Course Syllabus

1. **Name of Curriculum**
   Bachelor of Science (Food Science & Technology), Mahidol University International College

2. **Course Code:** ICFS 431 **Course Title:** Food Microbiology

3. **Number of Credits:** 4 (Lecture/Lab) (3-2)

4. **Prerequisite(s):** ICBI 212

5. **Type of Course:** Required

6. **Trimester / Academic Year:** 3rd trimester / 2003-04

7. **Course Description**

   Microbial ecology related to food; the effect of environment on food spoilage and food manufacture; physical, chemical, and biological destruction of microorganisms in foods; microbiological examination of foods; public health and sanitation microbiology; practical exercises.

8. **Course Objectives**

   1. Students will gain an understanding of spoilage microorganisms and how their effects on food.
   2. Students will gain an understanding of how various types of food processing affects the microflora of food products.
   3. Students will become familiar with procedures and techniques used to detect and enumerate microorganisms in foods.
   4. Students will be able to think critically about problems and issues concerning beneficial and harmful microorganisms in foods.
   5. Students will integrate their basic knowledge of microbiology, chemistry, biochemistry, food processing with an understanding of how these relate to the microbiology of foods.

9. Course Outline

Week	Topics				Instructor
	Lecture/Seminar	**Hour**	**Lab**	**Hour**	
1	Introduction to Food Microbiology and Taxonomy	2	Introduction to Lab	2	Dr. Pracahiyo
2	Taxonomy (cont.)	2	Lab 1: Viable Plate count	2	Dr Pracahiyo
3	Microbial Growth in Foods	2	Lab 2. Yeast and Mold	2	Dr Pracahiyo
4	Detection of Microorganisms in Food ; Homework Assignment 1 Due	2	Lab 3. *S. aureus*	2	Dr Pracahiyo
5	Control of Microorganisms in Food	2	Lab 4: *C. perfringens.*	2	Dr Pracahiyo
6	Microbial Food Spoilage	4	Lab 5: *B. cereus*	2	Dr Pracahiyo
7	EXAM 1; Homework Assignment 2 Due	2	Lab 6: *V. parahaemolyticus*	2	Dr Pracahiyo
8	Microbial Foodborne Disease	2	Lab 7: Microorganisms in low-acid canned food	2	Dr Pracahiyo
9	No class (Makha Bucha Day)		No Lab (Maka Boo Cha Day)		
10	Microbial Foodborne Disease (cont.)	4	Lab 8: Thermal Destruction of Microorganisms	2	Dr Pracahiyo
11	Beneficial uses of Microorganisms in Food; Homework Assignment 3 Due	2	Lab Review and Discussion	2	Dr Pracahiyo
	Total	24		20	

10. Teaching Methods

1. Lecture
2. Laboratory exercises
3. Homework assignments

11. Teaching Media

1. Textbook
2. Powerpoint presentatioins
3. Practical laboratory exercises
4. Videos

12. Course Achievement

Assessment made from the stated criteria- students who receive more than 80% of the total points will receive a grade A.

13. Course Evaluation

Components	%
Attendance	10
Homework	15
Midterm Exam	19
Lab Report	16
Final Exam	40
Total	100

14. References

1. Food Microbiology. 2nd Edition. 2000. M.R. Adams and M.O. Moss. Royal Society of Chemistry, Cambridge.
2. Modern Food Microbiology. 6th Edition. 2000. J. M. Jay. Chapman & Hall, New York.
3. Fundamental Food Microbiology. 2nd Edition. 2000. B. Ray. CRC Press. New York. USA.

15. Instructor

TBA

16. Course Coordinator

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