朝陽科技大學 097學年度第2學期教學大綱
Food Chemistry 食品化學

當期課號	1771	Course Number	1771
授課教師	陳齊聖	Instructor	CHEN,CHEE SHAN
中文課名	食品化學	Course Name	Food Chemistry
開課單位	應用化學系(四日)三A	Department	
修習別	選修	Required/Elective	Elective
學分數	3	Credits	3
課程目標	本課程之主要目的，爲教授與食品科技相關之化學知識。課程內容涵蓋食品主要化學成分（醣類、脂肪、蛋白質），各成分所扮演之機能性角色，在加工與儲存期間之化學變化。課程內容亦涵蓋食品添加物，以及色、香、味之化學。課程之宗旨在使同學對化學領域，與食品科技相關之主題具有通盤之認識。	Objectives	The goal of this course is to provide students with a general knowledge, from chemistry aspect, about food technology. Course content includes the major chemical components (carbohydrates, lipids, proteins) of foods and the chemical functions of each component, as well as chemical changes during processing and storage. The course also covers chemistries of food additives, color, taste and flavor.
教材	Topics of Lipids for discussion: 1. the eight lipid categories (sicentific , chinese names and abbreviations) proposed by Fahy et al. (2005) 2.factor affecting oxidation rate of lipids 3. explain the three parts of lipids' autoxidation 4. types and mechanism of antioxidants 5. light-induced oxidation 6. chemical changes during high temperature (frying) 7. summarize chemical reactions involved during deep frying. 8. how is the trans FA formed, and what are the significance	Teaching Materials	Topics of Lipids for discussion: 1. the eight lipid categories (sicentific , chinese names and abbreviations) proposed by Fahy et al. (2005) 2.factor affecting oxidation rate of lipids 3. explain the three parts of lipids' autoxidation 4. types and mechanism of antioxidants 5. light-induced oxidation 6. chemical changes during high temperature (frying) 7. summarize chemical reactions involved during deep frying. 8. how is the trans FA formed, and what are the significance
成績評量方式		Grading	
教師網頁			
教學內容	1. 水分: 水分之吸收現象 水分之種類 水活性與食品之關係 2. 脂肪: 脂肪酸與脂肪酸甘油酯 磷脂質 不可皂化之脂類 油脂化學 3. 蛋白質:蛋白質之分類 非酵素褐變反應 蛋白質之機能性 動物與植物蛋白質 4. 醣類: 單醣 相關化合物 寡糖與聚醣 膳食纖維 5. 礦物質與維生素: 主要礦物質與微量元素 脂溶性維生素 水溶性維生素	Syllabus	1.water: sorption phenomena types of water water activity and foods 2. lipids:component fatty acids and glycerides phospholipids unsaponifiables chemistry of lipids 3. proteins: protein classification nonenzymic browning functional properties animal and plant proteins 4. carbohydrates: monosaccharides related compounds oligosaccharides and polysaccharides dietary fiber 5. minerals and vitamins major minerals and trace

	6. 食品顏色: 顏色系統 食用色素 7. 香味: 香味之描述 香味之感受度 食品之香味與陳味 8. 質地: 質地特徵 食品質地之量測 應用 9. 食品添加物與汙染物		elements fat-soluable vitamins water-soluable vitamins 6. color: color systems food colorants 7. flavor:description of food flavors astringency flavor and off-flavor 8. texture:texture profile objective measurement of texture application to foods 9. additives and contaminants intentional additives incidental additives or contaminants

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