Course Syllabus

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

2. **Course Code:** ICFS 313 **Course Title:** Food Chemistry II

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

4. **Prerequisite(s):** ICFS 312

5. **Type of Course:** Required

6. **Trimester / Academic Year:** Second Trimester / 2004-05

7. **Course Description**
   Chemistry and biochemistry of foods and changes that occur during processing and utilization; proteins, enzymes, basic concepts of biotechnology and genetic modification of organisms, colors and pigments, food toxicology, changes in nutrition of vitamins and minerals during processing; practical exercises included.

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

   (i) describe the chemistry of proteins, including the levels of protein structure.
   (ii) explain what is meant by biotechnology and state the potential advantages and disadvantages of genetic engineering.
   (iii) relate the physicochemical properties of amino acids and proteins to the activity of enzymes.
   (iv) understand the nature of specific food system attributes such as enzyme activity, color, food additives and toxicants.
   (v) state the basic structure and physiological function of micronutrients.
   (vi) use laboratory techniques to analyze and measure important physicochemical parameters of food.

9. Course Outline

Week					Instructor
	Lecture/Seminar	Lect	Lab	Total	
1	Proteins	3	2	5	Mike Johns
2	Proteins	3	2	5	Mike Johns
3	Genetic Engineering	3	2	5	Mike Johns
4	Enzymes	3	2	5	Mike Johns
5	Colors and natural coloring agents	3	2	5	Mike Johns
6	Mid term exam				Mike Johns
7	Food additives	3	2	5	Mike Johns
8	Toxicology	3	2	5	Mike Johns
9	Vitamins: Water Soluble	3	2	5	Mike Johns
10	Vitamins: Fat Soluble	3	2	5	Mike Johns
11	Minerals	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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