Course Syllabus

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

2. **Course Code:** ICFS 312 **Course Title:** Food Chemistry I

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

4. **Prerequisite(s):** ICCH 210, ICCH 221, ICBI 212

5. **Type of Course:** Required

6. **Trimester / Academic Year:** Third Trimester / 2003-04

7. **Course Description**
   Chemistry and biochemistry of foods and changes that occur during processing and utilization; water, dispersed systems, carbohydrates and colloids, lipids; practical exercises included.

8. **Course Objectives**
   After studying the course the student will be able to:

   (i) describe the physicochemical properties of water and the significance of water activity to the stability of foods.
   (ii) describe the various types of dispersed systems founds in foods and factors affecting their formation and stability.
   (iii) describe the chemistry of carbohydrates and the mechanisms of non-enzymic and enzymic browning.
   (iv) describe the extraction, chemistry and significance of lipids in foods.
   (v) understand the nature of flavor and the sensory properties of food components.
   (vi) use laboratory techniques to analyze and measure important physicochemical parameters of food.

9. Course Outline

Week					Instructor
	Lecture/Seminar	Lect	Lab	Total	
1	Water	3	2	5	Mike Johns
2	Water	3	2	5	Mike Johns
3	Dispersed systems	3	2	5	Mike Johns
4	Dispersed systems	3	2	5	Mike Johns
5	Carbohydrates	3	2	5	Mike Johns
6	Midterm exam				Mike Johns
7	Non-enzymic browning	3	2	5	Mike Johns
8	Enzymic browning	3	2	5	Mike Johns
9	Lipids	3	2	5	Mike Johns
10	Lipids	3	2	5	Mike Johns
11	Flavors	3	2	5	Mike Johns
12	Final exam				Mike Johns
	Total	30	20	50	

10. Teaching Methods

1. Lecture
2. Self-study
3. Practical exercises

11. Teaching Media

1. PowerPoint presentations
2. Texts and teaching materials

12. Course Achievement

Assessment made from the set forward criteria: -

Grade	%
A	90-100
B+	85-89
B	80-84
C+	75-79
C	70-74
D+	65-69
D	60-64
F	0-59

13. Course Evaluation

Component	%
Attendance/Class participation	10
Quizzes	10
Assignments/Practical reports	30
Midterm	25
Final	25
Total	100

14. References

Food Chemistry: Principles and Applications. Published by Science Technology System 2000. Edited by Genevieve L. Christen and J Scott Smith. ISBN No. 1-891796-01-1

Fennema, Owen R. Food Chemistry, (3rd Edition): Marcel Dekker, Inc. New York. Call Number TX 541.F65 1996. ISBN: 0-8247-9691-8

15. Instructor

Instructor: Mr. Mike Johns, Room 1409 International College Building
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16. Course Coordinator

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