RQ02016: FOOD QUALITY AND FOOD SAFETY

- Term: 4
- Credits: **Total credits: 02 (Lecture: 1.5 – Practice: 0.5**
- **Self-study: 06** credits
- Credit hours for teaching and learning activities: 22 hrs
- Self-study: 90 hrs.
- Department conducting the course:
  - Department: Food safety and Quality management
  - Faculty: Food science and technology
- Kind of the course:

Foundation □		Fundamental □		Option 1 □		Option 2 □	
Compulsory □	Elective □	Compulsory X	Elective □	Compulsory □	Elective □	Compulsory □	Elective □

- Prerequisite course(s): No

2. Course objectives and expected learning outcomes

**** Course objectives*:**

- Knowledge: Course provided for students the knowledge about Quality management system, the causes of food unsafety and Standardization system.

- Skills: Course provide students with skills in practice on food safety

- Attitude: Course provide students with attitudes in building a learning plan and achieving goals in the subject of food quality and food safety.

**** Course expected learning outcomes***

Notation	**Course expected learning outcomes** After successfully completing this course, students are able to	**PLO performance criteria**
Knowledge		
CELO1	Analyze hazards and select a quality management system to apply to each stage in the food chain	2.1
Skills		
CELO2	Proficiently use equipment and tools in the microbiology laboratory to analyze chemical residues and microbial contamination in food.	7.3
Attitude		
CELO3	Maintain professional ethics in food safety and quality management	9.1
CELO4	Take responsibility to protect the agricultural environment	9.2
CELO5	Be open to different and creative ideas in food safety and quality management	10.3

3. Course description

This course provided for students about Food quality management and inspection activities, Hazard and food contamination; Standardization System and pratical for food safety (chemical and microbiological hazard in food). Practices: Determination of chemical residues on agricultural and food products; Identification of microorganisms causing food poisoning; Identify hazards and CCPs.

4. Teaching and learning & assessment methods

CELOs	CELO1	CELO2	CELO3	CELO4	CELO5
Teaching and learning					
Lecturing	x	x			
Group discussion	x		x	x	x
Presentation	x	x			x
Practice		x	x	x	x
Assessment					
Rubric 1. Attendance (10%)			x	x	x
Rubric 2. Seminar (20%)	x		x	x	x
Rubric 3. Practical (20%)		x	x	x	
Rubric 4. Final exam (50%)	x				

5. Student tasks

- Attendance: All students taking this course must attend at least 75% class.
- Preparation for the lecture: All students taking this course must read the relevant book chapter and handout before the class
- Seminar: All students taking this course must give 1 presentation about chosen topics
- Practice: All students taking this course must attend 3 practice class.
- Final exam: All students have to take 1 exam

6. Text books and references

**** Text Books/Lecture Notes:***

- Le Thi Hong Anh, Cao Xuan Thuy (2017). Food safety. Ho Chi Minh City National University Publishing House
- Trinh Dinh Thau (2016). Diseases transmitted between animals and humans, Agricultural University Press.
- Nguyen Thi Thanh Thuy, Dang Xuan Sinh (2017). Diseases are transmitted and contaminated through food. Agricultural University Press.

**** Additional references:***

- Ronald F. Cichy, Ph.D. and JaeMin Cha (2019). Food Safety and Quality Management (e-book)
- Food safety law No. 55/2010/QH12 of the National Assembly.
- Law on prevention and control of infectious diseases No. 03/2007/QH12 of the National Assembly.

7. Course outline

Week	Content	Course expected learning outcomes
1	***The introduction***	
	A/* The Main content: *(03 hours)* **Theories:** *(03 hours)* - Fundamental definitions - Effects of food hygiene and safety on human health and national economic interests - Reasons why food in Vietnam is not safe - Solutions to make Vietnamese food safe	CELO1
	***B/* Self-study at home** : *(09 hours)*	CELO1, CELO4, CELO5

Week	Content	Course expected learning outcomes
2-3	**Chapter 1. Food quality and control -inspection activities**	
	A/* The Main content: (06 hours)* **Theories** *(06 hours)* 1.1. Quality and characteristics of quality 1.2. Components of product quality 1.3. Factors affecting product quality 1.4. Quality Management 1.5. Principles of quality management 1.6. Introduction system of quality management	CELO1
	***B/* Self-study at home**: *(18 hours)*	CELO1, CELO4, CELO5
4-6	***Chapter 2: Food contamination and hazards***	
	A/* The Main content: (8 hours)* **Theories** *(8hours)* 2. 1. Hazard classification 2.2. Mechanism of toxic metabolism in the body 2.3. Food poisoning caused by microorganisms and parasites 2.3.1. Bacteria that cause food poisoning 2.3.2. Viruses in food 2.3.3. Molds and mycotoxins 2.3.4. Parasites 2.4. Poisoning 2.4.1. Poisoning due to poisonous plants 2.4.2. Poisoning by poisonous animals 2.5. Food poisoning due to substances formed during processing and storage 2.5.1. Poisoning due to oxidized grease 2.5.2. Poisoning due to protein- rich foods mutated to produce histamine 2.5.3. 3 - MCPD toxin in water 2.6. Food poisoning due to chemical agents 2.6.1. Chemicals are added to foods 2.6.2. Poisoning by pesticides 2.6.3. Chemicals mixed in food 2.7. Food poisoning due to physical agents	CELO1
	***B/* Self-study at home**: *(24 hours)*	CELO1, CELO4, CELO5
7-8	***Chapter 3. Standardization System***	
	***A/* Summary of the main content in class:** *(05hours)* **Theories** *(05hours)* 3.1. Standard system in the country	CELO1

Week	Content	Course expected learning outcomes
	3.2. International Standard System 3.2.1. HACCP 3.2.2. Quality management system according to ISO 9000 3.2.3. Food safety management system according to ISO 22000:2005 3.2.4. SQF system 3.2.5. GMP Program 3.2.6. SSOP program 3.2.7. Good Agricultural Practice (GAP)	
	***B/* Self-study at home**: *(15hours)*	CELO1, CELO4, CELO5
8	**PRACTICE:** **Practice lesson 1: Determination of chemical residues on agricultural products and food (2.5t)**	CELO2, CELO3, CELO4
9	**Practice lesson 2: Identify microorganisms causing food poisoning (3.0t)**	CELO2, CELO3, CELO4
10	**Practice lesson 3: Hazard identification and CCP (2.5t)**	CELO2, CELO3, CELO4