

《食品营养学》课程教学大纲

课程基本信息 (Course Information)					
课程代码 (Course Code)	FS416	*学时 (Credit Hours)	48	*学分 (Credits)	3
*课程名称 (Course Name)	(中文) 食品营养学 (英文) Food Nutrition				
课程性质 (Course Type)	Compulsory Course				
授课对象 (Audience)	Senior Students of Food Science and Technology Department				
授课语言 (Language of Instruction)	English (or Bilingual depends on requirement)				
*开课院系 (School)	Food Science and Technology Department of Agriculture and Biology School				
先修课程 (Prerequisite)	Food Chemistry, Food Processing, ect..				
授课教师 (Instructor)	Associate Professor Sheng Yi	课程网址 (Course Webpage)	ecc.sjtu.edu.cn		
*课程简介 (Description)	<p>《食品营养学》是食品科学与工程专业的专业必修课程。是面向本专业三、四年级学生开设的专业核心课，先修课程包括《食品化学》、《食品安全学》以及《食品工艺学》等专业课程。《食品营养学》自成体系，也可以独立开设或者面向全校作为通识类课程。</p> <p>食品营养学是研究食物营养素及其他生物活性物质对人体健康的生理作用和有益影响的科学。通过学习食品中的能量平衡和基本六大营养素，诸如水分、蛋白质、脂肪、碳水化合物、维生素及矿物质，了解这些营养素的基本化学组成、分类、理化特性、营养学作用，并进一步学习这些营养元素在人体内的消化、吸收、转运和代谢机制。明了能量失衡、营养元素缺乏或过剩，对人体健康带来的潜在不利影响。理解并掌握与食物营养相关的疾病，以及不同人群（包括儿童与青少年、孕妇与乳母、老年和特殊疾患人群）对食物营养的需求。</p> <p>在这门课程里，学生还将学习膳食指导原则，例如控制能量平衡、设计科学膳食模式、中国居民膳食指南与宝塔模型等知识和概念。学生不但要了解科学饮食的基本概念和原理，还将增进设计膳食与控制膳食的实践技巧。真正解决“吃什么”、“吃多少”和“怎么吃”的问题。真正让学生掌握营养学的基本理论知识和实践技能，成为现代营养学人才。</p>				

<p>*课程简介 (Description)</p>	<p>《Food Nutrition》 is a compulsory course for the senior students of Food Science and Technology Department. It is also a core major course in the whole curriculum program. The prerequisite courses could be ‘Food chemistry’, ‘Food Processing’ and ‘Food Safety’, but not required absolutely.</p> <p>Nutrition is the science that interprets the interaction of nutrients and other substances in food in relation to maintenance, growth, reproduction, health and disease of an organism. It includes food intake, absorption, assimilation, biosynthesis, catabolism and excretion.</p> <p>The diet of an organism is what it eats, which is largely determined by the availability, processing and palatability of foods. A healthy diet includes preparation of food and storage methods that preserve nutrients from oxidation, heat or leaching, and that reduce risk of food-borne illnesses.</p> <p>Registered Dietitians, "RDs" or "RDNs" (Registered Dietitian or Registered Dietitian Nutritionist) are health professionals qualified to provide safe, evidence-based dietary advice which includes a review of what is eaten, a thorough review of nutritional health, and a personalized nutritional treatment plan. They also provide preventive and therapeutic programs at work places, schools and similar institutions.</p> <p>A poor diet may have an injurious impact on health, causing deficiency diseases such as scurvy and kwashiorkor; health-threatening conditions like obesity and metabolic syndrome; and such common chronic systemic diseases as cardiovascular disease, diabetes, and osteoporosis.</p> <p>Students would learn basic knowledges including definitions, concepts, terminologies, and guidelines about nutrition and nutrients. Learn how to give professional dietary opinions and instructions. Implement dietary design and nutrients balance.</p>						
<p>课程教学大纲 (course syllabus)</p>							
<p>*学习目标(Learning Outcomes)</p>	<ol style="list-style-type: none"> 1. Understand the concepts of basic nutrients; (B1) 2. Understand the relationship between nutritional status and diseases; (B2) 3. Understand the dietary guidance and dietary implements; (B2) 4. Improve the awareness of the importance of food nutrition; (A5、 B3) 5. Improve the ability on problem analysis and problem solving;(C3) 6. Enhance the cooperation and self-motivation of students; (C4、 C5、 D1) 7. Literature research and good presentation; (C4、 D4) 8. Team-work abilities. (C4、 D2) 						
<p>*教学内容、进度安排</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">教学内容</td> <td style="width: 10%;">学时</td> <td style="width: 20%;">教学方式</td> <td style="width: 15%;">作业及要求</td> <td style="width: 15%;">基本要求</td> <td style="width: 15%;">考查方式</td> </tr> </table>	教学内容	学时	教学方式	作业及要求	基本要求	考查方式
教学内容	学时	教学方式	作业及要求	基本要求	考查方式		

及要求 (Class Schedule & Requirements)	Introduction	2	Lecture	Material review	Reading	Discussion
	BMI and body constitution testing	4	Practice and Testing	Calculating & Analyzing	Report	Report
	Basic Concepts	2	Lecture	Review	Reading	Q & A
	Food Plan and DRIs	2	Lecture and Discussion	Literature Searching	Reading	Q & A
	Nutrition Tools: Standards and Guidelines	4	Practice and Discussion	Literature Searching	Reading & Practice	Survey
	The Remarkable Body	2	Lecture and case study	Dietary record	Reading	Q & A
	Carbohydrates (1)	3	Lecture	Review	Reading	
	Carbohydrates (2)	3	Lecture	Review	Reading	Quiz
	Lipids (1)	3	Lecture	Review	Reading	
	Lipids (2)	3	Lecture	Review	Reading	Quiz
	Protein (1)	2	Lecture	Review	Reading	
	Protein (2)	2	Lecture	Review	Reading	Quiz
	Water and Minerals (1)	2	Group Discussion	Review	Reading	Report
	Water and Minerals (2)	2	Group Discussion	Review	Reading	Report
	Vitamins (1)	2	Group Discussion	Review	Reading	Report
	Vitamins (2)	2	Group Discussion	Review	Reading	Report
	Energy Balance and Nutrition Evaluation	4	Practice	Report	Report	Discussion
	BMI and body constitution	4	Practice and Testing	Calculating & Analyzing	Report	Report

	testing					
*考核方式 (Grading)	<p>(成绩构成)</p> <p>1) Class attendance (0.5 point for each class, 10% total)</p> <p>2) Assignments (3-4 times, 40% of your final scores)</p> <p>3) Final exam (50%)</p>					
*教材或参考资料 (Textbooks & Other Materials)	<p>教材:</p> <p>Nutrition - Concepts and Controversies. Frances Sizer, Ellie Whitney. 否. Wadsworth, Cengage :Learning. 2012. 13th Edition. ISBN-13:978-1-133-62818-7. 5 届. 是. 否.</p> <p>参考资料:</p> <p>The Academy of Nutrition and Dietetics Complete Food and Nutrition Guide, Roberta Larson Duyff. 5th Ed. Houghton Mifflin.</p>					
其它 (More)						
备注 (Notes)						

备注说明:

1. 带*内容为必填项。
2. 课程简介字数为 300-500 字；课程大纲以表述清楚教学安排为宜，字数不限。