Course Syllabus

1st Semester 2023

1. Faculty of Agro-Industry AIIP

2. Course ID: 01058223 Course title (TH) เทคโนโลยีการแปรรูปที่ใช้ความร้อนทางอุตสาหกรรมเกษตร

Credits 2 credits (2-0-4) Course title (Eng) Agro-Industrial Thermal Processing Technology

3. Course Description

Thermal processing technology and innovative thermal processing in agro-industry: Drying, Evaporation, Extraction, Extrusion, Pasteurization, Sterllization, Canning, Distillation, Ohmic heating, Minimal processing, and hurdle technooy

4. Objective

1. To gain knowledge and understand principle of thermal processing technology and innovative thermal processing in agro-industry

2. To be able to apply knowledge and skills during working in thermal processing or related field

5. Course Outline

- Introduction
- Pasteurization
- Sterilization
- Canning
- Drying
- Evaporation
- Extraction
- Extrusion
- Frying
- Distillation
- Ohmic heating
- Minimal processing
- Hurdle technology
- Presentation

6. Teaching Method :

Lecture, Self-study (project), Group-study(project), Presentation, Assignment

7. Teaching tools

PPT, Homework, handout, Real samples

8. **Class evaluation**

8.1 Exam (3 times)	65%
-Midterm#1 /Midterm#2 / Final	
8.3 Assignment & Quiz	10%
8.4 Term paper (individual)	15%
8.5 Group Project	10%
8.6 Evaluations	1% (Extra)

9. **Grading method**

Group ranking

10. **Office hour**

Monday 9am -12 noon

11. **References**

11.1 คณาจารย์ภาควิชาวิทยาศาสตร์และเทคโนโลยีการอาหาร. 2559. วิทยาศาสตร์และเทคโนโลยีการอาหาร เล่ม1. สำนักพิมพ์มหาวิทยาลัยเกษตรศาสตร์ กทม.

11.2 Fellows, P. 1990. Food Processing Technology, Principles and Practice. Ellis Horwood, F England. (TP 370 F45 1990)

11.3 Other references informed by instructor

12. Schedule

- Lecture : Monday 2pm-4pm.

Date	Topic	Activity/instructor
7 Aug 2023	Introduction	Lecture/Sasitorn
14 Aug 2023	Holiday (No class)	
21 Aug 2023	Thermal Processing-Principle of Thermal Processing	Lecture/Sasitorn
28 Aug 2023	Thermal Processing- Principle of Thermal Processing	Lecture/Sasitorn
4 Sept 2023	Thermal Processing-Pasteurization	Lecture/Sasitorn
11 Sept 2023	Thermal Processing-Sterilization	Lecture/Sasitorn
19 Sept 2023(8-10 am)	Thermal Processing-Aseptic Processing	Lecture/Sasitorn
25 Sep 2023 (2-4 pm)	Midterm Exam #1	Sasitorn
2 Oct 2023	Drying	Lecture/Sasitorn
9 Oct 2023	Commencement Day(No class)	
16 Oct 2023	Drying	Lecture/Sasitorn
23 Oct 2023	Holiday (No class)	
30 Oct 2023	Extrusion	Lecture/Sasitorn
6 Nov 2023	Frying	Lecture/Sasitorn
7 Nov 2023 (2-4 pm)	Midterm #2	Sasitorn
13 Nov 2023	Evaporation and distillation	Lecture/Sasitorn
14 Nov 2023 (2-4 pm)	Extraction	Lecture/Sasitorn
20 Nov 2023	Ohmic heating	Lecture/Pitiya
21 Nov 2023 (2-4 pm)	Minimal Processing and hurdle technology	Lecture/Sasitorn
27 Nov 2023	Project Presentation	Project evaluation/Sasitorn
4 Dec 2023	Final Exam	Sasitorn

13. Instructor : Assistant Prof. Dr. Sasitorn Tongchitpakdee (14 weeks 2 hr/week = 28 hr) Assistant Prof. Dr. Pitiya Kamolpat(1 weeks 2 hr/week = 2 hr)

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(Assistant Prof. Dr. Sasitorn Tongchitpakdee)

6 Aug 2023