

西南大学食品科学与工程专业教学计划表
(硕士研究生)

课程编号	课程名称	开课学期	学时	学分	类型
11000001012	汉语	1	90	3	公共必修课
11000001013	中国概况	1	90	3	公共必修课
11083200101	食品化学	2	36	2	平台必修课
11083200102	食品微生物学进展	1	36	2	平台必修课
11083200103	食品工艺学	1	36	2	专业必修课
11083200104	农产品贮藏专题	2	36	2	平台必修课
11083200105	食品质量控制	1	36	2	专业选修课
11083200106	发酵食品	2	36	2	专业选修课
11083200107	食品包装学	2	36	2	专业选修课
11083200108	人体营养学	2	36	2	专业选修课

Teaching Plan of Food Science and Engineering in Southwest University

Unit code	Unit name	semester	period	Total Credits	Unit Type
11000001012	First Foreign Language (Chinese)	1	90	3	A- general education compulsory course
11000001013	General Introduction to China	1	90	3	A- general education compulsory course
11083200101	Food Chemistry	2	36	2	平台必修课
11083200102	Advanced Food Microbiology	1	36	2	平台必修课
11083200103	Food Technology	1	36	2	professional development compulsory course
11083200104	Topics for Storage of Agricultural Products	2	36	2	平台必修课
11083200105	Quality Control of Food Products	1	36	2	professional development elective course
11083200106	Fermentation Foods	2	36	2	professional development elective course

11083200107	Food Packaging	2	36	2	professional development elective course
11083200108	Human Nutrition	2	36	2	professional development elective course

西南大学食品科学与工程专业课程信息

Course Information of Food Science and Engineering in Southwest University

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课程代码: 11000001012
课程名称: 汉语
学分: 3
课程描述:
课时安排: 90 学时
先修课程:
考核方式: 课程成绩:
教材:
教师:

Unit code: 11000001012
Unit name: First Foreign Language (Chinese)
Credits: 3
Introduction:
Teaching Pattern: 90hrs
Prerequisite:
Course Assessment:
Textbook:
Course Director:

2

课程代码: 08000001013

课程名称: 中国概况
学分: 3
课程描述:
课时安排: 90 学时
先修课程:
考核方式: 课程成绩:
教材:
教师:

Unit code: 11000001013
Unit name: General Introduction to China
Credits: 3
Introduction:
Teaching Pattern: 90hrs
Prerequisite:
Course Assessment:
Textbook:
Course Director:

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课程代码: 11083200101
课程名称: 食品化学
学分: 2
课程描述: 本课程主要是从化学的角度和分子水平上研究食品的组成、结构、性质以及它们在食品生产、加工、贮运、销售等过程中的变化及其对食品的影响。主要包括水分、碳水化合物、蛋白质、脂类、酶、颜色和风味等方面基础知识及最新进展。本课程为改善食品品质、开发食品新资源、革新食品加工工艺与贮运技术、科学调整膳食结构、改进包装、加强食品质量控制以及提高食品原料综合利用水平奠定理论基础和原理选择。本课程是食品专业研究生的专业的必修专业课。
课时安排: 36 学时
先修课程: 普通化学、有机化学、分析化学、生物化学
考核方式: 文献阅读与进展综述 课程成绩: 书面成绩占 70%，平时成绩占 30%
教材: Srinivasan Damodaran, Kirk L. Parkin. Fennema's Food Chemistry, Fifth Edition, CRC

Press, 2017

教师: 赵国华

Unit code: 11083200101

Unit name: Food Chemistry

Credits: 2

Introduction:

The course of Advanced Food Chemistry is aimed to show students the chemical composition, structure, physico-chemical properties of various foods as well as their changes in food production, processing, storage, distribution and the resultant impacts on food quality. The content of Advanced Food Chemistry not only relates the basic principles but also the latest achievements on water, carbohydrates, proteins, lipids, enzymes, color and flavor of foods. Advanced Food Chemistry could lay a theoretical foundation and provide principal choice for processing and storage technique innovation, dietary structure adjustment, package improvement, food quality and control optimization and enhancement of comprehensive utilization level of food materials. Advanced Food Chemistry is compulsory course for master students in food science.

