

Mahidol University International College

ICNS 211 The Science of Food

Type of Course:

Elective

Semester/ Academic year

Third trimester / 2012-2013

Instructors:

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Course Description:

An exploration of the scientific properties and nutritional values of the most significant human foods, including their chemical, biochemical, physical and microbiological natures. Also an overview of the food production and distribution chain from raw material utilization, processing, and preservation to finished products, storage and distribution

Course Objectives:

To provide background knowledge regarding to important food science concepts.

Teaching Methods:

There will be lectures and activities sessions. Students are encouraged to search for more information that do not covered in lectures, develop skills and creative thinking during activities period.

Course Achievement:

- Students will gain basic understanding and appreciation of food science and technology.
- Student will learn the important of key food groups as well as their composition and the functional properties of the major food components
- Students will explore their interests within the broad aspects of food science.

### Course Schedule:

Week number	Session 1 (Tuesday)	Session 2 (Thursday)
1	Introduction	Food categories I
2	Food categories II	Food categories III
3	Food composition I	Food composition I (cont.)
4	Activity 1: Starch (lab 1,2,3)	Food composition II & III
5	Activity 2: Protein (lab 5,6)	Activity 3: Bread (lab 4)
6	Midterm	Quality factors of Food
7	Food microbiology I	Food microbiology II + Food safety
8	Dairy products I	Dairy products II
9	Quiz + Cereal and baked products	Beverages I
10	Beverages II	Novel foods, global issue and innovation in Food Science (group presentation)
11	Activity 4: Food Microbiology	Confectionary and chocolate products

### Course Evaluation:

Midterm	40%
Final exam	30%
Quiz	10%
Assignment(s)/presentation(s)	10%
Attendance	10%

### References:

- Brown, A.C. 2007. Understanding Food : Principles and Preparation. 3<sup>rd</sup> ed. Thomson Learning Academic Resource Centre, Wadsworth, USA.
- Figoni, P. 2008. How Baking Works: Explore the Fundamental of Baking Science. 2<sup>nd</sup> ed. John Willey & Sons Inc., USA.
- Murano, P.S. 2003. Understanding Food Science and Technology. Thomson Learning Academic Resource Centre, Wadsworth, USA.
- Parker, R. 2003. Introduction to Food Science. Delmar-Thomson Learning Inc., New York, USA.
- Potter, N.N. & Hotchkiss, J.H. 1998. Food Science. Aspen Publisher. USA.
- Vaclavic, V.A. 2007. Essentials of Food Science. 3<sup>rd</sup> ed. Springer Sciences & Business media, LLC., New York, USA.

Note: Rules and regulations are referring to 'student manual'. Please read carefully.