

SYLLABUS:

Date / Revision 23 May 2015 / 02 May 2017 / PP
Faculty Life Sciences (LS)
Study Program Food Technology (FTE)

SUBJECT: Food Processing Technology Laboratory 2

1 Basic Information

1.01	Subject Name	Food Processing Technology Laboratory 2
1.02	Semester	6
1.03	Level	1
1.04	SKS	1
1.05	Mandatory / Curriculum	D-02
1.06	Subject Code	FTL2
1.07	Subject Code	FTL2
1.08	Year	2017 (7)
1.09	Quality Control	Final Test, OFSE, see evaluation
1.10	Limitations	Min 12 and Max 32 students in one class
1.11	Combined with	None
1.12	Pre-requisite	Chemistry and lab, Organic Chemistry and lab, Physical/Analytical Chemistry and lab, Food Processing Technology 1, Food Processing Technology Laboratory 1
1.13	Responsible	Dr. Tutun Nugraha
1.14	Revision	15-05-2017/pp

2 Description of Subject

The major objective for this course is to learn about the principles and methods for processing of food, with deeper understanding of how different processing conditions and methods can affect the safety and quality of the resulting food products. The course will provide opportunity for students to apply some basic knowledge into laboratory practice, while at the same time they learn the actual process of production or measurements that are relevant to the production processes.

3 Objectives

This course is one of the specialized subjects given as mandatory to students in Food Technology Department. It comprises of part 1 and part 2 and covers diverse applications of fundamental concepts and mode of processing currently employed in the industry. Along the way students also learn that the processes are geared towards a certain set of quality of products which need to be attained to ensure quality of the final products.

4 Competency

Through this subject students will understand various concepts relevant to food processing technology laboratory 2 currently used in the food industries, which includes

- Applications of Basic knowledge of processing technology while at the same time adding to the skills of the students in the field
- Food processing technology experimental skills and measurements to characterize the products
- Scientific report on the experiment that were carried out in the laboratory

5 Learning Approach / Methodology

- Lectures/ Class contact (time-tabled) supplemented with interactive questions and answers to build the projects;
- Tutorial/Laboratory/Practice Classes: preview of materials, revision and/or reports writing;
- Student Study Effort: homework/assignment; preparation for test/quizzes/ examination.
- Writing assignments/presentations

6 Evaluation

5.1	Absence maximum	25%
5.2	Report	25 Points
5.3	Lab Journal	5 Points
5.4	Presentation /Simulation	-
5.5	Daily Quiz	10 Points
5.6	Final Examination	60 Points
	Total	100 Points

7 Text Book and Reference

1	<p>Main Text Book:</p> <ul style="list-style-type: none"> Fellows P. 2000. Food Processing Technology, Principles and Practice 2nd Dition. CRC Press. Brennan JG. 2006. Food Processing Handbook. Wiley-VCH Hui YH. 2007. Handbook of Food Products Manufacturing. John Wiley & Sons, Inc.
2	<p>Supplement Textbooks:</p> <ul style="list-style-type: none"> Garcia M, Tamara F, Eric G. 2010. Potential Applications of Nanotechnology in the Agro-food Sector. Ciênc. Tecnol. Aliment. Campinas, 30(3): 573-581 Hariyadi P. 2008. The food-canning Industry in Indonesia: Need for Safety Assurance Regulation and Quality Optimization. Food Manufacturing Efficiency. 2(1): 45-48 Zubaidah IK, Carmen MS, Bona S, Asti N, Indra MP, Deudeu L, Cecep MN. 2016. Potential Use of Gamma-Irradiated Ethnic Ready-to-Eat Foods to Improve the Nutritional Status of Landslide Victims. http://www.mdpi.com/journal/foods Asep N, Hendrix T. 2016. Traditional Food for Small and Medium Enterprises (SMEs). Advances in Economics, Business and Management Research, volume 15. Atlantis Press [Kemendag] Kementerian Perdagangan. 2009. Indonesian Herbal: The Traditional Therapy. Trade Research & Development Agency. Jakarta

8 Content / Topics of Lecture

Week	Content/ Topics of Lecturing	Text Book	Remark
1	<p>General Experiment Rules in Laboratory</p> <ul style="list-style-type: none"> Introduction Safety procedure Material safety data sheet Personal protective equipment Experiment schedule Introduction to Research project by Students 		1 x 3 x 50 minutes
2,3	<p>Mayonnaise production with Variations Pasteurized Eggs, Oil, and Acid</p> <ul style="list-style-type: none"> Egg processing technologies Mayonnaise with various of pasteurization of egg, oil, and acid The effects of fat content, egg and acid vs physical and chemical characteristic and mayonnaise sensory 		2 x 3 x 50 minutes
4,5	<p>Silk Tofu with Egg White</p> <ul style="list-style-type: none"> Tofu processing technology Silk tofu with egg white The influence of the percentage of egg white content The type of coagulant and coagulation temperature of the quality characteristics of silken tofu-egg 		2 x 3 x 50 minutes

6,7	Meat Processing technooogy: Beef <ul style="list-style-type: none"> • Meat processing technology basics • Cooking beef with sous vide method • The influence of fiber cuts of meat • The addition protease enzyme and ripening time on quality attributes of meat 		2 x 3 x 50 minutes
8	MIDTERM SEMESTER BREAK		
9,10	Cheese Processing technology <ul style="list-style-type: none"> • Milk processing technology • fresh cheese • The influence of the fat content • The type of heating and the addition of calcium chloride (CaCl₂) to the (yield) of fresh cheese (total solids) 		2 x 3 x 50 minutes
11,12	Jam of Tropical Fruit <ul style="list-style-type: none"> • Applied Fruit processing technology • The production process of tropical fruit jam • The effects of pectin source, sugar content, and acid for the sensory characteristics of jam of tropical fruit 		2 x 3 x 50 minutes
12, 14	Sweet Potato <ul style="list-style-type: none"> • Potato processing technology • The process of production of sweet potato cookies • The effect of various potatoes, substitution content, and the variety of flour for the quality of sweet potato cookies 		2 x 3 x 50 minutes
15	Final Examination		