

Food Quality and Safety Detection Technology Syllabus

课程代码 Course Code	FOST8011	*学时 Teaching Hours	32	*学分 Credits	2
*课程名称 Course Name	(中文) 食品质量安全检测技术 (English) Food Quality and Safety Detection Technology				
*授课语言 Instruction Language	全英文 English				
*开课院系 School	农业与生物学院 (College of Agriculture and Biology)				
先修课程 Prerequisite	食品微生物学 Food Microbiology, 食品化学 Food Chemistry				
授课教师 Instructors	姓名 Name	职称 Title	单位 Department	联系方式 E-mail	
	施春雷 Chunlei Shi	研究员 Professor	食品科学与工程系 Department of Food Science & Technology	clshi@sjtu.edu.cn	
	陆维盈 Weiyong Lu	副教授 Associate Professor	食品科学与工程系 Department of Food Science & Technology	weiyong.lu@sjtu.edu.cn	
*课程简介 (English) Course Description	Traditional chemical and microbiological techniques for food quality and safety are increasingly being replaced by a new generation of rapid or alternative methods able to produce results much more quickly and reliably. This course reviews the current status of these techniques from an international perspective, and with particular emphasis on commercially available detection and estimation systems.				
*教学安排 Schedules	Week				
*Schedules	1	Content	Hours	Format	Instructor
	2	Overview on detection technologies for food quality and safety	3	Classroom Teaching	Chunlei Shi
	3	Introduction to analytical chemistry methods	3	Classroom Teaching	Weiyong Lu
	4	Chromatographic and spectroscopic techniques	3	Classroom Teaching	Weiyong Lu
	5	Mass spectrometric techniques	3	Classroom Teaching	Weiyong Lu
	6	Literature reading and discussion (1)	3	Group Discussion	Weiyong Lu

	7	Introduction to traditional biological methods	3	Classroom Teaching	Chunlei Shi
	8	Novel omics technology	3	Classroom Teaching	Chunlei Shi
	9	Novel nano technology	3	Classroom Teaching	Chunlei Shi
	10-11	Novel biosensor technology	3	Classroom Teaching	Chunlei Shi
		Literature reading and discussion (2)	6	Group Discussion	Chunlei Shi
		<p>* Grading Policy</p> <p>1. Write a literature review of no less than 5000 characters in English on interested topics (50%)</p> <p>2. Speech and discussion (40%)</p> <p>3. Class performance (10%)</p>			
* Textbooks & References	<p>1. Perry G. Wang, Mark F. Vitha, Jack F. Kay. High-Throughput Analysis for Food Safety. John Wiley & Sons, Inc., 2014.</p> <p>2. Mary E. Torrence, Richard E. Isaacson. Microbial food safety in animal agriculture: current topics. Iowa State Press, 2003.</p> <p>3. Omar A. Oyarzabal, Sophia Kathariou. DNA Methods in Food Safety: Molecular Typing of Foodborne and Waterborne Bacterial Pathogens. John Wiley & Sons, Ltd., 2014.</p>				
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