Teaching Pattern: 36hrs

Prerequisite: General Chemistry, Organic Chemistry, Analytical Chemistry, Biochemistry

Course Assessment: literature reading + specific review

Review accounted for 70% of scores, performance in class accounted for 30%

Textbook: Srinivasan Damodaran, Kirk L. Parkin. Fennema's Food Chemistry, Fifth Edition, CRC Press, 2017

Course Director: Guohua Zhao

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课程代码: 11083200102

课程名称: 食品微生物学进展

学分: 2

课程描述: 食品微生物学是食品科学与工程专业的三大支柱课程之一,它以有机化学、生物化学、遗传学、生物学、物理学和营养学等为基础,专门研究与食品有关的微生物的形态特征、生理生化特性、生长繁殖规律、环境因素对微生物生长的影响、微生物的分类、微生物生态、微生物遗传变异与育种,掌握本课程的基本理论、基本知识、基本技能,开发利用微生物生产对人类生活有利的方面,利用有益的微生物发酵生产调味品和食品,拓展食品的种类;对于引起食品腐败、导致食源性食物中毒的有害微生物要千方百计控制它,延长食品的货架期,保证食品的质量和安全性,杜绝食物中毒。本课程是食品科学与工程、食品质量与安全、茶学、食品包装专业的必修课程。

课时安排: 36 学时

先修课程: 有机化学、生物化学、遗传学、生物学、物理学、营养学

考核方式: 提交课程论文

课程成绩: 根据课程论文打分。

教材: 《食品微生物学》,贺稚非、李平兰主编//著,西南师范大学出版社,2010年第1版

教师：贺稚非

Unit code: 11083200102

Unit name: Advanced Food Microbiology
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Credits: 2

Introduction:

<p>Food microbiology is one of the three main courses of food science and engineering. It is based on organic chemistry, biochemistry, genetics, biology, physics, and nutrition and etc. It specializes in the morphological characteristics of food-related microbes, physiological and biochemical characteristics, growth and reproduction laws, environmental factors on microbial growth, microbial classification, microbial ecology, microbial genetic variation and breeding, which master the basic theories, knowledge and skills of this course, develop and utilize of microbial production on humans. The beneficial aspects of life include the use of beneficial microorganisms for the production of seasonings and foods, and the expansion of the types of foods; for harmful microorganisms that cause food spoilage and foodborne food poisoning, every effort must be made to control to extend the shelf life, ensure the quality and safety and prevent food poisoning. Food microbiology is a compulsory course for majors of food science and engineering, food quality and safety, tea science, and food packaging.</p>
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Teaching Pattern: 36hrs

Prerequisite: Organic chemistry, biochemistry, Genetics, Biology, physics, Nutrition

Course Assessment:

Final hand in course paper.

Textbook:

Developed of Food Microbiology

Course Director: He Zhifei

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课程代码: 11083200103

课程名称: 食品工艺学

学分: 2

课程描述:

<p>食品工艺学是食品科学留学硕士必修课程之一，主要介绍食品腐败变质的主要因素、控制方法，包括食品低温保藏、罐藏、干藏、腌渍与烟熏等加工保藏的基本理论、基本工艺过程与基本知识，以及食品加工保藏新技术、新方法。通过本课程学习，使学生掌握各种食品加工的基本原理、方法及相关知识，了解食品加工保藏技术及原理，解决实际的食品腐败问题所需的知识和技能，为将来从事食品加工相关的工作打下基础。</p>
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专题内容主要包括:

课时安排: 36 学时

先修课程: 食品微生物学, 食品化学, 食品工程原理
考核方式: 课程论文 + 平时成绩 课程成绩: 课程论文成绩占考核成绩的 70%, 平时成绩占 30%
教材: 《食品加工原理》, (美) 赫尔德曼 (Heldman, D. R.), (美) 哈特尔 (Hartel, R. W.) 著-影印版, 中国轻工业出版社, 2007 年 1 月第一版
教师: 董全

Unit code: 11083200103
Unit name: Food Technology
Credits: 2
Introduction: Food technology is one of the required courses for International graduate students majoring in food science. This course introduces factors of food spoilage and control methods, processing and storage principles, basic process of food processing and preservation. The objective of this course is to make International graduate students understand basic principles and methods of various kinds of food processing, to understand the technology of food processing and food preservation principle, to solve the problem of corruption of practical knowledge and skills required, and to lay a good foundation for their future work in this filed.
Teaching Pattern: 36hrs
Prerequisite: Food Microbiology, Food Chemistry, Principles of Food Engineering
Course Assessment: Course paper + regular grades. Course paper scores accounted for 70% of total score, regular grades 30% of total score
Textbook: Principles of food processing, Dennis R. Heldman, Richard W. Hartel, (authorized facsimile reprint) China Light Industry Press, Jan. 2007
Course Director: Quan DONG

