

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 Dept
Stage: Third Stage/ Second Semester
Lecturer name: Mokhtar M Hasan
Academic Status: Lecturer
Qualification: PhD in Computer Science
Place of work: College of Science for women/ Computer Dept.

Syllabus Form

Instructor Name	Mokhtar Mohammed Hasan
E-mail	mokhtarmhasan@yahoo.com , mokhtarmh@cs.w.uobaghdad.edu.iq
Course Title	Image Processing
Course Coordinator	111CS307
Course Objectives	To enable the student to get enough idea about the building block of the image as well as their variety of format representations, besides, the process of passing the image through various media starting from the moment of the creation ending with the viewing image on screen, spatial and frequency domain are employed as well in this article and their different kind of operations.
Course Description	<ol style="list-style-type: none">1- Understand the image and its contents2- Source of the image and its representation3- Pixel value and pixel coordinates formulation4- Enlarging and reducing the image size5- Different filters understanding and applications6- Spatial and frequency domain7- Edge, histogram, segmentation of the image in both Spatial and Frequency domains
Textbook	<ol style="list-style-type: none">1- main: Digital Image Processing, by Rafael C. Gonzalez and Richard E. Woods, Third Edition, 2009.2- Digital Image Processing, by William K. Pratt, Fourth Edition, 2007.3- Image Processing, ITT Visual Information Solutions, 2009.4- Image Segmentation, by Pei-Gee Peter Ho, 2011.5- Fundamentals of Digital Image Processing, by S. Annadurai; R. Shanmugalakshmi, Pearson Education, India, 2006.

References	<p>6- Digital Image Processing And Analysis: Human and Computer Vision Applications with CVIProtocols, Scott E Umbaugh, Second Edition, published by Taylor and Frances, 2011.</p> <p>7- The Complete Reference Visual Basic.Net, by Jeffrey R. Shapiro, McGraw-Hill Companies, USA, 2002.</p>				
Course Assessments	Term Tests	Laboratory	Quizzes	Project	Final Exam
	(20%)	(10%)	(5%)	5%	(60%)
General Notes					

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Course Weekly Outline

Week	Date	Topes Covered	Lab. Experiment Assignments	Notes
1	2016-2-17	Definition, pixel element, fundamental steps in digital image processing	loading an image and understanding the related instructions	
2	2016-2-24	Image types and their storage, wavelength of light	stretching an image application	
3	2016-3-3	Neighbors, adjacency, connectivity,	working with open dialog control	
4	2016-3-10	regions, boundaries, distance measure	enlarging the physical image	
5	2016-3-17	Spatial geometry and segment geometry	application of masks	
6	2016-3-24	Algorithms for Enlargement, reduction in size	Application example	
7	2016-3-31	Arithmetic and logic operation on images	Application example	

8	2016-4-7	Spatial filters, understanding and analysis	Application example	
9	2016-4-14	First seasonal exam		
10	2016-4-21	Quantizing, histogram	Application example	
11	2016-4-28	Fourier transform	Application example	
12	2016-5-5	Restoration	Application example	
13	2016-5-12	edge detection, Dilation and erosion	Application example	
14	2016-5-19	Segmentation	Application example	
15	2016-5-26	Frequency domain manipulation of images	Application example	
16	2016-6-2	Final seasonal exam		

Instructor Signature:

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