

# Southwest University

## Graduate Course Syllabus

### Course Unit: School of Food Science

Course No.	1108320056	Course name	Food engineering principles and equipments								
Course category (√)	Compulsory courses (√) Elective courses ()	Credit hour	2	Total class hour	40	Lectures hours	37	Discussion hours	3	Experiment hours	0
Lecturer	Hourong Chen	Job title Degree	Associate professor On-job doctor		Specialties	Food engineering design, Food Machinery and Food Processing					
Range of application by majors: Food science, Storage and processing technology of agricultural products											
Prerequisite courses: Principles of food engineering, Food machinery											
Teaching objectives and requirements:											
Teaching objectives: This course is a comprehensive application of the knowledge acquired after the completion of the principles of food engineering and food machinery, the aim is to improve the students' ability of food processing engineering design, to enable students have the selection and design capabilities that are involved in the material balance, energy accounting and process design and a variety of equipment of food engineering.											
Requirements:											
① Master the principles and methods of mass and energy balance in Food Engineering.											
② Master the work principle and selection methods of various equipment involved in Food Engineering.											
③ Master the design method of production process and matching production line in food processing											
④ To be familiar with various engineering data and charts in food engineering design.											
⑤ Have the ability to design food factories independently.											

Teaching and testing methods (it's need to be conducive to cultivating the innovative thinking and ability of graduate students):

Course teaching is the main method, with some practical examples and multimedia teaching. In the process of teaching, we should focus on cultivating students' ability to deal with practical problems, and give them the opportunity to comprehensively apply the knowledge to practice, so that students can truly digest the theoretical knowledge they have learned.

### **Course contents and course hours allocation**

Introduction (1)  
 Food power engineering and equipment (2)  
 Food heating engineering and equipment (2)  
 Food water supply and drainage engineering and equipment (4)  
 Food refrigeration engineering and equipment(2)  
 Food processing technology and production line design (6)  
 Food plant construction engineering and equipment (2)  
 Food pipeline engineering and equipment (4)  
 Food logistics engineering and equipment (4)  
 Food ventilation, air conditioning and air purification engineering and equipment (4)  
 Food auxiliary engineering and equipment (2)  
 Food end engineering and equipment (2)  
 New technology and equipment for food engineering (2)  
 Discussion (3)

(Please add more pages if this page is insufficient)

**The Catalog for main reference book (periodicals):**

No.	Author	Books and Periodicals' name	Press
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1	Qingxiao Zeng	GMP GMP and modern food plant design	Chemical Industry Press
2	Jinfang Ni	Chemical process design	Chemical Industry Press
3	Process machinery	Zhijun Liu	Capital Normal University
4	Editorial Committee of <i>Chemical Engineering Handbook</i>	<i>Chemical Engineering Handbook</i>	Chemical Industry Press
5	Hayes	Food engineering data handbook	China Light Industry Press,
6	Editorial Committee of <i>Mechanical Engineering Handbook</i>	Mechanical Engineering Handbook	China Machine Press
7	Machinery Industry Information Research Institute	Mechanical and electrical products quotation handbook	China Machine Press
8	Machinery Industry Information Research Institute	Catalogue of food machinery products	China Machine Press
9	Machinery Industry Information Research Institute	Catalogue of package machinery products	China Machine Press
10	Qingxiao Zeng	GMP and modern food plant design	Chemical Industry Press

Review Comments of School (Institute, Center):

Signature (Date)

Review Comments of Student Committee:

Signature (Date)

Review Comments of Graduate School

Signature (Date)