11-2015	Burrows-Wheeler Transform	application example	
8	15-11-2015	Quantization	application example	
9	22-11-2015	First seasonal exam		
10	29-11-2015	Statistical Method, Prefix Code	application example	
11	6-12-2015	Prefix property of a code	application example	
12	13-12-2015	Unary code	application example	
13	20-12-2015	Binary Tree	application example	
14	27-12-2015	Shannon-Fano Code	application example	
15	3-1-2016	Huffman Code	application example	
16	10-1-2016	Second seasonal exam		
Half – year break				

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Instructor Signature:

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