

Jordan University of Science and Technology
Faculty of Agriculture
Department of Nutrition and Food Technology
Semester 2007

Course Information	
Course Title	Advanced Food Chemistry
Course Number	NF 758
Instructor	Dr. Selma S. Abdul-Hussain
Office Location	C4L3
Office Phone	22276
Office Hours	-
E-mail	sabdulhussain@hotmail.com
Teaching Assistant	--
Course Description	
<p>The purpose of this course is to provide students with information related to the chemical nature of our food which prove the realistic that this knowledge is essential to improve the dietary standards. The course will cover studying the food components that occur in large amounts which include carbohydrates, fats, and proteins. Then, to study the food components that occur in much smaller amounts and which include pigments, vitamins, and flavor compounds with inclusion of minerals and water</p>	

Text Book	
References	<ul style="list-style-type: none"> • Coulate, T.P. 1996. Food, The Chemistry Of Its Components . R.S.C. U.K. • Fennema ,O.R. 1885. Food Chemistry. Marcel Dekker, Inc. U.S.A. • Wong, D.S. 1996. Mechanism and Theory in Food Chemistry. CBS Publishers and Distributors • James, C.s. 1995. Analytical Chemistry of Food. Blackie Academic and Professional. U.K.

Assessment Policy		
Assessment Type	Expected Due Date	Weight
First Exam		20%
Second Exam		20%
Final Exam		50%
Assignments		5%
Term paper		5%

Course Objectives	Weights
To study the functional aspects of some food ingredients, with emphasis on modern mechanisms underlying the chemical reaction that occur in food during processing and storage nor do they treat interactions among the components of foods.	20%

Teaching & Learning Methods
PowerPoint

Learning Outcomes: Upon successful completion of this course, students will be able to	
Related Objective(s)	Reference(s)
1. At the end of this semester, you are expected to be familiar with principles of the reaction mechanisms of foods, understanding and explaining the chemical reactions in food systems, based on themes of oxidation., reduction., hydrolysis, structure, polymerize., emulsification., etc.	
2. You will be able to explain how the constituents covered interact with other compounds in the food, as well as the effect of temp., PH, metal ions, oxygen, and other constituents on the roles of the reactions and interactions.	

Course Content		
Week	Topics	Chapter in Text (handouts)
1	Introduction to Food chemistry	1
2	Water	2
3- 4	Carbohydrates	3- 4
5	Lipids	5
6	Amino Acids, Peptides, and Proteins	6
7	Enzymes	7
8- 9	Vitamins and Minerals	8- 9
10	Pigments and other Colorants	10
11	Flavors	11
12	Food Additives	12
13	Undesirable or Potentially Undesirable Constituents of Foods	13
14	Characteristics of Edible Fluids of Animal Origin: Milk	14
15- 16	Characteristics of Edible Plant Tissues	15- 16