Course Syllabus

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

2. **Course Code:** ICFS 315 **Course Title:** Food Processing I

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

4. **Prerequisite(s):** ICCH 210, ICBI 211, ICBI 212

5. **Type of Course:** Required

6. **Trimester / Academic Year:** First Trimester / 2003 - 2004

7. **Course Description**
   Introduction to the food processing industry; general characteristics of raw food materials, processing, and preservation of food materials by heating, dehydration, concentration, irradiation, ohmic heating, and microwave heating; processing factors that influence quality. Field trips to processing facilities are included.

8. **Course Objectives**
   1. Gain an understanding of basic food processing unit operations.
   2. To integrate concepts in chemistry, biochemistry, physics, engineering, mathematics with food processing operations and understand their role in processing of food.
   3. To gain the ability to think critically about problems and issues in food processing.
   4. To gain an appreciation for how the food processing industry's role in society.

9. **Course Outline**

Week	Topics				Instructor
	Lecture/Seminar	Hour	Lab	Hour	
1	Why are Foods Processed? Review of some important properties of foods.	4			Dr. Kohnhorst
	Processing by Application of Heat Using Steam or Water:				Dr. Kohnhorst
2	A.Blanching	2			
2,3	B. Pasteurization	4			
3,4	C. Heat Sterilization	4			
4	D. Evaporation and Distillation	2			
5	**Midterm Exam**	2			
5,6	E. Dehydration	4			
6,7	F.Irradiation	4			
7	G. Baking and Roasting	2			

8 8,9	H. Frying I. Microwave and Ohmic Heating	2 4			
9,10	Size Reduction of Foods A. Size Reduction of Solid Foods B. Size Reduction of Liquid Foods	6			Dr. Kohnhorst
11	Alternative Processing Technologies A. High Pressure Processing B. Pulsed Electric Field	4			Dr. Kohnhorst
	Total	44			

10. Teaching Methods

1. Lecture
2. Movies
3. Field Trips

11. Teaching Media

1. Textbook
2. Powerpoint presentations
3. Handouts on relevant topics

12. Course Achievement

Assessment made from the stated criteria- students who receive more than 90% of the total points will receive a grade A.

13. Course Evaluation

Component	%
Midterm Exam	35
Final Exam	40
Quizzes/ Class Participation	15
Attendance	10
Total	100

14. References

1. Fellow, P. Food Processing Technology, Principles and Practice. CRC Press, New York. 2000.
2. Potter, N. N. and Hotchkiss, J.H. Food Science, (5th Edition); Aspen Publishers, Inc., Gaithersburg, Maryland 1998. Call Number: TP370.P58; ISBN: 0-8342-1265-X

15. Instructor
Dr. Andrew Kohnhorst

16. Course Coordinator
Dr. Andrew Kohnhorst