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课程代码: 11083200104
课程名称: 农产品贮藏专题
学分: 2
课程描述: 专题内容主要包括: 农产品采后生理和病理基础研究新进展; 农产品衰老调控新技术, 包括 1-MCP 处理、热处理、新型气调处理技术等; 农产品病害控制新技术, 包括物理防治、生物防治等。
课时安排: 36 学时
先修课程:
考核方式: 开卷考试 + 平时成绩 课程成绩: 总成绩评定: 卷面成绩占考核成绩的 60%, 平时成绩占 40%

<p>平时成绩评定：平时成绩占总成绩的 40%，由课堂表现、作业完成情况和课堂考勤 3 部分组成。</p> <p>期末考试：开卷考试。</p>
教材：
教师： 曾凯芳

Unit code: 11083200104
Unit name: Topics for Storage of Agricultural Products
Credits: 2
Introduction: The course includes basic research advance of postharvest physiology and pathology of agricultural products; new technology of postharvest senescence regulation of agricultural products, including 1-MCP, hot water, and new controlled atmosphere treatment, etc; and new technology of postharvest disease control of agricultural products, including physical control and biological control, etc.
Teaching Pattern: 36hrs
Prerequisite:
Course Assessment: Final Score=Usual Score*40%+Final Exam Score*60% Usual Score is Determined by attendance rate, homework and class check; Final Exam: Open-book examination
Textbook:
Course Director: Zeng Kaifang

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课程代码: 11083200105
课程名称: 食品质量控制
学分: 2
课程描述: 本课程主要是从技术和管理两个角度阐述食品质量的控制。其管理的内容主要包括相关法规、标准、规范、技术壁垒、认证及其过程、最新相关文件及规定；其技术的内容主要包括 HACCP、GMP、SSOP、追溯体系、动物福利、微生物学预测等以及这些方面的最新进展。本课程主要是为食品的食用品质与安全保障提供技术支撑与管理规范，同时对提升食品产业的技术水平与管理水平有积极意义，对保障居民健康和食品企业安全运行有实际价值。本课程是食品专业研究生的专业的必修专业课。 专题内容主要包括:
课时安排: 36 学时
先修课程: 食品工艺学、管理学原理、食品安全学、食品标准与法规

考核方式: 文献阅读与进展综述 课程成绩: 书面成绩占 70%，平时成绩占 30%
教材: 本课程没有指定教材以专题形式进行
教师: 赵国华

Unit code: 11083200105
Unit name: Quality Control of Food Products
Credits: 2
Introduction: The course of Advanced Food Quality Control is aimed to show students the both the technic and management measures applied in controlling food quality. From technic side, the content includes related laws and regulations, standards, specifications, technical barriers in food international trade and food authentications and their processes and the newly issued documents. From management side, the content consists of HACCP, GMP, SSOP, traceability system, animal welfare, microorganism prediction as well as the latest advances in these aspects. Advanced Food Quality Control could provide technical supports and management standards to guarantee the edible quality and safety of involved foods, which is of highly actual significance in safeguarding the health of the residents and safe running of a food company. Advanced Food Quality Control is compulsory course for master students in food science.
Teaching Pattern: 36hrs
Prerequisite: Food Technology, Principals of Management, Food Safety, Food Standards, Laws and Regulations
Course Assessment: literature reading + specific review Review accounted for 70% of scores, performance in class accounted for 30%
Textbook: no textbook available and course is organized in a serial lectures
Course Director: Guohua Zhao

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课程代码: 11083200106
课程名称: 发酵食品
学分: 2
课程描述: 本课程为食品科学各专业硕士研究生的专业选修课（全英语授课）。 课程任务是使学生了解和掌握中国白酒、黄酒、泡菜、榨菜、发酵豆制品发酵的基本原理和基本技术，熟悉生产过程中的主要工艺及设备，掌握其特色；了解该学科的发展前沿、热点和问题，使学生牢固掌握食品发酵方面的基本理论和基础知识，熟悉各种特色发酵食品生产的工艺流程。

学习本课程的目的是使学生掌握特色传统发酵产品的历史及独特工艺,从食品发酵科技及文化方面让留学生对中国的发酵食品有全新的认识,促进“一带一路”人文交流,弘扬中华传统饮食文化。

专题内容主要包括:

课时安排: 36 学时

先修课程: 食品微生物学、有机化学、生物化学

考核方式: 课程论文 + 平时成绩+实验成绩

课程成绩: 课程论文成绩占考核成绩的 40%，平时成绩占 20%，实验成绩占 40%

教材: 该课程无指定教材

教师: 王洪伟

Unit code: 11083200106

Unit name: 发酵食品

Credits: 2

Introduction: This course is a professional elective course for all postgraduates in food science (all taught in English). The task of the course is to enable students to understand and master the basic principles and basic techniques for the fermentation of Chinese liquor, rice wine, pickles, mustard and fermented bean products, to be familiar with the main processes and equipment in the production process, to grasp their characteristics, and to understand the development frontiers and hot spots of the discipline. The course will enable students to firmly grasp the basic theory and basic knowledge of food fermentation, and be familiar with the process flow of various characteristics of fermented food production.

