

Southwest University

Graduate Course Syllabus

Course Unit: School of Food Science

Course No.	1109020321	Course	Tea Making Engineering Principle								
Course category (√)	Compulsory courses (√) Elective courses ()	Credit hour	3	Totl class hous	60	Lecture hous	30	Discu ssion Hours	20	Exper iment hours	10
Lecturer	Long Zhengli	Job title Degree	Associate professor		Specialties		Tea science				
Range of application by majors: Tea, specialty processing											
Preparatory courses: advanced plant physiology and biochemistry, instrumental analysis											
<p>Teaching objectives and requirements:</p> <p>This course aims to learn, understand and master the principle of early tea, refined and re-processing, and deep processing technology, and explain the tea quality and stable mechanism and method from biochemistry, organic chemistry, chemical engineering and system engineering theory, analyze the defects and insufficiency of traditional tea technology to lay a solid theoretical basis for the formulation and innovation of science and technology of tea preparation and seek for scientific method. This course requires a solid foundation of physics and chemistry, a comprehensive professional knowledge, and a strong ability of comprehensive analysis and innovation for students.</p>											

Teaching methods and test methods (it should be conducive to cultivate graduates' innovative thinking and innovation ability):

30 class hours for class teaching;
20 class hours for classroom discussion
10 class hours for experiment
Examination mode:
Class discussion: 10%
Class essays: two essays, 20%
Experimental: 10%
Closed book exam for 3 hours: 40%

Course content and course hours allocation

1. Introduction 2 class hours
2. Principle of fresh leaf processing 12+8 (discussion) +6 (experimental) class hours
- ①Activity and change of water.
 - ②Physical properties of fresh leaves.
 - ③Role of heat and water loss.
 - ④Kinetics of enzyme activity.
 - ⑤Role of microorganisms.
 - ⑥Effect of mechanical deformation.
3. Physicochemical properties of primary tea: 6 + 4 (discussion) + 4 (experimental) class hours
4. Principle of primary tea processing: 6+4 (discussion) class hours
- ①Separation principle.
 - ②Principle of modification.
 - ③Mosaic principle.
6. Tea processing and deep processing: 4+4 (discussion) class hours
- ①Adsorption principle.
 - ②Principles of leaching, filtration, dissolving, concentrating and drying.
 - ③ Principles of extraction, concentration, membrane filtration, crystallization and aroma formation.

(Please add more pages if this page is insufficient)

Catalog for main reference book (periodicals):

S.N.	Author	Books and Periodicals' name	Press
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1	Gao Fucheng et al	High and New Technology of Modern Food Engineering	China Light Industry Press
2	Chenyuan	Tea Making Technology Theory	Shanghai Science and Technology Press
3	Liu Qinjin	Tea Processing Technology	Sichuan Science and Technology Press
4	Chen Zongmao	Chinese Tea Theory	Shanghai Culture Press
5	Chen Zongmao	Chinese Tea Dictionary	China Light Industry Press
6	Wan Xiaochun	Chinese Tea Spectrum	Forestry Press
7		New Tea Industry	Shizuoka Tea Industry Conference Office
8	Chen Zongdao et al	Tea Chemical Engineering	Southwestern Normal University press
9	Muramatsu Keiichiro	Science of Tea	ASAKURA Press

Review Comments of School (Institute, Center):

Signature (Date)

Review Comments of Student Committee:

Signature (Date)

Review Comments of Graduate School

Signature

(Date)