By learning the course, the students are expected to master the history and unique techniques of fermented food products in China and worldwide. Foreign students are expected to have a new understanding of fermented foods in China and promote the “Belt and Road” cultural exchanges among China and other countries.

Teaching Pattern: 36hrs

Prerequisite: Food Microbiology, Organic Chemistry, Biochemistry

Course Assessment:

Course paper + usual results+experimental evaluation

Coil performance accounted for 40% of the results, usually accounted for 20%+ experimental evaluation40%

Textbook: no textbook required'

Course Director: Du Muying

课程代码: 11083200107
课程名称: 食品包装学
学分: 2
课程描述: 本课程通过对食品腐败过程与保鲜技术、包装质量与货架期、常用的食品包装材料(金属罐、玻璃容器、塑料和纸包装),以及活性包装和气调包装技术的学习,学生可以掌握食品包装的理论基础、常用材料的特点与应用以及食品包装新技术等必备知识,使学生对食品包装的功能、选材与应用有较为全面的认识,在食品领域的知识结构更加完善。 专题内容主要包括:
课时安排: 36 学时
先修课程:
考核方式: 考查。
课程成绩: 平时成绩+课程论文;平时成绩占 30%+课程论文占 70%。
教材: 《食品包装技术》, Richard Coles 主编, Blackwell 出版社, 2003 年第 1 版
教师: 徐丹

Unit code: 11083200107
Unit name: Food Packaging
Credits: 2
Introduction: This course introduces the food biodeterioration and method of preservation, packaged product quality and shelf life, packaging materials (metal cans, glass containers, plastics and paper), active packaging, and modified atmosphere packaging, which is to help students learn the fundamental basis of food packaging, the characteristic & application of common packaging materials, and the new technologies in food packaging. After studying, students can have a full understanding on the functions, material selections and applications of food packaging, which improve their knowledge structure of the food field
Teaching Pattern: 36hrs
Prerequisite: N/A
Course Assessment: test; Final Score=Usual Score*30%+Course papers Score*70%.
Textbook: "Food Packaging Technology", Richard Coles editor, Blackwell Publishing, 2003 first edition
Course Director: Dan Xu

课程代码: 11083200108
课程名称: 人体营养学
学分: 2
课程描述:

<p>本课程主要研究食品成分在人体内的消化、吸收和代谢过程，以及营养素的缺乏与过剩对人体的伤害、代谢产物等对人体的毒害、人体营养研究方法，可作为食品科学与工程专业或预防医学的必修专业课或其它相关或相近专业的选修课。</p> <p>学习本课程的目的是使学生掌握食品成分在人体内的消化、吸收和代谢规律，理解人体营养与健康的必然关系；为开发健康食品，构建合理的膳食结构和合理地管理日常饮食提供扎实的理论基础；为研究人体营养提供有用的方法。</p>
课时安排: 36 学时
先修课程: 普通化学、有机化学、生物化学、分析化学、食品化学
考核方式: 闭卷考试 + 平时成绩 课程成绩: 卷面成绩占考核成绩的 70%，平时成绩占 30%
教材: 《人体化学》
教师: 吴文标

Unit code: 11083200108
Unit name: Human Nutrition
Credits: 2
Introduction: <p>This course mainly studies the digestion, absorption and metabolism of food components, damages to human body caused by the deficiency and excess of nutrients, metabolites, etc. as well as the studying methods of human nutrition. This course can be a required course for students studying Food Science and Technology or Preventive Medicine, or an optional course for relevant or similar major students.</p> <p>By learning the course, the students are expected to master the science of digestion, absorption and metabolism of food components, understand the inevitable association of nutrients with human health. This course can also provide a solid basis of theory for developing or exploiting healthy foods, building reasonable dietary pattern and managing daily diet properly as well as useful methods of studying human nutrition.</p>
Teaching Pattern: 36hrs
Prerequisite: General Chemistry, Organic Chemistry, Analytical Chemistry, Biochemistry, Food Chemistry
Course Assessment: Closed book examination + usual results Coil performance accounted for 70% of the results, usually accounted for 30%
Textbook: Human Nutrition
Course Director: Wenbiao Wu